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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Appeal Board

In the Matter of)	
)	
LONG ISLAND LIGHTING COMPANY)	Docket No. 50-322-OL-5
)	(EP Exercise)
(Shoreham Nuclear Power Station,)	
Unit 1))	

APPEAL BRIEF OF LONG ISLAND
LIGHTING COMPANY ON CONTENTIONS EX 15 AND 16

Donald P. Irwin
Lee B. Zeugin
Hunton & Williams
707 East Main Street
P.O. Box 1535
Richmond, Virginia 23212

January 19, 1988

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PDR ADOCK 05000322
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INTRODUCTION

In 1980 the Commission, in cooperation with the Federal Emergency Management Agency, revised its regulations to require that offsite emergency preparedness organizations conduct exercises, supervised by FEMA, to demonstrate their preparedness prior to issuance of full power licenses for nuclear power plants. Since that time, literally hundreds of offsite exercises have been supervised and graded by FEMA, and numerous plants have been issued operating licenses based on those exercises.

Pursuant to a 1984 decision of the Court of Appeals,^{1/} the Commission revised its regulations to permit litigation of the results of exercises in its licensing dockets. Such litigation was to be limited to the question of whether the exercise demonstrated any "fundamental flaws" in an offsite emergency plan, and was to be expedited. Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), CLI-86-11, 23 NRC 577, 581 (1986).^{2/}

On February 13, 1986 an exercise, designed and intended by LILCO and FEMA to be sufficient to satisfy the Commission's licensing requirements for nuclear plants, was held on Long Island for the Shoreham plant. The State of New York refused to take any part in the exercise. The only participation by Suffolk County was an attempt to block the exercise by enactment of an unconstitutional criminal ordinance, enjoined by a federal court some 60 hours before the exercise. Long Island Lighting Co. v. County of Suffolk, 628 F. Supp. 654 (E.D.N.Y. 1986). The Shoreham exercise has been in supposedly expedited litigation virtually continuously ever since.

^{1/} Union of Concerned Scientists v. NRC, 735 F.2d 1437 (D.C. Cir. 1984), cert. denied 469 U.S. 1132 (1985).

^{2/} Even so, the dissent in UCS clearly and prophetically pointed out the possibilities for delay inherent in such litigation. UCS, 735 F.2d at 1454-56 (MacKinnon, J., dissenting).

At the time of the 1986 exercise, the Commission requirements (which predated the UCS decision) mandated that a prelicensing exercise be held no more than 12 months before issuance of an initial license to exceed 5% power. During the ongoing Shoreham litigation the licensing window was extended to 24 months.^{3/} This appeal, now some 23 months after the 1986 exercise, involves the design scope of the exercise. The Licensing Board's Partial Initial Decision on LILCO's performance in the exercise still has not been issued.

The Partial Initial Decision which forms the basis of this appeal, Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), LBP-87-32, 26 NRC ____ (December 7, 1987) (hereinafter "PID"), holds that a FEMA-supervised offsite emergency preparedness exercise for the Shoreham Nuclear Power Station, conducted some 22 months previously on February 13, 1986, had not been sufficient in scope to serve as the basis for issuance of a full-power operating license to the plant. That PID, involving two contentions filed by Intervenors Suffolk County and New York State and labeled EX 15 and 16, involved solely the issue whether the February 1986 exercise had tested enough of the Shoreham offsite emergency plan to satisfy the Commission's pertinent regulations, 10 CFR §§ 50.47(a) and (b)(14) and portions of 10 CFR Part 50, Appendix E ¶ IV.F.1.^{4/} The issue of the adequacy of the scope of an emergency planning exercise

^{3/} 52 Fed. Reg. 16,823 (May 6, 1987).

^{4/} The possibility that the scope of the exercise could even present litigable issues arises solely out of the fact that New York State and Suffolk County, the units of government which normally would be responsible for offsite emergency preparedness around the Shoreham plant, have refused to undertake such planning. They persist in that refusal even though its asserted basis -- the "impossibility" of adequate emergency planning for Shoreham -- has been consistently rejected by this agency's tribunals after long factual deliberation. Not being able to change the facts, these units of government have instead attempted to use their powers under state law to disable LILCO from fulfilling the functions on which they have defaulted. See, e.g., Long Island Lighting Co. v. County of Suffolk, *supra*. At least three of the four respects in which the PID found the scope of the February 1986 exercise deficient -- EBS activation, public school

has never before been litigated in an NRC proceeding, to the best of LILCO's knowledge.

The PID at issue does not treat at all the adequacy of the performance of the more than 1100 emergency workers who participated in the 1986 exercise. While it rejected literally dozens of criticisms by intervenors of the exercise's scope, it nevertheless agreed with them on four points -- extent of activation of EBS system, degree of participation by public school districts, performance of ingestion pathway activities, and degree of testing of special facility, ambulance and ambulette personnel and managers.

Because the Licensing Board committed reversible error with respect to those issues, LILCO has taken this appeal. The bases of error, which are numerous, are summarized below:

At the outset, the contentions currently under appeal should never have been admitted for litigation by the Licensing Board, for two reasons. They do not focus on the approved ambit of post-exercise litigation -- the performance of an emergency organization in response to an emergency real or simulated -- but rather on the design of an exercise. As a result they do not focus on the only issue admissible for potential litigation under the UCS case or the Commission's subsequent guidance in this case, CLI-86-11, 23 NRC 577 (1986): whether an exercise demonstrates any fundamental flaws in an emergency plan. Even assuming that the fairness or adequacy of a FEMA-supervised exercise as a test of an emergency plan is a legitimate matter for inquiry,

(footnote continued)

participation and ingestion pathway -- spring directly from the spoiler actions of state and local governments. The Licensing Board, correctly, largely discounted these efforts by the state and local governmental units, and this brief is premised not on the nature of the actions of New York State and Suffolk County but on errors in the Licensing Board's standards of decision and their application to the facts of the exercise.

the contentions never allege that the Shoreham exercise was framed in any but the usual manner, or otherwise impugn the integrity of the exercise planning process. Thus rather than questioning a plant-specific exercise, they inherently impeach an entire regulatory methodology.^{5/}

Even assuming the contentions were properly admitted, the PID erred in several fundamental ways.

First, it neglects the fundamental principle that the scope of emergency preparedness exercises is testing of "major observable portions" of emergency plans, and substitutes for it merely the question of whether the exercise included literally everything "reasonably achievable without mandatory public participation" by ex-post-facto standards. In doing so, the PID is forced to dismiss, either as incorrect or as "merely guidance," a substantial and well established body of NRC-FEMA technical literature that defines a body of objectives which correspond to observable portions of emergency plans and provides for their testing over a six-year cycle.

Second, the PiD fails to assess the materiality of any of the matters it believes should have been included in the 1986 exercise. As a result, the PID contains no analysis of whether any or all of the four omitted matters would, if exercised unsatisfactorily, have even demonstrated a "fundamental flaw" in the Shoreham emergency plan. Since the sole purpose for which litigation -- supposedly expedited -- was permitted by the Court of Appeals was to detect the existence of such major plan

^{5/} This Appeal Board refused, almost a year ago, an interlocutory request by FEMA to reject Contentions EX 15 and 16 prior to their litigation; but it never reached the merits of the arguments for their exclusion and concluded only that FEMA, the appellant, had not met the standards for interlocutory review. ALAB-861, 25 NRC 129 (1987). Judge Edles' separate opinion, which contained the only expression of views on the merits of this issue, expressed sympathy with the dilemma of an applicant stuck with performing in an exercise designed by FEMA which is determined by hindsight to have been inadequate in scope. *Id.* at 143 n.9. He would not, however, have automatically barred all challenges to the scope of an exercise.

defects, the PID's failure to engage this analysis is fatal to its reasoning and results. Reliance merely on an "as much as reasonably achievable without mandatory public participation" standard also produces an inherently retroactive and unworkable test which is of little guidance to planners, regulators or regulatees.

Third, the PID's conclusion that the 1986 Shoreham exercise lacked sufficient scope to qualify as an initial licensing exercise is premised on the incorrect legal conclusion that initial "full participation" exercises are intended under NRC regulations to be more comprehensive than subsequent ones. There is simply no basis to support this conclusion, and ample evidence to reject it both in the regulations, their regulatory history and supporting guidance, and in seven years of joint NRC-FEMA practice involving literally hundreds of exercises.^{6/}

Fourth, the PID pays at best selective deference to agency expertise, and in particular the deference due to FEMA witnesses functioning under the NRC-FEMA Memorandum of Understanding. The PID acknowledges the forthrightness and expertise of agency, and in particular FEMA, witnesses, and acknowledges their testimony (supported also by NRC witnesses) that the Shoreham exercise was designed in accordance with usual practices, that it was intended to be a full participation exercise, and that it was at least as comprehensive as any conducted previously in the pertinent FEMA region, Region II. Nevertheless, the PID simply gives that testimony no effect in concluding that the Shoreham exercise was insufficient as an initial licensing exercise. The Board's failure to give effect to this testimony without proper explanation is both contrary to the record and inconsistent with the intended functioning of the

^{6/} Indeed, the PID uses an exclusive reliance on an "as much as reasonably achievable" test in an attempt to finesse entirely -- but improperly -- the question of what constitutes a "full participation exercise," despite the fact that term is central to the pertinent regulations and was a major issue among the parties which the Board never hinted was not of interest to it. See PID at 20-21.

FEMA-NRC emergency planning relationship.^{7/}

Finally, as to each of the four areas in which the PID finds the exercise's design to have been insufficient, that finding is incorrect on the facts in the record.

All but the last of these major areas involve questions of law, pure and simple. If the PID was incorrect on all or any of them, it should be simply reversed as to its conclusion that the February 1986 exercise was insufficient in design. Even if the Appeal Board finds that the PID's conclusions are incorrect only as applied to the facts of the exercise, it should decide the case without remanding it for further factual proceedings. There were few areas of factual dispute on Contentions EX 15 and 16, and the respects in which the PID disregarded the record can be corrected without further evidentiary proceedings below.

Finally, there remains need for expedition in resolution of this appeal. The Shoreham exercise was conducted over 23 months ago. Commission regulations require that, in the absence of a waiver or exemption, an exercise for the first license to exceed 5% of rated power for a given site be held not more than 24 months before the date of issuance of that license. 10 CFR Part 50, Appendix E ¶ IV.F.1. Because of factors beyond LILCO's control, it appears likely that more than the 24 months nominally permitted will elapse before an agency decision will be produced on the 1986 exercise. As a result LILCO may be forced to hold another exercise before it can obtain a full power license.^{8/} Yet until a decision has been rendered on the principles governing the

^{7/} In this regard, this brief does not comment directly on the PID's effects on that relationship, since those can better be spoken to by the agencies themselves. LILCO addresses this matter simply as a regulatee attempting to function within existing structures which can apparently be confounded after the fact. Cf. ALAB-861, 25 NRC at 143 n.9 (separate opinion of Judge Edles).

^{8/} On December 23, the Appeal Board rejected LILCO's December 17 request for expedited review or certification of the Licensing Board's PID. One apparently major reason for that refusal was the Appeal Board's perception that even if the relief re-

design scope of the exercise, LILCO and agency planners cannot know even what will be necessary to ensure its having a chance of passing muster. LILCO, by letter dated December 18, 1987 requesting another exercise, has already undertaken to get the exercise planning process (normally 90-120 days long) underway. However, a decision from this Appeal Board is essential to enabling whatever planning process is required to proceed in an informed fashion.^{9/}

STATEMENT OF FACTS

The Exercise

On February 13, 1986, the Federal Emergency Management Agency (FEMA) held what was contemplated as the final step in the NRC-required process for review and approval of the offsite radiological emergency response plan for Long Island Lighting Company's Shoreham Nuclear Power Station: a "full participation" exercise of the Shoreham offsite plan, supervised and graded by the Federal Emergency Management Agency. The Shoreham exercise, like the basic offsite emergency plan on which it was premised, differed structurally from other exercises in only one respect: State and local governments (New York State and Suffolk County) did not participate in it. Indeed, as with emergency planning for Shoreham, they strenuously opposed it.^{10/}

(footnote continued)

quested by LILCO were granted, there were still substantial obstacles in the way of achieving a full power license by February 13, 1988. However, as is illustrated by this brief, solution to given problems often depends on prior solution to others, and thus expedition in disposition of pacing problems is important.

^{9/} This brief is limited to the questions presented facially by the PID. Significant policy questions are presented, however, by two of its other aspects: first, that a supposedly expedited agency process has not yet produced, nearly two years later, any decision on the merits of a 10-hour exercise, meanwhile forcing the applicant to contemplate another exercise; and second, that the one issue on which a decision has been rendered penalizes the applicant retroactively for a matter over which it had absolutely no control.

^{10/} Suffolk County went so far as to enact a criminal ordinance about 75 days before the exercise which would have made it a crime punishable by up to a year in Suffolk

(footnote continued)

LILCO's efforts to conduct the required exercise of the Shoreham plan began in November 1984 when it asked the NRC to request FEMA to schedule a full participation exercise of the Shoreham plan.^{11/} On June 4, 1985, the Commission responded to

(footnote continued)

County jail and a fine of up to \$1000 to participate in the exercise (or potentially even in drills leading up to the exercise). This chilling ordinance, which was in effect during the final exercise preparation period, was enjoined as unconstitutional by a federal court on the evening of February 10, just 60 hours before the start of the exercise. Long Island Lighting Co. v. County of Suffolk, 628 F.Supp. 654, 659 (E.D.N.Y. 1986).

^{11/} Under a Memorandum of Understanding between FEMA and the NRC, the most recent version of which was published in the Federal Register on April 18, 1985, 50 Fed. Reg. 15,485 (1985), the responsibilities for assessing offsite emergency preparedness for nuclear reactors have been established. The agencies' general responsibilities include the following:

FEMA coordinates all Federal planning for the offsite impact of radiological emergencies and takes the lead for assessing offsite radiological emergency response plans and preparedness, makes findings and determinations as to the adequacy and capability of implementing offsite plans, and communicates those findings and determinations to the NRC. The NRC reviews those FEMA findings and determinations in conjunction with the NRC onsite findings for the purpose of making determinations on the overall state of emergency preparedness. These overall findings and determinations are used by NRC to make radiological health and safety decisions in the issuance of licenses and the continued operation of licensed plants to include taking enforcement actions as notices of violation, civil penalties, orders, or shutdown of operating reactors.

Id. at 15,486 col. 1 (footnote omitted). With regard to exercises of offsite emergency response plans, the Memorandum states:

FEMA and NRC will cooperate in determining exercise requirements for licensees, State and local governments. They will also jointly observe and evaluate exercises. NRC and FEMA will institute procedures to enhance the review of the objectives and scenarios for joint exercises. This review is to assure that both the onsite considerations of NRC and the offsite considerations of FEMA are adequately addressed and integrated in a manner that will provide for a technically sound exercise upon which an assessment of preparedness capabilities can be based.

(footnote continued)

LILCO's request, instructing William Direks, Executive Director for Operations, to request "that FEMA schedule as full an exercise of the LILCO plan as is feasible and lawful at the present time." Memorandum from Samuel J. Chilk to William J. Direks, Scheduling of Emergency Plan Exercise for Shoreham (June 4, 1985). In giving these instructions, the Commission speculated that a recent decision by a New York State court^{12/} might prevent the conducting of a "full exercise" of the Shoreham plan but that, even so, an exercise would nevertheless yield meaningful results. *Id.* The NRC Staff forwarded the request for "as full an exercise . . . as is feasible" to FEMA on June 20, 1985. Memorandum from Edward L. Jordan to Richard Krimm, Scheduling of Emergency Plan Exercise for Shoreham (June 20, 1985). In that memorandum, the Staff stated:

In determining those portions of the LERO plan that might be appropriate for inclusion in an exercise at this time, we suggest that FEMA emphasize evaluation of the functional areas of emergency preparedness related to the demonstration of the response capabilities within the plume exposure (10 mile) Emergency Planning Zone.

Id.^{13/}

(footnote continued)

Id. at 15,487 col. 3.

To carry out its responsibilities under the Memorandum of Understanding, FEMA has developed a series of Guidance Memoranda that provide uniform criteria for reviewing emergency plans and evaluating their implementability during exercises. Draft versions of Guidance Memoranda are typically provided to the NRC Staff for its review and NRC comments are incorporated into the final Guidance Memoranda.

^{12/} In *Cuomo v. LILCO* (Consol. Index 84-4615), the New York Supreme Court held that "implementation" of the Shoreham Plan by its Local Emergency Response Organization (LERO), *see infra* note 8, would involve an unlawful exercise by LILCO of New York State police powers. That decision was affirmed by the New York Supreme Court Appellate Division on February 9, 1987, 127 A.D. 2d 626, 511 N.Y.S. 2d 867 (2d Dep't 1987), and has been appealed by LILCO to the New York Court of Appeals. Briefing was completed on October 13, 1987 and oral argument was held on January 5, 1988.

^{13/} While the NRC Staff offered no explanation for this instruction, it is conceivable that it was prompted by the Staff's knowledge that the State of Connecticut, a govern-

(footnote continued)

FEMA replied to the Staff's request by noting that the refusal of New York State and Suffolk County officials to participate in the exercise would place "special parameters" on the exercise and would prevent FEMA itself from reaching a reasonable assurance finding.^{14/} Letter, Samuel W. Speck to William J. Direks (Oct. 29, 1985). But FEMA added that its stated inability to reach a reasonable assurance finding

does not preclude the conduct of an exercise that would provide an indication to the Nuclear Regulatory Commission (NRC) as to utility onsite and offsite emergency capabilities. We believe such a report would have value in decisions to continue the licensing process or possibly provide a basis on which the NRC could make predictive findings.

Id. (emphasis supplied). FEMA then offered the NRC Staff two basic options for the exercise. The first option would have excluded from the exercise all functions and exercise objectives related to issues of legal authority and State and local participation. Id. The second option offered to exercise "all functions and normal exercise objectives"

(footnote continued)

mental entity willing to participate in the Shoreham exercise, had participated in a full-participation ingestion pathway exercise for the Haddam Neck station in May 1984 and was soon to have a full-participation ingestion pathway exercise for the Millstone Point station in November 1986. The Millstone Point ingestion pathway EPZ overlaps that of Shoreham.

^{14/} FEMA's statement that it could not reach a reasonable assurance finding on the Shoreham exercise stems from the fact that FEMA's emergency planning regulations for nuclear power plant emergencies, 44 CFR Part 350, contemplated the submittal of emergency plans by State and local governments, but not by utilities where State and local governments refuse to participate in emergency planning and preparedness. The legal significance of FEMA's decision not to make a reasonable assurance finding was the subject of Contention EX 19, on which the Licensing Board has yet to issue a decision and which, accordingly, is not before this Board. Since the hearing on the Shoreham exercise, the NRC has amended its emergency regulations, 10 CFR § 50.47 and Appendix E, to recognize the fact that states and localities occasionally refuse to submit offsite plans, and specifically accounting for their non-participation in offsite exercises. 52 Fed. Reg. 42,078, 42,086 (amendment to 10 CFR Part 50 Appendix E) (November 3, 1987). In addition, the NRC Staff and FEMA have jointly developed criteria for evaluation of utility-prepared offsite emergency plans, and have promulgated them for interim use and comment by February 29, 1988. NUREG-0654/FEMA-REP-1, Rev. 1 Supp. 1 (Nov. 1987); 52 Fed. Reg. 45,866 (December 2, 1987).

with exercise controllers simulating the roles of key State and local officials. *Id.* The Staff, without elaboration, informed FEMA that it should conduct an exercise pursuant to the second option. Letter, William J. Dirks to Samuel W. Speck (Nov. 12, 1985).

FEMA's actions following receipt of the NRC Staff's response were described in the uncontroverted testimony of the FEMA witnesses:

FEMA made every attempt to ensure that preparation for and evaluation of the February 13, 1986 exercise of the LILCO Transition Plan for Shoreham was consistent with the parameters and process established for other full-scale Radiological Emergency Preparedness (REP) exercises evaluated by FEMA Region II. The Region designed the exercise objectives to ensure that the exercise would be of sufficient scope for FEMA to evaluate the following:

- ° All functions - i.e., FEMA would be able to evaluate LILCO's and LERO's integrated capability to adequately assess and respond to an accident at Shoreham.
- ° Normal exercise objectives - i.e., FEMA would be able to evaluate major observable portions of the LERO Plan.

FEMA EX Exh. 5 at 92. This was corroborated by NRC Staff witness Weiss, who testified that his communications with the FEMA FAC chairman indicated to him that FEMA attempted to design the Shoreham exercise to be equivalent to all others run in FEMA Region II. Tr. 8852-53 (Weiss). In determining the exercise objectives that it would observe and evaluate, FEMA relied on FEMA Guidance Memorandum PR-1, entitled "Policy on NUREG-0654/FEMA-REP-1 and 44 CFR 350 Periodic Requirements." FEMA EX Exh. 5 at 89.^{15/}

^{15/} Guidance Memorandum PR-1, which was attached to LILCO's prefiled testimony, provides that for the biennial offsite exercise required by NRC regulations, "the scenario should be varied from exercise to exercise such that the major elements of the plans and preparedness organizations are tested within a six-year period." LILCO EX Exh. 12 at Att. E, p. 2. The six-year period over which all of the major observable elements should be tested begins, according to GM PR-1, with the initial licensing exercise for an operating plant or an NTOL. *Id.* GM PR-1 incorporates by reference the 35

The February 13, 1986 exercise of the Shoreham offsite emergency plan was, as the Licensing Board acknowledged, "as comprehensive as any conducted in FEMA Region II up to that time." PID at 51. The exercise objectives, which were set by FEMA and approved by the NRC Staff, included 29 of the 35 standard FEMA exercise objectives and seven additional objectives not included within the 35 standard objectives.^{16/} The standard objectives not included in the exercise were excluded at FEMA/NRC direction; during the scenario preparation LILCO expressed its willingness to

(footnote continued)

standard FEMA exercise objectives which are contained in an August 5, 1983 Memorandum from Dave McLoughlin to the FEMA Regional Directors and Acting Regional Directors. LILCO EX Exh. 12 at Att. F. These 35 objectives correspond generally to the observable elements of emergency plans described in NUREG-0654 and, according to FEMA, encompass all the major observable elements of offsite emergency plans. See id. at Att. E, p. 2 and Att. F, p. 2. The August 5, 1983 Memorandum was cited favorably by the Commission in its 1984 revision of 10 CFR Part 50 Appendix E as providing uniformity in the evaluation of emergency preparedness during exercises. 49 Fed. Reg. 27,734 cols. 2-3 (1983).

^{16/} LILCO and FEMA witnesses agreed that 26 of FEMA's standard exercise objectives were tested and fully observed by FEMA. LILCO EX Exh. 12 at 21-22; FEMA EX Exh. 5 at 94-104. They also agreed that while Standard Objectives 21 (the ability to make decisions on the issuance of KI to emergency workers and/or to the general public) and 32 (the ability to identify and then request federal assistance) were not listed as exercise objectives, they were, nevertheless, demonstrated by LERO and evaluated by FEMA. LILCO EX Exh. 12 at 21-22; FEMA EX Exh. 5 at 100, 103. LILCO witnesses testified that Standard Objective 23 (the ability to effect an orderly evacuation of onsite personnel) was evaluated by NRC personnel as part of their observation of the onsite portions of the exercise. LILCO EX Exh. 12 at 21. Further, LILCO and FEMA witnesses concurred that Standard Objective 33 (the ability to relocate to an alternate EOF/EOC) was not applicable to the Shoreham emergency plan since both the EOF and EOC are located outside the 10-mile EPZ. LILCO EX Exh. 12 at 21; FEMA EX Exh. 5 at 103. Finally, FEMA witnesses testified that Standard Objectives 9, 11 and 12 (ingestion pathway testing) and 34 and 35 (recovery/reentry testing) were not tested during the February 13 exercise. FEMA EX Exh. 5 at 96, 97, 103 and 104. LILCO witnesses took the position that these objectives had been partially tested. LILCO EX Exh. 12 at 22.

FEMA witnesses also testified that seven non-standard objectives were tested during the Shoreham exercise. FEMA EX Exh. 5 at 104-05; see also LILCO EX Exh. 12 at 26.

Intervenors did not present comparable testimony on the standard objectives that were tested during the exercise.

demonstrate any and all of the standard objectives. See LILCO EX Exh. 12 at 18; Tr. 6837 (Daverio).

In addition, the Shoreham exercise included unprecedented participation by emergency workers. All Local Emergency Response Organization (LERO)^{17/} personnel were mobilized and, as the scenario dictated, were dispatched to perform their emergency functions to the maximum extent possible without impacting on the general public. For example, during the exercise all 165 traffic guides specified in the LILCO Plan were sent to their traffic control posts with all necessary traffic control equipment; all 333 bus drivers for evacuation of the transit-dependent population in the Shoreham EPZ drove their assigned bus routes in either actual buses or their own cars. LILCO EX Exh. 12 at 18-19.

Contentions EX 15/16

Following the exercise, Intervenors proffered for litigation 50 contentions, comprising 162 pages of text. Among the proffered contentions were Contentions EX 15 and 16, which challenged the adequacy of the scope of the February 13 exercise.^{18/}

LILCO, the NRC Staff and FEMA objected to the admission of these two contentions. Each argued that the contentions impermissibly challenged the scope of the Shoreham exercise and did not address the pertinent standard of whether the exercise demonstrated a fundamental flaw in the LILCO Plan -- a standard established by the

^{17/} LERO is the organization established by LILCO to implement the LILCO Plan. At the time of the February 1986 exercise, LERO was composed of more than 1,000 LILCO employees and contractors, working with support organizations such as the American Red Cross, the U.S. Coast Guard, the U.S. Department of Energy, and various bus, ambulance and other service companies. See LILCO Local Offsite Radiological Emergency Response Plan, Chap. 2.

^{18/} Contentions EX 15 and 16, as admitted, are Attachment A hereto. Pursuant to 10 CFR § 2.762(d)(1), attachments B through E contain copies of portions of the record upon which LILCO relies in support of its assertions of error.

Court of Appeals in Union of Concerned Scientists v. NRC, 735 F.2d 1437 (D.C. Cir. 1984), and adopted by the Commission in CLI-86-11, 23 NRC 577, 581 (1986). LILCO did not argue that the adequacy of a FEMA-approved exercise was completely immune from ASLB review. Instead, LILCO argued that for a contention challenging the scope of an exercise to be admissible it needed to allege that the scope of the exercise was so deficient that it failed to provide a basis for an ultimate licensing decision on "reasonable assurance" as specified in 10 CFR § 50.47(a). LILCO contended that at a minimum, the contentions needed to allege, with adequate basis and specificity, that the exercise was materially different in scope than other FEMA-approved scenarios at other nuclear plants and that Contentions EX 15 and 16 failed to meet this pleading burden. FEMA argued that exercise design and conduct are not material to the evaluation of emergency preparedness reflected in an emergency plan and that admission of Contentions EX 15 and 16 would only engender open-ended litigation about how FEMA applies its expertise to assess emergency preparedness. FEMA Motion for Reconsideration, pp. 10-14 (October 27, 1986). In response, Intervenor argued essentially that since the Court of Appeals in UCS permitted exercise results to be litigated, that decision in turn permitted challenges to the sufficiency of the exercise itself. Intervenor also characterized Contentions EX 15 and 16 not as challenges to the exercise scenario, but rather as challenges to the exercise results. Intervenor's Response to the LILCO and NRC Staff Objections to the Emergency Planning Contentions Relating to the February 13 Exercise, p. 27 (August 25, 1986).

The Licensing Board admitted Contentions EX 15 and 16 over LILCO's and the NRC Staff's objections. October 3, 1986 Prehearing Conference Order, pp. 5-12 (unpublished). It affirmed that decision upon review of motions for reconsideration by LILCO and FEMA in a Memorandum and Order dated December 11, 1986. Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), LBP-86-38A, 24 NRC 819

(1986). The Board accepted Contentions EX 15 and 16 with minor exceptions, reasoning that the adequacy of the exercise itself as designed to be evaluated by FEMA posed potentially material questions of fact, and that Intervenors were therefore entitled under the UCS decision to litigate that issue. October 3 Order, pp. 4-9. In admitting the contentions, the Board rejected the argument that any admissible contention concerning the exercise design (as contrasted with performance by exercise participants) must at least allege that the exercise departed, in objectives, scenario or other significant ways, from standard FEMA practice in offsite exercises designed and evaluated regularly by FEMA for the NRC at the more than 100 commercial nuclear power plants in operation. Id. at 7.

In its December 11 Memorandum and Order ruling on motions for reconsideration, the Licensing Board appeared to acknowledge the conceptual difference between exercise design and exercise results. 24 NRC at 825-26.^{19/} Nevertheless, the Board concluded that the distinction between exercise design and results "does not hold up when viewed in light of the regulatory scheme governing emergency planning." Id. at 826. In essence, the Board reasoned that:

1. emergency planning exercises are provisions of emergency plans, and the Shoreham exercise was conducted pursuant to a provision in LILCO's emergency plan;
2. the Shoreham exercise was asserted to be a "full participation exercise" by LILCO; and
3. if the exercise was found not to comply with the NRC's regulations concerning the appropriate scope of an exercise, that finding "may constitute . . . [a deficiency] which preclude[s] a finding of reasonable assurance that protective measures can and will be taken, i.e., [a fundamental flaw] in the plan," id. at 826, citing CLI-86-11, 23 NRC 577, 581 (1986) (emphasis supplied).

^{19/} In recognizing this distinction, the Board rejected Intervenors' characterization of Contentions EX 15 and 16 as merely challenging exercise results. 24 NRC at 825-26.

Id. at 826.

FEMA sought interlocutory review of the Board's admittance of Contentions EX 15 and 16, arguing that admission of the contentions was foreclosed by the Commission's decision in CLI-86-11. FEMA Petition for Leave to Appeal (December 31, 1986).^{20/} The Appeal Board denied FEMA's petition on procedural grounds, finding that FEMA had failed to demonstrate that it would be irreparably harmed if the contentions were not excluded. Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), ALAB-861, 25 NRC 129, 137-40 (1987). The Appeal Board did not address the substance of FEMA's motion for review or LILCO's arguments in support thereof.^{21/}

The Litigation of Contentions EX 15/16

The litigation of Contentions EX 15 and 16 involved little factual dispute. LILCO and FEMA each provided extensive testimony and documentation about the extent of testing of each of FEMA's 35 standard exercise objectives. LILCO EX Exh. 12 at 20-24; FEMA EX Exh. 5 at 90-105. Intervenors did not seriously contest this testimony. Instead, their factual testimony focused on establishing that the items listed in the subparts of Contention EX 15 and 16 were not tested during the February 13 exercise. NYS EX Exh. 1 at 37-151. Again, there was little factual controversy about this

^{20/} LILCO filed a motion supporting FEMA's petition, arguing (as it had below) that Contentions EX 15 and 16 went to exercise design, within the discretion of the expert agency staff personnel, rather than to exercise performance, which is the indicator of the proficiency of emergency response organizations. LILCO's Memorandum in Support of FEMA's Appeal (January 15, 1987). As a result, LILCO argued, any contentions regarding exercise design should at least allege a deviation from usual agency practice or specific guidance, since expert agency staff were due deference in their judgments. Id. at 11-12.

^{21/} In footnote 38 of ALAB-861 however, the Appeal Board did note that it disagreed with FEMA's argument that "the Commission's directive [in CLI-86-11] that the Board examine the 'results' of the exercise forecloses any review of the scope or design of the exercise itself." ALAB-861, 25 NRC at 139 n.38. However, the Appeal Board added that "FEMA's professional judgment as to what elements should be tested at the pre-license stage is entitled to substantial deference." Id. (emphasis supplied).

testimony.^{22/}

The major difference of opinion on Contentions EX 15 and 16 focused on the significance of items not tested, in light of the Commission's emergency planning regulations in 10 CFR § 50.47 and Part 50 Appendix E and of FEMA and NRC guidance on the conduct of exercises. All parties presented extensive testimony on this issue. In addition, LILCO, the NRC Staff and Intervenors briefed the issue in their proposed findings of fact and conclusions of law. L.F. 32-156; N.F. 17-87; I.F. 43-99.^{23/} A brief summary of each party's arguments follows.

LILCO contended that the adequacy of the scope of the Shoreham exercise must be judged by looking at the totality of the exercise objectives tested and the extent of participation by the emergency response force. Specifically, LILCO argued that NUREG-0654 and subsequent FEMA guidance were helpful in interpreting the general requirements of 10 CFR Part 50, Appendix E ¶ IV.F.1 and more importantly in deciding whether the Shoreham exercise provided a necessary basis for a reasonable assurance

^{22/} There was no factual dispute among the parties concerning the extent of participation and testing of: the public notification system (Contentions EX 15.A, 16.C and D), the Coast Guard (15.B, 16.B); the notification of transients on the beaches (15.H); the distribution of the public information brochure (15.C); the evacuation of EPZ hospitals (15.D); the procedures for school sheltering and evacuation (15.E, F and G); the monitoring and decontamination of residents from special facilities (15.K); Marketing Evaluations, Inc. (16.E); bus companies (16.K); ambulance/ambulette companies (16.L); and Nassau County and the Nassau County Red Cross (18.C).

The only areas where it could be characterized that there was any factual disagreement involved the extent of testing of ingestion pathway activities (15.I) and recovery/reentry activities (15.M) and there, the differences in testimony were not significant. LILCO witnesses testified that LERO personnel had performed ingestion pathway and recovery/reentry activities consistent with the requirements of the exercise scenario. LILCO EX Exh. 12 at 39, 41 and Att. J. However, LILCO's witnesses agreed that the scenario was not designed to permit a complete test of either activity. See LILCO EX Exh. 12 at 39-41. Intervenors' witnesses identified a slightly smaller group of exercise activities that had been performed for each activity. NYS EX Exh. 1 at 144-48, 154-55.

^{23/} Throughout this brief, LILCO's Proposed Findings are referred to as "L.F.", the NRC Staff's Proposed Findings as "N.F.", and Intervenors' Proposed Findings as "I.F."

finding under § 50.47(a). With regard to the meaning of ¶ IV.F.1, LILCO argued that the term "full participation" contained in footnote 4 of that section:

1. did not require that all major observable elements of a plan be tested in each full participation exercise, and that no single objective is, in isolation, an absolute must, Tr. 6121-23 (Hockert), 6808 (Daverio);
2. one must look at an exercise in its entirety to see if the "major portions" requirements was met, Tr. 6130, 6132-34 (Hockert), 6808, 6812-14 (Daverio);
3. FEMA's 35 standard exercise objectives include all the major observable elements of offsite emergency plans, Tr. 6100 (Hockert), 6233-34 (Daverio);
4. testing most or all of these standard objectives thus provides evidence that one has tested "the major observable portions" of the Plan, Tr. 6130 (Hockert), 6234-35 (Daverio, Behr);
5. testing of all the major observable elements of an offsite plan, as required in GM-PR-1 and NUREG-0654, is cumulatively done over the course of several years and not in every full participation exercise or in the very first exercise, Tr. 6853 (Daverio); and
6. not every observable element of the Plan or standard FEMA objective is a "major portion" of a plan, Tr. 6806-08, 6855 (Daverio).

See L.F. 55. LILCO also offered evidence designed to demonstrate that the standard FEMA objectives that were not fully tested during the Shoreham exercise were not such material omissions as to render the exercise unsuitable for licensing.^{24/} LILCO also argued that the "full participation" requirements for exercises for operating plants and

^{24/} In particular, LILCO witnesses compared the objectives tested during the Shoreham exercise to the 13 "core" objectives listed in draft FEMA Guidance Memorandum EX-3 (this guidance document has been proposed by FEMA to replace Guidance Memorandum PR-1 and contains a list of 13 "core" objectives that FEMA would require to be included in every exercise) and concluded that all core objectives were tested in the Shoreham exercise. LILCO EX Exh. 12 at 24-26. In addition, LILCO presented a report prepared by International Energy Associates Limited (IEAL) which surveyed FEMA and NRC staff, RAC Committee members, and other federal, state and local emergency planners in order to rank, in terms of importance, the 35 standard objectives contained in Guidance Memorandum PR-1. LILCO EX Exh. 12 at 26-30 and Att. L. The objectives tested at Shoreham were then compared against this ranking and the conclusion was drawn that the Shoreham exercise included 79% to 87% of the "total importance" of the 35 objectives. Id.; Tr. 6148-49 (Hockert).

NTOLS have always been and still are identical and that this conclusion is supported by the regulatory history of Appendix E ¶ IV.F.1. Based on this reasoning, LILCO concluded that the Shoreham exercise was a "full participation" exercise in keeping with the Commission's regulations and that it could serve as the basis for a reasonable assurance finding.

The FEMA witnesses supported LILCO's arguments. They agreed that to judge the sufficiency of an exercise one needs to look at the totality of the exercise and that FEMA guidance documents and NUREG-0654 are instructive in making that assessment, see FEMA EX Exh. 5 at 89-90; Tr. 7492 (Keller), 7620-21 (Keller, Kowieski). Specifically, they testified with regard to the phrase "the major observable portions" contained in ¶ IV.F.1 footnote 4 that:

1. FEMA's 35 standard exercise objectives and NUREG-0654 are interrelated, Tr. 7483 (Kowieski);
2. the 35 objectives encompass all the major observable elements of offsite emergency plans, Tr. 7483, 7516, 7519-20 (Kowieski, Baldwin);
3. the 35 objectives must be tested over a 6-year cycle rather than in each individual exercise, Tr. 7516 (Baldwin);
4. testing most or all of the FEMA objectives provides evidence that "the major observable portions" of a plan have been tested, Tr. 7517-20 (Baldwin, Kowieski); and
5. not every element of a plan is a "major observable portion," see Tr. 7690 (Baldwin).

See L.F. 56. The FEMA witnesses were unaware of any differences between regulatory requirements for exercises of NTOLS and operating plants and were unaware that FEMA had ever, in practice, differentiated between the two in framing the scope of an exercise. While the FEMA witnesses did not opine on whether the Shoreham exercise met the NRC's regulatory requirements, they did conclude that the exercise required the mobilization of emergency workers in sufficient number to verify their capability to respond to an accident, that the Shoreham exercise evaluated "the integrated

capability and a major portion of the basic elements" of the LILCO plan, and that the Shoreham exercise was "equal or greater in scope compared to any other full-scale exercise evaluated by FEMA Region II to date." FEMA EX Exh. 5 at 105.

The NRC Staff witnesses testified that FEMA guidance documents and NUREG-0654 are helpful in assessing the adequacy of the Shoreham exercise. NRC EX Exh. 1 at 5. They further testified that they were unaware of any difference in the scope of the exercises conducted at NTOLs and operating plants. See Tr. 8835-36 (Schwartz). They concluded that the Shoreham exercise was a "full participation" exercise in keeping with NRC regulations. NRC EX Exh. 1 at 7; Tr. 8851-53 (Weiss, Schwartz).

Intervenors took a decidedly different tack. Their arguments proceeded from the underlying premise that ¶ IV.F.1 of Appendix E establishes an extremely broad set of requirements for initial exercises which must be entirely satisfied or else the entire exercise is useless in making the reasonable assurance finding required by 10 CFR § 50.47(a). In a result-oriented approach, Intervenors then attempted to demonstrate that one or more of the alleged omissions in Contentions EX 15 and 16 was a required element of a full participation exercise, thus rendering the exercise a regulatory nullity.

Intervenors contended that the language of ¶ IV.F.1 was clear on its face and that the Court of Appeals decision in GUARD v. NRC, 753 F.2d 1144 (D.C. Cir. 1985), thus precluded the Board from considering FEMA guidance, past FEMA practice or the regulatory history of Appendix E to draw any conclusions that were not totally consistent with the clear meaning of Appendix E. I.F. 132. Intervenors then argued that:

1. "full participation" language of footnote 4 requires an exercise to include all major observable elements (which Intervenors equated with "portions") of an emergency plan, NYS EX Exh. 1 at 35, Tr. 7127-28 (Baranski), 7219 (Papile);

2. each of FEMA's 35 standard exercise objectives is a "major observable portion" of a plan, see Tr. 7127-28, 7231 (Baranski);
3. all of the major observable portions of an offsite plan are not encompassed in FEMA's standard objectives, NYS EX Exh. 1 at 30, Tr. 7122, 7235 (Baranski, Papile);
4. every item alleged in Contentions EX 15 and 16 to have been omitted from the Shoreham exercise is a "major observable portion" of a plan, NYS EX Exh. 1 at 42, 55, Tr. 7219 (Papile); and
5. the "mobilization of . . . other resources" language in footnote 4 requires the participation of all "critical response personnel" in a full participation exercise, and that for an exercise of the Shoreham plan this includes the participation of the primary EBS station, schools and special facilities, I.F. 124-129.

In addition to arguing for the creation of this seemingly all-encompassing set of requirements for a "full participation" exercise,^{25/} Intervenors also contended that ¶ IV.F.1 imposes higher exercise requirements for NTOLs, like Shoreham, than for sites with full-power operating licenses where a "track record" for the facility already exists. NYS EX Exh. 1 at 25; Tr. 7127 (Baranski).

After considering the proposed findings and reply findings, the Licensing Board concluded that the February 13 exercise did not meet the requirements of 10 CFR Part 50, App. E ¶ IV.F.1. The Board reasoned that the "clear" language of ¶ IV.F.1^{26/} requires an initial exercise to test "as much as [is] reasonably achievable" without mandatory participation. PID at 19. This overriding mandate in turn requires the testing of all response functions and response personnel absent a demonstration that such testing was not reasonably achievable. The Board found support for its interpretation in the Commission's 1984 amendment to Appendix E which, without explanation, it concluded made "substantive changes in the required scope of initial and biennial

^{25/} The definition of "full participation" in Appendix E ¶ IV.F.1 n.4 applies to initial and subsequent biennial exercises.

^{26/} Curiously, earlier in the PID the Board had agreed with LILCO that the sentence structure of ¶ IV.F.1 was ambiguous. PID at 15.

exercises." Id. Having established this broad test, the Board disposed of the majority of the testimony on Contentions EX 15 and 16 with little or no discussion. Specifically, the Board found it unnecessary to resolve the controversy among the parties as to the meaning of the "full participation" language in ¶ IV.F.1 footnote 4, PID at 20-21; dismissed all FEMA guidance documents and NUREG-0654 as either in conflict with the distinction between initial and biennial exercises or irrelevant as being intended only to apply to biennial exercises and not initial ones, PID at 19-20 n.11; and did not even mention the IEAL Report testified to by LILCO to demonstrate the immateriality of the omissions from the Shoreham exercise.

