

DOCKETED

21 JUL 84 AM 1:36

Proposed Emergency Planning Contentions
Modified to Reflect Revision 3 of the LILCO Plan

January 12, 1984

Filed by: Suffolk County, the Shcreham
Opponents Coalition, the
North Shore Committee Against
Thermal and Nuclear Pollution,
and the Town of Southampton

RECEIVED
JAN 13 1984

D503

Proposed Emergency Planning Contentions
Modified to Reflect Revision 3 of the LILCO Plan

TABLE OF CONTENTS

INTRODUCTION.....	2
Contentions 1-10: LILCO's Lack of Legal Authority.....	4
Contentions 11-14: Command and Control.....	15
Contention 15: LILCO's Lack of Credibility.....	20
Contentions 16-21: Public Education and Information.....	30
Contention 22: Inadequacy of LILCO's Proposed 10-Mile Plume Exposure Pathway Emergency Planning Zone ("EPZ").....	40
Contention 23: The Evacuation Shadow Phenomenon.....	51
Contention 24: LILCO's Lack of Agreements With Organiza- tions and Personnel Relied Upon in the Plan.....	59
Contention 25: Role Conflict of Emergency Workers.....	78
SE Contention 26: Notification of Emergency Response Per- sonnel.....	84
Contention 27: Mobilization of Emergency Response Person- nel.....	96
Contentions 28-34: Communications Among Emergency Re- sponse Personnel.....	100
SE-ET Contentions 35-44: Training of Emergency Workers Preamble to Contentions 35-44.....	108
Contentions 45-51: Accident and Dose Assessment and Projection.....	122
Contention 52: Emergency Operations Center.....	129
Contention 53: Security During a Radiological Emergency...	131
Contention 54: Medical and Public Health Support.....	132

Contentions 55-59: Notification to the Public.....	133
Contentions 60-83: Protective Actions.....	138
Contentions 60-62: Sheltering.....	139
Contentions 63-77: Evacuation.....	146
Contention 65: Evacuation Time Estimates.....	148
Contention 66: Removal of Obstacles from the Roadway and Provisions for Fuel.....	157
Contention 67: Evacuation of Persons Without Access to Automobiles.....	160
Contentions 68-71: Evacuation of School Children.....	167
Contention 72: Evacuation of People in Special Facilities.	176
Contention 73: Handicapped People at Home.....	179
Contentions 74-77: Relocation Centers.....	182
Contentions 78-83: Food, Milk, Water and Livestock Control.....	186
Contentions 84-91: Recovery and Reentry.....	192
Contention 92: State Emergency Plan.....	199
Contentions 93-96: Loss of Offsite Power.....	199
SOC Contention 97: Bad Weather.....	205

Revised
Proposed Emergency Planning Contentions
Modified to Reflect Revision 3 of the LILCO Plan

INTRODUCTION

These Revised Proposed Emergency Planning Contentions Modified to Reflect Revision 3 of the LILCO Plan are filed by Intervenor Suffolk County, Shoreham Opponents Coalition, North Shore Committee Against Nuclear and Thermal Pollution and the Town of Southampton (collectively, "Intervenor"). These contentions include modifications, that have been made in the Revised Emergency Planning Contentions filed by Intervenor on July 26, 1983, to reflect changes made to the LILCO Offsite Emergency Plan subsequent to the filing of the July contentions. Contentions 23, 25 and 65 have not been modified since, at the time of this submittal, litigation is already in progress on those contentions. In addition, those contentions which deal with the Information Brochure (i.e., Contentions 16, 18 and 21) have not been modified since Revision 3 of the Information Brochure has not yet been provided to Intervenor. We are informed by LILCO counsel that Revision 3 of the Brochure is expected to be made available in a matter of days. Those contentions will be modified promptly after receipt of the revised Brochure. The contentions also reflect, in bracketed notations, the August 1983 rulings of the ASLB on

admissibility. Those contentions not admitted by the ASLB have not been modified. Contentions which have been withdrawn by Intervenor are so identified.

The "LILCO Plan" to which these contentions refer is ~~the~~ Revision 3 (December 1983) of the so-called "LILCO Transition Plan," consisting of the following documents:

-- "SNPS Offsite Radiological Emergency Response Plan," Revision 3, with ~~blue-colored~~ inserts identified as "LILCO Transition" (herein referred to as the "LILCO Plan" or the "Plan");

-- "SNPS Offsite Radiological Emergency Response Plan for Suffolk County, Appendix A Evacuation Plan," Revision 3, with ~~gold-colored~~ inserts (herein referred to as "Appendix A");

-- "SNPS Local Offsite Radiological Emergency Response Plan Implementing Procedures," Revision 3, Volumes I and II, with ~~blue-colored~~ inserts identified as "LILCO Transition" (herein referred to as "OPIPs"); and

-- "Emergency Procedures -- Shoreham Nuclear Power Station (Revised)" (herein referred to as "Information Brochure").

Unless otherwise stated, the "EPZ" referenced in the contentions is the 10-mile plume exposure pathway EPZ assumed in the LILCO Plan.

CONTENTIONS

Contentions 1-10: LILCO's Lack of Legal Authority

Preamble to Contentions 1-10. The LILCO Transition Plan specifies that in an emergency, the actions described in Contentions 1 through 10 below may be ordered to be taken by LILCO personnel. Contentions 1 through 10 allege that LILCO personnel do not have the authority to order or to perform those actions.^{1/} Accordingly, as alleged in these contentions LILCO cannot, as a matter of law, exercise the responsibilities identified in Contentions 1-10, and therefore, contrary to 10 CFR Section 50.47(a)(1) its Plan could not and would not be implemented. LILCO's lack of legal authority to perform actions assigned to LILCO under the Transition Plan also results in noncompliance with 10 CFR Section 50.47(b)(3) and NUREG 0654, Section A.2.6, in addition to other regulatory requirements as set forth in the contentions which follow.

Contention 1. LILCO is prohibited by law from directing traffic. N.Y. Veh. & Traf. Law §§1102, 1602 (McKinney); N.Y. Penal Law §§190.25(3), 195.05, 240.20(5) (McKinney); N.Y. Transp. Corp. Law §30 (McKinney). Under the LILCO Plan, LILCO

^{1/} See also pages 2-3 of the June 23, 1983 FEMA review of the Transition Plan ("FEMA Report") which also questions LILCO's legal authority.

employees designated "traffic guides" are expected to direct or "guide" traffic to ensure that evacuees follow the evacuation routes identified and prescribed by LILCO in the Plan and to "discourage" non-compliance with those routes. (See OPIP 3.6.3, at 5-6 6a-7 and Attachments 1 and 4 thereto; Appendix A "Traffic Control," at IV-5 et seq.). These portions of the Plan, therefore, are incapable of implementation.

Further, LILCO's lack of authority to direct traffic renders its evacuation time estimates, required under 10 CFR Part 50 Appendix E, Section IV, and NUREG 0654, Section II.J.8 and Appendix 4, inaccurate. LILCO's evacuation time estimates (Appendix A at V-3, V-8; OPIP 3.6.1, Attachment 4 2) and the computer model from which they are derived, assume that all persons will use only the prescribed evacuation routes. (See for-example, Appendix A, at IV-19 which-states

~~it-is-essential-r-r-r-that-each-motorist~~
~~enter-the evacuation-network-on-the~~
~~specified-links-and-on-no other-network~~
~~link~~

~~if-the-motorist-errs-in-this-respect-he~~
~~may-find-it impossible-to-travel-toward-his~~
~~assigned-destination without-disrupting-the~~
~~flow-of-evacuating automobiles-increasing~~
~~his-own-delay-and-that-of many-other~~
~~evacuees~~

~~(see-also-Appendix-A-at, V-2).~~ In fact, however, since LILCO's traffic guides are prohibited by law from directing

traffic, LILCO will not be able to ensure that motorists will use only the prescribed routes, rendering the LILCO evacuation time estimates inaccurate. Thus, LILCO does not comply with 10 CFR Section 50.47(b)(10), Part 50 Appendix E Section IV, and NUREG 0654 Sections II.J.8, J.9.5., J.10, and Appendix 4. Without LILCO's assumption that evacuees will follow prescribed evacuation routes, the LILCO evacuation time estimates would increase substantially.

Contention 2. LILCO is prohibited by law from blocking roadways, setting up barriers in roadways, and channeling traffic. N.Y. Veh. & Traf. Law §1114 (McKinney); N.Y. Penal Law §§190.25(3), 195.05, 240.20(5) (McKinney); N.Y. Transp. Corp. §30 (McKinney). Under the LILCO Plan, LILCO employees are expected to implement various traffic control measures, including those listed above, to ensure that evacuees follow the evacuation routes prescribed by LILCO. (Appendix A at Section IV). LILCO's evacuation time estimates assume that traffic control devices such as roadblocks, prescribed turn movements, channelization treatment, one-way roads and blocking lanes on the Long Island Expressway will be implemented and effective in directing and controlling evacuation traffic. (See Appendix A at Section IV-82) Because LILCO and its "traffic guides" lack legal authority to implement such traffic controls (see also

FEMA Report at 2-3, 10-11), LILCO cannot rely on the use of traffic control devices to ensure the use of prescribed evacuation routes. As a result, LILCO's evacuation time estimates are unrealistically low and the Plan fails to comply with 10 CFR Section 50.47(b)(10), Part 50 Appendix E Section IV, and NUREG 0654 Sections II.J.8, J.9, J.10, and Appendix 4.

Contention 3. LILCO is prohibited by law from posting traffic signs on roadways. N.Y. Veh. & Traf. Law §1114 (McKinney); N.Y. Penal Law §§190.25(3), 195.05, 240.20(5) (McKinney). In addition to its proposed use of signs as traffic control or channelling devices (see Contention 2), the LILCO Plan also assumes that "trail blazer" signs will be installed as permanent roadway hardware to direct the public in the use of prescribed evacuation routes in the event of an evacuation. LILCO's evacuation time estimates assume that such signs are installed. (Appendix A, at IV-82 70). In fact, however, such signs will not be installed by Suffolk County and it is unlawful for LILCO to install such signs. Therefore, LILCO cannot rely on such signs to ensure the use of prescribed evacuation routes, and its evacuation time estimates are, as a result, unrealistically low. Thus, LILCO fails to comply with 10 CFR Section 50.47(b)(10), Part 50 Appendix E Section IV, and NUREG 0654 Sections II.J.8, J.9, J.10, and Appendix 4.