Applying its "reasonably achievable" test to the Shoreham exercise, the Board found the exercise to be deficient in four respects:

1. Direct contact should have been made with the then-primary EBS station, WALK, rather than a call having been made to a simulated station (PID at 27-28);
2. Participation should have either been secured from more school districts or more definitive documentation obtained of their refusal to participate (PID at 37-41);
3. A test of ingestion pathway response should have been undertaken (PID at 42-44); and
4. Testing of the capability to assist special facilities should have included (a) direct evaluation of LILCO's ability to communicate directly with actual special facilities instead of simulated ones and (b) direct testing of the preparedness of ambulance and ambulette companies (PID at 49).

The Board thus concluded that the February 1986 exercise had not fulfilled the requirements of 10 CFR 50, Appendix E ¶ IV.F.1. PID at 61.

ARGUMENT

I. The Licensing Board Erred in Admitting Contentions EX 15 and 16 for Litigation

In admitting Contentions EX 15 and 16 for litigation, the Licensing Board erred by expanding the scope of litigation of exercises beyond that dictated by the Court of

Appeals in UCS and specified in this case by the Commission's decision in CLi-86-11. In addition, by admitting contentions challenging the scope of the February 13 exercise without requiring any threshold assertion that generic interagency practices for formulating exercises had not been followed, the Board committed additional error by (1) ignoring the Memorandum of Understanding between the NRC and FEMA and implementing technical guidance from both agencies, (2) refusing to apply valid presumptions about agency regularity and agency expertise, and (3) permitting generic examination of FEMA's process for establishing the scope of exercises in a specific licensing case. The Board should have denied admission to Contentions EX 15 and 16.

In the UCS case, the Court of Appeals, recognizing that the Atomic Energy Act requires that issues of material fact cannot be excluded from litigation in nuclear licensing proceedings, held that the implementability of offsite emergency plans as measured by exercises raised such issues. Accordingly, the Court held that the subject of the exercise could not be totally foreclosed by the Commission from the opportunity for litigation. UCS, 735 F.2d at 1444-45.

However, the Court of Appeals then went to pains to recognize "the Commission's wide discretion to structure its licensing hearings in the interest of speed and efficiency." Id. at 1448. Noting that the Commission had argued that an "exercise is only relevant to its licensing decision to the extent that it indicates that emergency plans are fundamentally flawed," the Court stated unequivocally that: "Today, we in no way restrict the Commission's authority to adopt this as a substantive licensing standard." Id. at 1448 (footnote omitted) (emphasis supplied).

The Commission, in revising its regulations pursuant to the UCS remand, specifically limited the scope of exercise litigation to exercise results. The Commission stated:

The basic effect of the court's decision and of the rule change which follows is that the results of pre-licensing emergency preparedness exercises may be subject to litigation before the Licensing Board. The revision does not change the general predictive nature of the Commission's findings on emergency planning and preparedness issues.

50 Fed. Reg. 19,323 (1985) col. 2 (emphasis supplied).

Similarly, in defining the parameters of the litigation of the February 13 Shoreham exercise, the Commission did exactly what the Court of Appeals and its revised rule permitted. It restricted the scope of admissible contentions to those which, in addition to meeting normal tests of admissibility, also passed the additional threshold test of alleging that the exercise itself demonstrated a fundamental flaw in the emergency plan being exercised:

Under our regulations and practice, Staff review of exercise results is consistent with the predictive nature of emergency planning, and is restricted to determining if the exercise revealed any deficiencies which preclude a finding of reasonable assurance that protective measures can and will be taken, i.e., fundamental flaws in the plan.

CLI-86-11, 23 NRC at 581 (emphasis supplied).

An inquiry into the adequacy of exercise design, which is the sole topic of Contentions EX 15 and 16, cannot be matched to the Commission's limitation in the UCS remand rule change and in CLI-86-11 of the scope of litigation to exercise results. Nor can it be made to square with the frame of reference for the discussion: whether the exercise itself reveals fundamental flaws in the plan. Had the Commission contemplated case-by-case inquiry into exercise design, it surely would not have couched its discussion in the frame of reference of "exercise results" or whether an "exercise reveals" problems with an emergency plan.

In admitting Contentions EX 15 and 16, the Licensing Board recognized this distinction between exercise results and the scope of an exercise. December 11 Order, 24 NRC at 825-26. It dismissed the distinction on the grounds that 10 CFR Part 50,

App. E § IV, which is entitled "Content of Emergency Plans," contains provisions concerning the scope of full participation exercises. Id. It thus reasoned that exercises are provisions of offsite emergency plans and, accordingly, that deficiencies in the scope of an exercise can reveal fundamental flaws in the offsite emergency plan.

The Board's reasoning does not withstand scrutiny. While it is true that § IV of Appendix E is entitled "Content of Emergency Plans" and that ¶ IV.F.1 contains provisions for the scope of full participation exercises, those provisions do no more than require that emergency plans include provisions for conducting periodic exercises that will be observed and graded by FEMA. The content of an actual exercise is independent of the provisions of an offsite emergency plan^{27/} and is set by FEMA, in consultation with NRC Staff and other federal agencies, based on FEMA's expertise from hundreds of offsite emergency preparedness exercises and on available agency resources. Thus, by accepting Contentions EX 15 and 16 for litigation, the Board was not admitting issues that could result in findings that the LILCO Plan was fundamentally flawed but rather allowing an unspecified inquiry into whether FEMA was conducting exercises in keeping with the NRC's regulations. The Commission's discussion of the issue in CLI-86-11 does not contemplate this type of inquiry; nor is it sensible that it should, since it would permit scattered, uncoordinated inquiry into the working relationship of FEMA and the NRC which reflects the regulatory policies and requirements of two agencies coordinated by a formal Memorandum of Understanding.^{28/}

^{27/} Inclusion in offsite emergency plans of detailed descriptions of the specific elements for each of the exercises required by ¶ IV.F.1 would destroy much of the element of surprise sought in those exercises and would reduce their value as predictors of emergency preparedness.

^{28/} In this sense, Contentions EX 15 and 16 represent a challenge to an ongoing regulatory structure if not a specific regulation. They are thus inconsistent with the policy imbedded in the Commission's prohibition against challenges to regulations in specific licensing cases, 10 CFR § 2.758, which absolutely prohibits attack on any rule

In the years since 1980, when the NRC and FEMA first formalized their working relationship in the Memorandum of Understanding, FEMA takes the lead with respect to the offsite aspects of emergency preparedness, including responsibility for scenarios and objectives for joint (onsite-offsite) exercises. *Id.* at 15,487 col. 3. Since 1980 literally hundreds of exercises have been conducted in which FEMA has functioned as an agency acting within its scope of lawful authority and professional expertise. In all them the exercise of that authority and expertise has been pursuant to a comprehensive compact with the NRC.

FEMA's functioning in the design and execution of the offsite aspects of the Shoreham exercise originated, as with other exercises, with a request from the NRC pursuant to the Memorandum of Understanding. As such, its methodology and procedures for design of the exercise are entitled to substantial deference and a presumption of validity. *See* ALAB-861, 25 NRC at 139 n.38. Contentions EX 15 and 16 contain no allegations that FEMA's methodology or procedures for the design and execution of the Shoreham exercise were any different than those it customarily uses at other exercises.^{29/} As a result, the contentions present no basis for believing that the designed scope of the exercise was so deficient as to preclude a "reasonable assurance" finding under 10 CFR § 50.47. Accordingly, the Board erred in admitting Contentions EX 15 and 16.

(footnote continued)

or regulation of the Commission, subject only to waiver on the "sole ground" that "special circumstances with respect to the subject matter of the particular proceeding are such that application of the rule or regulation (or provision thereof) would not serve the purposes for which the rule or regulation was adopted." 10 CFR § 2.758(b).

^{29/} Indeed, the Board also conceded that the Shoreham exercise was as comprehensive as any conducted in FEMA Region II. PID at 51.

II. The Board Erred When It Adopted a "Reasonably Achievable" Test for Judging the Sufficiency of the Scope of the Shoreham Exercise

As described above, the Licensing Board found that the "clear language" of Appendix E ¶ IV.F.1 required the initial exercise of offsite emergency plan to be significantly more comprehensive than subsequent exercises and more specifically, that it needed to "test [] as much of the . . . plans as is reasonably achievable without mandatory public participation." PID at 18-19. The Board used this test to judge the merits of Contentions EX 15 and 16. In so doing, the Board committed reversible legal error. First, the Board erred in interpreting Appendix E ¶ IV.F.1 in isolation and ignoring the relationship of that provision to the ultimate "reasonable assurance" standard of § 50.47(a) -- the very standard the Court of Appeals and the Commission used as the basis for defining the limits of litigation of emergency preparedness exercises. Second, even if one accepts that one can look solely to the language of Apper. ix E ¶ IV.F.1 for resolution of Contentions EX 15 and 16, the Board's interpretation of that section violates basic tenets of statutory construction. Third, the Board's unexplained conclusion that the Commission's 1984 amendment of Appendix E made substantive changes in the required scope of initial and biennial exercise is contrary to the regulatory history. Fourth, to the extent the PID can be read to say that the Board declined to conduct a thorough review of the regulatory history of Appendix E because of the "clear" language of ¶ IV.F.1, the Board erred. Finally, the Board incorrectly dismissed the significance of the basic joint guidance document, NUREG-0654, and of other FEMA guidance, in interpreting Appendix E. Accordingly, the Appeal Board should reverse the Licensing Board's decision and find that the February 13, 1986 exercise was a "full participation" exercise which provided an adequate basis for a "reasonable assurance" finding.

A. The Licensing Board Erred in Focusing Only on Appendix E ¶ IV.F.1 in Defining the Legal Standard for Resolving Contentions EX 15 and 16

In discussing the legal standards for resolving Contentions EX 15 and 16, the Board begins by correctly noting that the contentions allege that the February 13, 1986 exercise was so limited that it did not yield meaningful results on implementation capability as is required by 10 CFR § 50.47(a). PID at 10. Having summarized the language of the contentions, the Board then jumps to the conclusion that the regulation that bears on the contentions is 10 CFR Part 50, Appendix E. *Id.* at 10-11. In so doing, the Board does not explain how the ultimate "reasonable assurance" test of § 50.47(a) is related to those Appendix E requirements; nor does it consider how § 50.47(a) may affect the interpretation of Appendix E. This omitted inquiry is essential, however, since the Commission framed the scope of this litigation not in terms of compliance with Appendix E but in terms of "fundamental flaws in the plan," which the Commission in turn equated with defects of sufficient severity to preclude a § 50.47(a) reasonable assurance finding. *See* CLI-86-11, 23 NRC at 581.

NRC regulations contain a number of provisions which relate to emergency planning for nuclear power plants and more specifically to exercises to assess the implementability of those plans. Foremost among those provisions is 10 CFR § 50.47(a), which contains the ultimate licensing standard -- whether "there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency." 10 CFR § 50.47(a)(1).^{30/} This "reasonable assurance" finding

^{30/} "It is undisputed that the Commission must make an ultimate finding in a licensing proceeding that 'there is reasonable assurance that adequate protective measures can and will be taken in the event of [a] radiological emergency.'" Union of Concerned Scientists v. United States Nuclear Regulatory Commission, 735 F.2d 1437, 1445 (1984) (emphasis supplied). The Commission has defined § 50.47(a) as the "fundamental emergency planning licensing standard." *See Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1)*, CLI-86-13, 24 NRC 22, 29 (1986). Similarly, in the preamble to the recent amendment to § 50.47(c)(1), the Commission reiterated that "the eval-

for emergency planning is different from other safety findings in the extent to which it is inherently predictive. Louisiana Power and Light Co. (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1103 (1983). The applicant is not required to prove, and Boards are not required to find, that the present state of emergency planning at the time of a licensing proceeding is fully adequate. Id. Rather, Boards are required only to find that there are no "insurmountable difficulties" to the successful completion of planning, no "barrier . . . that cannot be feasibly be removed." Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), LBP-82-70, 16 NRC 756, 764 (1982); Louisiana Power and Light Co. (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1104 (1983). The predictive nature of emergency planning findings was reiterated by the Commission when it mandated hearings on the Shoreham exercise itself:

We disagree with the [Intervenors'] proposition that restriction of any emergency planning exercise hearings requested by Intervenors to "fundamental flaws" requires rulemaking or is otherwise inappropriate. In the preamble to the rule reviewed by the UCS court, and in our rule change responding to the court's decision, we emphasized the predictive nature of emergency planning findings. See 47 Fed. Reg. 30,232 (July 13, 1982); 50 Fed. Reg. 19,343 (May 8, 1985). The court never questioned this concept. The court also observed that there was nothing to prevent the Commission from excluding from exercise litigation any issue which was not material to licensing decisions. See 735 F.2d at 1447-48. Under our regulation and practice, Staff review of exercise results is consistent with the predictive nature of emergency planning, and is restricted to determining if the exercise revealed any deficiencies which preclude a finding of reasonable assurance that protective measures can and will be taken, i.e., fundamental flaws in the plan. Since only fundamental flaws are material licensing issues, the hearing may be restricted to those issues.

(footnote continued)

uation of a utility plan takes place in the context of the overriding obligation that no license can be issued unless the emergency plan is found to provide reasonable assurance of adequate protective measures in an emergency." 52 Fed. Reg. at 42,080 col. 3 (November 3, 1987) (emphasis supplied).

CLI-86-11, 23 NRC at 581.

Section 50.47 also contains 16 specific planning standards which an applicant is required to satisfy before a reasonable assurance finding can be made under § 50.47(a).

Section 50.47(b)(14) relates specifically to exercises and provides that:

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 deficiencies identified as a result of exercises or drills are (will be) corrected.

Finally, 10 CFR Part 50, Appendix E ¶ IV.F contains provisions for exercises.

The section relating to pre-licensing exercises provides:

A full participation^{4/} exercise which tests as much of the licensee, State and local emergency plans as is reasonably achievable without mandatory public participation shall be conducted for each site at which a power reactor is located for which the first operating license for that site is issued after July 13, 1982. This exercise shall be conducted within two years before the issuance of the first operating license for full power (one authorizing operation above 5% of rated power) of the first reactor and shall include participation by each State and local government within the plume exposure pathway EFZ and each State within the ingestion exposure pathway EPZ. If the full participation exercise is conducted more than one year prior to issuance of an operating license for full power, an exercise which tests the licensee's onsite emergency plans shall be conducted within one year before issuance of an operating license for full power. This exercise need not have State or local government participation.

^{4/} "Full participation" when used in conjunction with emergency preparedness exercises for a particular site means appropriate offsite local and State authorities and licensee personnel physically and actively take part in testing their integrated capability to adequately access and respond to an accident at a commercial nuclear power plant. "Full participation" includes testing the major observable portions of the onsite and offsite emergency plans and mobilization of State, local and licensee personnel and other resources in sufficient numbers to verify the capability to respond to the accident scenario.

The only discussion of the relationship between the provisions of § 50.47 and

those of Appendix E that appears either in the text of those provisions or in the regulatory history is in the introduction of Appendix E ¶ IV.^{31/} That provision clearly indicates that while Appendix E contains requirements for the contents of emergency plans,^{32/} those plans will be evaluated against the standards of § 50.47(b), and implicitly the ultimate reasonable assurance finding of § 50.47(a). Thus, to ensure a consistent set of regulations, the language of Appendix E must be made to square with the provisions of § 50.47 and in particular, with the reasonable assurance finding of § 50.47(a) and its acknowledged predictive nature and standards of materiality.

On its face, Appendix E ¶ IV.F.1 appears to recognize the predictive nature of the emergency planning provisions. The provision defines "full participation" exercises as including only "major observable portions" of the offsite plan and the mobilization of "sufficient numbers" of personnel to verify the capability to respond to the accident scenario. It also provides that a full participation exercise should "test [] as much as of the . . . plans as is reasonably achievable without mandatory public participation." By

^{31/} The provision states:

The applicant's emergency plans shall contain, but not necessarily be limited to information needed to demonstrate compliance with the elements set forth below, i.e., organization for coping with radiation emergencies, assessment action, activation of emergency organization, notification procedures, emergency facilities and equipment, training, maintaining emergency preparedness, and recovery. In addition, the emergency response plans submitted by an applicant for a nuclear power reactor operating license shall contain information needed to demonstrate compliance with the standards described in § 50.47(b), and they will be evaluated against those standards.

10 CFR Part 50, Appendix E ¶ IV (emphasis supplied).

^{32/} As noted in the preceding section, the provisions of Appendix E ¶ IV.F are somewhat anomalous, since they talk about the content of plans relating to the scope of exercises, while as was the case with the Shoreham exercise, the exercise scope is defined not by the applicant, but by FEMA in consultation with the NRC Staff.

singling out the "reasonably achievable" language of Appendix E ¶ IV.F.1 and placing on the applicant the burden to demonstrate that the testing of any element, regardless of its importance, was not reasonably achievable, see, e.g., PID at 38-41, the Board has created an exercise requirement that goes far beyond that needed to serve as the basis for a reasonable assurance finding.^{33/} Accordingly, the Board erred by interpreting Appendix E in isolation without regard to the pertinent licensing standards.

B. The Board's Interpretation of Appendix E ¶ IV.F.1 Reads Substantive Material Out of That Provision

As a matter of statutory construction, the Board's interpretation of Appendix E ¶ IV.F.1 is incorrect. By giving the phrase "as much as reasonably achievable" paramount importance, the Board has violated the basic tenet of statutory construction that if possible, all parts of a regulatory provision should be given meaning.^{34/} Footnote 4 to ¶ IV.F.1 states that "'full participation' includes testing the major observable portions of onsite and offsite emergency plans. . . ." It also limits the mobilization of emergency response personnel and resources to "sufficient numbers to verify the capability to respond to the accident scenario." Footnote 4, including the definition of "full

^{33/} Section IV, infra, discusses how the Board's application of its "reasonably achievable" test ignores the materiality of certain omissions from the February 13 exercise.

^{34/} See, e.g., McCuin v. Secretary of Health and Human Services, 817 F.2d 161, 168 (1st Cir. 1987) ("In interpreting statutes and regulations, courts must try to give them a harmonious, comprehensive meaning, giving effect, when possible' to all provisions."); Campeanos Unidos v. United States Department of Labor, 803 F.2d 1063, 1069 (9th Cir. 1986) (The task of the court is "to interpret regulations as a whole, in light of the overall statutory scheme, and not to give force to one phrase in isolation."); In re Timbers of Inwood Forest, 793 F.2d 1380, 1384 (5th Cir. 1986) ("[E]ach part or section [of a statute] should be construed in connection with every other part or section so as to produce a harmonious whole. Thus it is not proper to confine interpretation to the one section to be construed" (quoting 2A N. Singer, Sutherland Statutory Construction § 46.05 at 90 (rev. 4th ed. 1984 & Supp. 1985)); Shepherd Oil, Inc. v. Atlantic Richfield Co., 734 F.2d 23, 29-30 (Temp. Emer. Ct. App. 1984) ("[I]t is well-recognized that a court cannot concentrate on individual terms and ignore a consideration of the context in which the term appears" (quoting Citronelle-Mobile Gathering, Inc. v. Edwards, 669 F.2d 717, 719 (Temp. Emer. Ct. App.), cert. denied, 459 U.S. 877 (1982))).

participation," applies throughout ¶ IV.F, to both initial and subsequent exercises. The effect of that provision -- if it is to be given any meaning -- is to confine the scope of exercises to "major observable portions" of emergency plans and participation in those exercises to that necessary "to verify the capability to respond to the accident scenario."

The Board's interpretation of ¶ IV.F.1 is that "reasonably achievable without mandatory public participation" is the only guiding principle of limitation. As a result, footnote 4 is reduced to mere surplusage. The Board's decision implicitly concedes this, since the Board found it unnecessary to resolve the parties' arguments concerning the proper interpretation of footnote 4. PID at 20-21. The Board's interpretation, which reads any limitation as to materiality out of the regulations as they apply to initial exercises, cannot be squared with § 50.47 as interpreted in CLI-86-11 or with the restriction of offsite exercises in Appendix E ¶ IV.F.1 to "major observable portions" of offsite plans.

C. The Licensing Board Erred in Concluding that the 1984 Rule-making Erected Special, Additional Requirements for Initial Exercises

An important factor in the Board's conclusion that initial exercises must be extremely comprehensive is its finding that the Commission's 1984 revision of ¶ IV.F.1 made substantive changes in the scope of initial and biennial exercises. PID at 19. A review of that section's history does not support the Board's conclusion.

To best understand the 1984 amendments, it is helpful to review briefly the evolution of ¶ IV.F. As originally adopted in 1980, the requirements of initial and subsequent "full participation" exercises were basically identical. Paragraph IV.F.1 contained a requirement that offsite exercises for all plants -- whether achieving their full power licenses for the first time or already licensed -- must test "as much of licensee, State and local emergency plans as is reasonably achievable without mandatory public participation." 45 Fed. Reg. 55,402-13 (August 19, 1980).

In December 1981, the Commission proposed to clarify its emergency planning regulations to indicate that emergency preparedness exercises were not required for an initial licensing decision. In the preamble to the proposed change, the Commission discussed the relationship between initial and subsequent exercises, stating:

The nature of NRC's regulatory oversight should be more or less constant throughout the license term, and there should be no special significance attached to the actual state of implementation or preparedness at the time just prior to license issuance Of course, there should be reasonable assurance prior to license issuance that there are no barriers to emergency planning implementation or to a satisfactory state of emergency preparedness that cannot feasibly be removed.

46 Fed. Reg. 61,135 col. 1 (December 15, 1981). From this it is clear that the Commission did not intend to enact any higher standards for initial exercises than for subsequent ones. ^{35/}

Nor did the 1984 amendment to § 50.47 and Appendix E change this parity between initial and subsequent exercises. The stated purpose of the 1984 rulemaking was to provide more flexibility in the timing and frequency of State and local government participation in exercises other than initial exercises, in response to complaints from States and an emergency management professional association that the then-annual exercise requirements were wastefully onerous and diverted attention from more

^{35/} This proposed revision to the Commission's regulations was adopted on July 8, 1982. 47 Fed. Reg. 30,232 (July 13, 1982). The rule change was vacated by the Court of Appeals in Union of Concerned Scientists v. NRC, 735 F.2d 1437 (D.C. Cir. 1984), but not in any way that requires or even implies that the Court would impose different standards for initial exercises than for subsequent ones. All the Court's opinion went to was the point that if the Commission believed exercises to reveal information material to a determination on the safety of a plant applying for a license, then the results of those exercises, whatever they might be, should be subject to licensing scrutiny like the rest of an application. Thus, the quoted language remains a useful indicator of the Commission's view of initial versus subsequent exercises for a given plant. See CLI-86-11, 23 NRC at 581 (Court of Appeals did not question predictive nature of emergency planning findings; review of exercise results is consistent with predictive nature of emergency planning and is restricted to determine if the exercise revealed deficiencies which preclude a reasonable assurance finding).

productive work. There is no reference, in either the notices presaging the rule change, 47 Fed. Reg. 29,252 (July 6, 1982), 48 Fed. Reg. 33,307 (July 21, 1983), or in the one actually promulgating the rule, 49 Fed. Reg. 27,733 (July 6, 1984), to any intent that the amendment affect anything other than timing requirements of exercises for operating plants and the frequency of State participation at "full participation" exercises for a particular site. There is no reference whatever to any intent to amend the definition of a "full participation exercise" for initial (or other) exercises. Further, there is no reference whatever in any of the 70 sets of comments filed in the rulemaking record, nor in the NRC Staff's regulatory analysis of the proposed rulemaking, to any intent to change the requirements for initial (or other) "full participation" exercises.^{36/}

Prior to the 1984 rulemaking, the requirements for initial and subsequent "full participation" exercises in ¶ IV.F.1 were basically identical. The treatment of initial exercises was not amended by the 1984 rule. Thus, even if the 1984 rulemaking is considered to have relaxed the substantive requirements (as well as the required frequency) for post-1984 exercises at operating plants, it does not follow that the definition of a "full participation" exercise itself changed, much less that the requirements applicable to initial exercises were somehow increased.^{37/} As the PID acknowledges, the scope of

^{36/} These comments and regulatory analysis are not in the record of the proceeding before the Licensing Board. However, they are public documents within the Commission's files, and pertinent to the issues the Commission and its staff thought they were addressing in the course of the rulemaking. One typical comment of particular interest filed by the State of New York, Department of Health (Attachment F hereto) shows a characteristic lack of concern with any distinction between initial and subsequent full participation exercises. The New York comment is especially interesting, in the context of Intervenor's testimony about the need for exceptionally broad initial exercises (see PID at 17-18), since it includes specific consideration of Shoreham (Attachment F at 3), and since it shows a total absence of planned ingestion pathway exercises for facilities located in New York State (Id., Table).

^{37/} In the PID, the Board appears to premise its conclusion that the 1984 rulemaking increased the scope of initial exercises on the fact that the Commission changed the language for initial full participation exercises from language that provided that the

the Shoreham exercise was "as comprehensive as any conducted in FEMA Region II [which includes New York] up to that time." PID at 51. The PID thus ignores the obvious conclusion: that the requirements for the scope of initial exercises have not changed by the 1984 rulemaking and thus that an exercise which, like that for Shoreham, was consistent with pre-1984 exercises in Region II, is adequate as an initial exercise conducted since 1984.

D. The Licensing Board Erred in Refusing to Consider the Regulatory History of Appendix E ¶ IV.F

The PID appears to find that the language of Appendix E is clear on its face, and thus that it is unnecessary to examine the regulatory history of that provision.

(footnote continued)

exercise should be such that it "will enable" State and local governments in the plume and ingestion pathways to participate, 10 CFR Part 50, Appendix E ¶ IV.F.1.b, 45 Fed. Reg. at 55,413 col. 1 (August 19, 1980), to language that defined a full participation exercise and then provided that the exercise "shall include" participation by States and local governments in the plume and ingestion pathways, 10 CFR Part 50, Appendix E ¶ IV.F.1, 49 Fed. Reg. at 27,736 col. 2 (July 6, 1984). PID at 14 n.8 and 43 n.19. The Board's exclusive reliance on this language change is misplaced.

First and most importantly, a review of the notices involving the rule change reveals that the Commission had interpreted the pre-1984 "will enable" language to mandate the participation of State and local governments in the plume and ingestion pathways. See e.g., 45 Fed. Reg. at 55,408 col. 2 (August 19, 1980) ("Each State and appropriate local government shall annually conduct an exercise jointly with a commercial nuclear power facility"); 48 Fed. Reg. at 33,307 col. 3 (July 21, 1983) ("It has become apparent that a disproportionate amount of Federal, State, and local government and licensee resources are being expended in order to conduct and evaluate emergency preparedness exercises at the presently required frequency"); 49 Fed. Reg. at 27,734-35 cols. 3-1 (July 6, 1984). Thus, the 1984 change was simply an editorial one with no substantive importance.

Second, as noted above, the "as much as reasonably achievable" language applied to initial exercises both before and after the 1984 changes. The Board has interpreted this phrase to mandate the inclusion of every aspect of an emergency plan and of most, if not all, offsite response personnel as well as other entities such as schools and special facilities, that are not part of the offsite response organization, absent a demonstration by the applicant that such testing would not be reasonably achievable. It is difficult, if not impossible, to imagine a factual situation where participation by a State in the ingestion pathway EPZ would not be "reasonably achievable." Hence, the Board's reliance on the language change in 1984 is misplaced given its "reasonably achievable" test.

Certainly, Intervenors invited just such a see-no-evil approach in their proposed findings.^{38/} If this reading of the Board's decision is accurate then the Board erred.

As is clear from discussions throughout this section, ¶ IV.F.1 of Appendix E does not have a simple, plain meaning. Instead, the provision includes general, undefined terms that are subject to alternative interpretations. Phrases like "the major observable portions of a Plan," "as much of the plans as is reasonably achievable without mandatory public participation," and "sufficient number to verify the capability to respond" are sufficiently broad, both individually and collectively, to allow Boards considerable latitude in consulting other sources for guidance on their meaning. In such circumstances, the Board is under an obligation to ensure that its interpretation of the provisions comports with the Commission's when it promulgated the rule.^{39/} As described in Section II.C above, a thorough review of the regulatory history would have led the Board to conclude that its interpretation was in conflict with that history. Its failure to conduct that review constitutes reversible error.

^{38/} Intervenors argued that (1) the language of Appendix E ¶ IV.F.1 has a plain, non-controversial meaning and (2) the Court of Appeal's decision in GUARD v. NRC, 753 F.2d 1144 (D.C. Cir. (1985)) prevented the Board from looking beyond the language of Appendix E to resolve Contentions EX 15 and 16. I.F. 48. The statement in the GUARD decision on which Intervenors premise their argument observes that the NRC cannot interpret the phrase "arrangements . . . made for medical services" in 10 CFR § 50.47(b)(12) "as meaning something other than what those words, in the context of a nuclear power plant emergency planning standard, may rationally convey." GUARD, 753 F.2d at 1146; see I.F. 48. Intervenors then asked the Board to mechanically apply this phrase to the language of Appendix E in a manner that would require that language to be interpreted in a vacuum.

The GUARD decision does not stand for this sweeping proposition. The court in GUARD recognized that traditionally a high degree of judicial deference is afforded an agency's interpretation of its own regulations. GUARD, 753 F.2d at 1148. Only where there is "violence to the plain meaning of the provision[s]" is deference not provided. Id. at 1148-49 (emphasis supplied).

^{39/} See, e.g., Maryland Dept. of Human Resources v. United States, 648 F. Supp. 1017, 1024 (D.C. Md. 1986) ("When doubt exists about the clarity of the language of a statute, courts must look to the legislative history" citing United States v. Turkette, 452 U.S. 576, 580 (1981)); United States v. New Castle County, 642 F. Supp. 1258, 1264 (D.C. Del. 1986) ("Where ambiguity exists in a statute, it is necessary to resolve doubts about interpretation through analysis of legislative history.").

E. The Board Erred in Dismissing Regulatory Guidance Issued by FEMA and NRC on the Scope and Conduct of Exercises

Throughout the proceeding, LILCO, the NRC Staff and FEMA argued that NRC and FEMA guidance were helpful in interpreting the provisions of Appendix E ¶ IV.F.1 and accompanying footnote 4. See supra pp. 17-20. They argued that this guidance includes a set of 35 standard exercise objectives that included all the major observable elements of offsite emergency plans; that these 35 objectives were required to be tested over a six-year period; that testing most of the 35 objectives provided evidence that "the major observable portions" of a plan had been tested; and that the guidance did not require an especially inclusive initial exercise. See supra pp. 17-20.

The Board's conclusion about the necessary scope of initial exercises is irreconcilable with this FEMA and NRC regulatory guidance. The Board dealt with this conflict by cursorily dismissing the guidance on the grounds either that it ignores the Board's own ill-premised distinction between initial and subsequent exercises or that it was intended to be limited to "subsequent" biennial exercises. PID at 19-20 n.11. The former ground ignores the obvious possibility that the expert regulators who wrote the guidance documents did not perceive any difference, for purposes of the definition of a full participation exercise, between initial and subsequent exercises. That view comports with the Commission's as evidenced by the Commission's comment in the preface of the December 1981 proposed rule change. See supra p. 34. The Board's rationale also ignores the fact that important parts of that body of guidance, particularly NUREG-0654/FEMA-REP-1 and the substantively equivalent predecessors of FEMA Guidance Memorandum PR-1, were issued prior to the Commission's 1984 rulemaking -- i.e., during the period when the phrase "as much as reasonably achievable" was found in the regulation applying to exercises for both NTOLs and operating plants. The latter ground is refuted by language in FEMA Guidance Memorandum PR-1, which plainly indicates that it was intended to discuss the scope of both initial and subsequent exercises. LILCO EX Exh. 12 at Att. E p. 2.

The Board's alternative distinction, see PID at 20 n.11 (cont.) -- that guidance is only that -- ignores the fact that official agency guidance still represents published thinking of agency experts, is not clearly contrary to the regulations, and is relied upon by agency staff as they frame the scope of emergency preparedness exercises. See FEMA EX Exh. 5 at 89-90.

Thus, the Board erred in dismissing NUREG-0654/FEMA-REP-1 and other FEMA guidance.

III. The PID's Conclusion That the 1986 Exercise was Inadequate as a Full Participation Exercise for Licensing Fails to Give Due Deference to Agency Experts' Views

The PID's finding that the February 1986 exercise did not meet the Commission's requirements for an initial licensing exercise fails to pay due deference to the views of expert witnesses, particularly those of FEMA and the NRC, concerning the design of that exercise.

The PID acknowledges and does not question the testimony of FEMA witnesses that the 1986 Shoreham exercise was as comprehensive as any that had been conducted in FEMA Region II -- which includes New York, Connecticut and New Jersey -- up to that time. PID at 51.^{40/} Rather, its conclusion that the Shoreham exercise was not sufficient is premised on the conclusion, advanced by Intervenors but opposed by the expert staffs of FEMA and the NRC, that full participation exercises sufficient for initial licensing purposes must meet higher requirements than subsequent full participation exercises.

^{40/} The actual number of such exercises in Region II, though not a subject of dispute, ranks easily in the dozens since the exercise process became formalized in the early 1980s.

To reach this conclusion, the PID implicitly rejects the testimony of FEMA and NRC Staff witnesses that the 1986 Shoreham exercise was intended to constitute a full participation exercise and did constitute one in their judgment. See NRC EX Exh. 1 at 7; FEMA EX Exh. 5 at 105. It also ignores the testimony of FEMA witnesses that they had never made any distinction between full participation exercises sufficient for initial licensing purposes and subsequent full participation exercises. Tr. 7622 (Keller, Baldwin), 8513-14 (Baldwin, Keller, Kowieski). Its rejection of this testimony, without substantial explanation, fails to give due deference to the views, codifying years of experience and practice, of experts not only from FEMA but from the NRC. It therefore should be reversed.

The role of FEMA in the federal government's structure for radiological emergency preparedness is clear. FEMA, established by Congressional Reorganization Plan No. 3 of 1978, 43 Fed. Reg. 41,943 (Sept. 19, 1978) and activated by Executive Order 12147 of March 31, 1979, 44 Fed. Reg. 19,367, was invested with all of the President's delegable emergency planning and response authorities by Executive Order 12148 of July 20, 1979 (44 Fed. Reg. 43,239). These functions include development of policies to deal with "civil emergencies," defined so as to include radiological emergencies at nuclear power plants. Id. §§ 2-201, 2-203. Even more pointedly, a Presidential Directive of December 7, 1979 ordered FEMA to "take the lead in offsite emergency planning and response," under the same directive, NRC was "asked to assist FEMA in these activities."^{41/}

^{41/} White House Fact Sheet, "The President's Response to the Recommendations of the President's Commission on the Accident at Three Mile Island," December 7, 1979, at 11.

Pursuant to this guidance, the NRC and FEMA entered into a Memorandum of Understanding, most recently revised in 1985. 50 Fed. Reg. 15,485 (April 18, 1985). That Memorandum creates a close and complex relationship of coordination and cooperation between the agencies, in which FEMA reviews offsite emergency plans for all nuclear plants, operating and in licensing. FEMA provides findings on them and witnesses to support them in NRC proceedings. FEMA and NRC also bind themselves to extensive joint cooperation in exercise development and review:

Preparation for and Evaluation of Joint Exercises: FEMA and NRC will cooperate in determining exercise requirements for licensees, state and local governments. They will also jointly observe and evaluate exercises. NRC and FEMA will institute procedures to enhance the review of the objectives and scenarios for joint exercises.

50 Fed. Reg. 15,487 col.3.

This pattern of mingled responsibility is also mirrored in the two agencies' regulations: the specific requirements for emergency preparedness, including those for exercises, set forth in the NRC's regulations at 10 CFR § 50.47(b) (and especially (b)(14)), are mirrored in FEMA's regulations in 44 CFR § 350.5(a) (and especially (a)(14)). The agencies' most basic technical guidance on emergency preparedness is also a shared document: NUREG-0654/FEMA-REP-1, Rev. 1 (November 1980). Similarly, the detailed FEMA Guidance Memoranda, which set the working-level specifics of emergency preparedness policy implementation, are sent to the NRC for review before promulgation. In the review of emergency plans and preparation for exercises, FEMA works through Regional Assistance Committees consisting of representatives from affected agencies; the NRC is represented on each RAC. 50 Fed. Reg. 15,487 col.2. Finally, FEMA findings and conclusions on emergency preparedness are required by NRC regulations to be given a rebuttable presumption of validity in NRC proceedings. 10 CFR § 50.47(a)(2).

In short, a detailed and interwoven pattern regulatory history establishes three basic facts: that FEMA is an expert agency invested with lead responsibility in the Federal government for offsite emergency preparedness; second, that that expertise is recognized in the NRC's regulatory structure; and third, that FEMA and the NRC have in fact so thoroughly meshed their operations and requirements for emergency preparedness policy and implementation as to approach regulatory symbiosis.

Thus, when the PID assertedly hinges a decision on an obligation to observe and interpret the provisions of the NRC's regulations, PID at 19-21, it merely states a truism. Execution of that obligation also necessarily involves informing its understanding of those regulations by their interpretation in practice by the affected agencies -- here, both NRC and FEMA. Indeed, in its prior, interlocutory consideration of the contentions now presented by this appeal, this Appeal Board concurred that "FEMA's professional judgment as to what elements [of an offsite emergency plan] should be tested at the pre-license state is entitled to substantial deference." ALAB-861, 25 NRC 129, 139 n.38 (1986).

The witnesses who testified concerning the scope of the Shoreham exercise for FEMA (Messrs. Kowieski, Baldwin, Keller) and NRC (Messrs. Weiss, Schwartz) were legitimate experts with decades of experience and dozens of plant evaluations among them. The FEMA witnesses in particular had unassailable credentials: Mr. Kowieski had been chairman of the RAC for Region II of FEMA; Messrs. Baldwin and Keller were long-time consultants to the RAC who had participated in plan reviews and exercises for numerous plants including Shoreham. No serious attempt was even made by any party to impeach their credentials, and the Board acknowledged the FEMA witnesses' forthrightness in particular, see PID at 9 n.6.

As noted above, these witnesses testified uniformly that the Shoreham exercise was designed according to standard practices for full participation exercises; that it was as comprehensive an exercise as had been held to that time in all of FEMA Region II; that it constituted a full participation exercise in their view; and that they had never distinguished between pre-licensing and subsequent exercises. This testimony plainly supports the adequacy of the scope of the Shoreham exercise, and is due "substantial deference." It was never rebutted. It should have been accepted by Board as dispositive of the issue of the scope of the Shoreham exercise.

The PID does not deal comprehensively with this testimony. Indeed, the only aspect of it addressed by the PID -- that dealing with the exercise's comprehensiveness -- is acknowledged by the PID, apparently in concession of its indisputable accuracy. See PID at 51. The rest of the testimony, which was pointed out in post-hearing findings, see, e.g., L.F. 33, 61, 141, 146; N.F. 18, 30, 33, 84, was simply ignored by the PID.

The Board's apparent reason for rejecting the effect of this testimony is apparently that the exercise failed to include some matters which, in its judgment, reasonably could have been included. PID at 51. That, however, is a legal conclusion rather than a reasoned discussion. For reasons discussed elsewhere, the PID's "everything reasonably achievable" standard is incorrect. As the totally consistent and unrebutted FEMA and NRC testimony makes clear, that standard is also totally inconsistent with years of expert agency practice and interpretation. The PID's failure to give attention, much less appropriately deferential effect, to testimony concerning that practice in a highly technical area where complex regulations are given life by practice was clearly wrong. Accordingly, its conclusion as to the adequacy of the scope of the Shoreham exercise should be reversed.

IV. Assuming the Licensing Board Was Correct in Its Interpretation of 10 CFR Part 50 Appendix E, the Board Incorrectly Concluded That the Four Items Should Have Been Included in the Exercise

Even assuming that exercise design can reveal defects in an emergency plan sufficiently important to preclude a finding of "reasonable assurance" and thus constitute a "fundamental flaw," the Licensing Board's ruling concerning the four omissions from the Shoreham exercise fails to analyze the materiality of those issues. It is impossible to determine from the PID whether the Licensing Board thought that omission of each of the four omitted elements was sufficiently material to constitute a "fundamental flaw," whether they constituted a "fundamental flaw" only in the aggregate, or whether taken together they constitute a "fundamental flaw" at all. Instead, the Board merely concludes that the exercise failed to comply with 10 CFR Part 50, Appendix E ¶ IV.F.1. PID at 61. In admitting Contentions EX 15 and 16, the Board noted that a failure to meet the requirements of Appendix E ¶ IV.F.1 "may constitute" a fundamental flaw, December 11, 1986 Order, 24 NRC at 826, yet the Board never conducts this necessary inquiry to relate its conclusions on ¶ IV.F.1 to the ultimate inquiry of whether the scope of the exercise was so deficient as to preclude a reasonable assurance finding.

This failure to articulate and analyze the materiality of the omissions from the Shoreham exercise is contrary to the UCS case and the Commission's implementing regulations and decisions. The PID's failure to assess materiality is inherent in its erroneous emphasis on the phrase "as much . . . as is reasonably achievable without mandatory public participation" to such an extent that it excludes footnote 4 from ¶ IV.F.1 in the context of initial exercises. As a result, the PID fails to assess whether elements excluded from the exercise constitute "major observable portions" of emergency plans,^{42/}

^{42/} In the PID, the Board admits that its interpretation of ¶ IV.F.1 "makes it unnecessary" for it to consider the application of footnote 4, with its "major observable portions" language, in considering the adequacy of the exercise design. PID at 20-21.

or alternatively, whether the omitted items, if tested and LERO's performance found to be inadequate, would have constituted a fundamental flaw in the plan. By failing to assess materiality, the PID leaves the determination of whether the exercise design precluded a finding of "reasonable assurance" without rational basis.

In addition, had the PID contained the proper inquiry, it would have found that testing of the four excluded items was either not "reasonably achievable," or not a necessary element of the basis for a "reasonable assurance" finding, or both.

A. EBS Station Participation

The PID's conclusion that LERO should have communicated an EBS message to WALK Radio and have had WALK Radio authenticate the message, see PID at 27-28, 50, suffers from several defects. First, the PID recites no basis for concluding that WALK's participation in the exercise would have been "reasonably achievable." As noted above, Suffolk County enacted a criminal ordinance about 75 days before the exercise that made it a crime punishable by up to a year in jail and a fine of up to \$1000 to participate in the exercise (or potentially even in drills leading up to the exercise). See supra note 10. This chilling ordinance, which was in effect during the final exercise preparation period, was enjoined only 60 hours before the exercise. LILCO witnesses testified that the only reason that the sirens were not sounded and the EBS system was not activated during the exercise was because of the Suffolk County ordinance. The Board accepted this testimony in concluding that the sounding of sirens and the broadcasting of an EBS message were not reasonably achievable. PID at 26. Given this conclusion, the Board does not explain how it was then reasonably achievable for WALK Radio to have received an EBS message and authenticated that message during the exercise while it was not reasonably achievable for WALK to have actually transmitted a test message to the general public. The appropriate conclusion is that the Suffolk County ordinance made any participation by WALK Radio not reasonably achievable. The Board never

focused on this apparent distinction, by inquiry to the parties or otherwise, in its hearings on this issue.

Second, the "omission" of WALK is not material to the outcome of the exercise. The omission cited in the PID is extremely limited in real world consequence. It involves only the ability of WALK Radio personnel to answer a telephone call from LERO, verify an authentication code provided by the LERO caller, and record the EBS message read by the caller. It does not involve LERO's ability to decide that an EBS message should be broadcast to the general public, what that message should include, that WALK should be called to broadcast the message, or the LERO caller's ability to transmit the message to WALK Radio along with the proper authentication code. Those actions were all demonstrated during the exercise: the LERO worker assigned to call the EBS station was given a telephone number on the day of the exercise that was purported to be WALK, he called that number and took all the actions he would take in an actual emergency. See LILCO EX Exh. 12 at Att. J and K. The only difference was that an exercise controller, rather than personnel at WALK Radio answered the telephone call.

Finally, as LILCO witnesses testified, the mechanical capabilities of the public notification system including the transmittal and broadcasting of an EBS message will be tested in a separate FEMA-REP-10 test, and LILCO has committed to perform such a test before exceeding 5% power. LILCO EX Exh. 12, at 32-33. The FEMA witnesses agreed by testifying that often at exercises outside FEMA Region II sirens are sounded and the EBS message broadcast in a separate REP-10 test, Tr. 8525-26 (Keller), and that separate REP-10 testing would satisfy this part of the public notification objectives, Tr. 8378 (Baldwin). In concluding that "accurate communication of the text of EBS messages to the radio station which is to broadcast them. . . is not a mechanical activity which appropriately can be covered in a FEMA-REP-10 test," PID at 27-28, the Board disregarded the record without reasoned basis and did not afford FEMA's

testimony the rebuttable presumption it deserved.^{43/}

Thus, the PID erred in finding that the participation of WALK Radio was "reasonably achievable" or that its exclusion precluded a reasonable assurance finding.

B. School Participation

In finding that it was reasonably achievable for more school districts to have participated in the Shoreham exercise, the PID essentially faults LILCO for not having secured more definitive refusals from school districts concerning their unwillingness to participate in the February 13 exercise. As the Board notes in passing, PID at 38, many of the school districts that did not participate in the exercise had enacted resolutions (which were attached to Intervenors' prefiled testimony) indicating their refusal to cooperate in emergency planning generally for Shoreham.^{44/} Similarly, the consensus testimony, even from Intervenors, was that further efforts to obtain additional school districts' participation would have been fruitless. PID at 38-39. Thus, the PID would condemn the Shoreham exercise for the informality of the documentation of the concededly accurate evidence of the unwillingness of school districts, other than Shoreham-Wading River, to cooperate in the exercise. This defect is the exercise's scope could apparently be cured by obtaining more explicit denials by the school districts since those letters would illustrate why broader school participation was not "reasonably achievable."^{45/}

^{43/} To the extent the Board sought to bolster its conclusion by general concerns about communication capabilities during the exercise to other areas, see PID at 28 and n.14, the Board has engaged in classic improper reasoning by hindsight.

^{44/} While the resolutions do not expressly note the school districts' unwillingness to participate in exercises of the LILCO Plan, their general hostility to LILCO's efforts to compensate for New York State's and Suffolk County's refusal to plan for the Shoreham plant leaves little room to doubt that the schools would have refused to participate in the 1986 exercise.

^{45/} This portion of the PID graphically illustrates the fallacy of exercise design as an indicator of "fundamental flaws" in an emergency plan and the unreasonableness of using only a "reasonably achievable" test for judging the acceptability of an initial exercise.

In addition, FEMA graded the failure of more school districts to participate in the Shoreham exercise as an Area Requiring Corrective Action (ARCA). PID at 37-38. FEMA defines an ARCA as "demonstrated and observed inadequacies of performance, and although their correction is required, they are not considered, by themselves, to adversely impact public health and safety." FEMA EX Exh. 11 (Post Exercise Assessment) at 8. By contrast, FEMA defines the more serious category of "deficiency" as "demonstrated and observed inadequacies that would cause a finding that offsite emergency preparedness was not adequate to provide reasonable assurance that appropriate protective measures can be taken to protect the health and safety of the public living in the vicinity of a nuclear power facility in the event of a radiological emergency." *Id.* Thus, FEMA implicitly found that the absence of participation by more school districts in the Shoreham exercise was not essential for making a reasonable assurance finding. The PID improperly ignored this materiality testimony without so much as a mention of the rebuttable presumption owed FEMA's testimony.

C. Ingestion Pathway

To the extent the PID can be read to hold that ingestion pathway activities were "reasonably achievable" during the exercise, it is inconsistent with the manner in which the Board applied the term "reasonable assurance" in other parts of the PID and ignores the testimony in the record. The Board found that the testing of recovery/reentry activities was not reasonably achievable because EPA guidance on acceptable reentry doses has not been finalized. PID at 46. Thus, it recognized that a relevant aspect of its "reasonable assurance" test was that the exercising of a particular plan element needed to yield productive results. The uncontradicted testimony in the proceeding, acknowledged by the PID, was that ingestion pathway exercises are not uniformly performed, and that New York State has habitually not performed them because of the absence of definitive guidance from FEMA. PID at 43-44.^{46/} The PID does not explain

^{46/} Such guidance as exists on this issue from FEMA -- Guidance Memorandum IN-1 -- was in draft form at the time of the 1986 exercise and remains in draft form today.

how, in light of the absence of final FEMA guidance on ingestion pathway activities, they were "reasonably achievable."

Alternatively, the PID could be read to hold that the last sentence of 10 CFR Part 50, Appendix E ¶ IV.F.1 requires initial exercises to include a full ingestion pathway exercise. See PID at 12 and 44. The last sentence of ¶ IV.F.1 provides, in part, that the "full participation" exercise which is conducted within two years of the granting of a license to operate above 5% power "shall include participation by . . . each State within the ingestion exposure pathway EPZ." LILCO argued that this "participation" language requires States in the ingestion pathway to participate to the extent required by the exercise scenario, Tr. 6850-52 (Daverio), and that during the exercise the State of Connecticut did just that, Tr. 6851-52 (Daverio). The Board rejected this argument. PID at 44 n.20.

The Board's conclusion is insupportable for a number of reasons. First, the PID reaches its definitive conclusion about the need for ingestion pathway testing during initial exercises without attempting to parse the language of ¶ IV.F.1, which does not expressly require such testing. In addition, the Board does not explain how its interpretation of ¶ IV.F.1 squares with the remainder of ¶ IV.F, which only requires a State to test its ingestion pathway plans once every five years, regardless of the number of sites whose ingestion pathway EPZs may include some part of that State, 10 CFR Part 50, Appendix E ¶ IV.F. Second, the Board does not explain why it is essential for the Shoreham exercise to have included full ingestion pathway testing when at the time of the exercise it acknowledges, PID at 43, that such testing had never been conducted for any nuclear power plant in New York State.^{47/} Finally, the Board's interpretation

47/ New York State witnesses attempted to argue that some, though not all, ingestion pathway objectives had been tested in some early exercises in New York State. Tr. 7232-33, 7240-41 (Baranski, Czech); see also I.F. at 63-64. In response, FEMA witnesses testified that early New York State exercises involved only limited ingestion pathway testing, using now outdated guidance, in which New York State's performance had been "absolutely unsatisfactory." Tr. 7527-28 (Keller).

rejects without explanation the testimony of both the NRC Staff and FEMA that the Shoreham exercise was consistent in scope with other exercises and that, in practice, initial exercises have not been different than other subsequent "full participation" exercises.^{48/}

D. Special Facilities

The Board's finding that it was "reasonably achievable" for the exercise to have included actual communications between LERO and special facilities and additional testing of employees of ambulance and ambulette companies, other than drivers, PID at 46-50, is in error as a matter of law because it fails to consider the materiality of those items and rejects without explanation the testimony of the FEMA witnesses. As with the earlier discussion of the actual participation of WALK Radio, the failure of personnel at special facilities to answer telephone calls made by LERO workers has very little real world consequence. In cases where the special facility has its own vehicles to transport its residents out of the EPZ, the call serves only to inform personnel of the protective action recommendation — the special facility personnel should already have been aware of that recommendation because of sirens, EBS messages and the signal of a tone alert radio present in the facility. For special facilities needing transportation assistance, the call would normally serve to inform the facility when to expect the arrival of LERO vehicles. Only if the transportation support data, which are updated annually under the LILCO Plan, are inaccurate would any meaningful information exchange take place during the telephone call. Hence, the omission of actual calls to

^{48/} During the litigation of Contentions EX 15 and 16, the Board did not inquire about the importance of States located only in the ingestion pathway EPZ participating in full ingestion pathway exercises for NTOLs. Public documents available in the NRC's public document room reveal that the Limerick, River Bend and Perry stations were licensed based on qualifying exercises that were conducted after the 1984 revisions to Appendix E ¶ IV.F.1 and did not include participation by States located only in those stations' ingestion pathway EPZs.

special facilities was not of such materiality as to preclude a reasonable assurance finding.

In addition, as the Board concedes, see PID at 49, FEMA witnesses testified that all special facilities did not need to be actually contacted in the first Shoreham exercise. Instead, in FEMA's expert judgment it was appropriate to use a sampling approach for these facilities such that all facilities would participate at least once over a six-year period. Without explanation, the Board dismissed this testimony and applied blindly its "reasonably achievable" test.

The basis for the PID's conclusion that more ambulance companies should have been tested during the Shoreham exercise is not obvious. On page 48, it cites Intervenor's testimony that "FEMA interviewed no ambulance company officials and thus did not evaluate whether ambulance company officials were knowledgeable about what was expected under the Plan." Then on the following page the Board recites that "we agree that an evaluation of the preparedness of the ambulance and ambulance companies should have been included." PID at 49. Since FEMA evaluated the performance of ambulance drivers by observing them being briefed, receiving dosimetry and departing for the field, and then by accompanying them on their field assignments, it appears that the Board is holding that FEMA should also have evaluated officials at the ambulance companies. Under the LILCO Plan, the only function these officials would perform during an emergency is to dispatch ambulances to the Emergency Operations Center where the drivers would be briefed by LERO workers and dispatched into the field.^{49/} This dispatching function is nothing more than these officials' everyday job. Accordingly, FEMA's failure to observe these officials cannot possibly preclude a reasonable assurance finding.

^{49/} Ambulance drivers from one contractor, Peconic Ambulance Service, are not briefed and dispatched from the EOC; instead, they receive their briefings at, and are dispatched from, the company yard in Jamesport by a LERO Dosimetry Record Keeper from the Riverhead Staging Area. See OPIP 3.6.5 § 5.6.1.

CONCLUSION

For the reasons stated in Section I above, the Appeal Board should reverse the Licensing Board's decision on the ground that Contentions EX 15 and 16 were improperly admitted. Alternatively, if the Appeal Board concludes that admission of Contentions EX 15 and 16 was consistent with the "fundamental flaw" standard specified by the Commission in CLI-86-11, then it still must reverse the Licensing Board's decision of the reasons specified in Section II, III and IV above.

Reversal of the Licensing Board's decision on the basis of the arguments in Sections II, III and IV does not require the contentions to be remanded to the Licensing Board for further consideration.

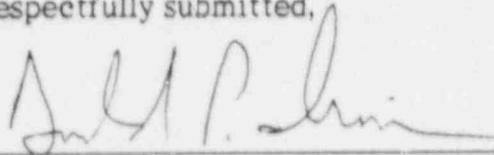
As noted above, Contentions EX 15 and 16, as litigated, do not involve areas of substantial factual controversy. The FEMA witnesses testified without contradiction that they followed the typical FEMA practice in framing the scope of the Shoreham exercise. As the Licensing Board found, the Shoreham exercise was as comprehensive as any conducted in Region II up to that time. It included the testing of the vast majority (29 of 35) of the standard FEMA objectives plus seven other objectives and involved the participation of the entire Local Emergency Response Organization as well as a number of other non-LERO entities.

The remaining controversy centers on interpreting the Commission's regulations and applying them in keeping with the Commission's limitations, specified in CLI-86-11, on hearings concerning exercises -- a matter certainly within the expertise of this Appeal Board. Once the Appeal Board has properly interpreted those regulations, it is a straightforward matter to apply them to the facts of the Shoreham exercise to conclude that the scope of the exercise was sufficient to provide the basis for a reasonable assurance finding under 10 CFR § 50.47(a).

Finally, there remains a need for expedition in resolution of this appeal. Over 23 months have passed since the Shoreham exercise and it appears likely, absent a waiver or exemption, that LILCO will be forced to conduct another exercise before it can obtain a full power license.^{50/} Until a decision has been rendered on the principles governing the scope of an initial exercise, LILCO and agency planners cannot know what is necessary to ensure that the exercise scope will be acceptable. On December 17, 1987, LILCO requested the NRC to conduct another exercise. Accordingly, it is essential to have a prompt, definitive ruling on these issues so that the planning process for this exercise can proceed in an informed manner.

Accordingly, the Appeal Board should reverse the Partial Initial Decision and dismiss Contentions EX 15 and 16 as without merit.

Respectfully submitted,



Donald P. Irwin
Lee B. Zeugin

Hunton & Williams
707 East Main Street
P.O. Box 1535
Richmond, Virginia 23212

DATED: January 19, 1988

^{50/} Commission regulations require that, in the absence of a waiver or exemption, an exercise for the first license to operate above 5% of rated power must be conducted not more than 24 months before the date of issuance of that license. 10 CFR Part 50, Appendix E ¶ IV.F.1.

LILCO, January 19, 1988

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CERTIFICATE OF SERVICE

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DOCKETING & SERVICE
BRANCH

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 the APPEAL BRIEF OF LONG ISLAND LIGHTING COMPANY ON CONTENTIONS EX 15 AND 16 were served this date upon the following by Federal Express, as indicated by an asterisk, or by first-class mail, postage prepaid.

Christine N. Kohl, Chairman *
Atomic Safety and Licensing
Appeal Board
Fifth Floor (North Tower)
East-West Towers
4350 East-West Highway
Bethesda, MD 20814

Dr. Oscar H. Paris *
Atomic Safety and Licensing
Board
U.S. Nuclear Regulatory Commission
East-West Towers
4350 East-West Hwy.
Bethesda, MD 20814

Alan S. Rosenthal *
Atomic Safety and Licensing
Appeal Board
Fifth Floor (North Tower)
East-West Towers
4350 East-West Highway
Bethesda, MD 20814

Mr. Frederick J. Shon *
Atomic Safety and Licensing
Board
U.S. Nuclear Regulatory Commission
East-West Towers, Rm. 430
4350 East-West Hwy.
Bethesda, MD 20814

Dr. W. Reed Johnson *
Atomic Safety and Licensing
Appeal Board
Fifth Floor (North Tower)
East-West Towers
4350 East-West Highway
Bethesda, MD 20814

Lando W. Zech, Jr., Chairman
U.S. Nuclear Regulatory Commission
1717 H Street, N.W.
Washington, DC 20555

John H. Frye, III, Chairman *
Atomic Safety and Licensing
Board
U.S. Nuclear Regulatory Commission
East-West Towers
4350 East-West Hwy.
Bethesda, MD 20814

Commissioner Thomas M. Roberts
U.S. Nuclear Regulatory Commission
1717 H Street, N.W.
Washington, DC 20555

Commissioner Frederick M. Bernthal
U.S. Nuclear Regulatory Commission
1717 H Street, N.W.
Washington, DC 20555

Commissioner Kenneth M. Carr
U.S. Nuclear Regulatory Commission
1717 H Street, N.W.
Washington, DC 20555

Commissioner Kenneth C. Rogers
U.S. Nuclear Regulatory Commission
1717 H Street, N.W.
Washington, DC 20555

James P. Gleason, Chairman *
Atomic Safety and Licensing Board
513 Gilmore Drive
Silver Spring, Maryland 20901

Dr. Jerry R. Kline *
Atomic Safety and Licensing
Board
U.S. Nuclear Regulatory Commission
East-West Towers, Rm. 427
4350 East-West Hwy.
Bethesda, MD 20814

Secretary of the Commission
Attention Docketing and Service
Section
U.S. Nuclear Regulatory Commission
1717 H Street, N.W.
Washington, D.C. 20555

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

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

Edwin J. Reis, Esq. *
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
One White Flint North
Bethesda, MD 20814

Herbert H. Brown, Esq. *
Lawrence Coe Lanpher, Esq.
Karla J. Letsche, Esq.
Kirkpatrick & Lockhart
South Lobby - 9th Floor
1800 M Street, N.W.
Washington, D.C. 20036-5891

Fabian G. Palomino, Esq. *
Richard J. Zahnleuter, Esq.
Special Counsel to the Governor
Executive Chamber
Room 229
State Capitol
Albany, New York 12224

Alfred L. Nardelli, Esq.
Assistant Attorney General
120 Broadway
Room 3-118
New York, New York 10271

Spence W. Perry, Esq. *
William R. Cumming, Esq.
Federal Emergency Management
Agency
500 C Street, S.W., Room 840
Washington, D.C. 20472

Mr. Jay Dunkleberger
New York State Energy Office
Agency Building 2
Empire State Plaza
Albany, New York 12223

Stephen B. Latham, Esq. *
Twomey, Latham & Shea
33 West Second Street
P.O. Box 298
Riverhead, New York 11901

Mr. Philip McIntire
Federal Emergency Management
Agency
26 Federal Plaza
New York, New York 10278

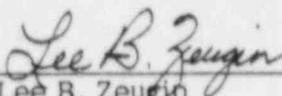
Jonathan D. Feinberg, Esq.
New York State Department of
Public Service, Staff Counsel
Three Rockefeller Plaza
Albany, New York 12223

Ms. Nora Bredes
Executive Coordinator
Shoreham Opponents' Coalition
195 East Main Street
Smithtown, New York 11787

Gerald C. Crotty, Esq.
Counsel to the Governor
Executive Chamber
State Capitol
Albany, New York 12224

Dr. Monroe Schneider
North Shore Committee
P.O. Box 231
Wading River, NY 11792

Martin Bradley Ashare, Esq.
Eugene R. Kelly, Esq.
Suffolk County Attorney
H. Lee Dennison Building
Veterans Memorial Highway
Hauppauge, New York 11787



Lee B. Zeugin

Hunton & Williams
707 East Main Street
P.O. Box 1535
Richmond, Virginia 23212

DATED: January 19, 1988

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Appeal Board

In the Matter of)
)
LONG ISLAND LIGHTING COMPANY) Docket No. 50-322-OL-5
) (EP Exercise)
(Shoreham Nuclear Power Station,)
Unit 1))

ATTACHMENTS TO
APPEAL BRIEF OF LONG ISLAND
LIGHTING COMPANY ON CONTENTIONS EX 15 AND 16

Donald P. Irwin
Lee B. Zeugin
Hunton & Williams
707 East Main Street
P.O. Box 1535
Richmond, Virginia 23212

January 19, 1988

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Appeal Board

In the Matter of)
)
LONG ISLAND LIGHTING COMPANY) Docket No. 50-327-OL-5
) (EP Exercise)
(Shoreham Nuclear Power Station,)
Unit 1))

ATTACHMENTS TO
APPEAL BRIEF OF LONG ISLAND
LIGHTING COMPANY ON CONTENTIONS EX 15 AND 16

Donald P. Irwin
Lee B. Zeugin
Hunton & Williams
707 East Main Street
P.O. Box 1535
Richmond, Virginia 23212

January 19, 1988

LIST OF ATTACHMENTS

- A. Contentions EX 15 and 16
- B. LILCO EX Exh. 12 (LILCO's Written Testimony on Contentions EX 15 and 16) with Attachment E (GM PR-1)
- C. FEMA EX Exh. 5 at 89-140 (FEMA's Written Testimony on Contentions EX 15 and 16)
- D. NRC EX Exh. 1 (NRC Staff's Written Testimony on Contentions EX 15 and 16)
- E. Cited Transcript Pages from February 13, 1986 Exercise Proceedings
- F. Letter to Secretary of the Commission, NRC, from Donald B. Davidoff, State of New York Department of Health (September 6, 1983)

ATTACHMENT A

Contentions EX 15 and EX 16: [The matters set forth in subpart C of EX 18 are admitted as additional alleged deficiencies in the exercise; and the matters alleged in EX 20 are deemed covered by EX 15 and 16]. The scope of the February 13 exercise of the LILCO Plan was so limited that it could not and did not yield valid or meaningful results on implementation capability as required by 10 CFR § 50.47(a)(2), in that it did not include demonstrations or evaluations of major portions of the LILCO Plan and the emergency response capabilities of many persons and entities relied upon to implement the LILCO Plan. The data set forth in subparts A-I, K and M of Contention EX 15 and A-L and N of Contention EX 16 individually and collectively establish that the exercise demonstrated a fundamental flaw in the LILCO Plan. The exercise results do not demonstrate that the LILCO Plan could or would be implemented, and the exercise results preclude a finding that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at Shoreham, as required by 10 CFR § 50.47(a)(1). Thus, the exercise demonstrated a fundamental flaw in the LILCO Plan.

Specifically, several critical aspects of offsite emergency preparedness, and major substantive portions of the LILCO Plan, were excluded from the exercise. Neither the exercise scenario (which LILCO prepared), nor responses by players during the exercise, nor any FEMA evaluation or observation, addressed the elements identified in EX 26 A-I, K and M of emergency preparedness required by the referenced sections of the NRC's regulations and NUREG 0654.

The failure of each of the persons and entities identified in EX 16 A-L and N below to participate in the exercise both individually and collectively means that the exercise did not comply with 10 CFR § 50.47(b)(14) and did not demonstrate that the LILCO Plan can or will be implemented, as required by 10 CFR §§ 50.47(a)(1) and (a)(2). Rather, the exercise results were so limited that they demonstrated a fundamental flaw in the scope of the exercise and in the implementability of the Plan and preclude a finding that there is reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham accident, as required by 10 CFR § 50.47(a)(1).

Other than LILCO and its personnel, the majority of the organizations, entities, and individuals relied upon in the LILCO Plan for implementation of that Plan did not participate in the exercise. Thus, the exercise did not address the willingness, availability, training, equipment, capability, or adequacy of performance of the entities and individuals identified in EX 16 A-L and N below, each of which is necessary to implement the portions of the LILCO Plan referenced in each subpart. The fact that each of these entities and individuals did not participate in the exercise precludes a finding that the LILCO Plan is capable of implementation or a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham emergency, as required by 10 CFR § 50.47(a)(1). Accordingly, the LILCO Plan is fundamentally flawed.

EX 15.A. [Subparts C and D of EX 16 subsumed in this subpart; and the failure to test sirens as alleged in EX 24 will be considered as an example of an additional omission]. Procedures for actual notification of the public and actual issuance of emergency information and protective action recommendations to the public, as set forth in OPIPs 3.3.4, 3.8.1 and 3.8.2, and at pages 2.2-2 thru 2.2-2a, 3.3-4 thru 3.3-6, 3.4-6, 3.8-4, 3.8-6 and Appendix A, pages IV-2 and IV-3 of the LILCO Plan, were excluded from the exercise: in that sirens, the LILCO EBS system, and WALK Radio were not tested, used, demonstrated, or involved in the exercise. Thus, neither the notification capabilities of LILCO or WALK Radio personnel, nor the notification capabilities

of LILCO's EBS system, were evaluated during the exercise. Such capabilities are required by 10 CFR § 50.47(b)(5), 10 CFR Part 50, App. E § IV.D; NUREG 0654 §§ II.E and F, and Appendix 3, and were required to be demonstrated in the exercise. Objectives EOC 14 and 15. Their exclusion from the exercise precludes a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham emergency, as required by 10 CFR § 50.47(a)(1). Accordingly, the LILCO Plan is fundamentally flawed.

LILCO's suggestion that the conduct of a "prompt notification test" would correct this deficiency (see letter dated June 20, 1986, from John Leonard to Harold Denton (SNRC-1269), Enclosure 1 at 4) is incorrect. Such a test, assuming one were conducted in the future, would deal with siren operability; it would not test or demonstrate the ability of LILCO's offsite response organization to integrate that single portion of an emergency response with the remaining actions necessary in an emergency, nor would it test or demonstrate that the LILCO Plan could be implemented.

EX 16.C. [This subpart subsumed in basis A of EX 15]. WALK Radio did not participate in the exercise. It is relied upon for initial notification of the public of an emergency as well as for issuance to the public of protective action recommendations and other emergency information. See LILCO Plan at 2.2-2 thru 2.2-2a, 3.3-4 thru 3.3-6, 3.4-6, and 3.8-6; OPIP 3.3.4; OPIP 3.8.1; OPIP 3.8.2.

EX 16.D. [This subpart subsumed in basis A of EX 15]. No other radio stations participated in the exercise. Under the LILCO Plan, stations WBLI, WCTO, WGLI, WGSM, WLIM, WLIX, WLNG, WRCN, WRHD, and WRIV are relied upon to constitute LILCO's EBS system; therefore they are relied upon for initial notification of, and communication of protective action recommendations and other emergency information to, the public. See LILCO Plan at 2.2-2 thru 2.2-2a; App. B.

EX 24. [Not separately admitted but failure to test sirens will be dealt with as an additional example of an omission under subpart A of EX 15]. EOC ARCA 7 refers to the fact that there was no activation of the siren system during the exercise. FEMA Report at 41. The siren system is the central feature of the prompt notification system in the LILCO Plan. See Plan at 3.3-4 thru 3.3-6 and 3.4-6; OPIP 3.3.4. Its exclusion from the exercise precludes a finding that LILCO can and will provide early notification of an emergency to the public as required by 10 CFR § 50.47(b)(5), and 10 CFR Part 50, Appendix E § D.3, and thus precludes a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham accident.

EX 15.B. [Subpart B of EX 16 subsumed in this subpart]. Procedures for notification of, and issuance of protective action recommendations to, the members of the public in the water portion of the plume exposure EPZ, as set forth in OPIP 3.3.4, and at pages 2.2-2a and 3.3-5 and Appendix A at IV-4 and IV-6 of the LILCO Plan, were excluded from the exercise, in that the U.S. Coast Guard did not participate in the exercise (other than perhaps the receipt of one or more telephone calls) and FEMA never evaluated Coast Guard performance (assuming arguendo there was any). Such capabilities are required by 10 CFR § 50.47(b)(5), 10 CFR Part 50, App. E, § IV.D, and NUREG 0654 §§ II.E and F, Appendix 3, and the exercise was supposed to (but did not) test the alleged Coast Guard commitment under the LILCO Plan to notify water-borne traffic in the EPZ. See, e.g., FEMA Report at 9; objective EOC 16. The water portion of the EPZ constitutes nearly 50 percent of the physical area of the plume EPZ. The exclusion of such procedures from the exercise precludes a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham

emergency, as required by 10 CFR § 50.47(a)(1). Accordingly, the LILCO Plan is fundamentally flawed.

EX 15.H. [Subpart B of EX 16 subsumed in this subpart]. Demonstration of the capability of implementing protective action recommendations for the public on the waters of the plume exposure EPZ, or for transients on beaches or in parks or similar areas in the EPZ, as set forth in OPIP 3.3.4, and at pages 2.2-2a, 3.3-4 thru 3.3-6, 3.8-1 thru 3.8-3, and Appendix A at IV-4 and IV-6 of the LILCO Plan, was excluded from the exercise. Such capabilities are required by 10 CFR § 50.47(b)(10), and NUREG 0654 §§ II.J, and objectives FIELD 9 and EOC 16 required a demonstration of the ability to evacuate all or part of the 10-mile EPZ including the water portion. There in fact was no demonstration of any ability to effect an evacuation of the water portion of the EPZ. This exclusion from the exercise precludes a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham accident as required by 10 CFR § 50.47(a)(1). Accordingly, the LILCO Plan is fundamentally flawed.

EX 16.B. [This subpart subsumed in bases B and H of EX 15]. The U.S. Coast Guard did not participate in the exercise beyond perhaps receiving phone calls. It is called upon for initial notification of, and communication and implementation of protective action recommendations to, members of the public in the water portion of the plume exposure EPZ, and for private and commercial vessel traffic control and access restriction on the water portion of the EPZ. See LILCO Plan at 2.2-2a, 3.3-5; OPIP 3.3.4. The water portion of the EPZ constitutes approximately 50 percent of the entire EPZ. FEMA did not observe or evaluate the Coast Guard's performance of any of these activities, including, if it occurred in fact, the dispatching of any Coast Guard vessels into the EPZ.

EX 15.C. Procedures for public education and the dissemination of information to the public on a periodic basis, as set forth in OPIP 3.8.1, and at pages 3.8-1 thru 3.8-4 and Appendix A at IV-3 thru -4, IV-70 of the LILCO Plan, and a demonstration of the adequacy of public education materials, were excluded from the exercise. Such programs and materials are required by 10 CFR § 50.47(b)(7), 10 CFR Part 50, Appendix E, § IV.D, and NUREG 0654 § II.G. Their exclusion from the exercise precludes a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham accident, as required by 10 CFR § 50.47(a)(1). Accordingly, the LILCO Plan is fundamentally flawed.

EX 15.D. [Subparts H, I, and J of EX 16 subsumed in this subpart]. Procedures relating to evacuation of EPZ hospital patients and patients in the Suffolk Infirmary, and a demonstration of the capability of implementing such an evacuation, were excluded from the exercise. There are approximately 850 patients in the Central Suffolk, St. Charles, and John T. Mather Hospitals and the Suffolk Infirmary (OPIP 3.6.5, Att. 2), of which approximately 155 are designated maternity, newborn, or pediatric. Procedures to evacuate these persons and the capability and resources to implement them are required by 10 CFR §§ 50.47(b)(8) and (b)(10), and NUREG 0654 § II.J.9 and 10. Their exclusion from the exercise precludes a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham accident, as required by 10 CFR § 50.47(a)(1). Accordingly, the LILCO Plan is fundamentally flawed.

EX 16.H. [This subpart subsumed in basis D of EX 15]. Officials from hospitals located in the EPZ — Central Suffolk Hospital, St. Charles Hospital, John T. Mather Hospital — and the Suffolk Infirmary did not participate in the exercise. Such officials are relied upon for determination and implementation of protective action recommendations for hospital patients. See App. A at IV-172; OPIP 3.6.5 § 2.0 (Note); OPIP 3.6.1 § 5.3.2.

EX 16.I. [This subpart subsumed in basis D of EX 15]. Officials and personnel from the nine nursing and adult homes located in the EPZ did not participate in the exercise. Such personnel are relied upon for implementation of protective action recommendations for the residents and patients in such homes. See App. A at II-28 thru -29, IV-173 thru -176; OPIP 3.6.5.

EX 16.J. [This subpart subsumed in basis D of EX 15]. Officials from hospitals, nursing homes, and similar facilities outside the EPZ relied upon for relocation services and necessary health care for special facility evacuees did not participate in the exercise. The LILCO Plan fails to include agreements for such facilities which indicate an ability to provide necessary reception services, in violation of NUREG 0654 § II.J.10; instead, the Plan merely includes a list of such facilities and indicates LILCO's reliance upon them for relocation services and necessary health care for evacuees from hospitals, nursing and adult homes in the EPZ. See App. A at IV-166a thru -168, IV-172 thru -178; OPIP 3.6.5.

EX 15.E. [Subpart F of EX 16 subsumed in this subpart]. Procedures relating to the sheltering of school children (see OPIP 3.6.5; OPIP 3.6.1; App. A at II-19 thru -21) were excluded from the exercise. Such procedures, and the resources and capabilities necessary to implement them, are required by 10 CFR §§ 50.47(b)(8) and (b)(10), and NUREG 0654 §§ II.J.9 and 10. Officials of most of the school districts relied upon in the LILCO Plan for the implementation of the protective action of sheltering have stated that they do not have the resources and are not capable of implementing such an action during a Shoreham emergency. The exclusion of LILCO's proposed school sheltering procedures from the exercise precludes a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham emergency as required by 10 CFR § 50.47(a)(1). Accordingly, the LILCO Plan is fundamentally flawed.

EX 15.F. [Subparts F and G of EX 16 and EX 26 subsumed in this subpart]. FEMA did not observe any demonstration of the organizational ability necessary to effect an early dismissal of schools, even though such a demonstration was one of the exercise objectives. See objective EOC 18; FIELD 15; FEMA Report at 38. Under the LILCO Plan, early dismissal is one of the primary protective actions for school children. LILCO Plan at 3.6-7; App. A at II-19 thru -21; OPIP 3.6.5. Thus, procedures relating to the early dismissal of schools and the ability to implement them are required by 10 CFR § 50.47(b)(10) and NUREG 0654 § II.J. Officials of most of the school districts relied upon in the LILCO Plan for the implementation of early dismissals have stated that they do not have the resources and are not capable of safely or effectively implementing an early dismissal during a Shoreham accident. FEMA's failure to observe any demonstration of the ability to implement LILCO's proposed protective action of early dismissal during the exercise precludes a finding of reasonable assurance that adequate protective measures can and will be implemented in the event of a Shoreham accident, as required by 10 CFR § 50.47(a)(1). Accordingly, the LILCO Plan is fundamentally flawed.

EX 15.G. [Subparts F and G of EX 16, EX 26, and EX 30 subsumed in this subpart]. Procedures relating to the evacuation of school children, as set forth in OPIP 3.6.5 and in Appendix A at II-19 thru -21 of the LILCO Plan, which refer to non-existent school plans and rely upon school officials to locate and mobilize necessary personnel and equipment to implement an evacuation, were excluded from the exercise. Such procedures and the capability of implementing them are required by 10 CFR §§ 50.47(b)(8) and (b)(10), and NUREG 0654 §§ II.J.9 and 10. Officials of most of the school districts relied upon in the LILCO Plan for the implementation of school evacuations have stated that they do not have the resources and are not capable of safely or effectively implementing an evacuation of school children during a Shoreham accident. And, the one free play message in the exercise purportedly involving simulated evacuation assistance for the Ridge Elementary School did not even purport to demonstrate the resources or capabilities of officials of that school or of the Longwood School District to implement an evacuation, and thus failed to demonstrate the resources or capabilities necessary to implement the proposed procedure for evacuation of school children set forth in the LILCO Plan. The exclusion of such procedures from the exercise precludes a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham accident, as required by 10 CFR § 50.47(a)(1), and precludes any finding that objectives EOC 20 and FIELD 16 were met. Accordingly, the LILCO Plan is fundamentally flawed.

EX 16.F. [This subpart subsumed in bases E, F, and G of EX 15]. Other than one or two persons from the Shoreham-Wading River School District, school officials and personnel, including teachers, from the two parochial schools, 13 nursery schools, and 33 public schools located in the EPZ, as well as those from the seven school districts outside the EPZ but with children who reside within the EPZ, did not participate in the exercise. Personnel from such schools are relied upon for implementation of protective action recommendations for school children under the LILCO Plan. See App. A at II-19 thru -21, IV-169 thru -171; OPIP 3.6.5.

EX 26. [Not separately admitted but will be dealt with under subparts F and G of EX 15]. EOC ARCA 9 refers to the fact that only Shoreham-Wading River Central School District participated in the exercise. FEMA Report at 41. According to the LILCO Plan, all protective actions for school children are to be implemented by school district and school personnel, not by LILCO. OPIP 3.6.5; App. A at II-19 thru -21. There are 33 public schools, 15 private and nursery schools, and one BOCES supervisory district within the EPZ; in addition, there are seven school districts outside the EPZ with children who reside within the EPZ, plus three private schools and one BOCES supervisory district with buildings located just beyond the EPZ. App. A at II-19 thru -21 and IV-169 thru -171. The LILCO Plan relies upon these school officials and personnel, and their failure to participate in the exercise constitutes a deficiency which precludes a finding of reasonable assurance that adequate protective measures can and will be taken for school children in the event of a Shoreham accident.

EX 30. [Not separately admitted but will be dealt with under subpart G of EX 15]. Patchogue SA ARCA 5 refers to the fact that it took 40 minutes to dispatch a LILCO bus driver to pick up a bus to use to simulate the evacuation of 40 children from the Ridge Elementary School. FEMA Report at 67. Under the LILCO Plan, such procedures, involving the use of LILCO bus drivers for evacuation, are relied upon for evacuation of special facilities and nursery schools (OPIP 3.6.5), although with respect to all other schools including Ridge, LILCO assumes that regular school bus drivers would perform necessary driving duties. This deficiency demonstrates LILCO's inability to promptly communicate transportation needs of members of the public and to

effectively implement procedures to effect evacuation of special facilities. Thus, it precludes a finding that LILCO has adequate provisions for prompt communication among response personnel as required by 10 CFR § 50.47(b)(6), or that the protective action of evacuation can and will be implemented as required by 10 CFR § 50.47(b)(10). It also precludes a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham accident.

EX 16.G. [This subpart subsumed in bases F and G of EX 15]. Other than two drivers from the Shoreham-Wading River School District, school bus drivers did not participate in the exercise. School bus drivers from 10 school districts, as well as from numerous private and nursery schools, are relied upon for implementation of the protective actions for school children of early dismissal and evacuation. See LILCO Plan, App. A at II-19 thru -20; OPIP 3.6.5.

EX 15.I. [Subpart A of EX 16 and EX 37 subsumed in this subpart]. Procedures for determining, issuing, and implementing protective action recommendations for the ingestion pathway EPZ (aside from the single recommendation that dairy animals be placed on stored feed), as set forth in OPIP 3.6.6 and at pages 3.6-1 thru 3.6-4 and 3.6-7a thru 3.6-8a of the LILCO Plan, were excluded from the exercise in that the State of Connecticut did not participate in the exercise and LILCO did not implement such procedures even for the portion of the ingestion pathway EPZ located in the State of New York. Such capabilities are required by 10 CFR § 50.47(b)(10), 10 CFR Part 50, Appendix E, § IV.F, and NUREG 0654 § II.J, and by objectives EOC 9, 12. Their exclusion from the exercise precludes a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham accident, as required by 10 CFR § 50.47(a)(1). Accordingly, the LILCO Plan is fundamentally flawed.

EX 16.A. [This subpart subsumed in basis I of EX 15]. The State of Connecticut did not participate in the exercise beyond perhaps receiving a phone call from a LILCO "player" at approximately 10:30. Connecticut is relied upon for issuance and implementation of protective actions for the portion of the ingestion pathway EPZ located within its borders. See LILCO Plan at 3.6-8; OPIP 3.6.6.

EX 37. [Not separately admitted but incorporated into subpart I of EX 15]. The exercise revealed a fundamental flaw in the LILCO Plan in that the LERO players did not determine, recommend or implement the protective actions necessary to mitigate the consequences of a radiological release in the ingestion pathway, as required by OPIP 3.6.6, 10 CFR § 50.47(b)(10) and NUREG 0654 § II.J.11. For the reasons set forth below, LILCO failed to satisfy objectives EOC 8 and 12 and the exercise results preclude a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham accident, as required by 10 CFR § 50.47(a)(1).

Specifically, during the exercise the LERO personnel at the EOC failed to perform any of the following actions:

EX 37.A. LERO personnel failed to extend protective action recommendations for the ingestion pathway beyond the 10-mile EPZ and thus failed to mitigate the radiological consequences of the accident, as required by OPIP 3.6.6, §§ 1, 2 and 5. According to OPIP 3.6.6, when a Site Area Emergency is declared, it is to be immediately recommended that milk-producing animals in those zones within two miles of the plant be placed on stored feed. OPIP 3.6.6, § 5.1.1.1.b. During the exercise, LERO made this recommendation for zones A-E at 8:19 when the Site Area Emergency was announced. At that time, there had not yet been a significant release and no protective actions had

yet been recommended for people (except for the dismissal of school children). Pursuant to OPIP 3.6.6 § 5.1.1.1.c, at 10:24, when a General Emergency was declared, LERO expanded its earlier recommendation to include milk-producing animals in the entire 10-mile EPZ. At that time, LERO was recommending evacuation of the public from only zones A-M, Q and R. However, when LERO's evacuation recommendation was expanded to cover the entire 10-mile zone, well after there had been a substantial release, and there were projections of substantial doses out to the 10-mile boundary, there was no further expansion of the recommendation to shelter milk-producing animals outside the EPZ boundary and place them on stored feed. Documents generated at the EOC fail to indicate that such a recommendation was ever even considered. This failure violates OPIP 3.6.6 § 5.1.1.1.a, which expressly provides:

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.

LILCO's failure even to consider whether to expand its recommended protective measures to include the milk pathway beyond the 10-mile EPZ demonstrates LILCO's noncompliance with 10 CFR § 50.47(b)(10) and NUREG 0654 § II.J.11.

EX 37.B. LERO personnel never recommended any protective measures for other than dairy animals, such as, for example, pigs, lambs, commercially grown ducks, turkeys, and other poultry, either inside or outside the EPZ, and thus failed to mitigate the radiological consequences of the accident as required by OPIP 3.6.6. In light of the releases projected during the exercise, such animals could have become contaminated. There is no indication that LERO personnel even considered the need for protective measures to cover these elements of the food chain. The failure to consider and to make protective action recommendations for non-dairy animals constitutes noncompliance with 10 CFR § 50.47(b)(10) and NUREG 0654 § II.J.11.