Contention 4. LILCO is prohibited by law from removing obstructions from public roadways, including the towing of private vehicles. N.Y. Penal Law § 165.05 (McKinney). The LILCO Plan provides that "road crews" made up of LILCO employees will remove obstacles from roadways by using LILCO tow trucks and line trucks. (Plan, at 4.4-3; OPIP 3.6.3, at ¶ 2 and Attachment 2 thereto).^{2/} Because LILCO is prohibited by law from towing private vehicles and removing obstacles from public roadways, this aspect of LILCO's Plan cannot and will not be implemented. As a result, the Plan fails to comply with NUREG 0654, Section II.J.10.k. [Remainder of Contention 4 not admitted by ASLB] In addition, LILCO's evacuation time estimates do not include the effects upon evacuation of accidents, breakdowns and other road blockages, apparently based at least in part on an assumption that such obstacles will be removed immediately. (Appendix A at V-2). Since LILCO lacks authority to remove such obstacles from evacuation routes, its evacuation time estimates are thus unrealistically low and the Plan fails to comply with 10 CFR Section

^{2/} ~~LILCO has informally advised Suffolk County that no private tow truck operators will be involved in removing obstacles from the roads, contrary to the statements in the Plan at 4.4-3 and 4.4-4.~~

50.47(b)(10), Part 50 Appendix E Section IV, and NUREG 0654 Sections II.J.8, J.9, J.10 and Appendix 4.

Contention 5. LILCO is prohibited by law from activating sirens and directing the broadcast and contents of emergency broadcast system ("EBS") messages to the public. N.Y. Penal Law §§190.25(3), 195.05 (McKinney); N.Y. Exec. Law § 20 et seq. (McKinney). Under the LILCO Plan, LILCO employees are expected to order that sirens be activated. They are also expected to determine the contents of EBS messages, to determine that an EBS broadcast should be made, and to direct that such broadcast occurs. (See OPIP§ 3.3.4 and 3.8.2) Because LILCO employees are prohibited by law from performing such actions, the LILCO Plan cannot and will not be implemented, and the Plan fails to comply with 10 CFR Section 50.47(b)(5) and NUREG 0654 Section II.E.5 and E.6. Moreover, in assigning such functions to LILCO employees, the Plan fails to comply with 10 CFR Part 50, Appendix E, Section IV.D.3.

Contention 6. LILCO is prohibited by law from making decisions and official recommendations to the public as to the appropriate actions necessary to protect the public health and safety, including deciding upon protective actions which will be communicated to the public. N.Y. Penal Law §§190.25(3), 195.05 (McKinney); N.Y. Exec. Law § 20 et seq. (McKinney).

Under the LILCO Plan, ~~LILCO-employees-are-identified-as-being responsible-for~~ all command and control functions, as well as all management and coordination of the entire emergency response, are to be performed by various LILCO employees or, in the case of the "Radiation Health Coordinator," by an unidentified LILCO "Contractor." (See Plan at 3.1-1; OPIPs 2.1.1, 3.1.1, 3.6.1). Thus, contrary to 10 CFR Part 50, Appendix E, Section IV.A, LILCO employees and contractors rather than "State and/or local officials" are identified as responsible for planning, ordering, controlling and implementing the offsite response including appropriate protective actions. Because LILCO is prohibited by law from performing such functions, its Plan cannot and will not be implemented, and it fails to comply with 10 CFR Sections 50.47(b)(5), 50.47(b)(6), 50.47(b)(10), and NUREG 0654 Sections II.E.5, E.6, E.7, G, J.9 and J.10.

Contention 7. LILCO is prohibited by law from making decisions and official recommendations to the public concerning protective actions for the ingestion exposure pathway. N.Y. Exec. Law §20 et seq. (McKinney); N.Y. Penal Law §190.25(3), 195.05 (McKinney). The LILCO Plan provides that various LILCO employees and an unidentified LILCO "Contractor" will be responsible for determining, making to the public, and

implementing protective action recommendations for the 50-mile ingestion exposure pathway EPZ. (See Plan Section 3.6; OPIP 3.6.6) Because LILCO employees and contractors are prohibited by law from performing these actions, the proposed ingestion pathway EPZ protective actions cannot and will not be implemented. Therefore, the Plan fails to comply with 10 CFR Section 50.47(b)(10), 50.47(c)(2), Appendix E Section IV.A.8, and NUREG 0654, Section II.J.11.

Contention 8. LILCO is prohibited by law from making decisions and official recommendations to the public concerning recovery and reentry. N.Y. Exec. Law §20 et seq. (McKinney); N.Y. Penal Law §190.25(3), 195.05 (McKinney). The LILCO Plan proposes that short-term and long-term recovery and reentry operations will be performed by LILCO personnel and contractors following a radiological emergency at Shoreham (Plan, at 3.10-1 and 3.10-2; OPIP 3.10.1). ~~and-also-states-that-"the-initiation-of-Recovery-and-implementation-of-Reentry-is-a-non-utility-decision-making-process"-{OPIP-3.10.1-at-1}~~. LILCO identifies no non-utility entity, with necessary authority, which has agreed to undertake the initiation or implementation of the recovery and reentry processes. Since, under the LILCO Plan, command and control functions are assumed by LILCO, and under New York law, LILCO does not have the authority to perform

recovery and reentry functions, recovery and reentry cannot be initiated or implemented. The Plan thus fails to comply with 10 CFR Sections 50.47(b)(1), 50.47(b)(13), and NUREG 0654 Section II.M.

Contention 9. LILCO is prohibited by law from dispensing fuel from tank trucks to automobiles along roadsides. Suffolk County Sanitary Code, Article 12; Code of the Town of Brookhaven, Chapter 30, Article X. Town-Fire-Prevention Codes.^{3/} Appendix-A-of-the-LILCO-Plan-(at-IV-192)-states-that a-gasoline-contingency-plan-is-"under-development"-and-the Plan-(at-4.4-4)-states-that-"[g]asoline, diesel fuel, motor oil, etc., will be provided . . . by Private Gasoline and Diesel Fuel Companies."--Appendix-A-further-states-that-"[o]nce the methodology for providing gasoline has been determined, an allocation system will have to be derived specifying the number of gallons allowed, etc."--(Appendix-A-at-IV-192)-^{4/} Because The LILCO Plan provides that LILCO fuel tank trucks will be

^{3/} ~~Until LILCO indicates where it intends to station its fuel dispensing vehicles, the applicable Town Codes cannot be more specifically identified.~~

^{4/} ~~LILCO has informed Suffolk County that the fuel will be obtained from private companies pursuant to agreements already in place and that LILCO fuel trucks will actually distribute the fuel.~~

stationed along evacuation routes to assist motorists who run out of fuel. These trucks will dispense up to three gallons of fuel per vehicle to vehicles that have run out of fuel. (Appendix A at IV-176.) However, LILCO is prohibited by law from distributing ~~gasoline~~ fuel to motorists on the roadsides, this aspect of the LILCO Plan cannot and will not be implemented. It is likely that many evacuees will not begin an evacuation with a full tank of gas. Many cars may run out of gas, both inside and outside the EPZ, as a result of extended operation times due to congestion, stop-and-go conditions and time spent sitting in queues. Cars running out of gas, and the probable abandonment of vehicles which will follow, will result in obstructions and blockages on roadways in use during the evacuation. LILCO's evacuation time estimates do not take cars running out of gas and the resulting road obstructions into account. If LILCO cannot effectively prevent or remove such obstacles, its evacuation time estimates will increase. The LILCO Plan thus fails to comply with 10 CFR Section 50.47(b)(10), Part 50 Appendix E Section IV, NUREG 0654 Sections II.J.8, J.9, J.10, and Appendix 4.

Contention 10. LILCO is prohibited by law from performing law enforcement functions at the EOC, at relocation centers, and at the EPZ perimeter. N.Y. Penal Law §§190.25(3), 195.05,

240.20(5) (McKinney); N.Y. Transp. Corp. §30 (McKinney); N.Y. Veh. & Traf. Law §§1102, 1602 (McKinney); N.Y. Exec. Law § 20 et seq. (McKinney). The LILCO Plan identifies LILCO employees as being responsible, during an emergency, for establishing and maintaining security and access control for the EOC, directing traffic into the relocation centers, establishing and maintaining security at the relocation centers, and establishing and maintaining perimeter/access control to evacuated areas. (OPIP 2.1.1, at ~~517-and-Attachment-27-at-47~~ 60-61; Appendix A at IV-8; OPIP 3.6.3, Attachment 4). 10 CFR Section 50.47(b)(1) requires LILCO to demonstrate that it "has staff to respond and to augment its initial response on a continuous basis." LILCO must also "specify the functions and responsibilities for major elements ... of emergency response," including law enforcement response. NUREG 0654, Section II.A.2.a. Without the ability to provide security at the EOC and relocation centers, and provide perimeter control, the LILCO Plan and the protective actions contemplated therein could not and would not be implemented. The Plan thus fails to comply with 10 CFR Sections 50.47(b)(1) and 50.47(b)(10), and NUREG 0654, Sections II.A.2.a, J.9 and J.10.

Contentions 11-14: Command and Control

Preamble to Contentions 11-14. 10 CFR Part 50, Appendix E, Section IV.A requires emergency plans to describe the organization for coping with radiological emergencies, including definition of authorities, responsibilities, and duties of individuals assigned to the licensee's emergency organization and identification of the State and/or local officials responsible for planning for, ordering, and controlling appropriate protective actions, including evacuations. In the LILCO Transition Plan, in place of "State and/or local officials," LILCO employees (including in the case of the "Radiation Health Coordinator," an unidentified LILCO "Contractor" which, for purposes of these contentions is included in the term "LILCO employees") are identified as being responsible for planning for, ordering, and controlling the entire offsite emergency response. Thus, all the command and control functions, as well as all management and coordination of the entire emergency response, are to be performed by various LILCO employees. (Plan, at 3.1-1; OPIPs 2.1.1, 3.1.1, 3.6.1). Accordingly, the "offsite authorities responsible for coordinating and implementing offsite emergency measures," with whom the LILCO onsite emergency coordinator must exchange information (see 10 CFR Part 50, Appendix E. Section IV.A.2.c), are fellow LILCO employees.

In Contentions 11-14 below, the Intervenor contend that there cannot and will not be offsite emergency preparedness that provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at Shoreham because LILCO employees are not able to exercise effectively the command and control responsibilities necessary to plan for, order, manage, coordinate and control appropriate protective actions. Each of the deficiencies identified in Contentions 11-14 results in noncompliance with 10 CFR Sections 50.47(a)(1), 50.47(b)(1), 50.47(b)(3), Part 50 Appendix E, Section IV, and NUREG 0654 Section II.A.

Contention 11. The LILCO employees in command and control positions under the LILCO Plan may experience a conflict between LILCO's financial and institutional interests and the public's interest, which may substantially hamper their ability to perform the functions assigned to them in a manner that will result in adequate protection of the public. The Intervenor contend that LILCO employees will have a strong incentive to minimize the public's perception of the potential or actual danger involved in a radiological emergency in order to avoid engendering public or LILCO shareholder disapproval of LILCO, or anti-Shoreham sentiment. Thus, for example, they may not recommend an appropriate protective action in a prompt manner

because to do so would be contrary to LILCO's financial interest in maintaining a public perception that Shoreham is not a source of danger. LILCO has failed to institute appropriate measures (comparable to those required by 10 CFR Part 50, Appendix B, Criterion 1 for QA/QC personnel) [parenthetical not admitted by ASLB] to ensure the independence of LERO personnel. Accordingly, there is no assurance that correct and appropriate command and control decisions will be made by LILCO employees.