EX 37.C. LERO personnel failed to make protective action recommendations concerning drinking water, fruits, vegetables and other food chain items, contrary to OPIP 3.6.6, § 5.4.3.1. That OPIP provides that if (1) a release is in progress and (2) offsite dose projections have been completed, the public should be advised that such items may be contaminated. During the exercise, there was an early release (at approximately 8:30), followed by a larger release when the core melt began (at approximately 11:30). Dose projections were available by 11:49. However, LILCO never warned the public of possible food chain contamination, even though the LILCO players were told that approximately 18 percent of the public had not yet evacuated from the 10-mile EPZ by 2:40.

EX 37.D. During the exercise, LERO personnel apparently never completed the "Ground Deposition Calculation Worksheet for Particulate Radionuclide Releases," OPIP 3.5.2, Att. 3, although the necessary data were apparently available and completion of such a form is required by OPIP 3.5.2, § 5.3, and OPIP 3.6.6.

For the foregoing reasons, the exercise precludes a finding that the LILCO Plan complies with 10 CFR §§ 50.47(b)(10) and NUREG 0654 § II.J.11, and precludes a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham accident.

EX 15.J. Not admitted.

EX 15.K. Procedures relating to the radiological monitoring and decontamination of evacuees from special facilities who, according to the LILCO Plan, are to be evacuated to special reception centers, were excluded from the exercise. Such procedures, and the resources and capabilities necessary to implement them, are required by 10 CFR §§ 50.47(b)(8), (b)(10); NUREG 0654 § II.J.9 and 10 and objective FIELD 21. Their exclusion from the exercise precludes a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham accident, as required by 10 CFR § 50.47(a)(1). Accordingly, the LILCO Plan is fundamentally flawed.

EX 15.M. Procedures relating to recovery and re-entry and activities to implement recovery and re-entry, as set forth in OPIP 3.10.1 and at pages 3.10-1 thru 3.10-2 of the LILCO Plan, were excluded from the exercise. Such capabilities are required by 10 CFR § 50.47(b)(13), 10 CFR Part 50, Appendix E § IV.H, and NUREG 0654 § II.M. Their exclusion from the exercise precludes a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a Shoreham accident, as required by 10 CFR § 50.47(a)(1). Accordingly, the LILCO Plan is fundamentally flawed.

EX 16.E. According to FEMA, Marketing Evaluations, Inc. did not participate in the exercise. FEMA Report at iii. It is relied upon for verification of siren operation and evacuation. See LILCO Plan at 2.2-4g, App. A at V-9, and App. B; OPIP 3.3.4.

EX 16.K. The following bus companies or yards did not participate in the exercise:

- (1) Baumann & Sons Buses, Inc. — East Northport Yard (50)
- (2) Baumann & Sons Buses, Inc. — Amityville Yard (74)
- (3) Huntington Coach Corp. (100)
- (4) Herman E. Swezey Co., Inc. (29)
- (5) United Bus Corp. — Ronkonkoma Yard (46)
- (6) Suffolk Transportation Service, Inc. — Lakeland Yard (40)
- (7) Suffolk Transportation Service, Inc. — Bayshore Yard (147)
- (8) Coram Bus Service — Coram Yard (39)
- (9) Coram Bus Service — Rocky Point Yard (27)
- (10) Louis A. Fuoco Buslines, Inc. (39)
- (11) Starlite Bus Co., Inc. (60)
- (12) Seaman Bus Co., Inc. (35)

They are relied upon for implementation of the protective action of evacuation in that the LILCO Plan assumes that each listed entity would provide for LILCO's use the number of buses indicated in parentheses above. See LILCO Plan, App. B; OPIP 3.6.4.

EX 16.L. The following ambulance companies did not participate in the exercise:

- (1) Bi-County Ambulance and Ambulette (8)
- (2) Gosline Ambulance Service (5)
- (3) Mercy Medical Transportation Service (7)
- (4) Nassau Ambulance Service (11)
- (5) New York Patient Aids, Inc. (18)
- (6) Orlando Ambulance and Ambulette Service, Inc. (6)
- (7) Peconic Ambulance Service, Inc. (10)
- (8) Transportation With Care (9)
- (9) Weir Metro AmbuService, Inc. (62)

They are relied upon for implementation of the protective action of evacuation in that the LILCO Plan assumes that each company will provide the number of ambulance and ambulette vehicles, manned with the necessary personnel, indicated in parentheses in the above list. See LILCO Plan, App. B.; OPIP 3.6.5.

EX 16.M. Not admitted.

EX 18.C. [Admitted as further deficiencies in support of EX 15 and 16]. The exercise did not ensure that emergency organization personnel are familiar with their duties. As described below and in Contention EX 16, the organizations and personnel listed in Contention EX 16 did not participate in the exercise and the participation of certain other organizations was so limited that the exercise did not ensure that the personnel of such organizations, relied upon for implementation of the LILCO Plan, are familiar with their duties. Specifically:

(i) The "participation" of the following bus companies or yards in the exercise consisted merely of receiving a telephone call and a request that only four buses be prepared for LILCO's use (the LILCO Plan assumes each yard actually will provide the number of buses listed in parentheses):

- (a) Bruno Bus Company (30)
- (b) Educational Bus Transportation, Inc. (100)
- (c) Suburbia Bus Corp. -- Setanket Yard (80)

- (d) Suburbia Bus Corp. — Middle Island Yard (110)
- (e) United Bus Corp. — Yaphank Yard (64)
- (f) United Bus Corp. — Coram Yard (90)
- (g) Baumann & Sons Buses, Inc. — Westhampton Yard (5)
- (h) Baumann & Sons Buses, Inc. — Bohemia Yard (90)

(ii) The "participation" of the Medibus, Inc. and Stat Equipment Corp. ambulance companies consisted only of providing 12 vehicles (six ambulances and six ambulettes). Those companies are relied upon in the LILCO Plan, however, for 11 ambulances and 45 ambulettes, all 57 of which are supposed to be properly manned by trained workers. LILCO Plan, App. B; OPIP 3.6.5, Att. 6.

(iii) The only "participation" by the Nassau County Red Cross in the exercise was the presence of two individuals in the EOC and perhaps a small number at the Nassau Coliseum. The LILCO Plan assumes that the Nassau Red Cross will provide personnel at the reception center to identify congregate care centers, to assign evacuees to such centers, to open and operate as many congregate care centers as are necessary to handle the total number of evacuees, and to provide shelter management, food services, clothing, registration, information, nursing, medical services, and consoling. LILCO Plan at 2.2-2, 3.6-7, and 3.6-7a.

(iv) The only "participation" of the U.S. Coast Guard in the exercise was to engage in telephone conversations. No actions were taken by the Coast Guard to implement or to demonstrate the capability of implementing the LILCO Plan, despite the fact that the LILCO Plan relies upon the Coast Guard for notification of, and communication of protective action recommendations to, the public on the waters of the EPZ as well as private and commercial vessel traffic control and access control on the water portion of the EPZ. LILCO Plan at 2.2-2a; App. A at IV-6.

(v) The "participation" of the Shoreham-Wading River School District in the exercise was limited to one or two telephone calls to one school official (the District Superintendent), and interviews with two school bus drivers located at one of the district's schools. No early dismissal, sheltering or evacuation was performed; no children were moved or otherwise involved; no teachers, principals, or other school personnel were involved; and, the two bus drivers did nothing but drive their buses to the high school when requested to do so by the Superintendent. The LILCO Plan, however, relies upon actions by school officials and school personnel from all the district's schools, and substantially all the school bus drivers, and the cooperation of parents, to implement an early dismissal, sheltering, or evacuation of school children. OPIP 3.6.5; App. A at II-19 thru -22.

(vi) The "participation" of Nassau County in the exercise was limited to the receipt of phone calls. According to the LILCO Plan, however, Nassau County is expected to receive regular briefings (OPIP 3.1.1, Att. 1 at 10), and to provide police officers to perform traffic control on the public roads near the Nassau Coliseum, to perform traffic control and supervise parking at the Coliseum (OPIP 4.2.3 § 2.5), and to provide security at the Coliseum. Plan at 3.6-7, 4.7-1. In addition, during the exercise, LERO personnel pretended to request that Nassau County provide social service assistance. In the exercise, Nassau County performed none of those functions.

ATTACHMENT B

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))

LILCO'S TESTIMONY ON CONTENTIONS EX 15 AND 16

Hunton & Williams
707 East Main Street
P.O. Box 1535
Richmond, Virginia 23212

April 6, 1987

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LILCO'S TESTIMONY ON CONTENTIONS EX 15 AND 16

1. Q. Please state your name and business address.
 - A. [Daverio] My name is Charles A. Daverio. My business address is Long Island Lighting Company, Shoreham Nuclear Power Station, P.O. Box 628, Wading River, New York 11792.
 - [Behr] My name is Dennis M. Behr. My business address is The Behr Consulting Group, Inc., 366 Veterans Highway, Commack, New York 11725.
 - [Hockert] My name is John W. Hockert. My business address is International Energy Associates, Ltd., 1717 Louisiana, N.E., Albuquerque, New Mexico 87110.

2. Q. Please summarize your professional qualifications relating to Contentions EX 15 and 16.
 - A. [Daverio] I am the Assistant Department Manager of the Nuclear Operations Support Department for the Long Island Lighting Company (LILCO). My professional qualifications have been offered into evidence as part of the document entitled "Professional Qualifications of LILCO Witnesses on Exercise Contentions." My familiarity with the issues dealt with in Contentions EX 15 and 16 stems from my work in developing and

implementing the Shoreham Nuclear Power Station Local Offsite Radiological Emergency Response Plan (the "LILCO Plan") for Shoreham, from my participation as Lead Controller for the Local Emergency Response Organization (LERO) in the February 13, 1986 Exercise and from my involvement in the preparation of the Exercise scenario. In addition, through my work as an emergency planner, I am familiar with the applicable regulations and guidelines.

[Behr] I am a principal in The Behr Consulting Group, which provides consulting services for LILCO on emergency planning issues. My familiarity with the issues raised in Contentions EX 15 and 16 stems primarily from my work as a consultant on emergency planning matters with The Behr Consulting Group and with my previous employer, Impell Corporation, and from my involvement in the preparation of the Exercise scenario.

In addition, I have participated in a number of Federal Emergency Management Agency (FEMA) exercises for other power plants. This experience provides me with a basis to compare the performance of LERO against the performance of other offsite organizations in FEMA exercises. My full professional qualifications have been offered into evidence as part of the document entitled "Professional Qualifications of LILCO Witnesses on Exercise Contentions."

[Hockert] I am a Senior Consultant for International Energy Associates Ltd. (IEAL). My full professional qualifications have been offered into evidence as part of the document entitled "Professional Qualifications of LILCO Witnesses on Exercise Contentions." My familiarity with the issues in Contentions EX 15 and 16 stems from my work in the emergency planning area over the past four years. I have managed a project developing

and validating a method to quantify the relative importance of each of the 35 standard exercise objectives developed by FEMA to track NUREG-0654 planning standards (the IEAL Report); I have managed a project to develop an exercise evaluation module for the ingestion exposure pathway; I have reviewed the radiological emergency preparedness program for the Salem Nuclear Power Station and recommended corrective actions; I have participated in a project to develop the FEMA-REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants" (1985); and I have participated in a project to develop criteria for preparation and evaluation of radiological emergency response plans and preparedness in support of nuclear fuel cycle facilities.

I. Background

3. Q. What is the regulatory framework applicable in this proceeding?
- A. [Daverio, Behr] In order to ensure emergency preparedness, the Commission's regulations require that a "full participation exercise" that "tests as much of the licensee, state and local emergency plans as is reasonably achievable without mandatory public participation" shall be conducted for each nuclear power site within one year before the issuance of the first full power operating license. 10 C.F.R. Part 50, Appendix E, § IV.F(1). At sites with an OL, the regulations require biennial full participation exercises. Appendix E, § IV.F(3). Full participation is defined as "testing the major observable portions of the onsite and offsite emergency plans and mobilization of state, local and licensee personnel and other resources in sufficient numbers to verify the capability to respond to the accident scenario." Appendix E, § IV.F(1) n.4.

4. Q. What issues have you been asked to address in your testimony?

A. [Daverio, Behr, Hockert] We have been asked to address the Intervenors' Emergency Planning Contentions EX 15 and 16. These contentions allege that the February 13, 1986 Exercise of the LILCO Plan was so limited in scope that it did not yield meaningful results on implementation capability in that it did not include: (1) demonstrations or evaluations of major portions of the LILCO Plan or (2) the emergency response capabilities of many persons and entities relied upon for Plan implementation. These latter allegations regarding the lack of participation by various individuals and entities were "consolidated" or "subsumed" by the Board in its December 11, 1986 Order with the allegations concerning the lack of demonstration of various elements of the Plan. Memorandum and Order at 7. The admitted portions of Contentions EX 15 and 16 are set out in Attachment A to this testimony.

Specifically, Intervenors allege that the scope of the Exercise was too limited because it did not test the following Plan elements:

- A. Procedures for public notification (EX 15.A) (subsuming EX 24 which alleges failure to activate the sirens, and 16.C and D, which allege lack of participation on the part of WALK Radio and other radio stations);
- B. Procedures for public notification in the water portion of the EPZ (EX 15.B) (subsuming EX 16.B, which alleges that the Coast Guard did not fully participate);
- C. Procedures for implementing protective actions for transients and people on the water (EX 15.H) (subsuming EX 16 B and 18 C(iv), which allege that the Coast Guard did not fully participate);
- D. Procedures for public education (EX 15.C);
- E. Procedures for evacuating the three EPZ hospitals and the Suffolk Infirmary (EX 15.D) (subsuming EX 16.H, I, and J which allege that officials from these institutions, from the EPZ nursing homes and from such facilities outside the EPZ, did not participate);

- F. Procedures for sheltering school children, for implementing early dismissal of schools, and for evacuating school children (EX 15.E, F, G) (subsuming EX 16.F, G and EX 26, 30 and 18 C(v), which allege that school officials and school bus drivers, other than from Shoreham-Wading River, did not participate and such participation as did occur was limited and untimely);
- G. Procedures concerning protective actions for the ingestion pathway EPZ (EX 15.I) (subsuming EX 37 (A-D), which deal with ingestion pathway recommendations, and EX 16.A, which alleges that Connecticut did not participate);
- H. Procedures relating to the radiological monitoring and decontamination of evacuees from special facilities (EX 15.K);
- I. Procedures concerning recovery and re-entry (EX 15.M);
- J. Participation of Marketing Evaluations, Inc. (EX 16.E);
- K. Participation of certain bus companies (EX 16.K, subsuming 18 C(i));
- L. Participation of certain ambulance companies (EX 16.L, subsuming 18 C(ii)); and
- M. Participation of Nassau County (EX 18 C(vi)) and Nassau County Red Cross (EX 18 C(iii)).

The Commission has directed that the proceeding in the instant case be limited to the exploration of alleged "fundamental flaws" in the LILCO Plan demonstrated by the Exercise. CLI-86-11, 23 NRC 577, 581 (1986). Accordingly, this Board in its December 11, 1986 Order framed the issue in this proceeding as follows: "If [the Exercise] is found not to comply with the Commission's regulations concerning the scope of a full participation exercise, it may constitute . . . a deficiency which precludes a finding of reasonable assurance that protective measures can and will be taken, i.e., a fundamental flaw in the plan." Memorandum and Order at 13, quoting 23 NRC at 581.

Thus, the one and only issue to be addressed in this testimony is whether the scope of the February 13, 1986 Exercise at Shoreham meets

the Commission's requirement for a "full participation" exercise. As FEMA witnesses have stressed, the issue here is not whether the Exercise objectives were met during the Shoreham Exercise, but rather whether the number and types of objectives included in the Exercise and observed by FEMA make it a full participation exercise. See Deposition of Roger B. Kowieski, Thomas Baldwin and Joseph H. Keller, January 29, 1987, at 237-40 (Attachment B); Direct Testimony of Thomas E. Baldwin, Joseph H. Keller and Roger B. Kowieski Concerning Emergency Planning Exercise (March 20, 1987) at 94 (hereinafter "FEMA Testimony").

5. Q. Please summarize your testimony on these issues.

A. [Daverio, Behr, Hockert] Our testimony, in summary, is that the Shoreham Exercise equalled or surpassed what has been done at virtually any other exercise in terms of scope and sheer magnitude of emergency resources mobilized. Intervenors suggest that the Exercise was deficient because not every element of the Plan was implemented and not every person or entity mentioned in the Plan participated. However, the Commission's regulations do not require that every element of an emergency plan be tested or that every person or entity relied on for plan implementation be included for an exercise to be a "full participation" exercise. Rather, they require only that the "major" observable portions of emergency plans be tested in a given full participation exercise and that emergency personnel and resources be mobilized "in sufficient numbers" to enable verification of response capability.

The Commission has never stipulated precisely which or how many elements of a plan must be tested for an exercise to be full participation, or the magnitude of resources required. However, FEMA has issued

guidance as to which elements of an offsite emergency plan it considers essential to include in exercises. FEMA has published various Guidance Memoranda (GM), on the subject; two of these, GM PR-1 and draft GM EX-3 are most pertinent. GM PR-1, in effect at the time of the Shoreham Exercise, sets out 35 standard exercise objectives keyed to NUREG-0654 planning standards. It does not require all, or indeed any specified number, of the objectives to be fulfilled in connection with any one full participation exercise, but merely requires that all objectives must be satisfactorily tested over a six year period. Draft GM EX-3, FEMA's current proposal on the issue, and soon to be finalized, contains a virtually identical statement of exercise objectives to GM PR-1, but creates a hierarchy among them: "Group A" or "core" objectives that should be included in every full participation exercise because they are deemed fundamental, and "Group B" objectives that may be tested over the course of several years. Moreover, an independent study ranking the importance of the FEMA standard exercise objectives was also undertaken by International Energy Associates Limited (IEAL); that study ranked seven of the standard exercise objectives "very" important, nineteen of "moderate" importance and the remainder "relatively unimportant."

We conclude in the testimony to follow that the February 13 Exercise was a full participation exercise as that term is used in the Commission's regulations since: (1) LILCO tested as much of the onsite and offsite emergency plans as was "reasonably achievable" without mandatory public participation (pp. 16-18); (2) licensee personnel and other resources were mobilized "in sufficient numbers" to verify capability to respond to an accident (pp. 18-19); (3) LILCO tested a "major" portion of the emergency

response capabilities in that (a) the vast majority of the standard FEMA exercise objectives, including all of the 13 "core" objectives, were tested (pp. 20-26); (b) objectives additional to the standard FEMA objectives were tested (p. 26); (c) the seven exercise objectives ranked most important according to the IEAL Report were also substantially tested (pp. 26-30); (4) even if demonstrated factually, none of the alleged omissions from the Exercise would render it less than full participation (pp. 30-43); and (5) exercise scenarios that were similar in scope and design have previously been accepted as full participation by the NRC (pp. 43-50).

II. The February 13, 1986 Exercise Was a "Full Participation" Exercise

6. Q. What, in your view, does the term "full participation" mean?
- A. [Daverio, Behr] According to our reading of NRC regulations, there is a three-prong test: first, testing "as much of the licensee, state and local emergency plans as is reasonably achievable without mandatory public participation;" second, testing "the major observable portions of the onsite and offsite emergency plans;" and third, mobilization of emergency personnel and resources "in sufficient numbers to verify capability to respond to the accident scenario." 10 C.F.R. Part 50, Appendix E, § IV.F(1) and n.4 (emphasis added). Nowhere is the term "full participation" defined as requiring that every element of an emergency plan be tested, see Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), ALAB-861, slip op. at 26 n.7 (March 2, 1987), or that every person/entity relied on for plan implementation be included in an exercise. NUREG-0654, which provides guidance as to the interpretation of these regulatory standards, says that a full participation exercise should test "a major portion of the basic

elements existing within emergency preparedness plans and organizations" and that all principal elements of any emergency plan must be tested "within a five-year period." NUREG-0654 at 71 (Attachment C). Thus, the emergency planning scheme contemplates that, while all observable elements of an emergency plan must be exercised at some point, this is done over the course of several years, not in every full participation exercise. In our view, a "full participation" exercise means first, testing as much of the Emergency Plan as is reasonably achievable given whatever practical, legal or other constraints exist; second, mobilizing a sufficient number of emergency resources; and third, testing the major portions of the Emergency Plan. One would measure the scope and magnitude of an exercise against (1) FEMA guidance and whatever non-regulatory guidance exists and (2) exercises at other plants that FEMA and NRC have deemed to be full participation.

7. Q. Please describe the FEMA Guidance that exists on full participation exercises.
- A. [Daverio, Behr] FEMA's position on what constitutes a full participation exercise has evolved over the past several years. FEMA's initial guidance, FEMA GM-17 (January 8, 1981) (Attachment D) contained a general discussion of full participation exercises without enumerating specific exercise objectives. As explained in FEMA's Testimony, Revision 1 to GM 17 (February 16, 1984), a document referenced to during the depositions of several witnesses, enumerated 36 exercise objectives to be selected from in structuring an exercise, but this Revision was merely a draft version, and GM 17 Rev. 1 and its list of objectives has never been officially accepted or finalized by FEMA. FEMA Testimony at 90 n.2. The guidance

memorandum that was finalized, and in effect at the time of the Shoreham Exercise, GM PR-1 (October 4, 1985) (Attachment E) specifies 35 exercise objectives that are to be selected from in designing a full participation exercise. Specifically, GM PR-1 incorporates the 35 standard exercise objectives contained in an August 5, 1983 FEMA Memorandum, "Procedural Policy on Radiological Emergency Preparedness Plan Reviews, Exercise Observations and Evaluations, and Interim Findings" (Attachment F). These 35 objectives correspond to the observable elements of emergency plans described in NUREG-0654/-FEMA-REP-1 and to the modules in the FEMA "Modular Format for Uniformity of Radiological Emergency Preparedness Exercise Observations and Evaluations."^{1/} GM PR-1 does not require that all, or indeed any specified number, of the standard exercise objectives be fulfilled in connection with any one full participation exercise, but merely that they all be tested over a six year period. GM PR-1 at 2. Thus, exercise scenarios are to be prepared that meet desired individual exercise objectives from the list of 35 objectives.

While GM PR-1 was effective at the time of the Shoreham Exercise, and remains effective at present, a subsequent draft document intended to supersede previous Guidance Memoranda, GM EX-3 (8/15/86) (Attachment G), presents FEMA's latest thinking on this issue. In draft GM EX-3, FEMA lists a slightly revised version of the 35 objectives to be incorporated into the design of emergency exercises. According to draft GM EX-3, the basic objectives for a full participation exercise should be selected from this list

^{1/} The list of 36 objectives contained in GM 17 (Rev. 1) was substantively the same as this list of 35 objectives with only one exception: GM 17 (Rev. 1) Objective 10, "Demonstrate appropriate lab operation functions for measuring and analyzing all types of samples," is omitted from the list of objectives in GM PR-1.

of 35 objectives in order to test a "significant portion" of emergency response capabilities.

In sum, FEMA's view regarding "full participation" exercises has evolved through numerous generations of guidance documents, but with fundamental consistency of content in its enumeration of the universe of standard exercise objectives. In FEMA's most recent guidance memorandum, which we understand will be finalized within the next two months, FEMA imposes a hierarchy on this list of standard exercise objectives.

8. Q. What precisely are the differences between GM PR-1 and draft GM EX-3?
- A. [Daverio, Behr] GM PR-1 and draft GM EX-3 both contain a list of basic exercise objectives which correspond to the observable elements of NUREG-0654, as well as to the modules contained in the "Modular Format for Uniformity of Radiological Emergency Preparedness Exercise Observations and Evaluations." See GM PR-1 at 2; GM EX-3 at 3. Aside from slight variations in the wording and numbering of the objectives, most of the objectives are virtually identical. A side-by-side comparison is provided in Attachment H. The only substantive differences are that GM PR-1 contains two objectives that have no counterparts in GM EX-3: (1) demonstrate the ability to effect evacuation of onsite personnel and (2) demonstrate the ability to relocate to and operate the alternative EOF/EOC. Moreover, GM EX-3 adds one objective that has no counterpart in GM PR-1: demonstrate appropriate lab operation functions for measuring and analyzing all types of samples. Also, GM EX-3 splits GM PR-1 Objective 21 dealing with the decision to administer KI, into two different provisions, Objectives 13 and 14 dealing, respectively, with issuing KI to emergency workers and to the general population.

In addition, in draft GM EX-3, the 35 standard exercise objectives are prioritized into two groups. "Group A," numbers 1-13, are deemed "core" objectives that are to be demonstrated in each biennial full participation exercise. "Group B," numbers 14-35, are to be included in at least one exercise during a six year period. According to draft GM EX-3, the "core" objectives are deemed of a "fundamental nature" to emergency response. The others are regarded as being not so fundamental and may be tested over the course of six years. In this respect, draft GM EX-3 formalizes what has been long-standing FEMA practice. The proposed "Group A" objectives or their equivalent have tended to be tested at most or all exercises to date, while the remaining objectives have been rolled into the six-year FEMA exercise cycle.

Unless the final version of GM EX-3 is materially different from the current draft, FEMA's exercise regimen will continue to contemplate that only the various "core" elements or "fundamental" objectives of an emergency plan need be tested in each full participation exercise. The remaining observable elements of an emergency plan must, in fact, be tested, but can be spaced over a period of several years. As FEMA's testimony states, "the testing of all major planning and preparedness elements incorporated in the 35 exercise objectives is not required in every full scale exercise. FEMA's policy permits that all exercise objectives be demonstrated within the six-year cycle." FEMA Testimony at 125.

9. Q. Does the NRC Staff agree with the interpretation of "full participation" espoused by FEMA and LILCO?
- A. [Daverio, Behr] Yes. LILCO requested the NRC Staff to provide for deposition staff witnesses who were familiar with the NRC Staff's

requirements for full participation exercises. The Staff complied. When asked by LILCO counsel whether a full participation exercise "required that every element of an emergency plan be exercised," NRC Staff witness Schwartz stated "there's no NRC requirement." Deposition of Sheldon A. Schwartz and Bernard H. Weiss (January 14, 1987) at 18 (Attachment I). When asked whether all 35 FEMA standard exercise objectives need be demonstrated in any given full participation exercise, witness Schwartz replied "It is not my understanding," and witness Weiss concurred. Id. at 18, 19. When asked whether the language regarding "core" objectives in draft GM EX-3 was consistent with his understanding of NRC requirements as well as FEMA's requirements, witness Schwartz said yes. Id. at 22. And, when asked whether there is any specific number of objectives from within the set of general objectives that must be observed for an exercise to be considered full participation, witnesses Schwartz and Weiss both said no. Id. at 30. Witness Schwartz added that the Staff can determine in a specific case that an exercise design contains sufficient objectives to render the exercise full participation because the NRC relies on the evaluation of the Regional Assistance Committee as to whether an exercise meets the criteria for a full participation exercise. If the NRC representative on RAC is satisfied, "then the NRC is satisfied." Id. at 23. Witness Schwartz further stated that this process was followed in the development and conduct of the Shoreham Exercise. Id. at 23.

10. Q. Is there any other document that attempts to identify which of the standard FEMA exercise objectives are essential for a full participation exercise?

A. [Daverio, Behr, Hockert] Yes. While not a regulatory document, an IEAL Report entitled "Importance Ranking of Various Aspects of Offsite

Radiological Emergency Preparedness," which is discussed more fully in Section II. C.(4) below, ranks the various exercise objectives listed in GM PR-1 as either "very important," of "moderate importance" or "relatively unimportant."

11. Q. Was the February 13, 1986 Exercise "full participation" in your opinion?

A. [Daverio, Behr] Yes. As will be explained more fully in our testimony to follow, the Exercise tested the vast majority -- 29 -- of the standard FEMA exercise objectives. Moreover, we have compared the objectives designed for and tested in the Shoreham Exercise with those described as key in draft GM EX-3 and in the IEAL Report and conclude that every element considered essential that related to LERO was tested. ~~Finally, we have compared the Shoreham Exercise to similarly designed exercises in Region II and elsewhere that the NRC has accepted as full participation. This comparison of the alleged omissions from the Shoreham Exercise with what was omitted from other exercises further supports our conclusion that the Shoreham Exercise was full participation.~~

12. Q. Does FEMA agree with the conclusion that the February 13, 1986 Exercise was "full participation"?

A. [Daverio, Behr] Yes. In its testimony, FEMA states that it "made every attempt to ensure that preparation for and evaluation of the February 13, 1986 exercise of the LILCO Transition Plan for Shoreham was consistent with the parameters and process established for other full-scale Radiological Emergency Preparedness (REP) exercises evaluated by FEMA Region II." FEMA Testimony at 92. Moreover, FEMA also states that

. . . It is FEMA's position that the [exercise objectives tested at Shoreham] required mobilization of LILCO's Local Emergency Response Organization (LERO), its personnel and resources in sufficient

number to verify the capability to respond to an accident scenario. Furthermore, the February 13, 1986 exercise enabled FEMA to evaluate the integrated capability and a major portion of the basic elements existing within LILCO organization. The Shoreham exercise was equal or greater in scope compared to any other full-scale exercise evaluated by FEMA Region II to date.

FEMA Testimony at 105 (emphasis added).

13. Q. Does the NRC Staff agree with your conclusion that the Shoreham Exercise was a full participation exercise?
- A. [Daverio, Behr] Yes. When asked whether they considered the design of the Shoreham Exercise and the Exercise as actually conducted to be consistent with the requirements of a full participation exercise under 10 C.F.R. Part 50, Appendix E, NRC Staff witnesses Schwartz and Weiss answered "yes." See Deposition of Sheldon A. Schwartz and Bernard H. Weiss at 36 (Attachment I). Specifically, they answered affirmatively when asked (1) whether they would consider that the Shoreham Exercise included "as much of the licensee's state and local emergency plans as is reasonably achievable without mandatory public participation;" (2) whether they would agree that the "integrated capability" to adequately assess and respond to an accident at a nuclear power plant was demonstrated; (3) whether the Shoreham Exercise tested the "major observable portions" of the on-site and off-site emergency plans for Shoreham; and (4) whether there was mobilization of licensee personnel and other resources "in sufficient numbers to verify the capability to respond to the accident scenarios." Id. at 36-39. Finally, NRC Staff witness Weiss said that, in his opinion, he thought the absence of state and local personnel participation was compensated for in design of the Exercise. Id. at 39.

A. The February 13 Exercise Tested as Much of the Emergency Plan as Was "Reasonably Achievable"

14. Q. Did the Exercise test as much of the Plan as was "reasonably achievable"?
- A. [Daverio, Behr] Yes. The Exercise was developed with the intent of demonstrating the LILCO Plan and Procedures to the fullest extent possible. Where any particular element was not demonstrated, it was due to one of the following reasons:
- (1) Mandatory participation by members of the public or non-LERO organizations would have been required.
 - (2) FEMA had identified the element as being non-essential for this Exercise and was not going to instruct their personnel to observe the element.
 - (3) The political/legal situation on Long Island made the demonstration of an item inadvisable.
- Thus, the Exercise tested as much of the LILCO Plan as was "reasonably achievable" given the practical and legal restraints.
15. Q. Specifically, why were the sirens and the Emergency Broadcast System not demonstrated on the day of the Exercise and the brochures not distributed prior to the Exercise?
- A. [Daverio, Behr] Ever since February 1985, a legal cloud existed over those aspects of any exercise, to be performed by LERO, which would have involved contact with the public, as a result of the decision of the New York Supreme Court in Cuomo v. LILCO (Consol. Index 84-4615). That decision had held that "implementation" of the LILCO Plan by LERO would involve unlawful exercise by it of New York State's police powers. In planning the exercise, LILCO had to avoid, wherever possible, even the appearance of conflict with that decision. Clearly the public-contact aspects of brochure distribution, sounding of sirens, and broadcasting of EBS signals posed the possibility of such conflict. Any uncertainty was removed in late

December 1985, some seven weeks prior to the Exercise, when a bill was introduced into the Suffolk County legislature which was passed in early January as Local Law 2-86. That local law imposed heavy civil and criminal penalties (fine up to \$1000, up to 1 year in jail) for participation in any exercise activity that could affect the general population, and was in effect until the evening of February 10, 1986, when the U.S. District Court enjoined it as unconstitutional. LILCO v. County of Suffolk, 628 F. Supp. 654, 666 (E.D.N.Y. 1986). Issuing the brochures and sounding the sirens during the Exercise were activities clearly proscribed by the local law. Since the printing of the brochures required a several-week leadtime, it would not have been possible to print and distribute them in the two days between the enjoining of the local law and the date of the Exercise. Moreover, to have distributed the brochure prior to the Exercise would have been unnecessarily wasteful. The text of the draft brochure contains a section on the legal authority to implement the emergency plan, an issue that had not yet been resolved, and that could necessitate the revision of the draft brochure. Moreover, without the brochures having been distributed beforehand to inform people about the meaning of the sirens, FEMA could not meaningfully sample the population to verify that they heard the sirens and understood that they should listen to an EBS radio station. Since without the FEMA population sample it would be necessary to repeat the public notification test, it was decided to postpone that portion of the Exercise.

16. Q. Why was the actual evacuation of school children, hospital patients and transients not demonstrated?
- A. [Daverio, Behr] Neither LERO nor any government can require mandatory participation by members of the public as part of an emergency response

exercise. See 10 CFR Part 50, Appendix E, § IV.F(1). As such it would have been unreasonable to plan to test the actual movement of any members of the public, regardless of the political situation on Long Island.

17. Q. Do you know why ingestion pathway and recovery/re-entry procedures were not objectives of the Exercise?

A. [Daverio, Behr] It was initially LILCO's intention to include both of these items as Exercise objectives and demonstrate them. FEMA indicated to LILCO during early coordination meetings that it would not be observing these functions and that they would not be Exercise objectives.

B. Licensee Personnel and Other Resources Were Mobilized in Sufficient Numbers to Verify Capability to Respond to an Accident

18. Q. Did the Shoreham Exercise mobilize licensee personnel and other resources "in sufficient numbers to verify the capability to respond to the accident scenario"?

A. [Daverio, Behr] Absolutely. While intervenors allege, for example, that not every bus company or ambulance mentioned in the plan participated, this allegation tells only part of the story. The Shoreham Exercise is unique in that it far surpassed what has been done at virtually any other exercise in terms of the magnitude of emergency resources mobilized. At all other nuclear power station emergency exercises with which we are familiar, the samples of field personnel and equipment mobilized and evaluated by FEMA constitute only a fraction of those who are called upon by the plan being tested to respond in an actual emergency. By contrast, the February 13 Exercise involved the mobilization of all LERO field personnel, meaning that approximately 150 percent of the number of workers actually needed in the event of a radiological emergency were called out. As a result, over 1,000 emergency response personnel participated in the Exercise.

Thus, at 06:17 on the day of the Exercise an Alert was declared that caused the mobilization from the homes of 251 LERO personnel and 149 onsite personnel and the placing on standby of 41 additional LERO workers. At 08:19 a Site Area Emergency was declared which required the mobilization of an additional 771 LERO workers.

During the day 333 general population bus drivers were dispatched, of whom eight drove their routes in buses, and the remaining 325 drove their routes in cars. One hundred-thirty traffic control points were manned by 165 traffic guides. An additional 30 vehicles were dispatched to perform route spotting, to respond to road impediments and to dispense fuel. Thirty-nine buses (two were real, the rest being simulated using cars), were dispatched to assist in the evacuation of special populations. Three route alert routes were run in response to three simulated siren failures and sixteen actual deaf notification routes were run. Six actual ambulances and six actual ambulettes were run for the pickup of homebound handicapped and special facilities.

To observe all these events, FEMA used for the offsite portion 38 federal evaluators, 11 controllers and 11 simulators (simulators were federal employees simulating the activities of county and state personnel).

19. Q. Are you familiar with any FEMA or NRC Guidance regarding the magnitude of resources required to be deployed at an exercise in order to satisfy the regulations pertaining to full participation exercises?
- A. [Daverio, Behr] We are not aware of any. When asked that same question, NRC Staff member Schwartz replied that there were, in his belief, no regulations or guidance regarding the magnitude of resources necessary to fulfill the requirements for a full participation exercise. See Deposition of Sheldon A. Schwartz and Bernard H. Weiss at 27 (Attachment I).

C. The February 13 Exercise Tested A "Major" Portion of Emergency Response Capability

20. Q. Why do you conclude that the Exercise tested a "major" portion of the LILCO Plan, and thus that demonstration of the emergency response capabilities to the extent "reasonably achievable" was in fact adequate to fulfill the requirements of a full participation exercise?

A. [Daverio, Behr] Our view that this was a full participation exercise that tested a "major" portion of the emergency response capabilities is based on comparing the Exercise to three benchmarks:

(1) The FEMA Guidance and draft Guidance Memoranda on this issue indicating that there is a universe of 35 standard exercise objectives and that there are certain "core" objectives among them (see Subsections II.C.(1) and (2) infra);

(2) A Report published by IEAL ranking the importance of various aspects of emergency preparedness (see Subsection II.C.(4) infra); and

~~(3) A comparison of the Shoreham Exercise to other exercises FEMA has designed and NRC has deemed to be full participation by the issuance or reissuance of an operating license since the post-TMI emergency planning rules came into place (see Section IV infra).~~

(1) The Exercise Tested a Vast Majority of the Standard FEMA Exercise Objectives

21. Q. How many exercise objectives were tested during the February 13, 1986 Exercise?

A. [Daverio, Behr] As we will discuss more fully below, 29 out of an applicable universe of 34 standard FEMA objectives contained in both GM PR-1 and GM EX-3 were tested at the Exercise -- in short, a vast majority of the objectives that can possibly be tested. The more significant actions taken to test these objectives are detailed in Attachment J, with references to both the Post Exercise Assessment (PEA) and to player logs, which are compiled in Attachment K. Moreover, as also shown in Attachment J, among the objectives tested were all of the 13 "core" objectives identified

in GM EX-3. What is more, not only were most of the standard FEMA objectives tested, six objectives not even on the list of standard FEMA objectives were also tested.

22. Q. Which of the standard exercise objectives delineated in GM PR-1 were not tested or not fully observed by FEMA?

A. [Daverio, Behr] Out of the 35 objectives contained in GM PR-1, one is inapplicable to Shoreham at the outset. Relocating and operating an alternative EOF/EOC (Objective 33) is inapplicable to Shoreham since both the Shoreham EOF and EOC are outside the 10-mile EPZ. This is a FEMA objective only because some EOF's and EOC's are within the 10-mile EPZ, with the result that these facilities might conceivably have to be evacuated. Moreover, the part of Objective 21 that deals with issuing KI to the general population is also inapplicable. Since KI is not ordinarily issued to the general population under New York State Health Department policy, this was never part of the LILCO Plan. With regard to the 34 GM PR-1 objectives that are applicable to Shoreham, 26 of these exercise objectives were tested and fully observed by FEMA. See Attachment J; FEMA Testimony at 94-104.

Moreover, three other standard FEMA objectives were in fact tested even though they were not among the group of Exercise objectives formally observed or graded by FEMA or NRC. Objective 23, relating to demonstrating the ability to evacuate onsite personnel, while not an objective of the Exercise or observed by FEMA, was nonetheless tested on the day of the Exercise and graded by NRC. See Attachment J. And, Objective 32, pertaining to demonstrating the ability to request federal assistance, also not an Exercise objective, was nonetheless tested because LERO contacted

DOE, the Coast Guard, FAA and FEMA. See Attachment J. See also FEMA Testimony at 103. Also tested was the part of Objective 21 that deals with issuing KI to emergency workers, even though this was not an Exercise objective. LERO recommended KI ingestion based on an assessment of the accident presented in the scenario. The appropriateness of that recommendation was observed by Federal evaluators at the LERO EOC on the day of the Exercise. See Attachment J; FEMA Testimony at 100.

Finally, the five remaining objectives -- three relating to ingestion pathway (Objectives 9, 11, 12) and two relating to recovery/re-entry (Objectives 34 and 35) -- were tested in part even though they were not graded Exercise objectives, see Attachment J, and they would have been fully tested had the drill not ended when it did.

In sum, of the universe of 34 applicable standard FEMA objectives listed in GM PR-1, 29 were in fact tested, including the part of Objective 21 that deals with issuing KI to emergency workers. And, the remaining objectives were tested in part.

23. Q. Which of the standard objectives delineated in GM EX-3 were not tested or fully observed by FEMA?

A. [Daverio, Behr] GM EX-3 also contains 35 objectives. One of these relates to demonstrating the ability to decide to administer KI to the general public (Objective 14) and is inapplicable to Shoreham from the outset for the reasons explained above. Out of the remaining universe of 34 applicable objectives, LERO fully tested, and FEMA observed, 26. See Attachment J; FEMA Testimony at 94-104. Three other objectives were tested and evaluated by FEMA even though they may not have been Exercise objectives (Objective 33, relating to requesting federal assistance, and

Objectives 13 and 15, dealing with issuing KI to emergency workers). See Attachment J.

In addition, there are four ingestion pathway objectives listed in GM EX-3 (Objectives 21, 22, 23, and 24) and one recovery/re-entry objective (Objective 35). Again, actions were started to test these objectives, see Attachment J, and would have been completed had the Exercise lasted longer.

In sum, of the universe of 34 applicable GM EX-3 objectives the Exercise tested 29 of them, including the part of Objective 15 relating to issuing KI to emergency workers. And, the remaining objectives were tested in part. See Attachment J.

24. Q. How significant are these omissions or partial omissions from the scope of the Exercise?
- A. [Daverio, Behr] These omissions do not mean that the Exercise was less than a full participation exercise.

Regarding the partial testing of ingestion pathway objectives: First, ingestion pathway objectives have nothing to do with the immediate protection of the public in an emergency. The first priority is to protect those within the 10-mile EPZ. Second, as FEMA witnesses have pointed out, until now there has never been a single full-scale ingestion pathway exercise in New York State, yet offsite emergency preparedness programs at plants such as Nine Mile Point and Ginna have received 44 C.F.R. Part 350 certifications and these plants are licensed by NRC. See Deposition of Roger B. Kowieski, Thomas Baldwin and Joseph H. Keller at 215-16 (Attachment B). NRC Staff witnesses also said that most of the exercises they were familiar with and viewed as full participation excluded testing of ingestion pathway

response. See Deposition of Sheldon A. Schwartz and Bernard H. Weiss at 45-46 (Attachment I). Third, while ingestion pathway Objective 11 was deemed one of the seven "very important" objectives by the IEAL Report (the objective numbers in the IEAL Report track those of GM PR-1), this is not one of the 13 "core" objectives according to FEMA GM EX-3. And in any event, this ingestion pathway objective was one that the Exercise did start to test. See Attachment J.

Regarding the partial testing of recovery/re-entry objectives: Recovery/re-entry activities are not even contemplated until evacuation and all other applicable short-term protective action measures have been taken. This is not a "core" objective according to FEMA. Indeed, the ability to determine and implement recovery and re-entry measures was ranked as least important in the group of objectives that was as a whole considered "relatively unimportant" in the IEAL Report. What is more, recovery/re-entry activities were in fact conducted to a degree at the Shoreham Exercise. See Attachment J.

In sum, the Exercise tested 29 of the standard FEMA objectives, a vast majority of the objectives that could have been tested. Moreover, the others would have been completely tested if the Exercise had continued longer than it did. And, as discussed below, all of the objectives identified in GM EX-3 as the "core" objectives were among those tested.

(2) Among the Objectives Tested Were the "Core"
Objectives in FEMA Draft Guidance Memorandum EX-3

25. Q. What are the "Group A" or "core" objectives listed in draft FEMA Guidance Memorandum EX-3?
- A. [Daverio, Behr] The "core" objectives delineated in GM EX-3 include the following:

Objective

1. Demonstrate ability to mobilize and activate facilities promptly.
2. Demonstrate ability to make decisions and to coordinate emergency activities.
3. Demonstrate adequacy of facilities and displays to support emergency operations.
4. Demonstrate ability to communicate with all appropriate locations, organizations and field personnel.
5. Demonstrate ability to project field data and to determine appropriate protective measures, based on PAG's, available shelter, evacuation time estimates and all other appropriate factors.
6. Demonstrate ability to implement protective actions for plume pathway hazards.
7. Demonstrate ability to alert the public within the 10-mile EPZ and disseminate an initial instructional message within 15 minutes.
8. Demonstrate ability to formulate and distribute appropriate instructions to the public in a timely fashion.
9. Demonstrate the organizational ability and resources necessary to deal with impediments to evacuation, including weather or traffic obstruction.
10. Demonstrate ability to continuously monitor and control emergency worker exposure.
11. Demonstrate ability to brief the media in a clear, accurate and timely manner.
12. Demonstrate ability to provide advance coordination of information released.
13. Demonstrate ability to make the decision, based on predetermined criteria, to supply and administer KI to emergency workers.

26. Q. Did the February 13, 1986 Exercise at Shoreham test these "core" objectives?

- A. [Daverio, Behr] Yes. The Shoreham Exercise tested all of FEMA's "core" objectives. The more significant actions taken to test the "core" objectives are detailed in Attachment J.

**(3) The Exercise Tested Objectives
Additional to the Standard FEMA Objectives**

27. Q. Did the Exercise test objectives other than the standard FEMA exercise objectives?

- A. [Daverio, Behr] Yes. The following objectives were tested even though they do not fall within any of the standard FEMA exercise objectives delineated in GM PR-1 or GM EX-3:

1. Demonstrate the ability to coordinate the emergency response with County and State officials. The role of the State and/or County officials was simulated by FEMA designated personnel. (EOC 9) (PEA at 31).
2. Demonstrate the ability of the designated officials to determine the need to obtain state assistance. (EOC 10) (PEA at 31, 32).
3. Demonstrate the ability to dispatch to and direct emergency workers in the field. (SA 9) PEA at 56, 62, 72.
4. Demonstrate the organizational ability necessary to effect an early dismissal of schools within the 10-mile EPZ. (EOC 18) (PEA at 38).
5. Demonstrate the adequacy of evacuation bus transfer points including access and parking/transfer areas. (Field 12) (PEA at 58, 65, 75).
6. Demonstrate a sample of resources necessary to effect an early dismissal of schools within the 10-mile EPZ. (Field 15).

**(4) The Exercise Objectives Deemed Most Important in a Report Ranking
Various Aspects of Emergency Preparedness Were Tested in the Exercise**

28. Q. Can you describe the IEAL Report attempting to order objectively the relative importance among the standard FEMA emergency preparedness objectives?

A. [Hockert] Yes. A report that I helped author was prepared by International Energy Associates Limited. Its purpose was to rank, in an objective fashion, the standard FEMA emergency preparedness objectives according to categories of relative importance. The Report, entitled "Importance Ranking of Various Aspects of Offsite Radiological Emergency Preparedness" (November 15, 1985), was sponsored by Edison Electric Institute, and prepared with extensive participation from FEMA. This Report is appended to this testimony as Attachment L.

29. Q. How was this assessment carried out?

A. [Hockert] Expert opinions were solicited by sending detailed questionnaires to FEMA and NRC headquarters and regional staff, RAC members, other federal, state and local emergency planners, and members of various concerned interest groups. Based on the responses, the 35 exercise objectives delineated in GM PR-1 were ranked using the following methodology:

- (1) The goals that each objective supports were identified, leading to the construction of a hierarchy.
- (2) The hierarchy was derived by identifying the three capabilities necessary to protect public health and safety: (a) the capability to obtain information necessary to determine actions to be taken to protect public health and safety; (b) the capability to maintain the command and control necessary to support effective decision-making and independent management; and (c) the capability to implement appropriate protective actions when the decision is made to do so. These three capabilities were then analyzed into subordinate capabilities until, eventually, all 35 of the objectives were linked with capabilities that they support.
- (3) The next stage of the method involved the estimation of the respondents' underlying estimates of the importance of each goal or objective through the use of ratio judgments, which were in the form of pairwise comparisons.
- (4) This was accomplished by having the respondents answer a series of questions regarding the relative importance of each pair of objectives.

- (5) The responses were then quantified and a quantitative importance rating was derived for each of the 35 objectives using the methodology described in Appendix A of the IEAL Report. Rankings were derived based on each individual's responses and an overall composite ranking was developed based upon each respondent's area of expertise. The responses were, in addition, analyzed for internal consistency and to determine the degree to which responses from individuals in the various group differed.

30. Q. Did the individual rankings of the 35 exercise objectives vary?

A. [Hockert] While the detailed rankings varied -- not surprising in a complex situation like emergency planning where the importance of specific capabilities varies with site conditions and the accident scenario -- there was a general consensus on a group of exercise objectives that were considered very important by the vast majority of respondents.

31. Q. What were the objectives deemed "very important" by the respondents?

A. [Hockert] Seven objectives were considered very important by the vast majority of the respondents. These are, in order of decreasing importance:

- (1) Ability to project dosage to the public via plume exposure (Objective 10);
- (2) Ability to communicate with all appropriate locations, organizations and field personnel (Objective 5);
- (3) Ability to make decisions and coordinate activities (Objective 3);
- (4) Ability to mobilize staff and activate facilities promptly (Objective 1);
- (5) Ability to project dosage to the public via ingestion exposure (Objective 11);
- (6) Ability to monitor and control emergency worker exposure (Objective 20); and
- (7) Ability to evacuate onsite personnel (Objective 23).

32. Q. What do you mean when you say these objectives are the most important?

A. [Hockert] These exercise objectives represent those capabilities that,

according to the Report, would be necessary for effective offsite response to virtually the entire range of radiological emergencies at nuclear power plants. The Report anticipates that these exercise objectives would be demonstrated most frequently, evaluated most thoroughly, and if not demonstrated satisfactorily, could be the basis of a deficiency or negative finding.

33. Q. In your opinion, can an exercise be considered full participation if not every "very important" objective is fully tested?

A. [Hockert] Yes. The "very important" category only contemplates that these objectives would be demonstrated most frequently -- not necessarily in every full participation exercise. Testing additional "lesser" objectives could offset an omission of one or more of these objectives in my opinion.

34. Q. Did the February 13, 1986 Exercise test the seven exercise objectives deemed very important by the IEAL report?

A. [Davario, Behr] As Attachment J shows, all of these objectives were tested, with the qualification that Objective 11, relating to ingestion pathway, was partially tested.

35. Q. How were other FEMA standard exercise objectives ranked?

A. [Hockert] Nineteen objectives were considered to be of moderate importance by the majority of respondents. These are Objectives 2, 4, 6, 7, 8, 9, 12, 13, 14, 15, 18, 19, 21, 22,^{2/} 29, 30, 31, 32 and 33. See IEAL Report at

^{2/} The Report breaks Objective 22 ("Demonstrate the ability to supply and administer KI, once the decision has been made to do so") into two separate capabilities. The part of Objective 22 pertaining to administering KI to emergency workers is the part that the Report ranked of moderate importance. The part of Objective 22 dealing with administering KI to the general public is the part ranked among the least important. See the answer to Question 36.

1-3 (Attachment L). These objectives represent capabilities that may or may not make important contributions to public health and safety, depending on site-specific conditions and the details of the radiological emergency. These exercise objectives would, on an average, receive moderate emphasis according to the IEAL respondents. Id. at 1-5.

36. Q. How were the remaining FEMA standard exercise objectives ranked in importance by IEAL Report?

A. [Hockert] There were ten exercise objectives, labeled as "less important," that were considered "relatively unimportant." These are Objectives 16, 17, 22, 24, 25, 26, 27, 28, 34, and 35. See IEAL Report at 1-3 (Attachment L). Based upon the importance weightings derived from the analysis, the total importance of all ten of these objectives combined is comparable to the importance of any single one of the seven objectives considered to be very important. Id. at 1-4.

[Daverio, Behr, Hockert] In sum, whatever the benchmark -- whether one looks at the 34 applicable FEMA objectives, the 13 "core" objectives, or the seven "very important" IEAL objectives -- the objectives tested during the February 13, 1986 Exercise at Shoreham far exceed the minimum required for a full participation exercise.

III. The Alleged Omissions in the February 13, 1986 Exercise
Would Not Render the Exercise Less Than "Full Participation"

37. Q. Are any of the alleged omissions from the Exercise vital to Plan implementation?

A. [Daverio, Behr] No. Reviewing each of the alleged omissions from the February 13 Exercise item-by-item shows that -- even if their exclusion is factually demonstrated -- none was so vital to Plan implementation as to

have been required to be part of the Exercise. ~~This conclusion is borne out by the results of a survey comparing the Shoreham Exercise to other exercises similar in scope that NRC has deemed to be full participation. See Section IV infra.~~ Indeed, several of the alleged omissions, e.g., notification of transients, procedures for public education, and monitoring and decontamination of evacuees from special facilities -- are not even standard FEMA exercise objectives.

38 Q. Were any of the omissions that allegedly render the Exercise less than "full participation" deemed to be deficiencies by FEMA?

A. [Daverio, Behr] None of the alleged omissions was considered by FEMA to be a deficiency. Moreover, only two of these alleged omissions -- relating to schools and the public notification system -- were even considered by FEMA to be ARCAs. However, FEMA's evaluation of LERO's responses to these two ARCAs as indicated in the RAC Report recently issued found that LILCO's commitment to activate the siren system prior to commercial operation and its commitment to include school districts other than Shoreham-Wading River in future exercises are adequate responses to these exercise issues. See LILCO Transition Plan for Shoreham-Revision 8, Key to Consolidated RAC Review Dated December 15, 1986, Table 3.1 at 9, 11.

39. Q. Intervenors allege that the existence, operability and adequacy of the prompt notification system, which consists of sirens, tone alert radios and the EBS system, was not tested during the Exercise and that the Exercise was therefore less than full participation. Intervenors also allege that the LILCO Plan is flawed since neither WALK Radio nor other radio stations participated in the Exercise. Do you agree with these conclusions?

A. [Daverio, Behr] The fact that the sirens were not actually sounded, and that LILCO's EBS system did not broadcast during the Exercise does not indicate less than a full participation exercise. The demonstration of any

public notification system consists of establishing both the administrative and physical means for notification of the public. FEMA-REP-10, "Guide For the Evaluation of Alert and Notification Systems for Nuclear Power Plants" (1985) at E-1 (Attachment M). The administrative elements include the decisions to inform the public of an emergency, to prepare an EBS message, to approve the message, and to begin to transmit it to the EBS stations and take the steps necessary to activate the sirens all within the 15 minute time period specified in NUREG-0654. The mechanical aspects consist of testing the telephone lines dedicated to the EBS station, the sirens, and the electronic equipment needed for siren activation. During the Exercise, LERO personnel demonstrated their ability to implement all the administrative elements of an EBS system, and took all steps necessary to activate the prompt notification system short of actually physically sounding the sirens and broadcasting an EBS message. What has been done to date is sufficient under FEMA Guidance: the pertinent document, FEMA REP-10, states that "[a] satisfactory exercise of an alert decision implementing chain can occur up to the point of actually activating the alert and notification system . . ." FEMA REP-10 at N-2. In any event, LILCO has committed that, before operating above 5% power, it will test the remaining mechanical capabilities of the system in a full test of the prompt notification system that will be monitored by the NRC Staff and FEMA. See Letter from John D. Leonard, Jr. to Harold R. Denton, SNRC-1269, Enclosure 1 at 4 (June 20, 1986) (Attachment N).

FEMA recognizes in REP-10 that it is not always advisable or possible to sound the siren on the day of the Exercise. See FEMA-REP-10 at N-3. Very often this is done as a separate effort. Indeed, NRC Staff

members have stated that "many" exercises they consider to be full participation did not have the sirens tested during the exercise. See Deposition of Sheldon A. Schwartz and Bernard H. Weiss at 47 (Attachment I). Moreover, the normal physical means for informing the public about emergencies -- the EBS radio test -- is tested on a weekly basis in any event. Finally, the Regional Assistance Committee (RAC) Report of December 15, 1986 finds that LILCO's commitment that the siren system will be activated as part of a prompt notification test prior to commercial operation "is an adequate response to this exercise issue." See LILCO Transition Plan for Shoreham-Revision 8, Key to Consolidated RAC Review, Table 3.1 at 9.

40. Q. Intervenor's allege that the LILCO Plan is flawed because procedures for notification and issuance of protective action recommendations to persons in the water portion of the EPZ were not implemented during the Exercise. Intervenor's further allege that the Coast Guard did not participate in the Exercise beyond receiving a phone call. Is this correct?
- A. [Daverio, Behr] No. The fact that not every aspect of LILCO's plan to notify persons in the water portion of the EPZ was implemented on the day of the Exercise does not render the Exercise less than full participation. Although the Coast Guard did not broadcast a message on marine band radio it did receive notification from and communicate with LERO on both the primary and backup communications modes throughout the Exercise. See FEMA Testimony at 108-09. The Coast Guard communicated with LERO from the Eaton's Neck Coast Guard Station by Marine radio and by telephone. Moreover, the Coast Guard simulated establishing a Maritime Safety Zone for the water part of the EPZ and simulated making emergency radio broadcasts to all ships on the distress frequencies. Id. at 109. The Coast Guard also dispatched a patrol boat to the water part of the EPZ for access control at 10:20. Id. The boat was on the scene at 11:27, reported

the area clear at 11:51 and returned to New Haven at 17:36. Id. The Exercise established that LERO has the organizational ability to manage an evacuation of the water portion of the EPZ. The fact that the Coast Guard did not actually broadcast a message on the marine-band radio does not indicate a flaw in the Plan, since the Coast Guard during the normal course of its duties has ample experience in the use of the marine-band radio and broadcasting emergency messages over that system. Also, sending non-emergency messages on distress frequencies is prohibited. Finally, LILCO has a letter of agreement with the Coast Guard that confirms the Coast Guard's willingness and intent to provide notification and implement protective action recommendations in the water portion of the EPZ. See LILCO Plan, Appendix B at B-8.

41. Q. Intervenor's allege that during the Exercise LILCO did not demonstrate capability in implementing protective action recommendations for people on the waters of the plume exposure EPZ or for transients on beaches or in parks. Do you agree?
- A. [Daverio, Behr] If Intervenor's mean that there was no demonstration of the ability to effect an evacuation of the water portion of the EPZ, the facts of the Exercise show the contrary. As indicated in the previous Question and Answer, the Coast Guard, which is responsible for notification of waterborne traffic, was contacted by LERO on both the primary and back-up modes of communication, sent a patrol boat out, and was kept informed of the progress of the hypothetical accident. With regard to notification of "transients on beaches or in parks or similar areas in the EPZ," those persons would be notified in the event of an emergency in exactly the same way as permanent residents, via the prompt notification system, which includes the siren system and the Emergency Broadcast System. See LILCO Plan, Chapter 3 at pp. 3.3-4 to 3.3-6.

42. Q. Intervenors allege that the Exercise was deficient because it did not include a demonstration of "[p]rocedures for public education and dissemination of information to the public." Presumably, Intervenors intended this contention to apply to the distribution of the public information brochure. Do you agree with this conclusion?

A. [Daverio, Behr] No, this was not an objective in the Exercise, nor was it required to be. LILCO is not required to disseminate a brochure before SNPS operations exceed 5% of rated power. Moreover, to have distributed the brochure prior to the Exercise would have been unnecessarily costly, since the text of the draft brochure contains a paragraph on the legal authority to implement the LILCO Plan, an issue that had not yet been resolved, and that could necessitate the revision of the draft brochure. In any event, as explained in the answer to Question 15, there would have been insufficient time to get the brochure out in the two days prior to the Exercise after the Suffolk County Ordinance was enjoined as unconstitutional. Also, the brochure review is part of the FEMA REP-10 test that will be conducted.

43. Q. Intervenors allege a flaw in the Plan because procedures for evacuating the hospitals in the EPZ were not exercised and because officials from these hospitals did not participate in the Exercise. Do you agree?

A. [Daverio, Behr] Evacuating the EPZ hospitals was not an objective of the Exercise. Evacuating the "institutionalized mobility-impaired" from the 10-mile EPZ was. LILCO did, in fact, demonstrate ample resources to effect an evacuation of this population. FEMA used free play messages, and chose two facilities where a simulated evacuation was demonstrated successfully -- Our Lady of Perpetual Health Convent and the United Cerebral Palsy Institution. Precisely which type of institution was part of the Exercise is not relevant to the demonstration of planning elements or resources to evacuate the institutionalized mobility-impaired population.

Moreover, even if the Exercise objective was broad enough to include hospitals, emergency planning for hospitals has already been litigated extensively. In its Partial Initial Decision (PID), the Board found this aspect of the Plan acceptable, Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), LBP-85-12, 21 NRC 644, 844-46 (1985), stating "we . . . regard LILCO's conclusion that in the vast majority of cases sheltering would be the protective action of choice to be a realistic one which is consistent with NRC's design basis for the EPZ." Although the Appeal Board reversed and remanded on this issue, 23 NRC at 135, the Appeal Board ordered the remand held in abeyance pending further Commission direction. Id. at 163. The Commission has accepted review of this issue and thus the issue remains in its hands.

As LILCO has previously testified, evacuation is only a backup protective action for hospitals, to be recommended only if the primary protective action -- sheltering -- is determined to result in an excessive dose in a particular emergency. This feature of the Plan appropriately weighs the facts that the hospitals are located at the edge of the 10-mile EPZ, that their masonry construction and the slow infiltration of outside air provides a high degree of radiation dose reduction, and that evacuation might have detrimental effects on patients. In most scenarios, the hospitals would not be evacuated, and ad hoc evacuation is appropriate. PID, 21 NRC at 844-46.

44. Q. Intervenors allege that there was insufficient demonstration of procedures relating to the sheltering, early dismissal and evacuation of school children. Intervenors also allege that LILCO was unable to provide supplemental transportation needs for school evacuation in a timely manner. Do you agree?

A. [Daverio, Behr] No. Each of these activities -- sheltering, early dismissal

and evacuation -- are activities frequently performed by schools in emergencies and therefore need not be exercised in order to assess whether they can be carried out in an actual emergency. Schools do not rely on LERO resources for these activities. In fact, the Board found in its Partial Initial Decision that it was not fatal to the LILCO Plan that schools are not participating in planning because New York State-required emergency plans, designed for all sorts of emergencies, coupled with LILCO's planning efforts, provide adequate assurance that school children will be protected in a Shoreham emergency. PID, 21 NRC at 858.

Sheltering involves simply making a telephone call to the School Superintendent, bringing the children inside, and closing doors and windows. Sheltering is in effect merely "staying put," subject to some simple rules. Schools in New York are required to have a "Stay Where You Are Plan." See "Minimum Requirements for Schools in New York State" (1980) at 19 (Attachment O).

Similarly, no demonstration of special resources is required for early dismissal, which is simply a precautionary measure taken to facilitate evacuation should it become necessary. Early dismissal is routinely employed on snow days and other emergencies. The children merely have to report to the bus drivers and are driven home. Schools in New York are, moreover, required to have early dismissal ("Go Home") plans. See "Minimum Requirements for Schools in New York State" (1980) at 19 (Attachment O).

Evacuation is also not so complicated that it requires special demonstration or resources. In fact, the only difference between early dismissal and evacuation is the destination of the buses. During an evacuation,

instead of the bus drivers driving the children home, they would be given maps to locations outside the EPZ. Schools rely on LERO resources for evacuating children only if unforeseen additional assistance is needed.

Moreover, LERO did in fact demonstrate the physical means to dismiss schools early. FEMA injected a free play message and LERO communicated with the District School Superintendent, and the appropriate number of buses were dispatched to the Shoreham-Wading River School. In addition, LERO demonstrated the ability to assist an evacuation. FEMA sent a free play message that resources were needed for the evacuation of 40 children. A bus was sent to Ridge Elementary School to assist. That it took some 40 minutes to dispatch a LERO Bus Driver to pick up a bus to use to simulate this evacuation does not identify a flaw in the LILCO Plan. See LILCO's Testimony on Contention EX 50 at 46-48, Att. B. The Ridge free play message was designed to test the backup capability of LERO, not the primary method of evacuation using the buses contracted for by schools. Even if the response to the Ridge free play message were somehow inadequate, an inadequacy in a backup capability does not denote a flaw in the Plan. The primary capability to evacuate schools was shown to be adequate. In any event, even assuming that the 3-hour delay cited by Intervenor is accurate, there was still ample time (2 hours) for the bus to reach the edge of the EPZ within the time estimates in the Plan, ample time for the children to have been evacuated.

Finally, the RAC Report issued on December 15, 1986 concludes that LILCO's commitment that schools other than Shoreham-Wading River will participate in future exercises is an adequate response to this Exercise issue, which FEMA did not even consider to be a deficiency. Table 3.1 at 11.

45. Q. Intervenors allege that the absence of measures in the February 13 Exercise specifically intended for the ingestion pathway beyond 10 miles renders the Exercise invalid, and demonstrates a flaw in the LILCO Plan. Do you agree?

A. [Daverio, Behr] No. Despite LILCO's willingness to include ingestion pathway activities in the Exercise, FEMA decided not to include them. Ingestion pathway protective action recommendations were not an Exercise objective, nor were they required to be in order to constitute a full participation exercise. Ingestion pathway protective action recommendations such as interdiction of the food chain have nothing to do with the first priority in an emergency, the immediate protection of the public within the 10-mile EPZ. In fact, there has been no full-scale test of ingestion pathway activities to date in New York State. See Deposition of Roger B. Kowieski, Thomas Baldwin and Joseph H. Keller at 215-16 (Attachment B); Deposition of James Conrad Baranski, James Dominic Papile and Lawrence Bruno Czech (February 3, 1987) at 78 (Attachment P). The exclusion of ingestion pathway activities is, moreover, consistent with FEMA regulations, which do not require states occupying the ingestion pathway (50 miles) EPZ around a nuclear plant, but not its plume exposure pathway (10 miles) EPZ, to participate in every exercise for such plants. In fact, the regulations require state participation only every 6 years in ingestion pathway activities. 44 C.F.R. § 350.9(c)(4). NRC regulations echo this FEMA policy. See 10 C.F.R. Part 50 Appendix E, § IV.F(3)(e). NRC Staff witnesses have stated that "most" of the full participation exercises they are familiar with excluded testing ingestion pathway response. See Deposition of Sheldon A. Schwartz and Bernard H. Weiss at 54 (Attachment I).

In any event, player logs from the Exercise indicate that attention was given by LERO to the risk of ingestion pathway exposure. See Attachment J.

46. Q. Intervenors allege that FEMA failed to test, and LERO failed to demonstrate, adequate procedures for monitoring and decontaminating evacuees from special facilities who would be sent to special reception/relocation centers. Do you agree?

A. [Daverio, Behr] This issue is duplicative of issues covered by Contention EX 47. As LILCO has testified on that contention, the Exercise objective was to demonstrate adequate procedures for monitoring and decontamination methods used in general, not evacuees from special facilities. The monitoring and decontamination function was in fact tested. The monitoring and decontamination methods used are the same regardless of whether the person being monitored is an emergency worker or a general population evacuee. The major difference is the location at which monitoring and decontamination takes place. According to the Plan (OPIP 3.9.2), LERO monitoring personnel are dispatched to the special facility reception centers.^{3/} Once there, they use the same methods that monitoring and decontamination personnel follow everywhere. Monitoring and decontamination procedures were thoroughly exercised and reviewed at the Coliseum and at the EWDF. This function, which is not even a standard FEMA objective, was therefore adequately tested.

47. Q. Intervenors allege that the exclusion of recovery and re-entry activities from the February 13 Exercise demonstrates a flaw in the LILCO Plan. Is this correct?

A. [Daverio, Behr] No. Recovery and re-entry activities were deliberately excluded from the scope of this one-day Exercise by FEMA, although LILCO was willing to make these part of the Exercise. Recovery/re-entry is a relatively noncompelling protective action. Recovery and re-entry

^{3/} This procedure, but not the technique, has been altered slightly in that the location at which monitoring and decontamination will take place has been changed.

activities are not even contemplated until evacuation and all other applicable short-term protective action measures have been completed and the affected population is safe. Thus, the time constraints affecting short-term protective measures do not apply to recovery and re-entry activities. Further, the governmental actors involved, particularly state and federal agencies, are no strangers to nuclear safety. See Deposition of James Conrad Baranski, James Dominic Papile and Lawrence Bruno Czech at 81-87 (Attachment P).

In any event, recovery and re-entry activities were in fact conducted to a degree at the Exercise. See Attachment J.

48. Q. Intervenors allege a flaw in the LILCO Plan because of the lack of participation in the Exercise of Marketing Evaluations, Inc., which is relied upon for verification of siren operation and evacuation. Do you agree?
- A. [Daverio, Behr] First and foremost, there was no reason to have Marketing Evaluations, Inc. participate in the Exercise since the sirens were not physically sounded. The function at issue here is to conduct a post-activation telephone survey to verify that the sirens worked properly. This function cannot readily be performed without siren activation. This function will be part of the FEMA-REP-10 test that will be conducted. In any event, backup notification for the siren system is not required by NUREG-0654. Consequently, provisions for backup notification methods are not essential elements of an emergency plan. See PID, 21 NRC at 759; Kansas Gas & Electric Co. (Wolf Creek Generating Station, Unit 1), LBP-84-26, 20 NRC 53, 67 (1984).
49. Q. Intervenors allege a flaw in the LILCO Plan by virtue of the fact that not every bus company mentioned in the Plan participated in the Exercise. Do you agree?

A. [Daverio, Behr] No. Valid contracts are in force with the bus companies. There is no reason to think they will fail to live up to them. Buses will be used on an as-needed basis during emergencies. The only function of the bus companies, moreover, is to supply the buses, not even the drivers (who come from LERO). This is a simple function that need not be tested. In any event, some bus companies did participate in the Exercise and made actual equipment available.

50. Q. Intervenors allege a flaw in the LILCO Plan by virtue of the fact that not all ambulance companies mentioned in the Plan participated in the Exercise. Do you agree?

A. [Daverio, Behr] No. Valid contracts are also in force with the ambulance companies. There need not be a test of their abilities to drive ambulances, a function they perform routinely. In any event, some ambulances did participate in the Exercise. It would not have been possible to mobilize hundreds of ambulances and ambulettes without affecting their ability to respond to actual emergencies, and contradicting the prohibition in 10 CFR Part 50, Appendix E of requiring mandatory participation of the public.

51. Q. Intervenors allege that the LILCO Plan was flawed because of the lack of participation of Nassau County and of the Nassau County Red Cross. Do you concur?

A. [Daverio, Behr] No. First, there is no regulatory requirement for participation of an adjoining county, unless that county falls within the 10-mile EPZ. Nassau County did participate by virtue of supplying the Nassau County Veterans Memorial Coliseum (a county owned facility) for use as the evacuation Reception Center (PEA at 79). Second, the Nassau County Chapter of the American Red Cross participated by mobilizing staff for the activation of two Congregate Care Centers in Nassau County. They also

provided the American Red Cross Coordinator who was located at the LERO EOC (PEA at 82-83).

IV. Similar FEMA-Approved Exercises in Region II and Elsewhere Have Been Deemed Full Participation Exercises by NRC

52. Q. Aside from your own expertise in emergency planning, and from the light shed on this issue by FEMA Guidance Memoranda and the IEAL Report, do you base your opinion that the Exercise at Shoreham was a "full participation" exercise on any other foundation?

A. [Daverio, Behr] Yes. Many full participation exercises have been performed at other plants. These were the initial licensing exercises required after the emergency planning regulations came into place as a result of Three Mile Island. Those regulations required that a full participation exercise be conducted in order for an already operating plant to continue to operate, and that NRC's conduct such an exercise before exceeding 5 percent of rated power. As this Board ruled in its December 19, 1986 Memorandum and Order, "information regarding the scope of other full participation exercises is necessary" in order to resolve intelligently the issue in this proceeding. See Memorandum and Order at 5. Thus, we reviewed a sizable sample of these exercises in Region II, and in other Regions where plants had similar surrounding population densities, and, based on a comparison of these exercises to the Shoreham Exercise, we conclude that the Shoreham exercise was indeed "full participation."

Some of the exercises reviewed were explicitly identified as being full participation in the FEMA Post-Exercise Report. With some of the other exercises, this was not clear from the face of the Report. However, since many of these exercises served as the initial licensing exercises that allowed a plant to operate or to continue to operate, we assumed that the

exercise was full participation even where the Report did not explicitly state this. Any other Reports that did not specify "Licensee only" or "Partial" were also assumed to be full participation.

53. Q. Please identify exercises at other plants that were reviewed.

A. [Daverio, Bear] The following exercises were reviewed:

<u>Facility</u>	<u>Exercise Date</u>
FITZPATRICK	Aug. 11, 1982
GINNA	Jan. 21, 1982
GINNA	June 22, 1983
GINNA	Sept. 26, 1985
HOPE CREEK	Oct. 29, 1985
INDIAN POINT-2	June 4, 1986
INDIAN POINT-3	Mar. 3, 1982
INDIAN POINT-3	Aug. 24, 25, 1983
INDIAN POINT-3	Nov. 28, 1984
NINE MILE POINT	Sept. 15, 1981
NINE MILE POINT	Sept. 28, 1983
NINE MILE POINT	Nov. 13, 1985
OYSTER CREEK	Mar. 16, 1982
OYSTER CREEK	June 5, 1985
SALEM	Oct. 23, 1984
BEAVER VALLEY	Feb. 17, 1982
BRAIDWOOD	Nov. 8, 1985
BYRON	Nov. 18, 1983
CALLAWAY	Mar. 21, 1984
CALVERT CLIFFS	Nov. 17, 1981
DIABLO CANYON	Aug. 19, 1981
FERMI - 2	Feb. 1-2, 1982
HADDAM NECK	May 12, 1984
LIMERICK	July 25, 1984
MAINE YANKEE	Dec. 11, 1982
MILLSTONE	Mar. 19, 1982
PERRY	Nov. 28, 1984
PILGRIM	Mar. 3, 1982
PILGRIM	Sept. 5, 1985
POINT BEACH	Mar. 9, 1982
SHEARON HARRIS	May 17, 18, 1985
VERMONT YANKEE	Feb. 18, 1982
WOLF CREEK	Nov. 7, 1984
ZION	July 29, 1981

54. Q. What was the purpose of the exercise survey?

A. [Daverio, Behr] We reviewed the exercises at other plants that have been accepted by NRC as full participation exercises, in order to determine whether the alleged omissions contained in Contentions EX 15 and 16 were also omitted at those exercises and to compare the number of those omissions with those omitted at Shoreham.

55. Q. Specifically, what did your survey of exercises reveal as to the inclusion or exclusion of the elements alleged by the Intervenor to be missing in the Shoreham Exercise?

A. [Daverio, Behr] Our research revealed the following:

a. Public Notification Procedures

Of the 34 full participation exercises which we reviewed:

1. Ten did not include a siren test;
2. Eight did not include EBS System tests;
3. Nineteen did not include an actual broadcast of EBS messages;
4. The SNPS Exercise did not include siren or EBS System tests nor did it include an actual broadcast of EBS messages.

b. Notification of Public in Water Portion of EPZ

Of the 34 full participation exercises which we reviewed:

1. Twenty-three did not demonstrate notification of the population in the water portion of the EPZ;
2. Thirty did not include participation by the Coast Guard;
3. The SNPS Exercise included a demonstration of notification of the population in the water portion of the EPZ in which the Coast Guard did participate.

c. PAR for Transients on Water Portion of EPZ and on Beaches Parks

Of the 34 full participation exercises which we reviewed:

1. Twenty-three did not demonstrate protective action recommendations for the transient population on the water portion of the EPZ or on beaches and parks;
2. Thirty did not include participation by the Coast Guard;
3. The SNPS Exercise included Protective Action Recommendations which included the transient population on the water in which the Coast Guard participated.

d. Procedure for Public Education (Brochure)

Of the 34 full participation exercises which we reviewed:

1. Sixteen did not evaluate public information brochures;
2. The SNPS public information brochure was not evaluated during the Exercise.

e. Procedures for Evacuating EPZ Hospitals

Of the 34 full participation exercises which we reviewed:

1. Thirty-one did not demonstrate or simulate evacuation of hospital patients;
2. The SNPS Exercise did not demonstrate or simulate evacuation of hospital patients.

f. Procedures for Sheltering, Early Dismissal, Evacuation of School Children

Of the 34 full participation exercises which we reviewed:

1. Thirty-two did not demonstrate or simulate sheltering of school children;
2. Thirty did not demonstrate or simulate early dismissal of schools children;
3. Twenty-one did not demonstrate or simulate evacuation of school children;
4. Twenty had no mention of the participation of school officials;
5. Twenty-four did not activate school bus drivers;
6. The SNPS Exercise did not demonstrate or simulate the sheltering of school children but did include demonstrations of early dismissal and evacuation of school children which involved the participation of school officials and school bus drivers.

g. Procedures Concerning Protection
Actions for Ingestion Pathway EPZ

Of the 34 full participation exercises that we reviewed:

1. Seventeen exercises had no ingestion pathway implementation in the home state;
2. Thirty-three exercises had no participation of any border state;
3. Twenty-four exercises did not implement shelter/stored feed and for dairy cattle;
4. Thirty exercises did not include PAR's for non-dairy animals;
5. Twenty-six exercises did not include PAR's for drinking water and food chain;
6. Thirty-two exercises had no mention of performing ground deposition calculations;
7. The SNPS Exercise included no demonstrations of ingestion pathway activities by either home or border states. Ingestion pathway Protective Action Recommendations were made for both dairy and non-dairy animals but not for drinking water. A ground deposition calculation was performed.

h. Procedures Relating to the Radiological
Monitoring and Decontamination
of Evacuees from Special Facilities

Of the 34 full participation exercises which we reviewed:

1. Virtually no exercise demonstrated special procedures relating to radiological monitoring and decontamination of evacuees from special facilities;
2. The SNPS Exercise did not include demonstration of special procedures relating to the radiological monitoring and decontamination of evacuees from special facilities.

i. Recovery/Re-entry Procedures

Of the 34 full participation exercises we reviewed:

1. Eighteen exercises did not simulate recovery and re-entry activities;
2. The SNPS Exercise did not simulate recovery and re-entry activities.

J. Participation of Certain Bus Companies

Of the 34 full participation exercises we reviewed:

Twenty-eight exercises did not specify that bus operations were demonstrated;

2. Of the exercises that did specify this information:

at Indian Point-2 (June 4, 1986), 8 bus companies were telephoned and 11 buses were requested;

at Indian Point-3 (August 24-25, 1983), 5 bus companies were telephoned and 10 buses were requested;

at Indian Point-3 (November 28, 1984), 9 bus companies were telephoned and it was not specified how many buses were requested;

at Nine Mile Point (September 28, 1983), 2 bus companies were telephoned and 2 buses were requested;

at Nine Mile Point (November 13, 1985), it is not specified how many bus companies were specified, but two buses were requested;

at Salem (October 23, 1984), 1 bus company was telephoned and 2 buses were requested.

3. Eighteen exercises did not specify the number of buses that participated;

4. The SNPS Exercise included the participation of 9 yards which provide 10 buses.

k. Verification of Siren Operation by Marketing Evaluations, Inc.

Of the 34 full participation exercises reviewed:

1. No exercise report mentioned a contract organization;

2. Twenty-three exercises verified by field observation that sirens sounded, of which two had personnel stationed to provide verification (i.e., interview of EPZ resident/transients or observations made for purposes of the exercise);

3. One exercise verified by verification signal;

4. The SNPS Exercise did not include a siren test and therefore LERO did not utilize its contract organization, Marketing Evaluations, Inc., to verify siren operations.

1. Participation of Certain Ambulance Companies

Of the 34 full participation exercises we reviewed:

1. Sixteen exercises did not specify that ambulance operations were demonstrated;
2. Where ambulance company operations were demonstrated: as compared to the six ambulances and six ambulances run at the Shoreham Exercise, 2 ambulances participated in 7 exercises; 1 ambulance participated in 9 exercises; and more than 2 ambulances participated in 2 exercises.

In summary, of the 34 full participation exercises reviewed, 28 exercises had more of the alleged omissions than the Shoreham Exercise.

56. Q. What do you conclude from the data generated from the exercises reviewed?

A. [Daverio, Behr] We can conclude two things from our review of these data:

1. Each of the non-demonstrated elements, alleged by the Interveners to be a fundamental flaw in the LILCO Plan, was also not demonstrated at other full participation exercises at licensed nuclear power plants.
2. The total number of allegedly non-demonstrated elements at the Shoreham Exercise is comparable with the number of elements not demonstrated at these other full scale exercises. See Attachment Q. For example, it appears from the Exercise Report of the November 28, 1984 exercise at the Perry Nuclear Plant, which the NRC clearly found was a full participation exercise, that all but two of the elements intervenors allege were omitted at Shoreham were, in fact, not tested during the Perry exercise. See Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Units 1 and 2), C I-86-22, slip op. at 4 (November 7, 1986).

Specifically, the sirens were not tested at Perry; EBS messages were not broadcast; no PARs were issued for persons in the water portion of the EPZ or for transients in beaches or parks; the Coast Guard did not participate; FEMA did not evaluate public education materials during the exercise; hospital evacuation was not simulated; school children were not sheltered; the early dismissal of schools was not demonstrated; there was no demonstration of the evacuation of school children; school officials did not participate; school bus drivers did not participate; no border state participated in ingestion pathway activities; shelter stored feed recommendations for dairy cattle were not implemented; there were no PAR's for non-dairy animals; there were no PAR's for drinking water and food chain; ground deposition calculations were not done; recovery/reentry procedures were not demonstrated; neither the number of ambulance companies telephoned nor the number of ambulances requested is specified, and only 2 ambulances -- compared with 3 at Shoreham -- participated; siren operation was not verified by a contract organization (a silent siren test was done); and neither the number of bus companies telephoned nor the number of buses requested nor the number of buses that participated was specified in the Exercise Report. See Attachment R. Thus, the Shoreham Exercise is almost identical to an exercise that NRC has clearly found to be full participation.

57. Q. Does this conclude your Testimony on Contentions EX 15 and 16?

A. [Daverio, Behr, Hockert] Yes. We conclude that the February 13 Shoreham Exercise was indeed a full participation exercise.



Federal Emergency Management Agency
Washington, D. C. 20472

OCT 4 1985

MEMORANDUM FOR: Regional Directors
Acting Regional Director

FROM: Samuel R. Speck
Associate Director
State and Local Programs and Support

SUBJECT: Guidance Memorandum PR-1, Policy on NUREG-0654/FEMA-REP-1
and 44 CFR 350 Periodic Requirements

Guidance Memorandum (GM) PR-1, Policy on NUREG-0654/FEMA-REP-1 and 44 CFR 350 Periodic Requirements, is herewith transmitted for your implementation. This GM becomes operative on October 1, 1985. The policy, procedures and requirements contained in this GM were developed to synchronize them with the biennial exercise frequency, highlight periodic requirements and formally set forth the reporting requirements in the "Annual Letter of Certification," which is due by January 31 for the preceding year's activities. I look to the Regions to make this GM available to State and local government organizations that would be involved in its implementation.

States should prepare and forward an "Annual Letter of Certification" by January 31, 1986, to report on their meeting these periodic requirements applicable for calendar year 1985. While these periodic requirements are not new and have been operative since the publication of NUREG-0654/FEMA-REP-1 in 1980, this is the first time we have asked States to formally report on them.

Your review and comment on the final draft copy sent April 26, 1985 was helpful in developing the final version. We appreciate this assistance and cooperation. Any questions concerning the implementation of this GM should be directed to Bill McNutt at (FTS) 646-2857.

Attachment
As Stated



Federal Emergency Management Agency

Washington, D. C. 20472

OCT 1 1985

GUIDANCE MEMORANDUM PR-1

POLICY ON NUREG-0654/FEMA-REP-1 AND 44 CFR 350 PERIODIC REQUIREMENTS

Purpose

This Guidance Memorandum (GM) provides interpretation and clarification of requirements contained in the Federal Emergency Management Agency (FEMA) rule, 44 CFR 350, and NUREG-0654/FEMA-REP-1, related to periodic planning and exercise activities and other requirements affected by the biennial exercise frequency and other REP program emphases.

Background

With the publication of the final FEMA rule, 44 CFR 350, on September 28, 1983, and the the Nuclear Regulatory Commission (NRC) final regulation, 10 CFR 50, on July 6, 1984, it has become necessary to clarify some of the requirements contained in these rules and our common guidance criteria document, NUREG-0654/FEMA-REP-1. Also, as we are approaching the fifth year of the implementation of our joint (NRC/FEMA) radiological emergency preparedness (REP) program, it is appropriate to highlight and clarify requirements related to periodic assessments, especially those made in the fifth and sixth year of a State's REP program.