Contention 12. [Not admitted by ASLB] The LILCO Transition Plan is premised on the belief that LILCO personnel will, in fact, be able to exercise the command and control functions which are specified in the Plan. The Intervenor contends that LILCO personnel will not be able to exercise proper or effective command and control of response to a Shoreham emergency because LILCO personnel will not be adequately familiar with the site-specific conditions in Suffolk County. The site-specific conditions as to which familiarity is essential are the County's geography, topography, road network, demography, and the locations, characteristics and capacities of schools and other institutions and volunteer organizations. It is further essential that LILCO personnel be familiar with the legal and jurisdictional limitations of their own authority and

that of other entities who may assist or participate in response to a Shoreham emergency. Familiarity with, and complete understanding of, such facts and conditions are essential to the effective management and coordination of emergency response. Those in command and control positions must be able to make prompt and informed decisions dealing with circumstances and events that may not be contemplated or specifically provided for in a written emergency plan.

LILCO personnel lack the necessary familiarity with local conditions. Many of the command and control personnel do not reside or work in the Shoreham vicinity and thus will not have the day-to-day familiarity with conditions in Suffolk County which is essential to effective command and control. The intervenors do not believe that such familiarity can be taught to LILCO personnel, because the essential knowledge of such facts can only be obtained if classroom training is reinforced by day-to-day responsibilities and experience which require knowledge of the local conditions. LILCO personnel do not have such training or experience. Thus, LILCO command and control personnel will not be aware of how the various entities, institutions, organizations and the population operate or interact with each other on a day-to-day basis or in an emergency situation and will be unable to fulfill command and control responsibilities effectively during an emergency.

Contention 13. [Not admitted by ASLB] The LILCO Plan assigns to LILCO employees the responsibility of command and control over the personnel in the non-LILCO support organizations relied upon in the Plan for performing emergency response functions. Such organizations are the American Red Cross ("ARC"), Brookhaven National Laboratory ("BNL"), local law enforcement agencies, ambulance, fire and rescue organizations, the Long Island Railroad ("LIRR"), the Salvation Army, voluntary groups such as churches and industries, and an unnamed lumber company. (See OPIP 2.1.1; Plan at 2.2-2, 2.2-4, 4.2-1; Appendix A at IV-82, IV-186-7). LILCO's attempt to exercise such authority conflicts with the normal chains of command, assignment of responsibilities, and internal operating procedures according to which these organizations function. For example, support organizations have their own plans and procedures which may differ significantly from the LILCO Plan and its implementing procedures. In addition, some local law enforcement officers and firefighters will decline to implement any Plan which is not the Plan of the local government (i.e., Suffolk County). Therefore, there is no assurance that the procedures set forth in the Plan, or other procedures that may be ordered by LILCO personnel during an emergency, will be followed by non-LILCO employees, particularly in the event that the support

organization supervisors or the individual emergency workers decide that a different procedure would be better or more appropriate in a given situation.

The Plan also fails to indicate that the emergency response personnel relied upon in the LILCO Plan (i.e., LILCO employees, personnel from non-LILCO organizations, and other unaffiliated support personnel), will be indemnified by LILCO for injuries they incur or for liabilities to third parties which may be incurred during training drills or exercises, or in responding to an emergency under the command and control of LILCO personnel. As a result, emergency response personnel, particularly those not employed by LILCO, may refuse to obey the command and control directives of LILCO employees, and thus may not carry out tasks and responsibilities assigned to them under the LILCO Plan.

Contention 14. Withdrawn. The Plan fails to identify the title of the LILCO officer who will fill the role of Director of LERO (OPIF 2.1.1 at 5). This constitutes non-compliance with NUREG 0654, Section A.1.d. (See FEMA Report, at 2).

Contention 15: LILCO's Lack of Credibility

Preamble to Contention 15. The LILCO Plan is dependent upon LILCO/LERO personnel providing essentially all necessary information and recommendations which are required during an

emergency. Contention 15 addresses the question whether LILCO/LERO recommendations for protective actions (and other information provided by LILCO/LERO) will be believed and followed or whether LILCO will be distrusted as a source of information with the result that its protective action recommendations (and other information provided) will not be believed or followed by the public.

Contention 15. Intervenors contend that LILCO is not considered by the public to be a credible source of information. More than 60 percent of the people in Suffolk County would not trust LILCO officials at all to tell the truth about an accident. See Social Data Analysts Survey. Persons are more likely to question, refuse to believe, disobey or ignore orders, recommendations, or information that come from persons whom they do not believe than that from authorities they trust and consider credible.

Because the public does not perceive LILCO as a credible source of information, protective action recommendations and other information disseminated by LILCO in an emergency will not be followed or believed by the public. Further, LILCO may be viewed hostilely as the source of the problem in the first place, or skeptically because the public will perceive that it is not in LILCO's financial interest to disclose all pertinent

information. (Members of the public will perceive that LILCO will not disclose the seriousness of an accident due to fears of lower ratings in the financial markets, NRC sanctions, or a lower public image than already exists.) Therefore, people will be likely to disregard or disobey protective action recommendations or other emergency instructions disseminated by LILCO during an emergency. Intervenors thus contend that the LILCO Plan cannot and will not be implemented, and accordingly, there can be no finding of compliance with 10 CFR Section 50.47. The paragraphs which follow set forth the particular aspects of, or operations contemplated by, the LILCO Plan which cannot be implemented as a result of LILCO's lack of credibility, and the resulting lack of regulatory compliance.

Contention 15.A. LILCO employees are assigned the responsibility of command and control over (a) the personnel in the support organizations relied upon in the Plan for emergency response services (ARC, DOE-PAP, BNB, ambulance, fire, rescue organizations, local law enforcement agencies, and the U.S. Coast Guard). ~~the-Salvation-Army, the-LIRR, an-unnamed-lumber company, and-groups-such-as-churches-and-industries, and-(b) "medical-personnel"-whose-affiliation-is-not-identified-in-the Plan, and-select-volunteers.~~ (OPIP 2.1.1; Plan at 2.2-1, 2.2-2, 2.2-4, 4.2-1, appendix-A-at-IV-62, IV-166-7).

Intervenors allege that such individuals will share the public perception that LILCO is not a credible source of information. Therefore, it is likely that orders from the LILCO employees in command and control will not be obeyed by the non-LILCO emergency workers relied upon in the Plan. Accordingly, there is no assurance that the portions of the LILCO Plan involving participation of non-LILCO personnel can or will be implemented, and there can be no finding of compliance with 10 CFR Section 50.47(a)(1). The likelihood that non-LILCO workers will not obey LILCO command and control orders means that the following aspects of the LILCO Plan cannot and will not be implemented:

(1) Offsite accident and dose assessment and projection, and recommendations to the LILCO Director of LERO as to what particular protective actions should be recommended to the public, resulting in noncompliance with 10 CFR Sections 50.47(b)(9), 50.47(b)(10), 50.47(c)(2) and NUREG 0654 Sections II.I, J.9 and J.10.

(2) The protective action of evacuation resulting in noncompliance with 10 CFR Sections 50.47 (b)(10) and NUREG 0654 Sections II.J.9 and J.10.

(3) Staffing of relocation centers, and the provision of necessary services for evacuees, resulting in noncompliance with 10 CFR Sections 50.47(b)(8), 50.47 (b)(10), and NUREG 0654 Sections II.J.10 and II.J.12.

Contention 15.B. A protective action recommendation of sheltering could not or would not be implemented. Based on a survey of Long Island residents, a substantial number of the people advised to shelter will choose to evacuate instead as a result of their lack of trust in LILCO's interest or ability to properly and objectively determine and recommend actions that are in the best interests of the public. Thus, the protective action of sheltering could not and would not be implemented in violation of 10 CFR Sections 50.47(a)(1), 50.47(b)(10) and NUREG 0654 Sections II.J.9. and J.10.

Contention 15.C. The LILCO Plan provides for early dismissal, sheltering or evacuation/relocation of students in schools within or near the EPZ, depending on the nature and circumstances of an accident at Shoreham. If protective actions are recommended for the public in the EPZ, schools outside the EPZ having children who reside in the EPZ are expected to retain such children at the schools after the end of the school day. ~~appears-to-assume-that-its-recommendation-that schools-implement-an-early-dismissal-will-result-in-children being-protected-in-the-event-of-an-evacuation-order, because children-could-thereby-evacuate-with-their-parents.~~ (See Appendix A, at II-19 through 20). However, under the LILCO Plan, the decision to implement an early dismissal or to shelter,

evacuate, relocate or retain students rests with the schools. (See Appendix A, at ~~IV-182~~ II-19). The recommendation to dismiss early or to implement any other protective actions will be made, by LILCO, over the EBS radio (Plan at 3.3-4 through 3.6-6; Appendix A at ~~IV-182~~ II-19). The school authorities, being members of the public, are likely to share the perception that LILCO is not a credible source of information. Therefore, they may not believe, or follow, the information or recommendations provided to them by LILCO. As a result, there is no assurance that any protective actions for school children (including sheltering, evacuation, relocation, retaining children after school hours, or early dismissal to permit sheltering or evacuation with parents) can or will be implemented, and there can be no finding of compliance with 10 CFR Sections 50.47(a)(1) or 50.47(b)(10) and NUREG 0654 Sections II.J.9 and J.10.

Contention 15.D. Assuming that the traffic control measures specified in the LILCO Plan are not prohibited by law (see Contentions 1-4), LILCO's traffic guides will be disobeyed by motorists, as a result of LILCO's lack of credibility. Similarly, LILCO personnel assigned to perform security functions under the LILCO Plan (i.e., performing law enforcement functions at the EOC, relocation centers, and at the EPZ

perimeter), again assuming they are not prohibited from performing such functions, are unlikely to be trusted or obeyed by the public result of LILCO's lack of credibility. [The following sentence not admitted by the ASLB. The remainder of the contention, beginning with "In addition," was admitted.] Such disobedience and reaction to instructions from a non-credible source is especially likely in light of the heightened fear and anxiety caused by a radiological emergency, which is perceived to be different from other emergencies. In addition, since the emergency will emanate from an incident at LILCO's own facility, the public will be likely to hold LILCO and its personnel responsible for the emergency, which will cause LILCO's employees to be viewed with hostility and suspicion, and will increase the likelihood that orders from LILCO employees will be ignored or disobeyed. As a result, there can be no finding of compliance with 10 CFR Part 50, Appendix E Section IV.A. and NUREG 0654 Section II.J.8 and Appendix 4, because LILCO's evacuation time estimates are unrealistically low (being based on the assumption that all evacuees will follow the evacuation routes and instructions prescribed by LILCO). The Plan also fails to comply with 10 CFR Sections 50.47(a)(1) and 50.47(b)(10) and NUREG 0654 Sections II.J.9 and J.10 because there is no assurance that the protective action of evacuation

can or will be implemented or that there will be adequate security during an emergency. In addition, the lack of effective perimeter control will result in persons' entering the EPZ, and being exposed to radiation, and impeding evacuation from the EPZ.