Guidance

The changes and program emphases related to the referenced planning standards and evaluation criteria of NUREG-0654/FEMA-REP-1 and 44 CFR 350 are addressed to State and local governments and to Federal reviewers of plans and preparedness. This guidance is divided into three sections. Section A contains planning standards, evaluation criteria and other REP program requirements that have been revised and/or clarified to facilitate compliance. Section B includes those which remain unchanged but are highlighted here to ensure completion and compliance. Section C describes the Annual Letter of Certification which is submitted by the State to the FEMA Regional Director documenting actions taken on the requirements presented in sections A and B.

SECTION A: THE FOLLOWING EVALUATION CRITERIA INCLUDE CHANGES FROM EXISTING REQUIREMENTS

PLANNING STANDARDS AND EVALUATION CRITERION

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 deficiencies identified as a result of exercises and drills are (will be) corrected. (NUREG-0654/FEMA-REP-1, p.71).

N.1.b. Evaluation Criterion

An exercise shall include mobilization of State and local personnel and resources adequate to verify the capability to respond to an accident scenario requiring response. The organization shall provide for a critique of the biennial ~~exercise~~ exercise by Federal and State observers/evaluators. The scenario should be varied from exercise to exercise ~~year to year~~ such that the major elements of the plans and preparedness organizations are tested within a six-year ~~five-year~~ period. Each organization should make provisions to start an exercise between 6:00 p.m. and 4:00 a.m. ~~6:00 p.m. and midnight, and another between midnight and 6:00 a.m.~~ once every six years. Exercises should be conducted during different seasons of the year within a six-year period for exercising under various weather conditions. At least one exercise over a period of six years ~~some exercises~~ should be unannounced.

Areas of Review

Evaluation criterion, N.1.b., addresses several periodic exercise requirements. All of these requirements are modified. The most important change is to permit the testing of major planning and preparedness elements within a six rather than five-year period. All of the remaining exercise requirements are placed within this six-year period.

Attendant Criteria

In addition to meeting specific exercise requirements, State and local governments should meet the following requirements:

1. For those requirements related to the six-year compliance period for selected exercise activities delineated in N.1.b. above, the six-year period commences with the date of the first joint (utility and State and local governments) exercise conducted after November 3, 1980, the effective date of the Nuclear Regulatory Commission Final Regulations on Emergency Planning, 10 CFR Part 50 (Appendix E) (45 FR 55410, August 19, 1980). For example, if the date of the first joint exercise was March 23, 1981, the end of the six-year period is March 23, 1987. All of the major elements are to be tested within the six-year period on a site-specific basis except for ingestion-related elements as the testing of such elements is not tied to a particular site for State governments. (See Attendant Criteria 3 below.)
2. Scenarios for periodic exercises should be sufficiently varied so that all of the major elements of the plans and preparedness of offsite organizations are tested within a six-year period. The major elements of plans and preparedness are incorporated in the 35 exercise objectives contained in the August 5, 1983, memorandum: "Procedural Policy on Radiological Emergency Preparedness Plan Reviews, Exercise Observations and Evaluations, and Interim Findings."
3. Implicit in evaluation criterion, N.1.b., is the requirement for each State which has a nuclear power plant within its borders to fully

* To highlight changes to criteria in NUREG-0604/FEMA-RFP-1, the new language is underlined and the old language is lined through.

exercise its plans and preparedness related to ingestion exposure pathway measures at least once every six years in conjunction with a plume exposure pathway exercise for some site for that site. This requirement is reflected in the 35 exercise objectives and is presented in 44 CFR 350.9(c)(4). Each State with ingestion exposure pathway responsibilities for two or more sites located within its borders will fully participate at some site on a rotational basis and partially participate at the other sites once every six years. A State which has ingestion related responsibilities for a site(s) located within its borders and which is also within the 50-mile ingestion exposure pathway of a site(s) located in a bordering State(s), shall partially participate in all of the ingestion related exercises for those bordering State site(s). For those States that do not have a power plant located in its borders, but are located within the 50-mile Emergency Planning Zone of a bordering State's power plant, they should fully participate in at least one exercise over a six-year period and partially participate in all others. These ingestion-related requirements represent revision of provisions contained in both NUREG-0654/FEMA-REP-1 and 44 CFR 350.9(c)(4).

4. The definition of full participation in ingestion aspects of exercises is guided by 44 CFR 350.2(j). Since local governments are not usually required to develop and test ingestion plans and preparedness, State officials would be the emergency personnel primarily involved in the ingestion portion of exercises. However, in some States, local governments have responsibilities that require their participation in such exercises. The number and function of personnel needed should be sufficient for carrying out all those ingestion measures that are necessitated by a particular accident scenario. Also, organizations fully participating in the ingestion portion of an exercise should deploy field teams to secure and analyze media samples as required by the accident scenario.
5. The definition of partial participation in ingestion aspects of exercises is guided by 44 CFR 350.2(k). As stated in item 4 above, State officials would be the emergency personnel primarily involved in the ingestion portion of exercises. The number and function of State personnel needed should be determined on the basis of verifying capabilities for carrying out the following responsibilities: Direction and control and related communications for protective action decisionmaking and dissemination of emergency information to appropriate individuals, groups and the general public. Organizations partially participating in the ingestion portion of an exercise will not have to deploy field teams to secure and analyze media samples as such sections can be simulated.
6. Offsite organizations should make provision to start an exercise between 6:00 p.m. and 4:00 a.m. once every six years.

- 7. Offsite organizations should schedule exercises at different seasons over a six-year period to increase the likelihood for exercising under various weather conditions. This provision can be fulfilled through the regular scheduling of exercises and in conjunction with items 2 and 3 above.
- 8. Offsite organizations should make provision to participate in unannounced exercises at least once every six years. An unannounced exercise is a regularly scheduled exercise in which the knowledge of the exact date of the exercise is restricted to only those persons with a need to know. Although the knowledge of the exact date is restricted, a time frame of 7 days within which the unannounced exercise is to be conducted will be established and known to all parties involved.
- 9. Items 2,3,6,7 and 8 may be combined in the same exercise or addressed in separate exercises within a six-year period.

SECTION B: OTHER PERIODIC REQUIREMENTS HIGHLIGHTED TO CALL ATTENTION TO THE NEED FOR COMPLIANCE *

PLANNING STANDARDS AND EVALUATION CRITERIA

F. Emergency Communications

Planning Standard

Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public. (NUREG-0654/FEMA-REP-1, p.4)

Evaluation Criteria

F.3. Each organization shall conduct periodic testing of the entire emergency communications system (See evaluation criteria N.2.a., N.2.d. and Appendix B.)

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. (NUREG-0654/FEMA-REP-1, p.49)

Evaluation Criteria

G.1. Each organization shall provide a coordinated periodic (at least annually) dissemination of information to the public regarding how they will be notified and what their actions should be in an emergency. This information shall include, but not necessarily be limited to:

- a. educational information on radiation;
- b. contact for additional information;

* Language for some of the evaluation criteria has been changed to clarify intent but the requirements are not changed.

- c. protective measures, e.g., evacuation routes and relocation centers, sheltering, respiratory protection, radioprotective drugs; and
- d. special needs of the handicapped.

Means for accomplishing this dissemination may include, but not necessarily limited to: information in the telephone book, periodic information in utility bills and publications distributed on an annual basis.

G.2. The public information program shall provide the permanent and transient adult population within the plume exposure EPZ an adequate opportunity to become aware of the information annually. The programs should include provision for written material that is likely to be available in a residence during an emergency. Updated information shall be disseminated at least annually. Signs or other measures (e.g., decals, posted notices or other means, placed in hotels, motels, gasoline stations and phone booths) shall also be used to disseminate to any transient population within the plume exposure pathway EPZ appropriate information that would be helpful if an emergency or accident occurs. Such notices should refer the transient to the telephone directory or other sources of local emergency information and guide the visitor to appropriate radio and television frequencies.

G.5. Each organization shall conduct coordinated programs at least annually to acquaint news media with emergency plans, information concerning radiation and points of contact for release of public information.

H. Emergency Facilities and Equipment

Planning Standard

Adequate emergency facilities and equipment to support the emergency response are provided and maintained. (NUREG-0654/FEHA-REP-1, p.52)

Evaluation Criterion

H.10. Each organization shall make provisions to inspect, inventory and operationally check emergency equipment/instruments at least once each calendar quarter and after each use. There shall be sufficient reserves of instruments/equipment to replace those which are removed from emergency kits for calibration or repair. Calibration of equipment shall be at intervals recommended by the supplier of the equipment.

H. Exercise 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 deficiencies identified as a result of exercise and drills are (will be) corrected. (NUREG-0654/FEHA-REP-1, p.71)

Drill Requirements (Evaluation Criteria)

N.2. Definition: A drill is a supervised instruction period aimed at testing, developing and maintaining skills in a particular operation. A drill is often a component of an exercise. A drill shall be supervised and evaluated by a qualified drill instructor. Each organization shall conduct drills, in addition to the biennial annual exercise at the frequencies indicated below:

N.2.a. Communication Drills: Three types of communication drills are addressed: (a) Communications with State and local governments within the plume exposure pathway emergency planning zone shall be tested monthly; (b) communications with federal emergency response organizations and State(s) within the ingestion pathway shall be tested at least once quarterly in conjunction with the testing of plume exposure pathway measures of the State plan and (c) communications between the nuclear facility, State and local government emergency operations centers and field assessment teams shall be tested at least once every year. Communication drills shall also include the aspect of understanding the content of messages.

N.2.c. Medical Emergency Drills: A medical emergency drill involving a simulated contaminated individual that contains provisions for participation by local support service agencies (i.e., ambulance and offsite medical treatment facility) shall be conducted annually.

N.2.d. Radiological Monitoring Drills: Requirements are set forth for two types of radiological monitoring drills: (a) Radiological monitoring drills related to the plume exposure pathway emergency planning zone shall be conducted at least annually and shall include provisions for communications and recordkeeping, (b) Radiological monitoring drills related to the ingestion exposure pathway emergency planning zone shall be conducted at least annually and shall include provisions for communications and record keeping.

N.2.e. Health Physics Drills: Health Physics drills shall be conducted semi-annually by State governments with licensees to test response to and analysis of simulated elevated airborne and liquid samples and direct radiation measurements in the environment. The State drills can be conducted at any site.

O. Radiological Emergency Response Training

Planning Standard

Radiological emergency response training is provided to those who may be called on to assist in an emergency. (UREG-003: 75 A-REP-1, p.75)

Evaluation Criteria

O.1. Each organization shall assure training of appropriate individuals.

0.1.b. Each offsite response organization shall participate in and receive training. Where mutual aid agreements exist between local agencies such as fire, police and ambulance/rescue, the training shall also be offered to the other departments who are members of the mutual aid district.

0.4. Each organization shall establish a training program for instructing and qualifying personnel who will implement radiological emergency response plans. The specialized initial training and periodic retraining programs shall be defined with respect to their scope and frequency and should be provided in the following categories:

- a. Directors or coordinators of response organizations;
- b. Personnel responsible for accident assessment;
- c. Radiological monitoring teams and radiological analysis personnel;
- d. Police, security and fire fighting personnel;
- f. First aid and rescue personnel;
- g. Local support services personnel including Civil Defense/Emergency Service personnel;
- h. Medical support personnel; and
- j. Personnel responsible for transmission of emergency information and instructions.

0.5. Each organization shall provide for the initial and annual retraining of personnel with emergency response responsibilities.

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. (NUREG-0654/PEMA-REP-1 p.78)

Evaluation Criteria

P.4. Each organization shall update its plan and agreements as needed, review and certify it to be current on a annual basis. The update shall take into account changes identified by drills and exercises.

P.5. The emergency response plans and approved changes to the plans shall be forwarded to all organizations and appropriate individuals with responsibility for implementation of the plans. Revised pages shall be dated and marked to show where changes have been made.

P.10. Each organization shall provide for updating telephone numbers, call-down lists and maps in emergency procedures at least quarterly.

Appendix 3: Means for Providing Prompt Alert and Notification of Response Organizations and the Population

Periodic requirements related to alert and notification will be discussed and delineated in a forthcoming GM.

SECTION C: ANNUAL LETTER OF CERTIFICATION

In order to facilitate the monitoring of RFP planning and preparedness requirements as prescribed in NUREG-0654/FEMA-REP-1 and 44 CFR 350 as delineated in this memorandum, an Annual Letter of Certification shall be submitted from each State to the appropriate FEMA Regional Director. The State submission of the Annual Letter of Certification to the FEMA Regional Director should be made by January 31 of each year and should address compliance with periodic requirements for the preceding year. This letter shall include assurances that the requisite activities have been undertaken or completed, as appropriate, by the State and local organizations for the following functions:

1. Public Education and Information (G): Means of dissemination of information, dates, participants, sponsoring organizations and description of any programs conducted to increase public and media radiological emergency planning and response awareness.
2. Emergency Facilities and Equipment (H): Type of equipment/instrument, quantity and dates of check/test.
3. Exercises (N): Testing of all major elements, conducting exercises under various time and seasonal conditions, unannounced exercises and testing of State (and local, as appropriate) plans for implementing ingestion pathway measures.
4. Drills (N): Types, dates held and participating organizations.
5. Radiological Emergency Response Training (O): Scope and purpose of training, dates held, number of participants, agencies represented and sponsors of training.
6. Update of Plans and Letters of Agreement (P): Verification that plans and letters of agreement have been reviewed and appropriate changes made. Updates of plans should include telephone numbers, call-down lists and maps.
7. Alert and Notification (Appendix 3): Type of tests conducted in accordance with established schedule, dates held, and operability percentage achieved based on periodic testing.

ATTACHMENT C

FEMA, March 20, 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))

DETECT TESTIMONY OF THOMAS E. BALDWIN,
JOSEPH E. KELLER AND ROGER B. KOWIESKI
CONCERNING EMERGENCY PLANNING EXERCISE

CONTENTION EX 15 AND 16

ISSUE: The exercise did not include demonstrations or evaluations of major portions of the LILCO Plan and the emergency response capabilities of many persons, organizations and entities relied upon to implement the LILCO Plan.

ANSWER: With the publication of the final FEMA rule, 44 CFR 350, on September 28, 1983, and the Nuclear Regulatory Commission (NRC) final regulation, 10 CFR 50, on July 6, 1984, it has become necessary to clarify some of the requirements contained in these rules and FEMA/NRC common guidance criteria document, NUREG-0654/FEMA-REP-1. On October 4, 1985 FEMA issued Guidance Memorandum No. 1, Policy on NUREG-0654/FEMA-REP-1 and 44 CFR 350 Periodic Requirements which provided interpretation and clarification on periodic planning and exercise activities and other requirements affected by the biennial exercise frequency. Guidance Memorandum PR-1 states:

CONTENTION EX 15 AND 16 (continued)

Scenarios for periodic exercises should be sufficiently varied so that all of the major elements of the plans and preparedness of offsite organizations are tested within a six-year period. The major elements of plans and preparedness are incorporated in the 35 exercise objectives ⁽²⁾ contained in the August 5, 1983, memorandum: "Procedural Policy on Radiological Emergency Preparedness Plan Reviews, Exercise Observations and Evaluations, and Interim Findings."

With regard to the Shoreham exercise, on June 20, 1985, NRC requested FEMA to schedule as full an exercise of the LILO Local Emergency Response Organization (LERO) plan as feasible, to test offsite emergency preparedness at the Shoreham Nuclear Power Station.

However, NRC suggested that FEMA emphasize evaluation of the functional areas of emergency preparedness related to the demonstration of response capabilities within the plume exposure (10-mile) Emergency Planning Zone (EPZ).

2 It should be noted that during the deposition of the FEMA witness panel, a tabulation showing 36 FEMA standard objectives was presented for witness comments. This tabulation was marked Attachment 1 GM 17. This revision, including the modified objectives, was a draft version circulated for comment only. The modified objectives have not been accepted at this time. Therefore, there are only 35 standard FEMA objectives which must be considered over the six-year cycle.

CONTENTION EX 15 AND 16 (continued)

In its October 29, 1985 response to NRC, FEMA recommended two (2) options for exercising the Local Emergency Response Organization (LERO), which relies upon utility employees, contractors, private organizations and the U.S. Department of Energy (DOE). These two options were as follows:

- o Option 1 - proposed that FEMA set aside all functions and exercise objectives related to issues of legal authority and State and local participation.
- o Option 2 - proposed an exercise of all functions and normal exercise objectives. This option would exercise the current version of the LERO Plan. Exercise controllers would simulate the roles of key State and local officials unable or unwilling to participate.

FEMA emphasized in its October 29, 1985 letter to NRC that "the reluctance of county and State officials to participate in such an exercise ... would place special parameters on its conduct." FEMA stipulated that "[a]ny exercise without participation by State and local governments would not allow ... sufficient demonstration [for FEMA] to reach a finding of reasonable assurance" that appropriate protective measures can be taken offsite in the event of a radiological emergency. FEMA added that "[o]bviously, the value of such an exercise in the licensing process is a determination which can only be made by NRC." On November 12, 1985, NRC requested that FEMA conduct the exercise in accordance with parameters described in Option 2. On November 21, 1985, FEMA submitted the proposed exercise objectives to NRC for use by LILCO exercise planners.

CONTENTION EX 15 AND 16 (continued)

As stated in the summary of the Post Exercise Assessment (PEA) Report, the February 13, 1986 exercise was evaluated in accord with the general provisions of the second option proposed for the exercise to NRC by FEMA. This option proposed an exercise of the current version (i.e., Rev: 6) of the LERO Plan which would exercise all functions and normal exercise objectives. Exercise controllers were to simulate the roles of key state and local officials if they were unable or unwilling to participate in the exercise.

FEMA made every attempt to ensure that preparation for and evaluation of the February 13, 1986 exercise of the LILCO Transition Plan for Shoreham was consistent with the parameters and process established for other full-scale Radiological Emergency Preparedness (REP) exercises evaluated by FEMA Region II. The Region designed the exercise objectives to ensure that the exercise would be of sufficient scope for FEMA to evaluate the following:

- o All functions - i.e., FEMA would be able to evaluate LILCO's and LERO's integrated capability to adequately assess and respond to an accident at Shoreham.

- o Normal exercise objectives - i.e., FEMA would be able to evaluate major observable portions of the LERO Plan.

CONTENTION EX 15 AND 16 (continued)

This initial set of proposed exercise objectives included most of FEMA's standard objectives (3) that had been keyed to the various locations (i.e., EOC, Field Activities, Brookhaven Area Office, Staging Areas, Emergency Worker Decontamination Facility, ENC, and EOF) where they would be evaluated. The first meeting was held with utility representatives on November 25, 1985 to discuss the exercise process. Subsequent to that first meeting the proposed exercise objectives were revised prior to the exercise pursuant to ongoing planning discussions with LILCO representatives.

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- 3 The following standard objectives were not included in the initial set of objectives proposed for the exercise:
- o Evaluation and implementation of ingestion pathway protective actions (3 objectives);
 - o Ability to make the decision whether to issue KI to emergency workers;
 - o Evacuation of onsite personnel;
 - o Ability to identify and request Federal assistance;
 - o Ability to relocate and operate an alternate EOC and/or EOF; and
 - o Evaluation and implementation of recovery and reentry (2 objectives);

CONTENTION EX 15 AND 16 (continued)

The following list correlates FEMA's standard exercise objectives with specific objectives that were evaluated during the February 13, 1986 Shoreham exercise. Objectives evaluated during that exercise are listed under the statement of each standard objective. Where a standard objective was not evaluated, this is so indicated. Exercise objectives affected by the legal authority issue are marked with an asterisk (*).

1. Demonstrate ability to mobilize staff and activate facilities promptly.

EOC 2

EHO 2

ENC 1

SA 2

EWDF 1

FIELD 17, 18

2. Demonstrate ability to fully staff facilities and maintain staffing around the clock.

EOC 3

EHO 3

ENC 2

EWDF 2

SA 3

FIELD 19, 20

CONTENTION EX 15 AND 16 (continued)

3. Demonstrate ability to make decisions and to coordinate emergency activities.

EOC 8*

SA 8

4. Demonstrate adequacy of facilities and displays to support emergency operations.

EOC 4, 6*, 7

EOF 1, 2

EHO 4, 6, 7

ENC 6, 7*

SA 4, 6*, 7

5. Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel.

EOC 1, 5*, 7, 11*

EHO 1, 5, 7, 9

SA 1, 5, 7, 10

6. Demonstrate ability to mobilize and deploy field monitoring teams in a timely fashion.

FIELD 2

CONTENTION 15 AND 16 (continued)

7. Demonstrate appropriate equipment and procedures for determining ambient radiation levels.

FIELD 3

8. Demonstrate appropriate equipment and procedures for measurement of airborne radioiodine concentrations as low as 10^{-7} uci/cc in the presence of noble gases.

FIELD 4

9. Demonstrate appropriate equipment and procedures for collection, transport and analysis of samples of soil, vegetation, snow, water, and milk.

Note: Ingestion pathway objectives were not evaluated during the 2/13/86 exercise.

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

EOC 8*, 12

EOF 3*

EHO 10

CONTENTION EX 15 AND 16 (continued)

11. Demonstrate ability to project dosage to the public via ingestion pathway exposure, based on field data, and to determine appropriate protective measures, based on FAGs and other relevant factors.

Note: Ingestion pathway objectives were not evaluated during the 2/13/86 exercise.

12. Demonstrate ability to implement protective actions for ingestion pathway hazards.

Note: Ingestion pathway objectives were not evaluated during the 2/13/86 exercise.

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

EOC 13*, 14*, 15*, 21*

14. Demonstrate ability to formulate and distribute appropriate instructions to the public, in a timely fashion.

EOC 15*, 21*

CONTENTION EX 15 AND 16 (continued)

15. Demonstrate the organizational ability and resources necessary to manage an orderly evacuation of all or part of the plume EPZ.

EOC 16*

FIELD 9

16. Demonstrate the organizational ability and resources necessary to deal with impediments to evacuation, such as inclement weather or traffic obstructions.

EOC 17*

FIELD 10*

17. Demonstrate the organizational ability and resources necessary to control access to an evacuated area.

EOC 19*

FIELD 6*, 11*

CONTENTION EX 15 AND 16 (continued)

18. Demonstrate the organizational ability and resources necessary to effect an orderly evacuation of mobility-impaired individuals within the plume EPZ.

FIELD 13, 14

19. Demonstrate the organizational ability and resources necessary to effect an orderly evacuation of schools within the plume EPZ.

EOC 20*

FIELD 16

20. Demonstrate ability to continuously monitor and control emergency worker exposure.

FIELD 1

FIELD 8

CONTENTION EX 15 AND 16 (continued)

21. Demonstrate the ability to make the decision, based on predetermined criteria, whether to issue KI to emergency workers and/or the general population.

Note: Demonstration of the ability to make the decision regarding the use of KI was not included in objectives to be evaluated because FEMA developed the initial set of exercise objectives before the technical parameters of the scenario had been presented by LILCO for FEMA's review and approval. It is New York State policy that KI will not be recommended for use by the general population. With respect to emergency workers, LERO recommended KI ingestion based on technical assessment of the accident presented in the scenario. The appropriateness of that recommendation was observed by Federal evaluators at the LERO EOC on the day of the exercise.

CONTENTION EX 15 AND 16 (continued)

22. Demonstrate the ability to supply and administer KI, once the decision has been made to do so.

FIELD 7

23. Demonstrate ability to effect an orderly evacuation of onsite personnel.

Note: evacuation of onsite personnel was not evaluated at the 2/13/86 exercise.

24. Demonstrate ability to brief the media in a clear, accurate and timely manner.

ENC 3

25. Demonstrate ability to provide advance coordination of information released.

EOC 13*, 21*

ENC 4*

CONTENTION EX 15 AND 16 (continued)

26. Demonstrate ability to establish and operate rumor control in a coordinated fashion.

ENC 5

27. Demonstrate adequacy of procedures for registration and radiological monitoring of evacuees.

FIELD 21

28. Demonstrate adequacy of facilities for mass care of evacuees.

FIELD 22

29. Demonstrate adequate equipment and procedures for decontamination of emergency workers, equipment and vehicles.

EWDF 3*

30. Demonstrate adequacy of ambulance facilities and procedures for handling contaminated individuals.

FIELD 23

CONTENTION EX 15 AND 16 (continued)

31. Demonstrate adequacy of hospital facilities and procedures for handling contaminated individuals.

FIELD 24

32. Demonstrate ability to identify need for, request, and obtain federal assistance.

Note: This was not specifically listed as an objective to be evaluated during the exercise. It was however an aspect of the demonstrations because LERO requested and received radiological monitoring assistance from DOE RAP Team at Brookhaven National Laboratory.

33. Demonstrate ability to relocate to and operate alternate EOF/EOC.

Note: This objective is not applicable since both the EOF and the EOC primary facilities are outside the 10-mile EPZ..

34. Demonstrate ability to estimate total population exposure.

Note: Recovery and reentry considerations were not evaluated during the 2/13/86 exercise.

CONTENTION EX 15 AND 16 (continued)

35. Demonstrate ability to determine and implement appropriate measures for controlled recovery and reentry.

Note: Recovery and reentry considerations were not evaluated during the 2/13/86 exercise.

In addition to FEMA's standard objectives, the following objectives were also evaluated at the February 13, 1986 Shoreham exercise:

- EOC 9* Demonstrate the ability to coordinate the emergency response with county and State officials. (One of State and/or county officials simulated by FEMA designated personnel).
- EOC 10* Demonstrate the ability of the designated official to determine the need to obtain State assistance.
- EOC 18* Demonstrate the organizational ability necessary to effect an early dismissal of schools within the 10-mile EPZ.
- SA 9* Demonstrate the ability to dispatch to and direct emergency workers in the field.
- FIELD 5* Demonstrate the ability to provide backup public alerting, if necessary, in the event of partial siren failure.

CONTENTION EX 15 AND 16 (continued)

FIELD 12* Demonstrate the adequacy of evacuation bus transfer points including access and parking/transfer areas.

FIELD 15 Demonstrate a sample of resources necessary to effect an early dismissal of schools within the 10-mile EPZ (to be simulated out of sequence, if appropriate).

It is FEMA's position that the above exercise objectives required mobilization of LILCO's Local Emergency Response Organization (LERO), its personnel and resources in sufficient number to verify the capability to respond to an accident scenario. Furthermore, the February 13, 1986 exercise enabled FEMA to evaluate the integrated capability and a major portion of the basic elements existing within LILCO Transition Plan and LERO organization. The Shoreham exercise was equal or greater in scope compared to any other full-scale exercise evaluated by FEMA Region II to date. While FEMA desires the fullest possible compliance with the criteria of NUREG-0654/FEMA-REP, Rev. 1, our objective is to foster the development and enhancement of radiological emergency planning and preparedness as fully and rapidly as possible within the constraints of Federal, State, and local capabilities and resources. The objective of exercises that involve state and local participation is for FEMA to be able to make determinations on the adequacy of offsite preparedness on the basis of reasonable assurance, not absolute certainty.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.A

ISSUE: Public notification capabilities of LILCO including sirens, the LILCO EBS system, and WALK Radio, were not tested, used, demonstrated, or involved in the exercise. The issues identified in the subsumed and additional subparts of this contention are as follows:

- 16.C Walk radio did not participate in the exercise;
- 16.D No other radio stations participated in the exercise;
- 24 The siren system was not actually activated during the exercise.

ANSWER: Actual testing of public alerting and notification systems was limited since most activities including activation of sirens and tone alerts, airing EBS messages, and other public information initiatives were either simulated or not demonstrated. Prior to the exercise, LILCO management made the decision that the siren system would not be sounded as part of this exercise. Activation of the siren system needs to be actually tested in the future (from FEMA PEA report, p. 34).

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.A (continued)

WALK radio did not participate in the February 13, 1986 exercise. Based on activities observed during the exercise it was determined that all EBS messages were prepared and coordinated in accordance with the Plan. OPIP 3.3.4, Section 3.1, requires that activation of the prompt notification system must take place within fifteen (15) minutes of a decision on the specific protective action recommendations that are to be broadcast to the public via EBS messages. In all cases the simulated siren sounding occurred within fifteen (15) minutes of the decision by the Director of Local Response (from FEMA PEA report, Table 1.2, p. 26).

As stated in FEMA's amended answers to Suffolk County's First Request for Admissions filed January 27, 1987, other radio stations relied upon as part of the EBS System did not participate in the exercise. FEMA evaluated coordination of EBS messages with WALK Radio as the primary insert station. FEMA Region II does not as a matter of practice require the participation of nor does it evaluate the performance of the secondary stations in an EBS network for other nuclear power plants in New York and New Jersey. This is consistent with the practice of other FEMA Regions throughout the country. It should be noted that the use of WALK Radio as the primary EBS insert station was reviewed and approved by the RAC in its review of the plan that was in effect on the day of the exercise.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.B

ISSUE: Procedures for notification of the public in the water portion of the EPZ were excluded from the exercise in that the U.S. Coast Guard did not participate in the exercise (other than perhaps the receipt of one or more telephone calls). The absence of U.S. Coast Guard participation in the exercise is CONTENTION EX 16.B subsumed herein.

ANSWER: Procedures for notification of the public in the water portion of the EPZ were implemented during the exercise by the U.S. Coast Guard. FEMA's evaluation of these activities on the day of the exercise was limited to the observation of LERO's communications with the U.S. Coast Guard from the EOC and telephone interviews of the Coast Guard officials in New Haven by the Federal evaluator. FEMA's decision to limit the observation to these communications was based on recommendation of the DOT RAC member who stated:

Commander Lyon plans to participate with one boat (funding and other operational commitments allowing) in the exercise. Additionally, of course, he plans to participate in the command and control and communications part of the exercise.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.B (continued)

I believe these arrangements should be more than adequate for the exercising of the plan with respect to actions regarding the water part of the EPZ. The important thing is to exercise the communications link to the Coast Guard and to coordinate operations with them. It is not important to have the Coast Guard move one of its boats, which they do continually in normal operations.

Since actual dispatch of the U.S. Coast Guard's patrol boat was conditional, (sup'ed with the DOT RAC member's advice, FEMA decided not to evaluate the notification of the public on the water portion of the EPZ.

During the exercise, the FEMA evaluator directly observed communications from the EOC between LERO and the U.S. Coast Guard both by telephone and by radio. Additionally, during the exercise, the FEMA observer verified, with the Coast Guard that the Coast Guard took or simulated protective actions for the public notification in the water part of the EPZ. The Coast Guard simulated the establishing of a Maritime Safety Zone for the water part of the EPZ and simulated making emergency radio broadcasts to all shipping on the distress frequencies. The Coast Guard also dispatched a patrol boat to the water part of the EPZ for access control at 1020. The boat was on scene 1127, reported the area clear at 1151 and returned to New Haven at 1736.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.H

ISSUE: The capability for implementing protective action recommendations for the public on waters and transients on beaches and in parks was excluded from the exercise. There was no demonstration of the ability to evacuate the water portion of the EPZ. The absence of U.S. Coast Guard participation in the exercise is CONTENTION EX 16.B subsumed herein.

ANSWER: Objective EOC 16 required demonstration of the organizational ability (emphasis added) to manage an orderly evacuation of all or part of the 10-mile EPZ including the water portion. This involved evaluation of LERO's ability to coordinate notification of the public and access control in the water portion of the EPZ with the U.S. Coast Guard which was satisfactorily demonstrated (see Response to CONTENTION EX 15.B). Objective EOC 16 also would require the coordination of activities to notify and implement protective actions for transients in parks and on beaches within the 10-mile EPZ which is not specifically mentioned in FEMA's IEA report. However, it is FEMA's understanding, based on inspection of the siren coverage map, that the siren system is capable of providing audible alert signal throughout the 10-mile EPZ including beaches and parks.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.H (continued)

Objective Field 9 required demonstration of a sample of resources necessary to implement an orderly evacuation of all or part of the 10-mile EPZ. As described in Section 1.7.3 of FEMA's PEA report (see pp. 19-23) this did not involve an evaluation of the implementation of protective actions for transients on beaches and in parks or demonstration of the ability to evacuate the water portion of the EPZ. However, FEMA notes that the exercise scenario was for a winter weekday (i.e., February 13) when very few transients would be expected on the beaches, in parks or on the water portion of the 10-mile EPZ. Therefore, in light of the circumstances summarized above, the implementation of protection actions on beaches, in parks and on the water was not evaluated during the exercise. The implementation of these activities would have to be evaluated at an exercise that would involve different weather conditions as required by NUREG-0654, II, N.1.b (Exercises should be conducted under various weather conditions).

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.C

ISSUE: The exercise did not include the evaluation of periodic dissemination of information to the public.

ANSWER: The RAC in its review of Revision 5 of the LILCO Transition Plan found the NUREG-0654, evaluation criteria G.1a-d, related to a coordinated dissemination of information to the public to be adequate. In addition, in 1984 the FEMA panel reviewed the public information brochure and the Spring 1984 issue of LILCO's newsletter, "Keeping Current" and testified on this issue before the ASLB (CONTENTIONS EX 16 and 18).

It is FEMA's understanding that at the time of the February 13, 1986 exercise, LILCO had not distributed the informational material called for in the plan to the general public. Since the public information brochures had not been distributed, it would have been inappropriate to evaluate distribution of that material or to sample public awareness. It should be noted however, that it is FEMA's position that the public information material must be distributed prior to full power operation of the plant.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.D

ISSUE: The procedures for evacuation of hospitals within the 10-mile EPZ was not evaluated during the exercise. The issues identified in the subnamed subparts of this contention are as follows:

- 16.H The hospitals in the 10-mile EPZ did not participate in the exercise;
- 16.I The nursing and adult homes in the 10-mile EPZ did not participate in the exercise;
- 16.J Special facility reception centers outside the 10-mile EPZ did not participate in the exercise.

ANSWER: FEMA testified on this issue before the ASLB in 1984. In response to the planning CONTENTION 72.D, FEMA stated:

The plan does not intend that evacuation would be recommended for these hospitals. As stated in Procedure OPIP 3-6.5, page 1, sheltering will be the primary protective action recommended for John T. Mather, St. Charles, and Central Suffolk Hospitals. The following section is taken from the above referenced page.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.D (continued)

NOTE

SHELTERING WILL BE THE PRIMARY PROTECTIVE ACTION RECOMMENDATION FOR MATHER, ST. CHARLES, AND CENTRAL SUFFOLK HOSPITAL DUE TO THEIR DISTANCE FROM SNPS AND THE SHIELDING AFFORDED BY THEIR STRUCTURES. IF AN EVACUATION IS DESIRED BY THEIR ADMINISTRATORS FOR ALL OR PART OF THEIR PATIENT POPULATION, ARRANGEMENTS WILL BE MADE USING AVAILABLE RESOURCES."

Also, based on the RAC review of the plan, NUREG-0654 element J.10.d was found to be adequate. This was due to the fact that the hospitals in question are near the boundary of the 10-mile EPZ. The ASLB in its decision concluded (p. 291, XI.B.5):

The Board agrees with LILCO and FEMA that nursery schools, adult homes, nursing homes and other special facilities within the EPZ are not support organizations within the meaning of NUREG-0654, Section II.A.3. These facilities have no assigned role to support the overall emergency response effort. The only actions expected of these organizations is to act in their own interest to protect themselves from radiation by either sheltering or evacuation.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.D (continued)

Furthermore, the Board also stated (page 307):

We conclude that LILCO's Plan for protective actions for hospitals is a reasonable one. The planned actions are not in violation of NRC's regulations or guidance on emergency planning.

For the reasons stated above, the demonstration of procedures for evacuation of EPZ hospitals and nursing or adult homes with relocation to similar special facilities outside the 10-mile EPZ was not an objective of the exercise. Since hospitals and other special facilities have no assigned role to support the overall emergency response effort, FEMA does not, as a matter of policy, evaluate their evacuation plans as part of the REP program. The adequacy of these sub-level plans and their capability for implementation are reviewed by state agencies that are directly responsible for the certification and/or licensing of those facilities. FEMA Region II does not as a matter of practice require hospitals to participate in REP exercises, except as responders to medical drills as required by NUREG-0654, II, element N.2.C. This is consistent with FEMA's practice in other regions throughout the country.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.E

ISSUE: Procedures for the sheltering of school children were not evaluated during the exercise.

ANSWER: In 1984, FEMA testified before the ASLB that school officials would be expected to take protective actions for students under their supervision similar to those recommended for the general population. Assisting and supervising school children is part of the schools' normal function, although specific actions differ with the type of emergency.

The Board agreed with FEMA's position and stated:

The Board finds that LILCO need not obtain written agreements with schools, and that the written emergency plans required by New York State are adequate to provide reasonable assurance that adequate protective measures can and will be implemented in the event of an emergency at the Shoreham plant.

For the reasons stated above, the demonstration of procedures for the sheltering of children at school was not an objective of the exercise. FEMA, Region II did not as a matter of policy, evaluate school emergency plans as part of the REP program. Adequate school emergency plans are required by the State Board of Education as part of the school certification process.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.F

ISSUE: FEMA did not observe any demonstration of the organizational ability necessary to effect an early dismissal of schools within the 10-mile EPZ nor was the implementation of early dismissal procedures observed during the exercise.

ANSWER: As stated in FEMA's PEA Report (see p. 38), a demonstration of the organizational ability necessary to effect an early dismissal of schools within the 10-mile EPZ (objective EOC 18) could not be observed at the LERO EOC. This was because officials of both public and private schools were simulated to have been contacted by the responsible LERO school coordinators from their homes prior to coming to the EOC. In these contacts the officials were advised not to open their schools due to the emergency situation.

The approach used during the exercise is consistent with one of the provisions of the LILCO Transition Plan. Appendix A provides as follows for early dismissal or non-opening of schools in the event of a radiological emergency at the Shoreham Nuclear Power Station :

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.F (continued)

If school is not in session and an Alert or higher emergency classification is declared, school officials will be advised to cancel classes for all schools in the EPZ until the emergency is terminated.

FEMA's evaluations in the PEA report (see pages 43 and 66) regarding observation of the procedures to implement an early dismissal or an orderly evacuation of schools (objectives FIELD 15 and 16), were based on interviews with school officials and bus company personnel responsible for the Shoreham-Wading River School District and actual observation of one school route completed for the Ridge Elementary School (Longview School District) using LERO resources. As noted in the PEA report only the Shoreham-Wading River School District participated in the February 13, 1986 exercise. Prior to the exercise, LILCO management made the decision that other school districts were not to be included in the exercise. FEMA recommended that in the future all schools must be included in all Federally evaluated exercises and drills.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.F (continued)

Based on interviews with Shoreham-Wading River personnel and actual observation of LERO resources dispatched to the Ridge elementary school. The PEA Report states the following:

- o Shoreham-Wading High School - seventeen buses were dispatched (simulated) for transportation of students back to their homes. The dismissal actions were implemented by the Superintendent of the school district. The bus company, which is under contract to the school district and available at any time, was notified and dispatched two buses to the high school. Drivers were given detailed maps of routes to follow and instructions to report back to the bus depot upon completion of their routes (see PEA, p. 43).

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.F (continued)

- o Ridge Elementary School - since schools would already have been closed, an actual demonstration of the organizational ability necessary to effect an orderly evacuation of schools within the 10-mile EPZ could not be observed at the LERO EOC (EOC 20). This exercise objective was met as demonstrated in response to a free play message inserted to demonstrate this activity. A free play message requesting school bus resources to assist in transporting forty children from Ridge Elementary School was given to the Evacuation Coordinator by the Exercise Controller at the LERO EOC at approximately 1030. In a 1041 message the pertinent information was communicated to the Special Population Bus Dispatcher at the Patchogue Staging Area, requesting that a bus be picked up at the United Bus Company. Coordination was effected with the Superintendent of the Longwood Central School District, in which Ridge Elementary School is located, to confirm arrival of the bus. Arrival was confirmed at about 1323 but it was noted that the bus had not yet arrived at the Reception Center. The Reception Center was contacted and requested to inform the Public School Coordinator at the LERO EOC when the bus arrived.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.F (continued)

The Bus Dispatcher at the staging area arranged for one bus to simulate the evacuation of forty children to the Reception Center, based on a LERO EOC request. The driver was familiar with his function and followed his directions very well. The objective of demonstrating a sample of resources necessary to effect an orderly evacuation of schools within the 10-mile EPZ was partly met at the Patchogue Staging Area (FIELD 16) (See PEA, p. 66). This was because the staging area took forty minutes to dispatch the driver. FEMA recommended that the Bus Dispatcher be provided with trained staff support so that Bus Drivers can be dispatched in a more timely manner.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.G

ISSUE: Procedures for the evacuation of schools were not evaluated by FEMA during the exercise. The issues identified in the subsumed and not separately admitted subparts of this contention are as follows:

- 16.F Only a limited number of Shoreham-Wading River School District personnel participated in the exercise;
- 26 Other school districts both inside and outside the 10-mile EPZ did not participate in the exercise;
- 30. LILCO was unable to provide supplemental transportation needs for a school evacuation in a timely manner.
- 16.G Only two bus drivers from the Shoreham-Wading River School District participated in the exercise.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.G (continued)

ANSWER: As stated in FEMA's response to contention 15.F, since schools would have already been closed when an evacuation Protective Action Recommendation (PAR) was taken, LERO's organizational ability to effect an orderly evacuation of schools could not be observed at the EOC based on exercise events. Also, only the Shoreham-Wading River School District participated in the February 13, 1986 exercise and FEMA recommended that in the future all schools must be included in all Federally evacuated exercises and drills. FEMA Region II did not, as a matter of policy, evaluate school (i.e., sub-level) emergency plans as part of the REP program. Nevertheless, school participation is recommended so that FEMA can evaluate LERO's coordination of PAR implementation with the responsible school officials.

As stated in response to CONTENTION EX 15.F, FEMA's evaluation of the ability to demonstrate a sample of resources necessary to effect an orderly evacuation of schools (FIELD 16), was based on LERO's response to a free play message. When the general population evacuation PAR was issued, this free play message was inserted which required LERO resources to assist in the evacuation of a school.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.I

ISSUE: Procedures for determining, issuing and implementing Protective Action Recommendations in the ingestion pathway were not evaluated during the exercise. The issues identified in the subsumed and not separately admitted subparts of this contention are as follows:

16.A Connecticut did not participate in the exercise;

37 LERO failed to implement ingestion pathway protective actions as follows:

37.A No recommendations were made beyond 10-miles;

37.B No recommendations were made for animals other than dairy animals;

37.C No recommendations were made fruits, vegetables, drinking water, etc.; and

37.D The Ground Deposition Calculation Worksheet was not completed.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.I (continued)

ANSWER: As stated in FEMA's response above, the testing of all major planning and preparedness elements incorporated in the 35 exercise objectives is not required in every full scale exercise. FEMA's policy permits that all exercise objectives be demonstrated within the six-year cycle. It should be noted that when NRC requested FEMA to schedule an exercise they suggested that FEMA emphasize evaluation of the functional areas of emergency preparedness related to the demonstration of response capabilities within the plume exposure (10-mile) Emergency Planning Zone. Consequently, FEMA and LILCO agreed that ingestion pathway objectives would not be a part of this exercise. This is entirely in accord with past FEMA practice. As of this date, the State of New York has not participated in a full-scale exercise of ingestion exposure pathway for any of the three operating sites located within its borders. The scenario which was developed by LILCO, and approved by FEMA, was one which did not require the implementation of ingestion pathway PAR's. If ingestion pathway objectives had been selected as part of the exercise development, an entirely different scenario would have been necessary.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.I (continued)

In the scenario used, the release pathway selected was an indirect path to the environment whereby the released radioactivity passed through both HEPA filters and a charcoal adsorber bed. These effluent treatment systems essentially eliminated any particulate radioactivity and adsorbed essentially all of the depositing chemical forms of radioiodine. It is these species which enter into the ingestion pathway to any appreciable extent.

Considering that there were no ingestion pathway objectives and that the scenario was developed and approved on that basis, the participation by the State of Connecticut which was limited to communications was reasonable and appropriate.

The LERO participants did not, so far as FEMA ascertained, extend PAR's beyond the 10-mile EPZ. Nor did LERO recommend PA's for animals other than dairy cattle (either within or beyond the 10-mile EPZ), recommend PA's for water or other foods, or complete the "Ground Deposition Calculation Worksheet for Particulate Radionuclide Releases".

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.K.

ISSUE: Procedures for monitoring and decontamination of special facility evacuees were not evaluated during the exercise.

ANSWER: The demonstration of procedures for monitoring and decontamination of special facility evacuees was not an objective of this exercise. The process of monitoring and decontamination, if needed, is the same regardless of the location of the monitoring site. As stated in the RAC review of the IJLCO plan, the location of the reception centers for many of the special facilities has not been designated in the plan.

It has been a standard operating procedure of FEMA Region II, negotiated with and agreed to by the State and affected counties, not to activate all facilities (this applies to reception centers as well) identified in the plan during an exercise. Instead, FEMA has evaluated a sample of facilities at each exercise, on a rotating basis, to assure that all facilities identified in the plan (including reception centers) are evaluated within a six-year period. The process used during the Shoreham exercise is consistent with the one that FEMA Region II has been using in all full scale exercises held up to this date. As stated in Section 1.7.3 of the exercise report, the only reception center evaluated during the exercise was the Nassau County Coliseum.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 15.M.

ISSUE: Procedures for, and activities related to, the implementation of recovery and reentry were not evaluated during the exercise.

ANSWER: As stated above, recovery and reentry activities were not objectives of this exercise. The FEMA evaluation of preparedness around nuclear power sites involves the evaluation of the 35 standard FEMA objectives over a six year cycle. There is no requirement that all 35 objectives be evaluated in any one exercise. Per NRC suggestion, FEMA emphasized evaluation of the functional areas of emergency preparedness related to the demonstration of response capabilities within the plume exposure (10 mile) Emergency Planning Zone. Further, the Environmental Protection Agency guidance on recovery and reentry activities is in draft form and has not been adopted for implementation. The omission of recovery and reentry objectives is consistent with other FEMA full-scale exercises in Region II.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 16.E.

ISSUE: The participation of Marketing Evaluations, Inc. was not evaluated during the exercise.

ANSWER: LILCO made the decision prior to the exercise not to activate the prompt notification system (sirens were not to be sounded) at any time during the exercise. According to the plan, one of the two functions assigned to Marketing Evaluations, Inc. is to conduct a survey of residents to establish if a particular siren or sirens failed to sound when activated. Since there was to be no siren activation, there was no reason to evaluate the performance of Marketing Evaluations, Inc.

In addition, Marketing Evaluations, Inc. is assigned the responsibility of making random telephone calls to assess the progress of any evacuation that has been recommended. Since the public did not actually evacuate during the exercise, the evaluation of this activity was also inappropriate.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 16.K.

ISSUE: Some bus companies listed in the Plan did not participate in the exercise.

ANSWER: FEMA does not require that all transportation resource suppliers listed in the plan be involved in any one Federally evaluated exercise. As stated in NUREG-0654, II, N.1.a, an exercise is an event that tests the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations. It has been a standard operating procedure of FEMA Region II to evaluate a sample of bus companies listed in the plan at any full-scale exercise. However, subsequent exercises should test a sample of the remaining bus companies in an effort to evaluate all resources identified in the plan within a six-year cycle.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 16.K (continued)

In order to evaluate LERO's integrated capability to provide bus resources in the event of an emergency, FEMA independently selected a representative number of bus routes to be run on the day of the exercise. Eight of forty-three transit dependent general population bus routes were selected for demonstration. Bus drivers to drive those routes were picked at random by a FEMA evaluator from the large number of bus drivers at each of the Staging Areas. The routes to be demonstrated were selected on the basis of two key criteria; (a) the assumption, based on FEMA's review and analysis of the scenario that at least emergency planning zones A - J would be affected by an evacuation recommendation, and (b) demonstration of the routes would require the activation of four of the eleven Transfer Points listed in the plan. (4)

4 It should be noted that zones A - J involve twenty bus routes that would require activation of up to four Transfer Points (see OPIP 3.6.4, attachment 5, Rev. 5)

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 16.K (continued)

Bus route free-play messages were inserted at the Transfer Points. It is important to note, that the free play message concept used by FEMA Region II was reviewed and endorsed by GAO in their Report to the Congress entitled "Further Actions Needed to Improve Emergency Preparedness Around Nuclear Power Plants" dated August 1, 1984. On page 31 of that report, under "Exercises Are Not Unannounced" the GAO stated:

The federal emergency preparedness criteria states that some exercises should be unannounced; however, this has not occurred because of difficulties in obtaining participation from the responsible states, local governments, and volunteer groups. Because state and local governments prepare scenarios, some federal exercise observers have questioned the effectiveness of exercises in testing response capabilities. They object to those being tested designing the scenarios and believe that at a minimum exercises should include surprise events. Some Regional Assistance Committee members believe that FEMA's introduction of surprise events in exercises would be an acceptable substitute to unannounced exercises and would allow for a response more closely resembling that of an actual accident. The Director, FEMA Region II, agreed. He said that the region began introducing surprises in exercises more than a year ago (late 1982).

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 16.K (continued)

Surprises have been related to bus evacuation and traffic control and have helped assure that state and local governments more fully test their capability to respond to an accident.

Further, on page 40 of the report, GAO endorsed the concept of introducing free play messages at the exercises by stating:

We believe that if state and local governments are permitted to continue preparing scenarios, FEMA and NRC should be introducing surprises into exercises to ensure that state and local governments are able to respond to unprogrammed events. Surprise elements would not necessarily add more time to the exercise, as Pennsylvania suggests, because they could replace other programmed activities. Also, we do not believe surprise exercises would disrupt state and local government operations. Although the contents of exercises would be a surprise, the dates would be announced. State and local governments that are prepared for the exercise should do well and improve not only response capability but public confidence as well.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 16.K (continued)

Bus resources that are available to LERO are documented in the letters of agreement that LILCO has with various suppliers. Based on FEMA's following understanding of the plan, a representative number of bus routes was selected and LILCO agreed to insure that sufficient buses would actually be deployed to run those routes on the day of the exercise:

- o Bus availability is ascertained by the Bus Coordinator at the EOC who is responsible for calling bus companies (with which LILCO has an agreement to supply vehicles), requesting vehicles, and allocating them to the appropriate Transfer Points;
- o The bus companies will provide vehicles to LERO drivers who are responsible for picking them up at the bus company yard(s) and driving them to the Transfer Point where they have been instructed to go by the Staging Area Bus Dispatcher(s);
- o Evacuation route maps are supplied to Bus Drivers at the Transfer Points by the Transfer Point Coordinators who dispatch buses to the various routes in accordance with the bus schedule for the zone(s) to be evacuated. With the use of maps supplied to them, the Bus Drivers are responsible for driving any route that may be assigned to them.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 16.K (continued)

In addition to the eight general population bus routes that were evaluated, two other bus routes were evaluated that required the use of two additional LERO buses. One bus was dispatched to demonstrate the evacuation of curb-side pick up of non-institutionalized mobility impaired persons from the Patchogue Staging Area. Another bus was used to demonstrate the evacuation of a school (i.e., Ridge Elementary School) requesting (simulated) LERO assistance. It is FEMA's understanding that LILCO contracted with the bus companies for more than the ten bus vehicles required on the day of the exercise and that these additional vehicles were also used by LERO during the exercise although they were not evaluated by FEMA.

As noted in FEMA's PEA report (see p. 35), the Bus Coordinators began calling bus companies to determine the potential number of buses available as early as 0805, before the receipt of the utility recommendation for declaration of the Site Area Emergency ECL.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 16.L.

ISSUE: Some ambulance companies did not participate in the exercise.

ANSWER: As stated in the response to CONTENTION EX 16.K, FEMA does not require that all transportation resource suppliers listed in the plan be involved in each Federally evaluated exercise.

In order to evaluate LERO's integrated capability to provide ambulance and ambulance resources to special Health Care Facilities (i.e., Handicapped Facilities, Nursing/Adult Homes, and Hospitals), FEMA selected two of the eight Health Care Facilities identified in OPIP 3.6.5 using a free play concept, as requiring LERO transportation resources. See also FEMA's response to CONTENTION EX 16.K regarding the GAO position on introducing surprises (free play messages into exercises). These facilities were selected based on FEMA's review and analysis of the scenario that at least emergency planning zones A - J would be affected by an evacuation recommendation.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 16.L (continued)

Based on FEMA's understanding of the plan and analysis of the scenario to be used in the exercise, two free-play messages were introduced requiring the actual deployment of vehicles to each of the facilities listed as requiring these resources in the plan.⁽⁵⁾ When these free-play messages were injected, they were handled expeditiously by the LERO EOC staff. Both messages went from the Special Facilities Evacuation Coordinator to the Health Facilities Coordinator to the Ambulance Coordinator according to procedures defined in the Plan (see PEA Report, p. 36). It is FEMA's understanding that LILCO contracted with the ambulance companies for more than the two health care vehicles required for demonstration on the day of the exercise. As stated in the PEA Report (see p. 43), FEMA evaluators observed that six ambulances and six ambulettes were activated and all were dispatched to pick up mobility-impaired individuals.

5 Only two Health Care Facilities of the six listed for emergency planning zones A - J are identified as requiring LERO transportation resources in Attachment 2 of OPIP 3.6.5. These were the two facilities selected for demonstration to which one ambulance and one ambulette were to be dispatched on the day of the exercise.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 18.C.

ISSUE: Many of the organizations and personnel listed in the plan did not participate in the exercise. Furthermore, the participation of other organizations was so limited that the exercise did not demonstrate the personnel of those participating organizations are familiar with their duties.

ANSWER: FEMA's evaluation of LERO's integrated capabilities to implement the LILCO Transition Plan using non-LERO organizations and personnel have been discussed in the answers to previous contentions as follows:

- o Bus companies - see the answer to CONTENTION EX 16.K
- o Ambulance companies - see the answer to CONTENTION EX 16.L
- o U.S. Coast Guard - see answers to CONTENTIONS EX 15.B and 15.H
- o Shoreham-Wading River School District - see the answer to CONTENTIONS EX 15.F and 15.G

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 18.C (continued)

With respect to the participation of American Red Cross (ARC) representatives, FEMA observed that at least one representative of the Nassau County Chapter of the ARC participated at the EOC throughout the exercise to coordinate ARC activities with LERO. The ARC Coordinator maintained contact with the Reception Center and Nassau County ARC Chapter Headquarters in Mineola (see PEA Report, p., 32). FEMA also observed that several ARC representatives participated at the Nassau Coliseum to direct persons to Congregate Care Centers as set forth in the Plan. Regarding ARC participation at the two Congregate Care Centers activated for the exercise, the following results are documented in FEMA's PEA Report:

- o U.S. Marine Corps Brigade, Garden City, NY (see p. 82)
 - The ability to maintain 24-hour staffing was demonstrated by the ARC.
 - The Shelter Manager was aware of how to get any required assistance or support; these would be acquired through the ARC Coordinator in the LERO EOC.

CONTENTION EX 15 AND 16 (continued)

CONTENTION EX 18.C. (continued)

- o LILCO Office Building, Mineola, NY (see p. 32 and pp. 82-83)
 - There was limited participation by ARC volunteers during the exercise due to personal work-related conflicts. The capability to staff the facility on a 24-hour basis was demonstrated through the presentation of duty rosters.
 - The Shelter Manager knew to request resources and supplies through the LERO EOC (i.e., ARC Coordinator) and the Eastern Regional Office of the ARC.

With respect to specific contacts between LERO and Nassau County, FEMA understood that actual telephone contacts were to have taken place on the day of the exercise. According to LILCO's detailed timeline, the Director of Local Response first contacted Nassau County at 08:20 following notification of the Site Area Emergency ECL at 08:19. ⁽⁶⁾ Following the decision to activate the Reception Center subsequent to notification of the General Emergency ECL at 09:39, the Nassau County Police Department was notified by the Decontamination Coordinator at 09:50 that the Reception Center had been activated. This is in keeping with OPIP 3.1.1, Section C.8 of the Plan.

6 FEMA notes that OPIP 3.1.1, Section D.3 indicates that the Director of Local Response will brief organizations, including Nassau County, on the status of LERO emergency response operations as appropriate.

ATTACHMENT D

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))	

DIRECT TESTIMONY OF SHELDON SCHWARTZ
AND BERNARD H. WEISS OF THE NRC STAFF
ON CONTENTIONS EX 15 AND EX 16

June 5, 1987

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
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DIRECT TESTIMONY OF SHELDON SCHWARTZ
AND BERNARD H. WEISS OF THE NRC STAFF
ON CONTENTIONS EX 15 AND EX 16

Q. Would you please state your name, business address, and position?

A. My name is Sheldon Schwartz. Since April 12, 1987, I have held the position of Deputy Director, State, Local and Indian Tribe Programs, Office of Governmental and Public Affairs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

My name is Bernard H. Weiss. I am the Federal Response Coordinator in the Incident Response Branch, Division of Engineering Response, Office of Analysis and Evaluation of Operational Data, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. I have been employed in this position since March 1982.

Q. Do you sponsor this testimony jointly?

A. Unless otherwise noted herein, we sponsor the following testimony jointly.

Q. Would you please give a brief summary of your educational and professional background?

A. (Schwaftz) I received a Bachelor's Degree in Mechanical Engineering in 1960 from Widener University in Chester, Pennsylvania. I have taken various courses in engineering and management at Drexel Institute of Technology in Philadelphia and Sacramento State College in California. Additionally, I have taken technical courses on boiling water reactors and pressurized water reactors at the NRC Training Center in Chattanooga, Tennessee.

I joined the Commission Staff in 1972 and have since held various assignments in technical and management positions. From 1983 to April 1987 I was Deputy Director, Division of Emergency Preparedness and Engineering Response. From 1980 to 1982, I was Deputy Director, Division of Emergency Preparedness and in 1980 I was detailed to the Federal Emergency Management Agency. From 1972 to 1979, I held various positions in the NRC (AEC) cooperative programs with State and local governments.

Prior to joining the Commission Staff, I worked in the California Legislature as a Senior Consultant and in the private sector as a designer, project manager and senior engineer on various aerospace and nuclear technical projects.

(Weiss) I received a Bachelor's Degree in Chemical Engineering in 1958 from City College of New York, and in 1962 a Master's Degree in Public Health, with a concentration in Environmental Health from

the University of Michigan. I have more than 25 years of experience working on public health issues involving radiation safety, with nearly 20 years of that experience at the NRC and its predecessor, the AEC.

Q. What have your responsibilities been at the Nuclear Regulatory Commission relating to offsite emergency planning?

A. (Schwartz) In 1980, I was detailed to the Federal Emergency Management Agency, along with some other NRC employees to develop the FEMA Radiological Emergency Preparedness program. This effort involved a number of activities relating to rulemaking, technical analysis of the current posture of State and local governments to respond to an emergency at a nuclear power plant, development of initial guidance to the FEMA regions, and projects designed to upgrade offsite radiological emergency preparedness.

As Deputy Director of two divisions at NRC, my principal involvement in offsite planning was as a member of the NRC/FEMA Steering Committee. Since FEMA has the responsibility for offsite preparedness and NRC has the responsibility and licensing authority for nuclear power plants, NRC and FEMA coordinate various policy, technical and administrative matters through this committee.

(Weiss) As the NRC Federal Response Coordinator, I am the primary coordinator of all Federal response to emergencies involving licensed facilities. I develop and maintain emergency operating procedures for coordination between NRC headquarters and regional

offices and other agencies involved in a offsite emergency planning and response; plan and develop the National Emergency Preparedness program; and perform various emergency response duties at the NRC Operations Center such as assuring that Federal agencies, the news media, and the Congress understand the course of any accident, and insuring that appropriate Federal agencies are notified of significant accidents and have sufficient information to perform their duties in responding to such accidents. In that position, I have been responsible for doing some of the scenario planning and control for many tests of the NRC incident response program. Additionally, in this position I have been Chairman of the Scenario Development, Control and Evaluation Work Group for both the 1984 and 1987 Federal Field Exercises which involved the largest participation of Federal responders in a nuclear power plant exercise.

From 1979 to 1982, I was Chief of the NRC Incident Response Branch. In this position, among other things, I developed guidance for NRC regional offices on procedures to be used in emergencies; planned, monitored and evaluated exercises of emergency response plans for NRC licensed facilities; developed agreements with organizations supporting NRC emergency responses; and assured the operational readiness of the NRC Operations Center.

From 1977 to 1979, I was an NRC Senior Technical Operations Specialist, responsible for developing, exercising and coordinating the NRC incident response program. I also participated in the

development and implementation of emergency response agreements between NRC and other Federal as well as State agencies.

Q. Did you participate in any way at the February 13, 1986 exercise of the LERO plan for the Shoreham facility?

A. (Weiss) I participated as the controller in charge of the FEMA Control Cell. This control cell was responsible for simulating a number of State and county officials who would not have been expected to be sent to the LILCO EOF or the LILCO EOC. Their inquiries and requests for information were simulated by use of commercial telephone. All the comments and exercise materials developed by these simulators were given to the FEMA evaluators immediately after the exercise. I never reviewed the material nor was I provided with a copy of the simulator comments.

(Schwartz) During the February 13, 1986 exercise, I did not participate in any manner in that exercise. After the exercise, I had only informal conversations with a few of the NRC participants.

Q. Has the NRC established specific criteria or guidance for determining whether the exercise of an offsite response plan constitutes a "full participation" exercise?

A. There are no criteria or guidance published by the Nuclear Regulatory Commission with respect to the scope and depth of a "full participation" exercise. FEMA has published guidance which includes a number of elements which need to be exercised periodically but not at each exercise. Each exercise scenario is reviewed by a Regional Assistance Committee to assure that the exercise objectives are met

and will cover appropriate FEMA guidance objectives to constitute a "full participation" exercise, if such an exercise is required.

Q. How does what constitutes a "full participation" exercise depend on the emergency response plan that is being evaluated?

A. While all offsite plans are required to meet the 16 planning standards in the regulations in order to gain FEMA approval, each plan is different because of unique State and local governmental infrastructures. Therefore, it is our view that a determination as to whether an exercise is "full participation" is dependent on the particular details in the plan that is being evaluated.

Q. Is there a relationship between the number of objectives identified in FEMA Guidance Memorandum 17, Rev. 1, which are to be evaluated, or which are actually evaluated, and whether an exercise is a "full participation" exercise?

A. Not directly. The number of FEMA objectives exercised is not the determining factor as to whether an exercise is "full participation." The FEMA guidance and NRC regulations require that the exercise test the integrated capability to assess adequately and respond to an accident at a nuclear power plant. See 10 CFR Part 50, App. E, IV., F., fn.4. Since each plant is unique, the specific number of FEMA objectives exercised in a "full participation" exercise will vary.

~~Q. What is the significance of the lack of Suffolk County and New York State participation in offsite emergency planning for the Shoreham facility with respect to what you consider to be a "full participation" exercise of the Shoreham offsite emergency response plan?~~

~~A. The plan exercised includes compensating features for the lack of State and County participation. Consequently, the exercise was designed to test these compensating features and the lack of Suffolk County and New York State participation is not relevant to the determination of whether this was a "full participation" exercise; however, because the exercised plan provides for accommodating State and local authorities in an actual emergency, these features were exercised by simulating the participation of State and local officials.~~

Q. Is it your opinion that the exercise conducted on February 13, 1986 at the Shoreham facility was a "full participation" exercise?

A. The February 13, 1986, exercise attempted to test the integrated capability of the LERO plan to adequately assess and respond to an accident at the Shoreham facility. This exercise was designed to test the major observable portions of the LERO plans and the mobilization of those resources which were designed to compensate for the non-participation of State and local authorities, plus accommodating State and local officials should they respond to an emergency. We believe that this was a "full participation" exercise.

ATTACHMENT E

ewalsh 1 speak more closely into the microphone.

2 BY MR. LANPHER: (Continuing)

3 Q Do you know whether the adequacy of a public
4 information brochure for Shoreham was evaluated by FEMA in
5 the Shoreham exercise?

6 A No, sir I do not.

7 Q You don't know whether --

8 A I do not have personal knowledge. Based on the
9 testimony that Mr. Daverio and Mr. Behr have presented, I
10 gather that it was not.

11 Q Okay. So, let's assume that you are correct,
12 that Objective 14 is the objective under which that would be
13 tested, if it were, okay?

14 A Okay.

15 Q Then, it's fair to say at least that portion of
16 Objective 14 was not tested at Shoreham, correct?

17 A Yes, sir.

18 Q Okay. Just so it's clear, Mr. Hockert, then
19 it's your understanding that the 35 standard objectives
20 cover all the possible observable elements of an emergency
21 plan?

22 A They cover all of those that FEMA felt important
23 enough to provide guidance to its regions.

24 Q That doesn't answer my question precisely. Is
25 it your understanding that the 35 PR-1 standard objectives

ewalsh 1 he said that he was capable of doing it.

2 MR. ZEUGIN: He said he was capable of answering
3 somethings must be exercised. He did not say --

4 JUDGE FRYE: Let's ask the witness so we
5 understand your position clearly.

6 WITNESS HOCKERT: I do not feel that I can draw
7 a legal judgment. I can draw some ideas out of my analysis
8 as to what would appear to be a reasonable basis for a set
9 of objectives that must be exercised every time, or a total
10 amount -- I should actually say a total amount of this
11 importance, weighting that should go into a full
12 participation exercise.

13 JUDGE FRYE: In order for an exercise, in your
14 opinion, to qualify as a full participation exercise.

15 WITNESS HOCKERT: Yes, sir.

16 JUDGE FRYE: Now, then I guess the question is:
17 Should the ingestion pathway --

18 MR. LANPHER: This is only an example.

19 JUDGE FRYE: An example. Should that be
20 included in order for you to draw the conclusion that a full
21 participation exercise had taken place?

22 WITNESS HOCKERT: My judgment in that, as
23 expressed in one of the answers also in the testimony here,
24 is that there is probably no single objective that is an
25 absolute must.

ewalsh 1

JUDGE FRYE: I see.

2

BY MR. LANPHER: (Continuing)

3

4

Q Well, is it your testimony then -- are you through, Judge?

5

JUDGE FRYE: Yes, go ahead.

6

BY MR. LANPHER: (Continuing)

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Q Is it your testimony, Mr. Hockert, that you could have an exercise in which no communications capabilities whatsoever were demonstrated. In other words, Objective 5 was not -- I am referring to Page 28, Objective 5 of PR-1, the ability to communicate with all appropriate locations, organizations and field personnel, no telephone calls were done, not even simulated, you don't have any communication whatsoever, it is still a full participation exercise. Is that your testimony?

16

17

18

19

A (Witness Hockert) I would imagine that would could hypothetically do that. I doubt that it would be possible to demonstrate many of the other objectives without communication, however.

20

21

22

Q But it is your -- is it your testimony that in theory you could eliminate that objective, and still have a full participation exercise?

23

A In theory.

24

JUDGE FRYE: But not as a practical matter.

25

WITNESS HOCKERT: Not as a practical matter, no,

ewalsh 1 sir.

2 BY MR. LANPHER: (Continuing)

3 Q And this all goes back to your weighting system,
4 is that correct?

5 A Yes, sir.

6 JUDGE PARIS: When you say, 'in theory,' what do
7 you mean?

8 WITNESS HOCKERT: Well, it goes back again to
9 the idea that these objectives realistically are not
10 exercised in isolation.

11 They come together in scenarios, and therefore,
12 there are certain linkages that are in existence. For
13 instance, it is hard to believe that without communications,
14 Objective 5, you would have a situation in which you could
15 coordinate activities, Objective 3.

16 JUDGE PARIS: I agree.

17 MR. LANPHER: Judge Paris, can I follow up on
18 that?

19 JUDGE PARIS: Sure. Go ahead.

20 BY MR. LANPHER: (Continuing)

21 Q Let's not take this hypothetical to the absurd,
22 Mr. Hockert. You certainly could have communications in an
23 exercise and still not have that something that is an
24 objective of the exercise. People telephoning, and that
25 kind of thing.

ewalsh 1 Q Answer my question please. If you can't answer
2 my question, just say so.

3 A I can't answer your question, then.

4 Q What is the difficulty you are having, sir?

5 A The difficulty that I am having is that there
6 seems to be a paradigm on your part that there are certain
7 objectives which get the title, 'major observable portion'
8 attached beside them.

9 Q Well --

10 A And the view that I have, based on the analysis
11 in the Report, is that one can take a set of objectives, sum
12 up the importance of them, find out how much of the total
13 importance of all the off-site preparedness objectives they
14 subsume, and thereby based upon that sum, say a major
15 observable portion of the emergency preparedness was
16 exercised.

17 Q You said, 'a major portion,' correct?

18 A Yes.

19 Q But doesn't the regulation -- do you have a copy
20 of Appendix E there, sir?

21 A I think I have one.

22 (Witness Hockert obtains document.)

23 Q I direct your attention to Part 4.F, if you have
24 it. Do you have that, Mr. Hockert?

25 A Yes, sir.

swalsh 1 Q It is an interpretation of what Appendix E
2 means?

3 A I can't give a legal interpretation on Appendix
4 E.

5 Q So this is your separate definition of what a
6 full participation exercise means, is that correct?

7 A This is my judgment of what a reasonable
8 definition for a full participation exercise would be, and
9 in that sense it is a separate definition.

10 Q So, your use of full participation exercise here
11 does not relate to Appendix E?

12 A Certainly it relates to Appendix E.

13 Q Okay. Let's get back to it. You can't have it
14 both ways, Mr. Hockert. You say you don't need all of the
15 very important in every full participation exercise.

16 A That is my judgment, yes, sir.

17 Q Okay. Then, do you draw the judgment that
18 ingestion pathway testing is not a major observable portion
19 of the emergency plan?

20 A No, sir.

21 Q Do you draw any judgment on that?

22 A The judgment that I draw in this area is best I
23 think expressed by my answer to Question 33, and that is
24 that one cannot take these individual objectives and put
25 major observable portion on one piece; and not major

ewalsh 1 observable portion on another piece.

2 That that the exercise has to be looked at in
3 toto, and determine whether or not the major observable
4 portions of the plan are exercised.

5 Q So, this Board has to make a decision whether
6 the major observable portions were exercised, correct?

7 A That is correct.

8 Q Can you help us decide whether ingestion pathway
9 testing is a major observable portion?

10 A Not in isolation from the rest of the exercise.

11 Q But doesn't the Hockert report at least
12 implicitly support the view that ingestion pathway testing
13 is very important?

14 A It is very important, and it should be done most
15 frequently, but it does not necessarily support the view
16 that its omission constitutes a failure to test the major
17 observable portion.

18 JUDGE SHON: Mr. Lanpher, it seems to me that we
19 are hanging up here on something that looks fairly clear. I
20 think Dr. Hockert is telling us that he thinks he has
21 developed a group of weighting factors such that if you add
22 up all the weighting factors of the objectives that were
23 tested, you can tell whether the exercise as a whole tested
24 the major observable portions of the Plan. Is that correct?

25 WITNESS HOCKERT: Exactly, sir.

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JUDGE SHON: But he can't tell you about any one objective, because there is none of them, not any one of them, that sums up to a major observable portion of the Plan.

Is this not correct?

WITNESS HOCKERT: Exactly, sir.

JUDGE SHON: And there just is no answer to your question, is Number 15 a major observable portion. The only thing that is a major observable portion is a sum of weighting factors that exceeds a given amount, is that right.

WITNESS HOCKERT: Precisely.

BY MR. LANPHER: (Continuing)

Q Well, Mr. Hockert, I thought you testified earlier that the objectives represent the observable portions?

A Yes, sir.

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2 somewhat reluctant to split hairs in terms of partial credit
3 unless there is a need to, and even when you get to the
4 stage where it's a borderline case where you need to, you're
5 probably best to really look back in the details of what
6 went on and think perhaps a little bit more deeply, but
7 certainly it could be addressed in a follow-up report.

8 Q That's not something that you've been able to do
9 yourself for Shoreham?

10 A No. For Shoreham, in my judgement, there was no
11 need to.

12 Q Well, Mr. Hockert, you testified before that you
13 had not reviewed the Shoreham exercise documents; isn't
14 that correct?

15 A That is correct.

16 Q And you haven't reviewed the Shoreham emergency
17 plan?

18 A That is correct.

19 Q So how do you know that there was no need to?

20 A All right, may I explain what I did do to get
21 this testimony?

22 Q I would like you to answer my question.

23 A Okay. I did a sensitivity analysis to get the
24 testimony. I started out and I took what Mr. Behr and Mr.
25 Daverio indicated were the objectives that were fully
tested. I analyzed those, summed up the weights for those,

arysimons 1 and came to the conclusion that over the whole universe of
2 weights that about 87 percent of the total importance of
3 objectives had been tested. This, in my judgment, was
4 major.

5 However, I recognized that there were
6 contentions as to what was or was not tested. So I went
7 through and looked at the intervenor's contentions, assuming
8 that they had been diligent in identifying those which were
9 either not tested in toto or not tested in part. I assumed
10 conservatively that they were not tested at all and removed
11 those weights from the overall analysis and came to the
12 conclusion that approximately 79 percent of the total
13 importance weighting was tested under those circumstances.
14 My judgment in that case was that it was also full
15 participation.

16 Q Do you have a copy of that sensitivity analysis?

17 A I have some notes in my briefcase, but it's
18 certainly something that anybody can do adding up the
19 numbers.

20 Q Well, you performed this analysis. Is it an
21 analysis? Is it a piece of paper or several sheets of paper
22 or what?

23 A It's several sheets of paper that I did in the
24 motel room in the last couple of nights.

25 MR. LANPHER: I would like to see a copy of this

marysimons 1 and my understanding of how FEMA does business in drawing
2 its findings, which then is an input into NRC's
3 determination of continued operation of a reactor or
4 operation of an initial reactor.

5 Q This is not based on personal knowledge though
6 in terms of talking with FEMA people. Why did you put this
7 paragraph in?

8 A No, it's again my opinion that that's what they
9 meant by doing it based on my expertise in emergency
10 planning.

11 Q Well what expertise in emergency planning allows
12 you to draw that conclusion? Is it just your general
13 expertise or something specific?

14 A Just my general expertise of having been
15 involved in emergency planning since 1980. I've lived
16 through most of this process and seen exercises over the
17 years and have talked to many other people about exercises
18 and how FEMA does their business and draws findings and how
19 NRC issues 120-day letters or they get a finding that's
20 good and they issue the license. I mean those are all
21 historical facts that occur.

22 Q It says here that the major elements of plans
23 and preparedness are incorporated in those 35 standard
24 objectives, right?

25 A You've read that correctly, yes.

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Q Do you agree with that, that statement that I just read to you?

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A I have no reason to dispute that FEMA wrote that, and I have no problem that the major elements of plans and procedures are incorporated.

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Q And isn't it true that that under FEMA's guidance they plan to test all of the 35 objectives for any particular plant over a six-year cycle? Isn't that their sort of rule as you understand it?

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A As they applied to that site. There may be a site like we talked earlier where an EOC doesn't have to have a backup EOC because it's not located there, but as they apply that's my understanding.

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Q Unless there is some special reason that an objective doesn't apply, FEMA interprets its objectives as requiring that they all be tested, maybe not in one exercise, but over a period of six years, correct?

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Isn't that in fact what this says?

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Q Doesn't that indicate to you that FEMA considers those 35 objectives to constitute the major elements of the plans?

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A I think I stated that already, that I agreed with FEMA's statement.

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Q Now looking at page 3 of that guidance

marysimons 1 memorandum, gentlemen, I guess, Mr. Behr, you were the one
2 that drew our attention to paragraphs 4 and 5. Isn't it
3 true that each of those paragraphs expressly references
4 full participation under 44 CFR 350?

5 A (Witness Behr) Yes, that's true.

6 Q So how does this constitute guidance or
7 interpretation of what is required under Appendix E to Part
8 50?

9 I would like to have Mr. Behr answer this
10 question if he can. If you can't, say so, and then
11 certainly consult with Mr. Daverio.

12 A Well, I go back to the background paragraph on
13 the first page, or actually the second page of the
14 attachment that says that "The purpose of the memo is to
15 add clarification. With the publication of the final FEMA
16 rule and the Nuclear Regulatory Commission, NRC final
17 regulation, 10 CFR 50 on July 6th, 1984 it has become
18 necessary to clarify some of the requirements."

19 Q But paragraph 4 and paragraph 5 on page 3 are
20 very express in their reference to 44 CFR, the FEMA rule
21 and not any NRC rule; isn't that correct?

22 A That's what the paragraphs say, yes.

23 Q You have no reason to disagree with them, do
24 you?

25 A No, I don't.

1 "portions."

2 BY MR. LANPHER: (Continuing)

3 Q What distinction do you draw between the words
4 "portions" and "elements?"

5 A Portions, in my mind, relate more to
6 organization and maybe combining elements to make a portion
7 of the plan. I would have a hard time reading the elements
8 as outlined in the guidance memorandum as being considered
9 portions of a plan.

10 Q So, when references are made to elements of a
11 plan in any kind of document, that "guidance" -- and I put
12 that in quotes -- relating to elements does not relate to
13 Appendix E to Part 50 in your opinion?

14 A No. I don't think I said that. I said it's not
15 directly linked.

16 Q Okay.

17 A I don't draw the link between an element and a
18 portion.

19 Q When a guidance memorandum relates to elements
20 of a plan or an exercise of certain elements of an emergency
21 plan, do you consider that to be guidance related to
22 Appendix E even though Appendix E does not use the word
23 "elements?"

24 A Yes. If you will let me explain, I think the
25 way I -- in my opinion, the way FEMA does it is that the

1 elements are combined to make up the major portions that
2 they think needs to be observed to meet Appendix E. They
3 pick and choose from the objectives to design an exercise
4 that, in their mind, is in compliance with what they have to
5 do, that being draw a finding on the health and safety of
6 the public, FEMA.

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1 Q Have you had any conversations with anyone from
2 FEMA relating to this distinction between elements and
3 portions?

4 A (Witness Daverio) Only to the extent that in my
5 experience I've seen exercises where they pick and choose
6 from the guidance memorandum elements to make up the
7 exercise, but I have not directly asked them the question
8 that you've posed to me.

9 Q Well, looking at PR-1 on that same page, which
10 is page 3 of Attachment E, page 2 of PR-1 under paragraph
11 No. 2, the second line, well, the first two lines say
12 "Scenarios for a periodic exercise should sufficiently
13 varied so that all the major elements of the plans and
14 preparedness of offsite organizations are tested within a
15 six-year period." Do you see that statement?

16 A Yes, I do, and that's how I draw the conclusion
17 that there is a difference between elements and portions.
18 They are saying there that you could do them over a six-year
19 period.

20 Q So you can do the elements over a six-year
21 period, but can you do the portions over a six-year period?

22 A As I read Appendix E, NRC must make a
23 determination that in combining those elements that a major
24 observable portion of the plan has been exercised, and then
25 they make the decision.

1 portions. Did you mean to say elements versus portions,
2 because I think Mr. Daverio has explained the difference in
3 his own view between those two terms.

4 MR. LANPHER: Let me rephrase the question so we
5 are absolutely clear and come at it a slightly different
6 way.

7 BY MR. LANPHER:

8 Q I want you to assume that there are portions,
9 major portions of the plan that it's reasonably achievable
10 to exercise them without mandatory public participation.
11 And you've got a plant such as Shoreham that has never gone
12 above five percent power. Do all such portions of the plan
13 need to be exercised as part of that initial full-
14 participation exercise or, on the other hand, is it
15 acceptable to do some of those portions in that first
16 exercise and others over a six-year period?

17 A (Witness Daverio) I believe you used the word
18 "portions." As long as you draw the distinction between
19 portion and elements, as I have, and you take my definition
20 of reasonably achievable, which means political problems
21 could make it unreasonable, FEMA deciding not to do an
22 exercise objective could make it unreasonable for whatever,
23 budget constraints or whatever reason they decide, then I
24 would agree with you that all major portions have to be
25 exercised before exceeding five percent power.

1 Q Well, then you're disagreeing with PR-1, are you
2 not, which says that you can do major portions over a six-
3 year period; is that correct?

4 A I thought they used the word "elements."

5 Q Okay, they use the word "elements," and you're
6 making a distinction. So all major portions have to be done
7 if it's reasonably achievable, and I hear you definition,
8 and we'll get back to that definition, sir ---

9 A I figured we would.

10 Q But they have to be done in an initial full-
11 participation exercise, correct?

12 A Given all my caveats; that's correct.

13 MR. LANPHER: Just one moment, Judge Frye.

14 (Pause.)

15 BY MR. LANPHER:

16 Q Mr. Daverio, I would like you to look at page 9
17 of your testimony. I guess I'm confused because you've
18 drawn a distinction between elements and portions, but in
19 your testimony on page 9, lines 4 and 5, you're talking
20 about observable elements. Now the regulations talk about
21 observable portions, right? Do you see where I am on page
22 9, lines 4 and 5?

23 A (Witness Daverio) Yes, I do.

24 Q Do you want to change that sentence, or is that
25 sentence accurate the way it's written?

1 The sentence, so the record is clear, "Thus, the
2 emergency planning scheme contemplates that, while all
3 observable elements of an emergency plan must be exercised
4 at some point, this is done over the course of several years
5 and not in every full-participation exercise."

6 A I used the word "elements" there. I think
7 that's consistent with what I've said before. I'm not using
8 the word "portions."

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1 A I agree, yes.

2 Q And isn't that at least part of the reason why
3 ingestion pathway testing was not in us that we brought to
4 meet with FEMA did include a two-day exercise which would
5 have had ingestion pathway in it, and FEMA subjectives did
6 not include ingestion pathway and wanted to do a one-day
7 exercise.

8 I think that may be the confusion. We never
9 requested to do it after that day. So I just wanted to
10 point out there is that one little inconsistency in our two
11 testimonies that you asked about last week if I ever found
12 one.

13 Q Over the weekend or at some point you went back
14 and re-r us that we brought to meet with FEMA did include a
15 two-day exercise which would have had ingestion pathway in
16 it, and FEMA subjectives did not include ingestion pathway
17 and wanted to do a one-day exercise.

18 I think that may be the confusion. We never
19 requested to do it after that day. So I just wanted to
20 point out there is that one little inconsistency in our two
21 testimonies that you asked about last week if I ever found
22 one.

23 Q Over the weekend or at some point you went back
24 and re-reviewed, so to speak, FEMA's testimony?

25 A I looked through it. The only other thing that
may be -- I'm not sure there is a difference of opinion in

1 question?

2 JUDGE FRYE: Yes, why don't you ask the question
3 again.

4 BY MR. LANPHER:

5 Q Gentlemen, is it your testimony that for an NTOL
6 plant like Shoreham it is acceptable under Appendix E to
7 Part 50 not to include testing and evaluation of ingestion
8 pathway preparedness?

9 A (Witness Daverio) Some ingestion pathway
10 testing, whether it be just a participation by the -- I
11 think it says the boarder State, if I recall correctly.

12 Q Well, why don't your refer to the regulation if
13 you need to, Mr. Daverio.

14 A Okay.

15 (Pause while the witness reviews his documents.)
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1 Q Why don't you refer to the regulation if you
2 need to, Mr. Daverio?

3 A (Witness Daverio) Okay.

4 MR. CUMMING: Judge Frye, I have extra copies of
5 that regulation I passed out yesterday which is, in fact,
6 the --

7 JUDGE FRYE: They have it.

8 MR. CUMMING: -- effective regulation.

9 WITNESS DAVERIO: The words state that "and
10 shall include participation with each state within the
11 ingestion exposure pathway EPZ."

12 BY MR. LANPHER: (Continuing)

13 Q How do you interpret the word "participation,"
14 Mr. Daverio or Mr. Behr?

15 A (Witness Daverio) In the context of the
16 Shoreham exercise, a phone call to Connecticut occurred,
17 Connecticut having four operating units. I think that was
18 enough. They have ingestion pathway concerns of their own
19 for their own units.

20 Q So, a mere telephone call to a state with
21 operating nuclear plants constitutes participation
22 sufficient to satisfy this regulation?