Contention 15.E. The sample messages for EBS broadcasting which are contained in the Plan (~~Attachment-3-6-1~~ OPIP 3.8.2) identify a LILCO employee (Director of LERO) as the source of the information and the protective action recommendation. Since the public does not consider LILCO to be a credible source of information or advice, instructions from a LILCO employee will not be obeyed. Under the LILCO Plan, the statement in the sample messages that the LERO Director consulted with officials, engineers and scientists, can only be filled in with identities of other LILCO employees or contractors, and thus would not substantially increase the message's credibility.

The EBS messages also lack credibility for the following reasons:

1. The messages refer to the activation of the Local Emergency Response Organization (LERO) without explaining what it is and who comprises it. Many people are unlikely to know who or what LERO is and therefore, lacking knowledge of the source of the emergency information, will not find that information to be credible.

2. The messages state whether an emergency is classified as an Alert, a Site Area Emergency, or a General Emergency, but state only that each classification "is one of four possible emergency classifications" without explaining the relative seriousness of each classification (e.g., an Alert is the next least serious classification or a General Emergency is the most serious). Using classifications that have no meaning to the listener detracts from the message's credibility.

3. Messages D through G set forth the EPA's Protective Action Guides for sheltering and evacuation; however, these guides are unlikely to be meaningful to listeners because the messages do not explain what the health consequences of exposure to the projected doses of radiation would be. Furthermore, the public's unfamiliarity with technical language such as "millirems" makes it likely that many people will not understand that portion of the message. Messages that are not understood will not be considered credible by the public.

4. Messages E and F both state that schools are being advised to shelter school children, and messages G and H both state that schools are being advised to evacuate school children. The messages offer no assurance that the school districts have agreed to take LILCO's advice or that the schools are capable of implementing a sheltering recommendation or a

timely evacuation. On the other hand, the messages state that parents should not drive to schools to pick up their children because "the children are protected in school" or "the children are being safely transported outside the zone to relocation centers." These inconsistencies are likely to raise doubts in the minds of listeners and will cause many parents to seek to pick up their children -- especially in light of the knowledge that most parents will have that none of the school districts in the EPZ have an evacuation or sheltering plan for a Shoreham emergency.

5. Messages F and G do not describe the bus routes where persons without cars can pick up buses for evacuation; nor do they describe where one can obtain a description of those routes. This lack of information will make LILCO's messages non-credible to people who are unable to evacuate by private automobile.

Therefore, these messages will not accomplish their intended purpose of providing clear instruction to the public and there is no compliance with 10 CFR Section 50.47(b)(5) and NUREG 0654 Sections E.5, E.6 and E.7.

Contention 15.F. LILCO's proposed rumor control point is to be manned by LILCO employees. (Plan, at 3.8-5). This rumor control effort will be ineffective and will fail to comply with

NUREG 0654, Section II.G.4.c, because it relies on LILCO -- a non-credible source of information -- as the authoritative source for squelching, explaining or otherwise controlling rumors. Rumors cannot be effectively controlled if the source of control is itself not credible. Thus, the LILCO Plan does not comply with NUREG 0654, Section II.G.4.c and 10 CFR Sections 50.47(b)(5) and 50.47(b)(7).

Contention 15.G. LILCO proposes to conduct all public education activities designed to inform the public about Shoreham and about actions to be taken in the event of a Shoreham emergency. (See Plan at 3.8-1 through ~~3-8-3~~ 3.8.4) LILCO's lack of credibility renders LILCO incapable of effectively educating the public on these matters. The public will likely disbelieve, disregard or discount purported educational materials regarding preparations for a radiological emergency at Shoreham, if such materials are received from and/or prepared by LILCO. Thus, the LILCO Plan cannot and does not comply with 10 CFR Section 50.47(b)(7) or NUREG 0654, Sections II.G.1 and 2.

Contentions 16-21: Public Education and Information.

Preamble to Contentions 16 - 21. The NRC's emergency planning regulations require that the public receive information on a periodic basis on the nature and effects of

radiation, protective measures which should be taken in the event of a radiological emergency, methods of public notification and other such information. 10 CFR Section 50.47(b)(7) and 10 CFR Part 50, Appendix E, Section IV.D.2. Public education materials should include written material that is likely to be available in a residence during an emergency, and in addition, measures must be taken to inform transients of the proper action to be taken during a radiological emergency. NUREG 0654, Sections II.G.1 and G.2. 10 CFR Section 50.47(b)(8) requires that there be means to provide notification and clear instruction to the populace within the plume exposure pathway EPZ and that the content of effective messages to the public must be established. See also NUREG 0654, Sections II.E.5 and 7. It is crucial to any radiological emergency response effort that the public have accurate and truthful knowledge of the nature of the threat, the protective actions available and the effectiveness of such protective actions. Otherwise, public confusion and ignorance will hamper the emergency response and the public will be unable to take protective actions. If information is not provided clearly or is not understood or believed, the public will fail to take appropriate protective actions, resulting in increased exposure, and noncompliance with 10 CFR Sections 50.47(a)(1), 50.47(b)(10) and NUREG 0654 Sections II.J.9 and J.10.

Contention 16. LILCO has drafted a public education brochure entitled "Emergency Procedures: Shoreham Nuclear Power Station." The content of LILCO's public information brochure is misleading and incomplete and thus this aspect of the public information program fails to comply with 10 CFR Section 50.47(b)(7), 10 CFR Part 50, Appendix E, Section IV.D.2, and NUREG 0654, Sections II.G.1 and 2. In particular:

A. The brochure erroneously states (at page 3) that all leaks of radioactive material will be held inside the containment building. Such a statement ignores the fact that severe accidents can cause radioactive materials to be released into the environment.

B. [Not admitted by ASLB] The brochure erroneously states (at page 4) that all offsite workers will be in place to help the public when, in fact, LILCO cannot guarantee that this will be so. (See Contentions 1, 2, 24, 25, 26, and 27.)

C. [Not admitted by ASLB] With respect to the value of sheltering, the brochure states (at page 6) that:

In most cases, nearby residents would be advised to remain indoors. This provides safety because buildings block the outside radiation.

This statement is incomplete and misleading because it implies that sheltering will offer complete or adequate protection. In

fact, sheltering will reduce doses by only a fraction and thus will not provide adequate protection. (See Contention 57) Indeed, according to LILCO, if one shelters in the typical Long Island home, one will still receive (on the average) 70 percent of the dose one would receive if standing outside. (See OPIP 3.6.1, at 21 (footnote)). Such a dose will result in severe health consequences in many accident scenarios. Thus, the brochure needs to be amended to make clear that sheltering will reduce exposure by only a small fraction and thus for many accidents, sheltering will not provide adequate protection.

D. The brochure inaccurately implies (at page 7) that a bus or automobile will provide effective protection from radiological exposures. In fact, a bus or automobile provides almost no protection from radiological exposure

E. The LILCO brochure's discussion of radiation effects is limited to natural sources and very low levels of radiation. It does not adequately address the magnitude of doses that the public might receive during a severe accident, such as one requiring EPZ evacuation, nor the health-threatening consequences related to such releases. Such inadequate disclosure of essential facts renders the brochure incredible. [Remainder of subpart E not admitted by ASLB] Further, the brochure does not discuss adequately the health consequences of exposure to low-level radiation, particularly:

1. The detrimental physiological effects of various levels of exposure;
2. The increased risk of cancer both to the population as a whole and to individuals; and
3. The possibility of genetic defects in future generations.

Such information is necessary so that the public will be aware of the seriousness of exposure to radiation and take all appropriate protective actions to avoid such exposure.

F. [Not admitted by ASLB] The LILCO brochure does not inform the public that LILCO itself, in the form of LERO, will be issuing all information and protective action recommendations, as well as performing almost all emergency response tasks. It is important that the public be aware of the source of all emergency information so that it may assess and evaluate the information it is receiving.

G. [Not admitted by ASLB] Although LILCO has informally advised the County that the brochure will be distributed to all households within 20 miles of the plant, the Plan does not reflect that information. In any event, the brochure fails to inform those outside the EPZ that they may be exposed to levels of radiation in excess of EPA's Protective Action Guides and that protective actions may be required outside the EPZ in

some circumstances. In addition, the brochure does not address the particular needs of persons on the eastern end of Long Island who may seek to evacuate and thus will need routing instructions and directions to appropriate relocation centers. The East End population should be informed of the danger of traveling toward the plant and, potentially, toward the plume in the event of a release from the plant. Such information is essential so that people outside the EFZ will be able to take appropriate protective actions if so required.

H. The brochure (at page 5) states that the public will be notified long in advance of any actual danger. This is inaccurate and ignores the possibility that in the case of a fast-moving event (see NUREG 0654, Appendix 1, at 1-16 and 1-17) there may be little time between notification and actual danger.

I. [Not admitted by ASLB] The brochure does not inform the reader that in the event of an evacuation or after sheltering, he or she should report to a relocation center to be monitored and, if necessary, decontaminated.

J. The brochure is missing much specific detail, particularly: what radio stations are participants in the EBS system other than WALK; detailed zone and evacuation maps; and identification of relocation centers, schools and school

districts. See FEMA Report at 6, citing non-compliance with NUREG-0654, Section II.G.2.

Contention 17. [Not admitted by ASLB] The LILCO public education program is defective for failing to use an effective array of media. For instance, its program ignores the use of radio and television which in many cases are more effective for educating large portions of the population. LILCO instead relies solely on written material such as its brochure, telephone book inserts and posters to educate the public. However:

A. A substantial segment of the population will not read the LILCO materials because they do not understand their significance, they are not interested or concerned, or they are skeptical of LILCO. Reasons that persons will not read the materials are:

1. Few people read utility brochures.
2. Few people read telephone books for educational purposes.
3. With respect to apartment dwellers, LILCO has left the responsibility of distributing its brochure to individual building managers (Plan, at 3.8-2) who may not perform that task.
4. Direct mail information will be viewed as junk mail and thrown away.

5. Posters in motels, gas stations, etc. and signs on beaches will not be read by the transient population.

B. Others will read the information when they receive it, but will subsequently discard or misplace it and will not remember the contents when a radiological emergency occurs.