23 That's your testimony?

24 A I thought that this regulation was trying to go
25 to states who did not have plants, who were border states.

1 Q Does it say that anywhere in this regulation?

2 A No. It's not specifically there.

3 Q You are referring I believe to Section 4.F.1,
4 Paragraph 1, correct?

5 A That's correct.

6 JUDGE FRYE: Are you moving to a new topic, Mr.
7 Lanpher?

8 MR. LANPHER: Yes, I am.

9 JUDGE FRYE: Maybe this would be a good time for
10 our 15 minute break.

11 MR. LANPHER: Frankly, there will be a more
12 logical place. I've got another topic that isn't going to
13 take too long.

14 JUDGE FRYE: All right.

15 MR. LANPHER: And I think it will break up the
16 morning a little more evenly.

17 JUDGE FRYE: Fine.

18 MR. LANPHER: Unless you want to --

19 WITNESS DAVERIO: I have no place to go.

20 (Laughter.)

21 MR. CUMMING: Judge Frye, before we go off the
22 record --

23 JUDGE FRYE: We are not going off the record.

24 MR. CUMMING: Okay.

25 MR. LANPHER: Thank you, Judge.

1 BY MR. LANPHER: (Continuing)

2 Q Gentlemen, briefly I want to go back to Page 9.
3 We were talking about your testimony at the top of that page
4 that the emergency planning scheme contemplates that, while
5 all observable elements of an emergency plan must be
6 exercised at some point, this is done over the course of
7 several years, not in every full participation exercise.

8 I just want it to be clear that it is your
9 testimony that either the five year or six year cycle that
10 is referred to in several of the FEMA guidance documents
11 that we have spent time talking about, that five or six year
12 cycle for biennial exercises, that does not apply in an NTOL
13 situation, does it?

14 A (Witness Daverio) I thought that one paragraph
15 we pointed to before when I talked about the first joint
16 exercise, so that's in PR-1, Page -- it's Attachment, Page
17 3, Page 2 of the document. It talks about the date for
18 starting that six year compliance is the first joint
19 exercise.

20 Q But, it's your testimony, is it not, that with
21 the caveats you've made about -- we have some differences
22 about what is reasonably achievable, all the major
23 observable portions of an emergency plan for which it's
24 reasonably achievable to test without mandatory public
25 participation, they must be tested in an NTOL full

1 to give you an example.

2 Q Okay.

3 A If you look at the FEMA objectives, and you
4 could use either PR-1 or EX-3 --

5 Q You choose, Mr. Daverio.

6 A Let's -- yeah, for consistency, let's go to PR-
7 1.

8 Q Okay.

9 A They've got --

10 JUDGE PARIS: That's Appendix E?

11 WITNESS DAVERIO: It's actually Appendix F is
12 what we are talking about. And, it's the page following
13 Page 3 is the one I will be referencing.

14 If you look at the elements that are listed here
15 -- and that's FEMA's words -- I can show you -- take Example
16 8, Demonstrate appropriate equipment and procedures for
17 measurement of noble gases down to the 10 to the minus 7. I
18 don't see that as a major portion of a plan. It may be a
19 major element within a plan but not a major portion of the
20 plan.

21 So, that's the types of things I'm talking about
22 when I draw the distinction between an element and a
23 portion.

24 JUDGE PARIS: Do portions consist of one or more
25 elements?

1 A Well you used the word "participate" there,
2 because that's been used in very broad context and narrow
3 context.

4 Q WALK did nothing during the exercise, Mr.
5 Daverio.

6 A If you tie it specifically to exercise, that's
7 correct, FEMA could not evaluate what WALK did.

8 Q Thank you.

9 Now you testified earlier in response to my
10 question that -- well, to some questions, that you thought
11 it was not very important that WALK Radio was not contacted
12 during the exercise, and you refer in your testimony to FEMA-
13 REP-10, and I believe that's Attachment M to your testimony
14 or at least an excerpt from it.

15 A That's correct.

16 Q First, as a matter of clarification, REP-10
17 talks about alert and notification systems, correct?

18 A That's the title of it; that's correct.

19 Q Am I correct that when they talk about alert,
20 they are really referring to the siren portion, and when
21 they talk about notification, they are talking about the EBS
22 broadcast portion. Is that your understanding of alert and
23 notification?

24 (Witnesses conferring.)

25 A Sitting here now and quickly reading through REP-

1 MR. LANPHER: I object to the question. It calls
2 for these witnesses to speculate about FEMA policies. This
3 is again a question that ought to go to FEMA.

4 JUDGE FRYE: I agree. I think it does have to go
5 to FEMA. But, I think it would be appropriate to ask them
6 whether they think they have any basis to disagree with
7 that.

8 MR. IRWIN: Yes. That's how I was going to
9 phrase the question.

10 BY MR. IRWIN: (Continuing)

11 Q Do you gentlemen have any basis to disagree with
12 this statement which appears to be a statement of FEMA
13 policy as to the nature of observable elements?

14 (The witnesses are conferring.)

15 A (Witness Baranski) Mr. Irwin, what I would say
16 about this list of objectives is that it's not complete.

17 Q From whose standpoint?

18 A From our standpoint and our experience in the
19 last number of federally graded exercises and that this list
20 leaves out some rather important objectives that you need to
21 test for a comprehensive integrated emergency management
22 system.

23 Q In other words, what you are saying is that
24 FEMA's statement of its own objectives is incomplete from
25 New York State's standpoint?

UE/sw 1 Q Now, gentlemen, as I understand your testimony,
2 particularly on Page 35, you state the view that initial
3 exercises for nuclear plants which have not yet received
4 their operating licenses must include all major observable
5 elements of the plan which are reasonably achievable without
6 mandatory public participation; is that correct?

7 A (Witness Baranski) That's correct.

8 Q Okay. Now, is that intended to distinguish them
9 from exercises for plants which have already received their
10 operating licenses in terms of the scope of the -- the
11 required scope of the exercise?

12 A I believe, Mr. Irwin, our testimony reflects the
13 fact that we believe that the first exercise should be
14 tested as comprehensively as possible and subsequent
15 exercises may, based on a track record, shift the focus and
16 emphasis of that exercise.

17 But, the first exercise should be as
18 comprehensive and complete as possible. And, from a common
19 sense perspective it tells us that, as emergency planning
20 people, we would like to know where the weak areas are in
21 the plan. Therefore, we attempt to test as much as we can.

22 Q Does this require, in your view, testing all 35
23 of the objectives stated in Mr. McLoughlin's memo and
24 referred to in PR-1?

25 A Sir, if you would care to go through the list of

UE/sw 1 PR-1, there are some objectives there that can't be
2 demonstrated.

3 Q But, assuming that as many as can be
4 demonstrated, is it your opinion that all of them must be
5 demonstrated prior to issuance of an operating license?

6 A The answer is yes.

7 Q Okay. If you -- now, gentlemen, isn't it true
8 that Guidance Memorandum PR-1 requires only -- and, here I
9 would refer you to Paragraph 2 on Page 2, and to Page 34 of
10 your testimony, doesn't PR-1 require only that these major
11 elements, the 35 objectives, of plans be tested within a six
12 year period?

13 MR. LANPHER: I object to the form of the
14 question. He says doesn't PR-1 require something. That's a
15 mischaracterization. PR-1 doesn't require anything. It's
16 not a regulation.

17 BY MR. IRWIN: (Continuing)

18 Q Doesn't it provide? I will substitute the word
19 "provide."

20 A (Witness Baranski) Please ask the question
21 again.

22 Q Isn't it true that Guidance Memorandum PR-1
23 provides only that the 35 exercise objectives which cover
24 the major elements of off-site plans be tested over a six
25 year span, not in any one specific exercise?

SUE/sw

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Q Let me come back to a light motif of this testimony, gentlemen. There has been much discussion in the testimony, and today, about the concept of major observable portions of an off-site plan.

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Can -- is the term "major observable portion"

different from the term "observable portion?" Are there

such things as observable portions of a plan which, in your

view, are not major observable portions?

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(The witnesses are conferring.)

MR. LANPHER: I object. The question is overly

broad.

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JUDGE FRYE: Do you think you can answer that

question or not?

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WITNESS PAPILE: I would like to, speaking from

my viewpoint, sir. Everything is a major as far as we are

concerned. We have never considered an exercise or

objectives as saying this is major, this is minor, this is

in between. We have taken them as -- and I will use the

statement again, as portions of the plan that should be --

and I will use the wording of Appendix E, should be tested.

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But, to say major versus non-major, we may

consider that in our mind when we are thinking it over but

never when we write the objectives.

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JUDGE FRYE: Okay.

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MR. IRWIN: I have no further questions.

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JUDGE FRYE: Shall we go back on the record, please? Mr. Lanpher, or Mr. Zahnleuter?

REDIRECT EXAMINATION

BY MR. ZAHNLEUTER:

Q Gentlemen, you just fielded some questions by Mr. Irwin regarding recovery and re-entry. Is recovery and re-entry a PR-1 objective?

A (Witness Baranski) Yes, sir.

Q Could you identify specifically where it appears in PR-1 as an objective?

A Objective No. 35, demonstrate ability to determine and implement appropriate measures for control, recovery, and re-entry.

Q Do you believe that the PR-1 objectives correspond to major observable portions?

A Yes, sir.

Q And do recovery and re-entry objectives constitute major observable portions under Appendix E?

A By definition.

Q Is your answer, yes?

A Yes.

Q Also, in response to questions from Mr. Irwin, you stated that you understand ingestion pathway testing is an NTOL Appendix E requirement, is that correct?

A Yes, sir.

GW/gw 1 Q Have there been any NTOLs issued in New York
2 State?

3 A NTOLs have been issued, but none that we have
4 done the emergency planning for.

5 Q Since the --

6 A Since the implementation of the regulation for
7 emergency planning exercises, the answer is, no. All of our
8 exercises have been with operating units.

9 JUDGE FRYE: Do you know, by chance, when the
10 last operating license was issued?

11 WITNESS BARANSKI: Approximately mid-'75, Indian
12 Point 3.

13 BY MR. ZAHNLEUTER: (Continuing)

14 Q How do you reconcile your position that recovery
15 and re-entry and ingestion pathway activities should be
16 included in an exercise prior to the issuance of an NTOL,
17 but those same activities should not have been included in
18 other full participation exercises in New York State?

19 A (Witness Baranski) Well, for one looking at
20 Appendix -- 10 CFR Part 50, Appendix E, there is a
21 regulatory requirement under F, Training, 1, that for a full
22 participation exercise for an NTOL, and I am paraphrasing a
23 little bit, shall include participation by each state and
24 local government within the plume exposure pathway EPZ and
25 each state within the ingestion exposure pathway EPZ.

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So, for an NTOL, I view this as a regulatory requirement. How do we reconcile our stand regarding ingestion pathway for current exercises? We actually have demonstrated ingestion pathway activities during many of our early exercises.

Our problem is not one so much of should we, or should we not, include ingestion exposure pathway, but it is primarily from our end, it is a state activity. If you look at our exercise schedule, which we had gone through yesterday and today, you will notice that at times we were doing three exercises; whether you want to call them full scale, at least they were major workload.

You were involving the same state agencies, the same state personnel several times a year for ingestion pathway. We didn't get credit, if you will, for having satisfied a full ingestion pathway exposure. There was no particular guidance as to what FEMA was looking for for that, or what sort of evaluation yardstick.

So, we said we have done a bunch of these, we are waiting for you to provide further guidance, FEMA.

Q Now, Mr. Irwin asked you questions about the NRC regulations that were in effect on January 1, 1984, and those regulations are LILCO's Exhibit 19.

Did that regulation define either full participation or full scale exercises?

SW/gw

1 take this as more permissive than the one that followed.

2 Q With respect to PR-1, on Page 2, Item 2,
3 Mr. Irwin asked you questions about whether this represented
4 FEMA's practice. In your experience, did FEMA's practice
5 always conform to this particular section of PR-1?

6 A Would you restate the question, please?

7 Q Okay. I am on Page 2 of PR-1, Item 2 under
8 Attendant Criteria. Are you with me? There is a reference
9 there to the 35 exercise objectives. Do you see where I am?

10 A (Witness Baranski) Yes, sir.

11 Q Mr. Irwin asked you questions about whether this
12 represented FEMA's practice. My question is: In your
13 experience, did FEMA's practice always conform to PR-1?

14 A No. We have had additional requirements that
15 have been placed on us, in addition to the objectives that
16 are outlined in PR-1 for our exercises that we have
17 conducted in New York State.

18 JUDGE MORIS: Placed on you by FEMA?

19 WITNESS BARANSKI: That is affirmative, sir.

20 WITNESS PAPILE: I would like to be more specific
21 now. FEMA Region II.

22 BY MR. ZAHNLEUTER: (Continuing)

23 Q What are those additional requirements?

24 A (Witness Papile) The additional requirement was
25 on public education and public information.

SW/gw

1 Therefore, I Feel it was something much more than
2 just communications that was implied. Because if you look
3 at other regulations or other parts of 10 CFR 50, in
4 Appendix E, that in the past we have used words like,
5 "communications."

6 Q But you are not aware of anything more specific
7 than your inference, are you sir/

8 A No, I am not, sir.

9 Q Okay. When you -- I guess it was either you,
10 Mr. Czech, or you, General Papile, indicated that the State
11 of New York had participated in various ingestion pathway
12 elements of exercises, but you quit after a while. Can you
13 describe in general terms what the state typically did in
14 that ingestion pathway participation?

15 A If you reviewed some of the post exercise
16 assessments from FEMA -- one comes to mind from Ginna of about
17 '83, and some other ones, you will find some wording in
18 there where you got credit for a partial, but typically it
19 would involve things such as looking at the source term,
20 doing calculations of potential deposition, potential impact
21 through the food chain, sending out someone to collect
22 samples or perhaps milk, vegetation, fruits or vegetables,
23 collecting those samples. We have actually even had the
24 samples rushed back to Albany by Civil Air Patrol and or by
25 State Police courier service; everything up to, but short

GW/gw

1 of actual laboratory analysis.

2 Q And that involved a cadre of state employees,
3 primarily from Albany, sir/

4 A That is true.

5 Q The same employees from exercise to exercise
6 --the same organization?

7 A At the state emergency operating center, the
8 decision makers, command people, will be somewhat the same,
9 although we have more than coverage than for one shift, but
10 that group would be the same. The people who would actually
11 go out and collect samples would be different. Typically,
12 they would come from state employees who work in that
13 particular region. So, for example, if you are running an
14 exercise at Nine Mile, the people would probably come from
15 the Oswego - Syracuse area. If we are talking about the
16 Ginna area, they would be someone who is probably working
17 out of an office near the Rochester area.

18 Q But with respect to the people in Albany, the
19 same cadre were involved from exercise to exercise, as I
20 understand it, in the ingestion pathway?

21 A A large pool of the same people are used, yes.

22 Q And as I understand it, the ingestion pathway
23 functions for those people do not vary significantly from
24 exercise to exercise, do they, for the ingestion pathway?

25 MR. ZAHNLEUTER: I object. This is beyond the

1 objectives. And --

2 Q Well -- excuse me, Mr. Kowieski.

3 A And, you have a timeline, the exercise -- pre-
4 exercise activities, activities on day of exercise, post-
5 exercise activities.

6 Q Mr. Kowieski, maybe you misunderstood my --
7 well, first, let me rephrase it.

8 What do you mean by standards in your
9 testimony? You say at the bottom of Page 2 the standards
10 used in reviewing the exercise are included in various
11 documents, including GM-17.

12 A Right.

13 Q What do you mean by standards?

14 A You have to understand that 35 exercise
15 objectives are interrelated to NUREG 0654.

16 Q Mr. Kowieski, what I would like is your
17 definition of the word "standards" as used in your
18 testimony. At the bottom of Page 2, the second line in the
19 last paragraph on that page, you use the word "standards."

20 You say standards used in reviewing the
21 exercise. I want to know what you mean by standard.

22 A All right. First of all, I think we ought to
23 define the purpose. We mention the purpose of NUREG 0654 --

24 Q No, no. Mr. Kowieski, I want to know what you
25 mean by the word "standards" in your testimony.

1 JUDGE FRYE: I think it should be here.

2 MR. PIRFO: I better make that phone call.

3 JUDGE FRYE: All right.

4 MR. PIRFO: Well, it's close enough to the lunch
5 break. I think I can wait.

6 JUDGE FRYE: Fine. Let's continue then with the
7 cross-examination.

8 MR. LANPHER: Okay.

9 BY MR. LANPHER: (Continuing)

10 Q Gentlemen, at Pages 2 and 7 of your testimony,
11 you talk about the documents which you have relied upon in
12 the evaluation of the February 13, 1986 exercise. You
13 identify two specifically, 0654 and GM-17.

14 And, you reference other FEMA guidance memoranda
15 that were effective at the time of the exercise. Now, can
16 you identify which particular FEMA guidance memoranda you
17 relied upon besides GM-17?

18 A (Witness Keller) PR-1, for one.

19 Q Are there any others, Mr. Keller?

20 A I think in general you would have to say that
21 all of us here on the panel are reasonably conversant with
22 the material that's in the guidance memoranda; and, as
23 background knowledge and information we used that because it
24 was in the guidance memoranda, because FEMA Headquarters had
25 promulgated this material to help amplify how to use 0654.

1 A (Witness Baldwin) Can I jump in?

2 Q Well, can you identify FEMA guidance which would
3 specify the type of objective that must be included to
4 ensure that something is a full participation event? That
5 was my question.

6 A The regulation, 44 CFR 350, refers to the
7 demonstration of the participants in sufficient number to
8 demonstrate their ability, their capabilities to protect
9 the health and safety of the public.

10 Q Well, Mr. Baldwin, my question to Mr. Keller was
11 whether he knew of any FEMA guidance documents or other
12 documents which were in effect which identified the types of
13 objectives that must be included in order for something to
14 be a full participation event.

15 A Well, Mr. Keller I believe answered you, and
16 that is in PR-1 there is reference in CM PR-1, which states
17 that major elements of plans and preparedness are
18 incorporated in the 35 exercise objectives contained in the
19 August 5, 1983 memorandum which goes back, I believe, you
20 are referring to it as Exhibit F.

21 Q Attachment F to LILCO's 15, 16 testimony.

22 A Those 35 objectives are again referred to in PR-
23 1, that over a six year cycle all 35 objectives must be
24 tested within that six year cycle.

25 We would want to see a sufficient number of

1 those tested. Obviously, if it was a small number, you
2 would have to test a larger number in the second exercise,
3 the second and third exercise.

4 There is no delineation of what defines a full
5 participation exercise in the guidance memorandum that are
6 issued by FEMA.

7 Q Is it your testimony, Mr. Baldwin, and I guess
8 it is really with reference to both PR-1 and what we call
9 Attachment F; it is that August '83 memorandum, and also
10 with reference to the FEMA regulation that you were
11 referencing, that regulation talks about how a full
12 participation even should test the implementation of the
13 observable portions of state and or local plan. You are
14 familiar with that statement in the regulation/

15 A That is correct.

16 Q Is it your testimony that the 35 standard
17 objectives correspond to the observable portions of the
18 Plans?

19 A Yes, it is.

20 Q So, over a six year, three exercise cycle, you
21 have to do all 35 objectives in order to test the
22 implementation of all the observable portions?

23 A That is correct.

24 A (Witness Keller) Let me add one thing.
25 Everybody knows, I hope, that the FEMA regulations and the

1 NRC regulations say state and local participation in the one
2 you just read to us. It says state and local plans.
3 Clearly, state and local plans were not exercised in the
4 February exercise. This was a utility only plan. That
5 caveat has to be added to this whole discussion.

6 This was not a state and local plan that was
7 exercised. It was a utility plan. 44 CFR 350 says state
8 and local plan.

9 Q You are substituting utility plan in the FEMA
10 regulation for state?

11 A That is right. We attempted to use the
12 regulation as well as we can. There is a difficulty here.
13 In 44 CFR 350, there is a preclusion, and I think it is Part
14 IV or Part 11 I don't remember which right now, that says
15 FEMA will not use any of the rest of this rule for a utility
16 plan, so FEMA's own rule says we can't do what we did.

17 But the MOU says he had to do something.

18 We, therefore, used more than anything else past
19 experience, what we had done previously in other exercises.

20 Q Gentlemen, will you look at Page 2 of PR-1. Do
21 you have PR-1 handy? For the record, PR-1 is Attachment E
22 to LILCO's prefiled testimony on Contention 15 and 16, and I
23 am looking Gentlemen at Page 2 of PR-1, which starts at the
24 time with evaluation criterion.

25 Down at the bottom of page, Item No. 2, they

1 talk about major elements of plans and preparedness. I take
2 it, Mr. Baldwin, from your earlier answer, when you talk
3 about major elements in this context, you are talking the
4 same thing as major portions of the plan?

5 A (Witness Baldwin) The way we use the two terms,
6 elements and portions, NUREG 0654 is broken down into 16
7 planning standards. Those 16 planning standards are broken
8 down into various numbers of elements, which we refer to,
9 for instance, A is the assignment of responsibility.

10 There is a subsection A-1. That is an element
11 in our nomenclature. A portion is a portion of the plan.
12 OFIP 361, for instance, would be an example of a portion of
13 the plan, or paragraph from the plan itself.

14 When we refer to standards and elements, it
15 refers to planning standards identified both in 44 CFR 350
16 and then spelled out in NUREG 0654, portion or portions of
17 plans.

18 Q But you testified before that the 35 standard
19 objectives are designed to insure that all the major
20 portions of emergency plans are tested over a six year
21 cycle, correct?

22 A You need to be very specific here. The 35
23 standard objectives are keyed to NUREG 0654 elements, and
24 those elements are the elements against which FEMA and the
25 RAC evaluate the plans.

1 In order to have an exercise which evaluates
2 those planning standards and elements, we go back to the
3 plan and the people responsible for putting together an
4 exercise and identifying the objectives, determine which
5 objectives they really want to exercise during that
6 exercise.

7 Those are keyed to the NUREG 0654 elements, and
8 in that context we are looking at the elements of 0654 that
9 are being tested.

10 Those encompass broad portions of a plan, and
11 they are interrelated in such a way that you can't -- I
12 guess you could - but it would be a real exercise, an
13 academic one at that, I think, to cross tabulate all of the
14 portions of the plan that come under any specific element
15 that is being examined.

16 Q The way you, at FEMA, have confidence that you
17 are able to test the observable portions of a state and or
18 a local plan, or utility plan if you substituted, is by
19 testing all of the standard objectives over a period of
20 time.

21 A (Witness Kowieski) That is correct.

22 Q And by doing that, it is your opinion that you
23 test all the portions of a plan?

24 A That is correct. However, can I add, in this
25 case we took an exception. We added an additional to the

1 you?

2 A (Witness Keller) That's correct.

3 (Witness Kowieski) That's correct.

4 Q And, so when you say it's not -- it would not be
5 inconsistent with other exercises in New York State or
6 Region II to have included ingestion pathway objectives,
7 would it?

8 A (Witness Keller) It would have not been
9 inconsistent, however, all --

10 Q Wait a --

11 A I thought I was allowed to amplify after I
12 answered the question. If I'm not, just tell me not.

13 JUDGE FRYE: Yes, go ahead. You said it would
14 not be inconsistent, so go ahead.

15 WITNESS KELLER: It would not be inconsistent,
16 however, all of the exercises which had ingestion pathway
17 objectives were done very early on prior to the current
18 system that we have in place.

19 And, had we had the deficiency system in place
20 at that time, we would have had remedial exercises, because
21 the performance of the people in those ingestion pathway
22 exercises, the early ones, was absolutely unsatisfactory.
23 And, they are still being carried as open items, many of
24 them.

25 The State has refused to reschedule until this

2 Fall other ingestion pathway exercises until guidance has
3 been promulgated, which clearly is late in coming. Now,
4 they have agreed to schedule a full-scale ingestion pathway
5 exercise for this Fall, the first full-scale ingestion
6 pathway exercise in New York State.

7 It is true that there were a few ingestion
8 pathway exercise objectives in previous exercises but the
9 people couldn't find the forms, they didn't have the maps,
10 they didn't know where to go. I know that for a fact,
11 because I was the evaluator.

12 BY MR. LANPHER: (Continuing)

13 Q But, the fact is that at other New York State
14 exercises there have been ingestion pathway objectives;
15 isn't that so?

16 A I said it would not be inconsistent, however,
17 there are some mitigating circumstances in my belief.

18 Q But, is it fair to state that the primary -- is
19 it fair to state that given the NRC's determination or
20 suggestion, to use the word in your testimony, that the
21 exercise focus on the 10-mile zone, that eliminated any
22 consideration by you gentlemen in designing the exercise, or
23 I guess maybe you, Mr. Kowieski, primarily in designing the
24 exercise, it eliminated any consideration including
25 ingestion pathway objectives?

A (Witness Kowieski) That's correct.

1 A (Witness Keller) No.

2 A (Witness Kowieski) I provided comments on PR-1,
3 on draft PR-1.

4 Q Did you provide any comments pertaining to --
5 and to the best of your recollection, and I realize it was
6 probably a while ago, Mr. Kowieski -- did you provide any
7 comments about clarification of the NRC rules?

8 A I did not, to the best of my recollection.

9 Q And do any of you know how PR-1 clarifies any
10 NRC rule?

11 A Well, as far as ---

12 Q Let me modify this question for a second.

13 Based upon your personal knowledge without
14 reviewing any documents, but just given your testimony here,
15 how does PR-1 clarify any NRC regulation?

16 A (Witness Keller) And I am not a lawyer so I
17 cannot tell you whether it's a regulation or not, but I
18 would like to explain if possible.

19 Q Well, I want to understand your testimony,
20 that's all.

21 A At one time NUREG 0654 was a part of 10 CFR 50
22 and it was quoted in 10 CFR 50. That was taken out and it
23 is no longer quoted in 10 CFR 50. However, in the Federal
24 Register notice in the rule change the statement was made
25 that the Commission intended that NUREG 0654 would still be

1 used as the basis for the evaluation of plans both on and
2 offsite.

3 Now, I don't know whether that's an NRC
4 regulation or not, but to the extent that NUREG 0654 is a
5 regulation, clearly PR-1 does clarify NRC regulations.

6 Q And is that the only extent to which you believe
7 PR-1 may clarify NRC regulations?

8 A I think that's correct, yes.

9 Q Do you have any different understanding, Mr.
10 Kowieski?

11 A (Witness Kowieski) I don't.

12 Q Did you even have that understanding?

13 A Yes, I did, and I would like to paraphrase what
14 Mr. Keller said. The NUREG is based on 10 CFR 350. in
15 planning standards were derived from 10 CFR and in the
16 context, yes, it clarifies the planning standards of 10
17 CFR. If you equate the planning standards of 10 CFR with
18 the NUREG it clarifies 10 CFR.

19 Q And that's the degree of clarification you
20 believe that PR-1 provides about NRC regulations?

21 A That's correct.

22 A (Witness Keller) Yes, sir.

23 Q And despite that clarification, you've never
24 made an attempt in your design of exercises or preparation
25 for exercises or the evaluation to determine whether your PR-

1 ambulances identified in the plan, (See Procedure OPIP 3.6.5
2 Health Care Facilities Listing) -- let me start over.

3 That was all a parenthetical.

4 (Laughter.)

5 "An assessment of whether the number of
6 ambulances identified in the plan are actually available
7 will be determined during an exercise."

8 Do you recall that testimony?

9 A (Witness Kowieski) Yes, we do.

10 Q You didn't do that in the Shoreham exercise, did
11 you?

12 A (Witness Keller) That is correct.

13 Q And the ambulance portion of the plan is again a
14 major observable portion of the plan, isn't it?

15 A (Witness Baldwin) Well, it's an observable
16 portion.

17 A (Witness Kowieski) I don't know. Could you
18 restructure your question. I don't know if I follow you.

19 Q You stated in 1984 that an assessment of the
20 number of ambulances is something that has to be looked at
21 during an exercise.

22 A (Witness Keller) I disagree. I don't think we
23 said it has to be looked at. We said we would look at it I
24 believe. There may be a difference between has to look at
25 and would look at.

1 I should also point out on Page 20 of the Post
2 Exercise Assessment, which lays the ground rules under which
3 all of the various aspects of the exercise were to be
4 conducted, under Public Notification it says: During the
5 exercise, public alerting systems and the emergency
6 broadcast system were to be demonstrated.

7 So, those were the ground rules under which we
8 were evaluating --

9 Q Mr. Baldwin, you referenced then objective --

10 A I believe it is EOC-14, not 18.

11 Q Would a FEMA REP-10 test satisfy the exercise
12 objectives for demonstrating the ability to alert the public
13 in a timely manner, whether they be EOC-14 or 15?

14 A Yes, I believe they would.

15 Q Do you agree with that Mr. Keller, and Mr.
16 Kowieski?

17 A (Witness Keller) Not in a vacuum.

18 A (Witness Kowieski) Which objectives?

19 A (Witness Keller) 14 or 15. As Mr. Kowieski
20 said to you this morning, and we said last week, what was
21 done in the exercise was everything up to pushing the
22 button, okay?

23 The FEMA REP-10 process is the pushing of the
24 button and the actual testing of the acoustical output of
25 the sirens, and the survey of a statistical sample of the

1 (The witnesses are conferring.

2 A (Witness Keller) I think you are aware, as we
3 testified previously, that not all the regions sound the
4 sirens in every exercise, okay. Mr. Kowieski, when he was
5 the RAC Chairman felt that it was important that these
6 exercise (sic) be sounded in the exercises.

7 JUDGE PARIS: Sirens.

8 WITNESS KELLER: Sirens, I'm sorry. I'm losing
9 it. Sorry. He felt it was important to sound the sirens
10 during the exercise. All right.

11 We see no reason to change that evaluation at
12 this point in time, okay. But, if we were going to do it
13 again we would like to see the sirens sounded as an
14 integrated thing in an exercise to be consistent with what
15 we have done in the past in this region. That's not what's
16 done nationwide, but to be consistent with what has been
17 done in the past in this region we would like to see it done
18 consistently.

19 BY MS. McCLESKEY: (Continuing)

20 Q Mr. Keller, you have evaluated exercises outside
21 this region, haven't you?

22 A (Witness Keller) That's correct.

23 Q And, at those exercises the button pushing,
24 siren sounding and EBS test message don't' all take place on
25 the same day, do they?

1 A Quite often, they do not.

2 Q You do the button pushing or the simulated
3 button pushing as we did at the Shoreham exercise, and then
4 you do the test message and the siren sounding separately at
5 a REP-10 test, right?

6 A That is correct.

7 Q Now, when -- Mr. Kowieski, in Region II when you
8 do the three activities on the same day, does FEMA send
9 anyone to the radio station to observe what goes on there?

10 A (Witness Kowieski) I already testify to this
11 effect. Only on one occasion we sent an evaluator to a
12 radio station. I believe back in 1982 or '83. It was at
13 the Ginna site or Nine Mile Point site.

14 Q And, Mr. Keller, the scheduled nature of the
15 test and the siren testing is the same for an exercise or
16 for a REP-10 test, isn't it?

17 A (Witness Keller) Well, not exactly. I mean,
18 sometimes we are told that we cannot sound the siren in a
19 certain window, okay. I'm sorry.

20 As we testified last week, we think it's
21 critical that when the sirens are sounded that the EBS test
22 message come on in the time frame that you've told the
23 public in your educational brochure that they will come on.
24 And, we are not in favor of sounding the sirens unless we
25 have a commitment to air this test message, I think for

1 A (Witness Schwartz) In one or two, I was part of
2 an evaluation team for NRC where I would provide written
3 comments as an evaluator. But, in the past it has been more
4 of a management observer observing the exercise for the NRC
5 as to the licensee's performance and also the performance of
6 the NRC evaluation team.

7 Q Mr. Weiss, in what capacity have you --

8 A (Witness Weiss) Primarily as an observer.

9 Q Primarily as an observer?

10 A Right.

11 Q Gentlemen, in your experience, has the scope of
12 a full participation exercise been different for operating
13 plants and NTOLs?

14 A (Witness Schwartz) May I have one second for a
15 conference?

16 Q Yes.

17 (The witnesses are conferring.)
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25

1 A (Witness Schwartz) I don't see any difference.

2 Q Gentlemen, did you have an opportunity this
3 morning over the break to review Attachment I to LILCO's
4 testimony on Contentions 15 and 16?

5 A Is -- would you --

6 Q Attachment I is the deposition excerpts that
7 were in --

8 A Is that the one that is marked 109?

9 Q No, sir. Suffolk County Exercise Exhibit 109 is
10 excerpts from the testimony itself. Attachment I was your
11 deposition excerpts that are cited in 109.

12 Did you review Attachment I?

13 A Yes.

14 (Witness Weiss) I'm not sure. I have a
15 document here --

16 Q Let me show you Attachment I, and you tell me if
17 you looked at it this morning.

18 A (Witness Schwartz) Thank you.

19 (The witnesses are furnished a document.)

20 Now, your question was?

21 Q My question was, have you reviewed Attachment I?

22 A Yes.

23 Q Do you disagree with anything in Attachment I?

24 A (Witness Weiss) This morning, we reviewed
25 portions of Appendix I.

1 feasible, and I think the word "legal" was in there as well
2 in that context.

3 So, I -- the issue of whether or not it
4 qualified under the regulations as a full participation
5 exercise was never asked of me, and I don't remember any
6 discussions leading to a conclusion or even the hint that it
7 didn't satisfy the regulation.

8 BY MR. JOHNSON: (Continuing)

9 Q But since that time, and based on review of the
10 post exercise assessment, did you form an opinion about
11 whether the major observable portions of the plan were
12 tested?

13 A (Witness Schwartz) I formed an opinion that it
14 did satisfy, in reading it, it did satisfy within the limits
15 of the scope of the exercise with respect to the report
16 where it was discussed in the report that there was no State
17 and Local participation, and that was a given in the Report,
18 that there was no indication that it was not as the
19 Commission expected, and that was all the elements that
20 could have been exercised from that plan were exercised and
21 observed.

22 Q Mr. Weiss, did you, based on your evaluation of
23 the post exercise assessment report, or otherwise come to
24 the conclusion that major observable portions of the plan
25 had been tested?

1 MR. LANPHER: I object to the question. That is
2 outside the scope of the cross. Mr. Weiss wasn't asked any
3 questions on that.

4 MR. JOHNSON: It seems to me that the question
5 was asked concerning whether the major observable portions
6 were tested, and this is joint testimony, and it went to the
7 last question and answer, and Mr. Weiss has something to say
8 about that, and it seems to me it is pertinent.

9 JUDGE FRYE: Do you disagree with Mr. Schwartz's
10 testimony?

11 WITNESS WEISS: No. But I do have something to
12 add with regard to my participation in that.

13 JUDGE FRYE: All right.

14 MR. LANPHER: Judge, are you denying my
15 objection?

16 JUDGE FRYE: Yes.

17 WITNESS WEISS: The point was that I was
18 involved in the design of the exercise, and in that was
19 concerned about the making of the exercise as full as
20 possible, working with the FEMA people, Mr. Kowieski in
21 particular, during that portion of the time.

22 It was my -- we never had a discussion on the
23 question of full participation, but he on many occasions
24 said that he was trying to design this exercise to be the
25 equivalent of all the other exercises that he has ever run

1 in his region, and so there was no basis to think that it
2 wasn't as equivalent.

3 JUDGE FRYE: That would be the source of your
4 knowledge.

5 WITNESS WEISS: That is the source of my
6 knowledge.

7 MR. JOHNSON: The Staff has no further
8 questions. Thank you.

9 JUDGE FRYE: Re-cross??

10 RE-CROSS EXAMINATION

11 BY MR. LANPHER:

12 Q Mr. Schwartz, you stated in response to some
13 questions that you were briefed by a Staff member about the
14 LERO plan. Do you recall that?

15 A (Witness Schwartz) Yes, sir.

16 Q When was that briefing.

17 A I honestly cannot remember as to --

18 Q Approximately.

19 A I would say it was some time in early '85. I
20 can't remember which version of the LERO plan was being
21 briefed, but every time a new revision to the LERO plan was
22 submitted, I was given a briefing as to the substance of
23 what was in that plan.

24 Q Who gave you this briefing? The one in early
25 '85?

ATTACHMENT 2

STATE OF NEW YORK



DEPARTMENT OF HEALTH

TOWER BUILDING • THE GOVERNOR NELSON A. ROCKEFELLER EMPIRE STATE PLAZA • ALBANY, NEW YORK 12242

DAVID AXELROD, M.D.
Commissioner

September 6, 1983

83 SEP -9 P3:36

OFFICE OF SECURITY
DOCKETING & SERVICE
BRANCHSecretary of the Commission
U.S. Nuclear Regulatory Commission
Attn: Docketing and Service Branch
Washington, D.C. 20555

BUCKET NUMBER

PROPOSED RULE

PR-50
(48 FR 33307)

22

Gentlemen:

The Nuclear Regulatory Commission has proposed revisions to 10 CFR Part 50 dealing with frequency and participation in exercises. The proposed rules were published in Vol. 48, No. 141 of the Federal Register, Thursday, July 21, 1983.

The stated intent of the rulemaking is to provide greater flexibility in implementing regulations determining the frequency of emergency preparedness exercises. The NRC recognizes that a disproportionate amount of resources are being expended in order to conduct and evaluate exercises to the detriment of day-to-day upgraded state of emergency preparedness and correcting any deficiencies uncovered in previous exercises. It appears that the proposed revisions do not accomplish the stated intent and if anything potentially exacerbate the problem they seek to solve.

The rule provides for full participation and partial participation in exercises. Local governments in the 10 mile EPZ as well as licensees retain requirements for annual full scale exercises. The rule allows the State to participate partially in the annual exercise with full participation by the State at least once every 7 years. There is a fallacy in assuming that the "partial participation" requirement would provide relief for many states. Full participation by local governments in an exercise generally requires fairly extensive participation by the State to exercise the response system. Since exercises will of necessity include dose and accident assessment, protective action decision making, radiological exposure control, ingestion pathway determinations and recovery/reentry, most states will have a major role in all exercises. It appears that the regulations were not drafted by persons familiar with integrated radiological response by licensee staff and local and State agencies.

The National Emergency Management Association petitioned the NRC to require exercises on a biennial frequency unless FEMA and NRC determined that a greater frequency is required. Unfortunately, the NRC proposed rule requires a deliberate action for a schedule less frequent than annually. As written, unless FEMA makes a recommendation and NRC makes a finding that all major elements were performed

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Ackd Michael T. ... 1184 SS

Acknowledged by

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satisfactorily during the previous exercise and that another exercise is not needed for up to 2 years, the annual full participation of at least local government agencies is required.

Regardless of intent or present practice, the proposed rule specifically calls for an annual exercise for each licensee at each site. Thus, Oswego and the four Indian Point counties will be required to participate fully twice a year. The offsite plans, emergency communications system, etc. are the same for IP 2 and IP 3 as well as for Nine Mile Point and FitzPatrick. For offsite planning and response, it does not matter which licensee at a site is assumed to have the potential problem.

The proposed rule requires full participation by the State at least once in 7 years in each ingestion pathway EP2. Further clarification is needed on the extent of State participation, since full activation of the State and District EOCs, etc. does not appear warranted for exercises involving sites which impact only on the ingestion pathway EP2.

The proposed rule for an exercise for each licensee at each site requires the State to participate fully at each site at least twice each 7 years instead of the stated intent of at least once in 7 years. Apparently, NRC staff failed to consider the unique situation of dual licensees at the Nine Mile Point and Indian Point sites.

The proposed rulemaking appears to require that licensees provide for participation by Federal emergency response agencies in at least one exercise every 7 years. Although Federal participation is desirable, this provision is an apparent mandate on the licensee over events in which they have no control. If this provision were in effect, we should have had Federal participation in at least two of our exercises to date. With the exception of limited NRC participation, active participation by Federal agencies has been lacking. There should be a different vehicle to require Federal participation than through 10 CFR regulations.

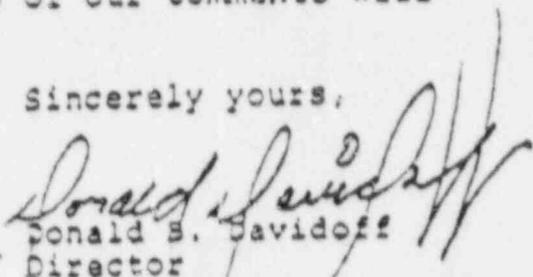
The proposed rule calls for formal critiques for all training and exercises. This should be clarified so that the training requirement is for licensees and not for offsite agencies. One of the quickest ways to minimize participation by volunteer response organizations is to require formal critiques after receiving training. Additionally, the requirement for formal critiques for all exercises is unnecessary and too restrictive. Formal critiques should be required as part of the annual exercise. Many drills and exercises are for training rather than evaluative purposes and provide for instant feedback and evaluation without necessity for formal critiques.

Attached are charts of exercise frequencies for three different situations. In all three, for planning purposes, Shoreham was considered as requiring an exercise for an operating license followed by Indian Point as the next most pressing site. In each case, an attempt was made to even out the workload. In all three cases, partial participation by the State is indicated according to proposed rules, even though it is doubtful that a meaningful exercise can be completed without substantial state participation. The third

case represents a preferred situation, i.e., biennial exercises at each site alternated between licensees. Even under this situation, the state would potentially be involved in at least three (3) exercises per year.

Your attention and review of our comments will be appreciated.

Sincerely yours,



Donald B. Davidoff
Director
Radiological Emergency
Preparedness Group

Acts.

CASE 3

EXERCISES ON PARTICIPATION BASED ON OTHER SIDE.

Y U A S

	1	2	3	4	5	6	7
<u>Plans - In State</u>							
Storham	F	-	X	-	X	-	X
19 2	-	F	-	-	-	X	-
19 3	-	-	-	X	-	-	-
Ginna	X	-	F	-	X	-	X
NMA	-	-	-	F	-	-	-
CAT	-	X	-	-	-	X	-
<u>Plans - Out of State</u>							
Millstone	-	X	-	X	-	F	-
<u>Ingestion Only</u>							
Vt. Yankee	-	-	-	-	S	-	-
Haddam Neck	S	-	-	-	-	-	-
Yankee Rowe	-	-	S	-	-	-	-
Oyster Creek	-	-	-	-	-	-	S

Key

- F - Full participation by state and local governmental agencies and utilities within the state.
- X - Full participation by utilities and local governmental agencies within the state.
- S - Full participation by state within the jurisdiction of the state.