C. Still others will read the information but not understand it.

As a result, many people will not be able to take appropriate protective actions, even if they might otherwise want to, because they will not know, remember, or understand: that they should tune to radio station WALK; the alphabetical designation of the zone they are in; the evacuation route they are supposed to take; or, the relocation center to which they or their children and relatives are assigned. Therefore, people will not know whether they should take shelter and, in the event of an evacuation order, they will not know whether they should evacuate. In addition, they will be unable to follow prescribed routes, thus increasing greatly their evacuation times. LILCO's inadequate information thus will render ineffective the overall notification and protective action scheme contemplated in the LILCO Plan. This constitutes noncompliance with the 10 CFR Sections 50.47(a)(1), 50.47(b)(5), 50.47(b)(7),

and 50.47(b)(10) and NUREG 0654 Sections II.E.5, E.6, E.7, G., and J.

Contention 18. The proposed LILCO posters, telephone book inserts, and EBS messages do not tell the reader what zone he is in nor do they describe the zones in which protective actions must be taken or the prescribed routes to take from those zones. (See FEMA Report at 5, citing non-compliance with NUREG 0654, Section II.E.7.) Therefore, someone who does not have access to a brochure in the event of an emergency will be unable to identify his or her zone or to follow the prescribed evacuation route out of the zone of danger. Thus, these items are not effective and do not comply with 10 CFR Sections 50.47(b)(5) and 50.47(b)(7) and NUREG 0654 Sections II.E.5, E.6, E.7, G.1 and G.2. Further, even if people know the prescribed evacuation routes for the zone in which they live, the LILCO plan does not assure that if such people are visiting other zones (such as to pick up their children at a school which is in another zone), they will be able to determine quickly and reliably the prescribed routes by which to evacuate from that zone. Thus, the Plan fails to comply with 10 CFR Sections 50.47(a)(1) and 50.47(b)(10), and NUREG 0654 Sections II.J.9 and J.10, because protective actions cannot and will not be implemented.

Contention 19. [Not admitted by ASLB]. The sample EBS broadcast messages in the Plan (Attachment 3.8.1) do not provide adequate or accurate information because almost all the messages instruct the public that the release is not expected to pose a serious health hazard, although LILCO cannot make such a determination in advance of an accident. These messages could cause members of the public to fail to take the emergency seriously when, in fact, the situation is serious. The messages should be revised to make clear that a serious health hazard may in fact be likely but that uncertainties make precise prediction impossible. Such an accurate message is required under 10 CFR Section 50.47(b)(5) and NUREG 0654, Section II.E.7.

Contention 20. LILCO intends that EBS messages will be broadcast simultaneously by WALK AM and FM. (Plan at 3.3-6). However, WALK AM does not operate at night. Therefore, those persons without FM radios (especially people in cars) will be unable to receive adequate information in the event a radiological accident occurs at night, contrary to the requirements of 10 CFR Section 50.47(b)(5).

Contention 21. The brochure and other printed educational materials which accompany the LILCO Plan will not be read and/or understood by several segments of the population, and

the Plan therefore fails to comply with 10 CFR Sections 50.47(b)(5), 50.47(b)(7) and NUREG 0654, Section II.B.1, E.5 and II.J.10(c).

[Subparts A and B not admitted by ASLB].

A. LILCO's materials will not be read or understood by schoolchildren.

B. LILCO's materials cannot be read by the illiterate, the blind, or the severely vision-impaired. The Plan does not indicate that Braille-encrypted materials will be distributed, or that alternative media (such as radio) will be employed to educate the public.

C. LILCO's materials are written exclusively in English. Similarly, the EBS messages to be transmitted by WALK in the event of an emergency will be delivered exclusively in English. However, data from the 1980 census show that there are more than 1,300 Hispanic residents of the towns of Brookhaven and Riverhead who speak English either poorly or not at all. These people will not understand either LILCO's educational materials or its EBS messages.

Contention 22: Inadequacy of LILCO's Proposed 10-Mile Plume Exposure Pathway Emergency Planning Zone ("EPZ")

Preamble to Contention 22. 10 CFR Section 50.47(a)(1) prohibits the NRC from issuing an operating license absent a

finding that emergency preparedness exists for the offsite area surrounding a nuclear power plant. The Commission must find that the state of emergency preparedness provides "reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency." Id.

A major source of radiation exposure in the event of a radiological emergency is that received as a result of direct contact with a radioactive plume and/or from inhalation of radioactive gases and particles within the plume. Thus, the NRC requires the development of a plume exposure EPZ around each plant as the basis for planning for a radiological emergency. 10 CFR Sections 50.47(b)(10), 50.47(c)(2) and Appendix E, Sections II.N.2 and IV.

"EPZs are defined as the areas for which planning is needed to assure that prompt and effective actions can be taken to protect the public in the event of an accident." NUREG 0654, Section I.D.2. The "overall objective" is to provide planning and a state of preparedness that will permit implementation of protective actions if exposure to the public is projected to be above the EPA's Protective Action Guides ("PAGs"). 10 CFR Section 50.47(b)(10) requires that planning for protective actions must be consistent with Federal guidance such as the PAGS. Under the PAGs, protective actions should be

commenced in the event of potential exposure of members of the public in the range of one to five rems. NUREG 0654, Section I.D.1.

Under the NRC's rules, plume exposure EPZs are generally 10 miles in radius. However, the 10-mile size is not an absolute: "[t]he exact size and configuration of the EPZs surrounding a particular nuclear power reactor shall be determined in relation to local emergency response needs and capabilities as they are affected by such conditions as demography, topography, land characteristics, access routes, and jurisdictional boundaries." 10 CFR Section 50.47(c)(2). See also NUREG 0654, Section I.D.2.

Contention 22. [Although Contention 22 and Subparts A-C were not admitted by the ASLB, Contention 22.D was admitted.] LILCO proposes a plume exposure pathway EPZ of approximately 10 miles in radius. (See Plan Figure 3.5.1 and Appendix A, Figure 3.) Intervenors contend that LILCO's proposed 10-mile EPZ is inadequate in size. Under the site specific circumstances existing on Long Island, an EPZ larger than 10 miles and perhaps as large as 20 miles is necessary. The bases for Intervenors' contention that a plume exposure pathway EPZ greater than 10 miles is required are: the site specific consequences which would be experienced in a severe Shoreham accident; special

topographic, geographic, governmental and social conditions existing on Long Island; the fact that LILCO's 10 mile EPZ does not provide a sufficient base for expanding emergency response to larger areas should the need arise; the evacuation shadow phenomenon; and the need to avoid having the EPZ divide population zones and governmental entities. These bases are described in greater detail in paragraphs A-D below.

Contention 22.A. [Not admitted by ASLB]. The radiological consequences of a severe accident at Shoreham are likely to be experienced at serious levels at distances greater than 10 miles from the plant. A Shoreham-specific consequence analysis (F.C. Finlayson and Edward P. Radford, "Basis for Selection of Emergency Planning Zones for the Shoreham Nuclear Power Plant, Suffolk County, New York," (Draft), October, 1982) has been conducted which takes into account, among other things, the meteorological and topographic characteristics of the areas surrounding the Shoreham plant. This analysis based on local conditions demonstrates that in the event of a core-melt accident at Shoreham, there could be doses far in excess of PAG levels at the edge of the 10-mile EPZ proposed by LILCO.

In the event of an especially severe Shoreham accident, persons in areas beyond the LILCO 10-mile EPZ would have a 35 percent chance of receiving 200 rems and a 60 percent chance of

receiving 30 rems. (200 rems represents the threshold level for early deaths; 30 rems is the level at which detectable damage to the body occurs). Even in the event of a less severe accident, persons in areas beyond the LILCO 10-mile EPZ would have a 50 percent chance of receiving 10 rems, and a 20 percent chance of receiving 30 rems. These projected doses are well above PAG levels. At 20 miles from the plant, there is less than a one percent chance of receiving a 30 rem dose (detectable physical damage can result from such a dose) for the spectrum of representative core melt accidents. For more severe core melt accidents, at 20 miles there is less than a one percent chance of receiving 200 rems.

An EPZ larger than 10 miles is necessary in order to provide planning and preparedness for protective actions necessary to mitigate doses that could produce early injuries or death, and to ensure that persons will be prepared to take protective actions in those areas most likely to experience radiation doses above the PAG levels. NUREG 0654, Section I.D.2., recognizes the need to be prepared to take protective actions at distances beyond 10 miles from the plant but appears to assume that for most situations a base planning area of 10 miles readily permits expansion of planning to the area beyond 10 miles. This is untrue on Long Island for the reasons described

in parts B and C below and for the additional reason that emergency response is to be undertaken by LERO, a LILCO creation which lacks capability in an emergency to augment its response needed for the 10 mile area. Hence, detailed advance planning for a larger area is required. The Intervenor believe that given the site specific consequences of a severe accident at Shoreham, an EPZ of approximately 20 miles is justified. In any event, in light of such consequences, the 10-mile EPZ proposed by LILCO is inadequate and should be enlarged.

Preparedness beyond the 10-mile EPZ proposed by LILCO is further required by 10 CFR Section 50.47(b)(10), since "[g]uidelines for the choice of protective actions during an emergency, consistent with Federal guidance, [must be] developed and in place." The Shoreham-specific consequence analysis demonstrates that under certain accident scenarios, exposures of five rems or more are likely out to 20 miles from the plant. The Federal PAGs require the commencement of protective actions at a potential exposure of one to five rems. In failing to provide for the commencement of protective actions anywhere beyond a 10 mile EPZ, the LILCO Plan is thus inconsistent with Federal PAGs and in violation of 10 CFR Section 50.47(b)(10).

Contention 22.B. [Not admitted by ASLB]. The NRC has recognized that in the event of certain serious accidents, protective actions would need to be taken beyond a 10-mile EPZ. See NUREG 0654, Section I.D.2 at 11 and 12. The site specific characteristics and consequences of a severe accident at Shoreham would make such protective actions essential to comply with the Federal PAG guidance and 10 CFR Section 50.47(b)(10).

The area of Long Island which surrounds Shoreham, particularly the area which lies east of the Shoreham nuclear plant and east of LILCO's proposed EPZ (including the towns of East Hampton, Southold, Shelter Island, most of Riverhead and virtually all of Southampton), possesses a number of distinguishing characteristics, which taken together, contribute to the need to plan beyond the 10-mile EPZ proposed by LILCO. Among these distinguishing characteristics are the following:

1. A significant seasonal increase in population, particularly during the five months of May through September;
2. A highly transient, dispersed seasonal population, much of which depends upon limited public transportation;
3. A road network which is inadequate to accommodate this seasonal population and which is heavily congested during ordinary seasonal conditions;

4. Due to Long Island's configuration, the inadequate road network on the north and south forks connects to two principal east-west arteries, the Long Island Expressway and Sunrise Highway, both of which pass through or very close to LILCO's proposed EPZ;

5. The area east of the EPZ provides no means of exodus to the east, meaning that persons deciding to evacuate must travel toward and through LILCO's EPZ. Studies show that large numbers of people in this area will spontaneously evacuate toward the EPZ;

6. The governmental resources available to control, communicate with, direct, shelter, provide security and otherwise accommodate this seasonal population are inadequate. Further, as noted in part A, no governmental resources will be available and thus all response is a LILCO responsibility. LILCO's LERO lacks capability to expand response to an emergency from the 10 mile EPZ to a larger area unless detailed advance planning is in place. (This might be different if governmental entities have greater resources and experience than LILCO were participating in the response);

7. One of the five towns east of the EPZ (Shelter Island) is itself an island, which further aggravates its traffic and transportation concerns; and,

6. In addition to the complications caused by seasonal population, transportation east of the EPZ is affected by flooding and snow storms at various times during the year.

Intervenors contend that these site specific characteristics which exist for Shoreham demonstrate that local emergency response needs and capabilities require planning and preparedness beyond LILCO's proposed 10 mile EPZ. Such planning and preparedness are necessary to assure the existence of an adequate response base to support expanded response efforts which may be required in the event of a serious accident. LILCO has failed to provide planning or preparedness for any area beyond 10 miles from the plant, despite the site specific consequences which could result from a severe accident at Shoreham. Thus, the LILCO Plan does not provide a substantial base for the expansion of response efforts which is likely to prove necessary and such efforts could not be developed during the course of an accident based on LILCO's Plan. This is contrary to the guidance of NUREG 0654, Section II.D.2 and 10 CFR Section 50.47(b)(10).

Contention 22.C. [Not admitted by ASLB]. An EPZ larger than 10 miles is required for the additional reason that people from outside the 10 mile EPZ will attempt to evacuate, whether ordered to do so or not. Without planning and preparedness for

an area beyond 10 miles, which takes local conditions (see C above) and voluntary evacuation into account, the voluntary evacuation will impede the evacuation of persons within the 10 mile EPZ and will result in inadequate protection for persons both inside and outside the 10 mile EPZ. Thus, in light of local conditions and the voluntary evacuation which will exacerbate the effects of such local conditions, an EPZ that is larger than 10 miles is required. LILCO's plan essentially ignores any planning for voluntary evacuees and thus is inadequate. (For a detailed discussion of voluntary evacuation (the "evacuation shadow" phenomenon), see Contention 23).

An EPZ larger than 10 miles is further necessary to provide planning and preparedness for the education, notification, and safe movement and relocation of the large number of people likely to be on the roads in the event of a Shoreham emergency. A high proportion of the voluntary evacuees will be from the eastern end of Long Island. Due to their perception that they would be trapped if the wind blew to the east, many East End residents will choose to evacuate in the event of an emergency at Shoreham. In voluntarily evacuating, they will move to the west, in some cases entering the 10-mile EPZ. In order to protect these people, and to ensure that their voluntary evacuation does not adversely affect people within 10

miles of the plant, the EPZ must be extended so that detailed planning encompasses the people to the east of the plant.

Further, large numbers of people to the west of the plant may also voluntarily evacuate, creating congestion for those attempting to leave the 10-mile EPZ proposed by LILCO and also affecting the safety of those people east of the plant who may also voluntarily evacuate. Extension of the EPZ to the west to encompass those persons who may be involved in protective actions is essential.

LILCO has not adequately provided for communications, security, blockades, relocation centers, medical facilities or any other protective actions for the area outside the proposed 10 mile EPZ in order to mitigate the impact of spontaneous evacuation on the adequacy or implementability of protective actions in LILCO's proposed 10 mile EPZ, or to prevent any such impact altogether. Failure to develop at this time emergency planning measures for the area outside the 10 mile EPZ will result in uncontrolled, chaotic evacuation should a serious accident occur at Shoreham, thereby affecting LILCO's efforts to manage the evacuation of persons within its EPZ and causing fear, panic, accidents, looting, possible violence and other phenomena beyond the control of the officials in the area east of the EPZ. Thus, an EPZ of larger than 10 miles is necessary to achieve compliance with 10 CFR Section 50.47(a)(1).

Contention 22.D. 10 CFR Section 50.47(c)(2) provides that two elements essential to defining the configuration of an EPZ are the location of local jurisdictional boundaries and demographic conditions. Thus, it is good emergency planning practice to include, if possible, the entire area of a local municipality within the boundaries of an EPZ. At a minimum, an EPZ should avoid dividing major population centers within a local municipality. See NUREG 0654, Section I.D.a.

LILCO's EPZ fails to meet the criteria of 10 CFR Section 50.47(c)(2) and NUREG 0654 because the proposed LILCO EPZ runs through and divides the villages of Port Jefferson and Terryville and the town of Riverhead. The EPZ should be extended to include all of Port Jefferson and Terryville and additional portions of Riverhead (those portions in the area 1-2 miles to the immediate east of the proposed EPZ which contain dense population and Riverhead's business district).

Contention 23: The Evacuation Shadow Phenomenon

Contention 23. Intervenors contend that in the event of an accident at Shoreham, there would be large numbers of persons who would evacuate voluntarily (the "evacuation shadow" phenomenon), even if not ordered to do so. LILCO has failed to take into account adequately the evacuation shadow phenomenon, thus resulting in a failure to comply with 10 CFR Sections

50.47(a)(1), 50.47(b)(10), 50.47(c)(2), and NUREG 0654, Section II.D. The specific deficiencies in the LILCO Plan which result from its failure to take into account the evacuation shadow phenomenon are set forth in detail in paragraphs A-J, below.

Contention 23.A. A protective action recommendation of sheltering under the LILCO Plan would not and could not be implemented because a substantial number of the people in the 10 mile EPZ who are advised to shelter will choose to evacuate instead. Vehicles provide little if any protection from a passing plume. Thus, even if a sheltering recommendation were made because plume passage were imminent, a substantial number of people would receive little if any protection from the plume. Therefore, a protective action recommendation of sheltering will not constitute an adequate protective measure and the Plan thus fails to comply with 10 CFR Sections 50.47(a)(1) and 50.47(b)(10), and NUREG 0654 Sections J.9 and J.10.

Contention 23.E. Even if an initial announcement regarding a Shoreham emergency indicates that persons in certain portions of the EPZ need not take any protective action, a substantial portion of the population, upon learning of the existence of an emergency at Shoreham, will decide to evacuate. If the event then were to escalate and a sheltering recommendation were then to be made, the voluntary evacuees

would be unable to shelter because they would be in transit in their vehicles and sheltering would not be an available protective action. Thus, they would be subject to exposure to the passing radioactive plume. The LILCO Plan thus fails to provide reasonable assurance that adequate protective measures can and will be taken, in violation of 10 CFR Sections 50.47(a)(1) and 50.47(b)(10), and NUREG 0654 Sections J.9 and J.10.

Contention 23.C. The LILCO Plan proposes an EPZ consisting of 19 separate zones. In a radiological emergency requiring evacuation of the EPZ, it is LILCO's strategy to conduct "a systematic area-by-area evacuation downwind of the reactor." (Plan, Appendix, A at I-5). The Plan is unrealistic in expecting to evacuate only certain zones within LILCO's 10-mile EPZ without expecting residents of the bordering zone(s) and probably other zones as well, also to evacuate. People not located in a zone recommended to be evacuated will not wait while their immediate neighbors evacuate in response to a protective action recommendation. This is particularly so for people who live close to the plant. Accordingly, LILCO's plan for staged evacuation of the inner EPZ zones is unworkable and thus not in compliance with 10 CFR Sections 50.47(a)(1) and 50.47(b)(10), and NUREG 0654 Sections II.J.9 and J.10.

Contention 23.D. Voluntary evacuation will result in a much larger number of people attempting to evacuate (and thus using the limited capacity of the existing road network) than is assumed by LILCO in its evacuation time estimates.^{5/} The additional vehicles will create congestion within the EPZ and in the regions just outside the EPZ, which will cause queuing and will impede traffic evacuating from the EPZ. The additional congestion caused by voluntary evacuation will cause adverse health consequences to the public because (a) evacuees from beyond the 10 mile EPZ will impede the evacuation of those within the 10 mile EPZ who are ordered to evacuate, resulting in evacuees' receiving health-threatening radiation doses; and (b) those who choose to evacuate will be unable to do so safely and efficiently.

Moreover, while LILCO acknowledges that persons not specifically instructed to evacuate will, in fact, attempt to evacuate (Appendix A, at I-5), the LILCO evacuation time estimates ignore the number of vehicles which will be on the roads due to such voluntary evacuation.^{6/} The LILCO evacuation time

^{5/} The numbers of people expected to evacuate voluntarily, the locations from which they will evacuate, and the circumstances under which they will evacuate are set forth in a survey and studies which the County has provided to all parties. (See "Basis" section of this contention.)

^{6/} LILCO has recently provided the County with a new KLD study which attempts to take into account voluntary evacu-

(Footnote cont'd next page)

estimates thus are inaccurate for failing to take into account the numbers and locations of people who will evacuate voluntarily contrary to instructions. If voluntary evacuation were properly taken into account, the LILCO estimates would increase substantially, rendering evacuation an inadequate protective action for many accident scenarios. Thus, the LILCO Plan fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(10), Part 50 Appendix E Section IV, NUREG 0654 Sections J.8, J.9, J.10, and Appendix 4.

Contention 23.E. [Not admitted by ASLB]. Two of the three primary relocation centers designated by LILCO are well within 20 miles from the Shoreham site. Both Suffolk County Community College and the State University of New York at Stony Brook are only three miles beyond the EPZ. Many evacuees who need relocation services will not use the relocation centers proposed by LILCO because they will observe a large number of voluntary evacuees from the area near the centers leaving the area. In addition, NUREG 0654, Section II.J.10.h, provides

(Footnote cont'd from previous page)

ations from outside the EPZ. The study is not part of the Plan and the County has not had sufficient time to evaluate it completely. As appropriate at a later time, this portion of this contention may be revised to include this KLD study if LILCO's Plan takes it into account.

that relocation centers must be "at least 5 miles and preferably 10 miles beyond the boundaries" of the EPZ. Accordingly, LILCO's designated relocation centers, in fact, will not provide the necessary services to evacuees and thus LILCO does not comply with NUREG 0654, Section II.J.10.g and h. Without adequate relocation centers, there is no assurance that the protective action of evacuation can and will be implemented, and therefore there is no compliance with 10 CFR Sections 50.47(a)(1), 50.47(b)(10), and NUREG 0654 Sections J.9 and J.10.

Contention 23.F. [Not admitted by ASLB]. The LILCO Plan provides no estimates of the number of evacuees who may require shelter in a relocation center, but the Plan fails to take into account the large number of voluntary evacuees who will increase substantially the demand for relocation services. Accordingly, there is no assurance that the relocation centers designated by LILCO will be able to accommodate or provide necessary services and facilities for the number of persons likely to require monitoring, decontamination, sheltering, food and other such services. (See also Contention 75) Thus, LILCO fails to comply with NUREG 0654, Sections II.J.10.g and J.12, and there is no assurance that the protective action of evacuation can or will be implemented, in violation of 10 CFR

Sections 50.47(a)(1), 50.47(b)(10) and NUREG 0654 Sections II.J.9 and J.10.

Contention 23.G. [Not admitted by ASLB]. The Plan designates LILCO personnel to provide monitoring, decontamination, sanitation, security and traffic control services at the relocation centers, and personnel from the American Red Cross, the Salvation Army, groups such as churches and industries, and select volunteers to provide other services at relocation centers. (See Plan, at 4.2-1 to 4.2-4). The relocation centers will not be adequately staffed, however, because the personnel relied upon by LILCO to respond to a relocation center are likely to be among the voluntary evacuees who will leave the area around the relocation centers. In addition, traffic congestion resulting from ordered and voluntary evacuation will prevent timely staffing of the centers. Although the relocation centers are not within the EPZ, they are in areas where there will be high percentages of voluntary evacuation. The road systems around the relocation centers -- as well as others which emergency workers would have to use to reach the centers from their homes or other locations -- will be highly congested, thus impeding access to the relocation centers by emergency staff. Accordingly, LILCO cannot demonstrate that the relocation centers will be available and functioning when

needed, as required by 10 CFR Sections 50.47(a)(1), 50.47(b)(10), and NUREG 0654 Sections II.J.9 and J.10.

Contention 23.H. The LILCO plan fails to provide adequate measures at the EPZ perimeter to control access to evacuated areas, contrary to the requirement of NUREG 0654 Section II.J.10.j. As a result, voluntary evacuees from the East End whose chosen evacuation routes may cross the EPZ perimeter, may travel into contaminated areas and receive health-threatening radiation doses and add to congestion within the EPZ. Thus, the Plan fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(10), and NUREG 0654 Sections II.J.9 and J.10.

Basis for Contention 23.

There is demonstrated reason to be concerned about the evacuation shadow phenomenon, which is the propensity for people to evacuate from areas perceived to be dangerous, even though such evacuation may not be ordered or recommended. During the TMI accident, large numbers of people evacuated voluntarily. Whereas the TMI evacuation order recommended that 2500 pregnant women and preschool children within 5 miles of the plant leave as a precaution, in fact over 144,000 people left and traveled long distances. The TMI accident thus documented the existence of the evacuation shadow phenomenon. The reasons for voluntary evacuation are several, including the public's

fear of a radiological emergency, heightened by its perception that such emergencies are unlike other disasters.

A survey of Long Island residents conducted by Social Data Analysts and reviewed by Drs. James Johnson and Donald Zeigler, Suffolk County consultants, has indicated that in the event of a radiological emergency at Shoreham, the evacuation shadow would be quite large. In fact, voluntary evacuees will outnumber, by many times, the number of persons who will evacuate because they are ordered to do so. For instance, 31,000 families live within 10 miles of the Shoreham plant. If there were a recommendation to evacuate only the 10-mile EPZ around Shoreham, approximately 432,000 families (about half the population of Long Island) would attempt to evacuate. Even if a sheltering recommendation were made only for the population within five miles of the plant, approximately 217,000 families would attempt to evacuate.

Contention 24: LILCO's Lack of Agreements With Organizations and Personnel Relied Upon in the Plan

Contention 24. The LILCO Plan relies on several organizations, entities, and individuals for the performance of services required as part of the offsite response to an emergency. However, contrary to NUREG 0654, Sections II.A.3 and C.4, LILCO has failed to obtain agreements from the

organizations or individuals relied upon which indicate their commitment to and capability of either performing the functions assigned to them, or providing the facilities expected from them in the LILCO Plan. Intervenor's contend that in the absence of such agreements, the LILCO Plan does not and cannot comply with 10 CFR Sections 50.47(b)(1), 50.47(b)(3), 50.47(b)(8) and NUREG 0654 Sections A.3 and C.4. In addition, without agreements which ensure both the participation of the various organizations and individuals relied upon in the LILCO Plan, and their capabilities to perform the functions assigned to them by LILCO, there can be no finding that the Plan or the protective actions contemplated therein can or will be implemented as required by 10 CFR Sections 50.47(a)(1), 50.47(b)(10), and NUREG Sections II.J.9 and J.10.

Subparts A-V below set forth the particular organizations or individuals relied upon by LILCO in its Plan, the bases for the contention that agreements from such parties are necessary, the effect of the lack of agreements upon the implementability of LILCO's Plan, and additional regulatory requirements which are not met in the absence of agreements.^{7/}

^{7/} If in the future LILCO were to obtain agreements with any of the entities identified in this contention, the contention as applied to such entities would not necessarily become moot. If and when any such agreements are provided

(Footnote cont'd next page)

[Rewritten by ASLB as follows:] LILCO has failed to obtain agreements from several of the organizations, entities and individuals for performance of services required as part of the offsite response to an emergency pursuant to NUREG 0654, as follows:

Contention 24.A. [Not admitted by ASLB]. The LILCO Plan assigns to LILCO employees the responsibility of command and control over the personnel in the support organizations identified in the Plan (i.e., ARC, BNL, ambulance, fire, and rescue organizations, local law enforcement agencies, the LIRR, and unnamed lumber company, the Salvation Army, voluntary groups such as churches and industries) and medical personnel and select volunteers whose affiliation is not identified in the Plan. (See OPIP 2.1.1; Plan at 2.2-2, 2.2-4, 4.2-1; Appendix A at IV-82, and IV-186-7). However, LILCO has no agreements from these organizations or individuals to follow LILCO's command and control directive. (See also Contention 13). In the absence of agreements from support organizations and individuals which indicate the willingness and ability of their

(Footnote cont'd from previous page)

to the Intervenor, the relevant subparts of this contention will be modified, if modification is appropriate in light of the contents of the agreement.

members or of the individuals to follow the LILCO Plan and command and control directives of LILCO employees, there can be no assurance that any aspect of the LILCO Plan can or will be implemented.

Contention 24.B. The Plan does not include any agreements with (1) U.S. Department of Energy-Radiological Assistance Program ("DOE-RAP") BNL, FRMAP, or BNL employees or (2) any outside consultant that has agreed to fill the LERO position of "Radiation Health Coordinator," which identify the services to be provided, the criteria for their implementation or the arrangements for exchange of information, or which obligate them to perform the functions for which they are relied upon by LILCO. In the absence of such agreements, there can be no assurance that the following functions can or will be implemented: accident or dose assessment or projection, functions recommendation of protective actions to the LERO Director, radiological monitoring, decontamination, protection and exposure control for the public and LERO workers, ingestion pathway protective action recommendations or implementation, or recovery and reentry functions. Thus there can-be is no compliance with 10 CFR Sections 50.47(b)(9), (b)(10) and (b)(11).

Contention 24.C. [Not Admitted by ASLB]. The LILCO evacuation time estimates and the computer model from which they

are derived assume that all persons will use only those evacuation routes prescribed by LILCO, at least in part because of rigid traffic controls which allegedly will be imposed by LILCO employees. (See Appendix A, at Part IV). Although the Intervenor's disagree with the rigid and complex traffic control strategy envisioned by Appendix A, it is nonetheless necessary for duly authorized officers to be available at important locations to facilitate traffic flow during an evacuation. LILCO has no agreement with Suffolk County or any other entity to provide such personnel. Thus, since there are no authorized personnel available to facilitate traffic flow, LILCO's evacuation time estimates are unrealistically low, and the Plan fails to comply with 10 CFR Part 50 Appendix E Section IV and NUREG 0654 Section II.J.8 and Appendix 4. As a result, protective action recommendations made using such inaccurate estimates could be wrong and could lead to increased public exposure to harmful radiation.

Contention 24.D. Withdrawn. LILCO has asserted that it has general agreements with private fuel companies for the provision of fuel to LILCO. However, there are no agreements to provide such fuel during a radiological emergency, and the agreements are not included in the Plan. Therefore, there is no basis for LILCO's assertion that it will be able to provide

fuel for evacuees during an evacuation. In the absence of such agreements with fuel companies, LILCO has no means of dealing with the likelihood that substantial numbers of vehicles will run out of gas during an evacuation, resulting in evacuees' being stranded without transportation, and blockage of roadways which will impede travel by other evacuees.

Contention 24.E. Under the LILCO Plan, individual schools and school districts are relied upon for implementation of early dismissals, sheltering in schools, and evacuation/relocation of school children, and retaining of school children in schools beyond the end of the school day. ~~ef-the Shoreham-Wading-River-District.~~ (See Appendix A at II-19, 20 +80-185). However, LILCO has no agreements, with the schools or school districts, to implement any of these proposed protective measures for school children. In addition, LILCO has no agreements with nursery schools or parents of children in nursery schools to permit LILCO employees to drive buses transporting their children. (See Appendix A at II-21). In the absence of such agreements, there is no assurance that any protective actions for school children can or will be taken.

Contention 24.F. LILCO proposes that all people who do not have access to an automobile at the time of an evacuation order, most invalid and disabled persons residing at home, all

school children ~~in-the-Shoreham-Wading-River-School-District,~~
and large numbers of the residents of nursing and adult homes,
hospitals and other special facilities will be evacuated by
buses. According to LILCO's estimates, ~~approximately-285~~ 333
forty-passenger buses are required to transport those
able-bodied persons without access to cars who would need
transportation out of the EPZ (see Appendix A, at IV-74b ~~IV-87~~
~~to-IV-178;~~ OPIP 3.6.4). An additional ~~25~~ 26 forty passenger
buses will be necessary, according to LILCO, to evacuate most
of the homebound residents in the EPZ and a portion of the
residents of nursing and adult homes (see Appendix A at
IV-175). ~~IV-189-to-191;~~ And, LILCO estimates that 14 sixty
passenger buses will be necessary to evacuate nursery schools.
(Appendix A at IV-171.) These estimates do not include the
number of buses that will be needed to enable all other schools
to evacuate their students with-an or the additional
unspecified number of buses necessary to evacuate and relocate
certain of the approximately 630 patients in hospitals should
such evacuation be necessary (see Appendix A, at II-28;
IV-172). ~~IV-185-to-188;~~ ~~--An-additional-unspecified-number-of~~
~~buses-is-necessary-to-evacuate-the-children-in-the-Shoreham-~~
~~Wading-River-School-District.~~ However, not even the necessary
number of buses estimated by LILCO to be necessary will ~~not~~ be
available for use by LILCO because:

1. LILCO has no agreements under which such vehicles will be available other than letters of intent to enter into such agreements. (see Appendix B A7-at-III-36). See FEMA Report at 9-10, noting this as a violation of NUREG 0654, Section II.J.10.g.

2. Most buses within a reasonable distance of the EPZ are under contract to school districts or other entities and the letters of intent signed by bus companies indicate that any eventual agreements with LILCO would be subject to any agreements-with-LILCO-would,-presumably,-reflect such pre-existing commitments. Therefore, most buses in the area could not be relied upon by LILCO for use in an evacuation, even if LILCO were to enter into agreements concerning such buses.

3. The LILCO Plan assumes that all schools ~~other than-those-in-the-Shoreham-Wading-River-District~~ will implement an early dismissal in the event of any emergency in which no protective actions were recommended for the general public. The LILCO Plan also assumes that schools will evacuate and relocate their students to locations outside the EPZ if evacuation is recommended for the general public. If such dismissals or evacuations were to occur, most buses in the vicinity of the EPZ would be required by schools to transport children to their houses.

4. Many buses within a reasonable distance of the EPZ have capacities substantially less than 40 passengers.

5. LILCO itself does not possess the number of forty-passenger buses will be necessary to implement the LILCO Plan.

In the absence of such agreements, LILCO's proposed evacuation of persons without access to cars, the homebound, school children in the Shoreham-Wading-River-School-District, and residents of nursing and adult homes and hospitals cannot and will not be implemented.

Contention 24.G. According to LILCO's estimates (see Appendix A, at IV-175 IV-189-ec-191), it will require sufficient ambulances to make approximately-348 113 ambulance trips and enough ambulettes to make 209 trips in order to evacuate the nursing and adult homes located in the EPZ and the homebound who reside in the EPZ. An additional number of ambulances and ambulettes airplanes will be required to evacuate the approximately 630 patients likely to be in the hospitals within (and just outside) the EPZ. (See Appendix A, at IV-172; OPIP 3.6.5). IV-185-ec-188). An-additional-number-of-ambulances-or specially-equipped-vehicles-will-be-necessary-to-evacuate handicapped-people-from-their-homes---(See-OPIP-3.6.5)+ However, LILCO has no agreements with ambulance companies or-rescue

~~services, or airlines,~~ to provide such equipment in such quantities. (See FEMA Report at 10). Even the letters of intent to enter into such agreements which are contained in Appendix B do not relate to numbers of ambulances and ambulettes necessary to meet LILCO's own estimates. In the absence of such agreements, LILCO's proposed evacuation of persons in special facilities, hospitals, and the handicapped cannot and will not be implemented. [Remainder of Contention 24.G not admitted by ASLB] In addition, there is no assurance ambulances will be available to transport contaminated injured persons, or persons injured during an evacuation to hospitals for treatment, as is required by 10 CFR Section 50.47(b)(12). In fact, there are only 40 ambulances located within approximately 12 miles of Shoreham, some of which, of course, would likely be occupied by duties outside the EPZ at time an emergency arose. The number of vehicles necessary to perform a timely evacuation of the special facilities and handicapped persons in the EPZ thus will not be available to LILCO.

Contention 24.H. Withdrawn. The LILCO Plan relies upon the LIRR and an unnamed lumber company to evacuate up to 845 patients of special facilities and hospitals, by converting passenger cars to accommodate patients on mattresses (Plan, Appendix A, at IV-186). However, LILCO has no agreement with (a)

the LIRR to provide the necessary number of trains and to permit modifications to its cars, or (b) a lumber company to provide, on a 24-hour basis, the materials necessary to accomplish the proposed modifications to the LIRR cars. In the absence of such agreements the proposed evacuation of special facilities and hospitals cannot and will not be implemented.

Contention 24.1. ~~The LILCO Plan provides that in the many cases where buses evacuating people without access to cars are required to make more than one run, the bus routes will terminate at designated "transfer points." Of the 285 buses which LILCO estimates it will require, 109 are expected to perform two runs and 14 are expected to perform three runs. As buses finish the required number of runs, people who have been deposited at transfer points will be bused from the transfer points to relocation centers.~~

The provisions of the LILCO Plan for evacuating persons without access to automobiles are premised on a system in which some buses pick up evacuees throughout evacuation zones and carry the evacuees to "transfer points." Other buses are expected to take the evacuees from these transfer points to relocation centers. According to the LILCO Plan, a total of 333 buses will be required to carry out this process. LILCO's estimated route times begin and end with the assumed transfer

points. (See Appendix A, at IV-73 to IV-165; ~~IV-87-to-IV-178~~, ~~165~~; OPIP 3.6.4).

However, the LILCO Plan does not ~~have~~ include agreements with the owners of those designated transfer points not owned by LILCO schools-or-school-districts permitting LILCO to use the schools facilities relied upon in the Plan as transfer points. In fact, such transfer points are likely to be unavailable for use by LILCO. ~~if-an-emergency-were-to-occur during-school-hours~~ Moreover, without such transfer points, each bus route would have to terminate at a relocation center rather than at a transfer point, resulting in a substantial increase in the estimated route times. In the absence of such agreements, LILCO's proposed evacuation of people without access to cars cannot and will not be implemented.

Contention 24.J. The LILCO Plan relies upon special facilities, nursery schools, and their employees to perform several functions necessary to a successful evacuation of such facilities according to the LILCO Plan. (See Appendix A II-28 to II-29, IV-166 to IV-178.) ~~at-IV-180-through-189~~ (The facilities involved are the nursery-schools-and nursing and adult homes and the nursery schools in and near the EPZ, Association for the Help of Retarded Children (AHRC) facilities, United Cerebral Palsy facilities, John T. Mather Memorial

Hospital, St. Charles Hospital, Central Suffolk Hospital, Maryhaven Center of Hope facilities, and the BOCES Learning Center.) ~~Millerest-Rest-Home, Lane-Home, Grimes-home, Moore Home, Lincoln-Rest-Home,~~ However, the Plan does not include agreements with the special facilities in the EPZ to implement the evacuation procedures set forth in the Plan, and thus the proposed evacuation of such facilities cannot and will not be implemented.

Contention 24.K. The LILCO Plan relies upon ~~volunteer~~ non-LILCO personnel to drive ambulances and ambulettes ~~rescue vehicles~~, and to provide the necessary medical and paramedical support services in the buses, ambulances, and ambulettes ~~railroad-cars-and-airplanes~~ to be used in evacuating special facilities and the handicapped. ~~LILCO-also-appears-to-rely upon-BIRR-personnel, private-airplane-crews-and-employees-of-an unnamed-lumber-company-to-perform-substantial-and-essential roles-in-the-proposed-evacuation.~~ (See Appendix A, at IV-166 to IV-168, IV-172 to IV-178.) ~~IV-165-to-192.~~ The LILCO Plan includes no agreements from any such individuals or related entities to perform such services, under LILCO's direction, in the event of an emergency at Shoreham. In the absence of such agreements, LILCO's proposed evacuation of special facilities and the handicapped cannot and will not be implemented. There

is also no assurance that contaminated injured persons, or persons injured during the evacuation, will be transported to hospitals for treatment as required by 10 CFR Section 50.47(b)(12).

Contention 24.L. The LILCO Plan relies upon unidentified "dispatch locations" to relay communications between LILCO command and control personnel in the EOC, and those emergency response personnel who are affiliated with hospitals or expected to drive ambulances and ambulettes ~~7-fire and-rescue-vehicles~~ during an emergency. (See Plan at 3.4-3). ~~If-By~~ The "dispatch locations" are ~~LILCO-refers-to-those~~ facilities operated by non-LILCO organizations in the course of their day-to-day operations. (Id.) ~~or-personnel,~~ Agreements with such organizations and personnel are necessary to ensure their availability to LILCO during an emergency. However, the Plan contains no such agreements. In their absence, there can be no finding of compliance with 10 CFR Sections 50.47(b)(5), 50.47(b)(6), and NUREG 0654 Section II.F.

Contention 24.M. The LILCO Plan relies upon school bus drivers for implementation of early school dismissals and evacuation/relocation of school children. ~~(which-constitute-the primary-protective-action-to-be-recommended-by-LILCO-for-school children)~~. However, LILCO has no agreements with school bus

drivers to perform such a functions in the event of a radiological emergency at Shoreham. In the absence of such agreements, the protective actions for school children ~~outside the Shoreham-Wading-River-School-District~~ cannot and will not be implemented.

Contention 24.N. The LILCO Plan relies on the availability of non-LILCO facilities and medical institutions as relocation and reception centers for evacuees. (See Plan at 4.2-1; OPIP 4.2.1; Appendix A at IV-166 to IV-174). ~~IV-180 to IV-191~~. However, LILCO has no agreements with the owners of the proposed identified facilities which provide that the facilities will be available as relocation ~~or-reception~~ centers in the event of a radiological emergency at Shoreham. See FEMA Report at 10 (noncompliance with NUREG 0654 Section II.J.10.h). In addition, the Plan does not even identify, much less include agreements with, the facilities to be used as relocation or reception centers for school children, patients in hospitals, handicapped individuals, or residents of any special facilities other than United Cerebral Palsey of Greater Suffolk, Inc. (Appendix A at IV-166-IV-174). In the absence of such agreements, the protective action of evacuation cannot and will not be implemented.

Contention 24.O. The Plan designates Suffolk County Community College as the relocation center to be used by evacuees from eight of the 19 zones in the EPZ (zones A-E, H-J). ~~and-for the-children-in-the-Shoreham-Wading-River-School-District.~~ LILCO estimates the population of these zones to be 18,599 (26,574 in the summer). (See Plan, Appendix A, at IV-75 to 162). ~~IV-87-to-178~~. Suffolk County Community College is an entity of the Suffolk County government. LILCO has no agreement with Suffolk County to use Suffolk County Community College as a relocation center. Furthermore, pursuant to Suffolk County Resolution No. 456-1982 and Resolution No. 111-1983, the Suffolk County Community College will not be available for use in implementing the LILCO Plan. Therefore, there is no relocation center designated for a significant portion of the anticipated evacuees. Thus, the proposed evacuation of zones A-E, ~~H-J-and-the-Shoreham-Wading-River-School-District,~~ cannot and will not be implemented.

Contention 24.P. LILCO relies upon the ARC, ~~the-Salvation Army, groups-such-as-churches, industries, and-select-volunteers~~ to provide services, including medical and counselling services, at relocation centers. (Plan 2.2-1, 2.2-2, 3.6-7 and at 4.2-1). However, LILCO has no agreement with the ARC, ~~the Salvation-Army, any-other-volunteer-groups, or-individuals,~~ to

provide such services in the manner or volume, or according to the procedures, assumed in the LILCO Plan. ~~Indeed, many "groups" are not even specifically identified by LILCO.~~ In the absence of such agreements, LILCO's proposed protective action of evacuation cannot and will not be implemented.

Contention 24.Q. [Not admitted by ASLB] The LILCO Plan appears to rely upon local law enforcement agencies to provide security in evacuated areas. (Plan at 2.2-4; Appendix A at IV-82). However, LILCO has no agreements with police departments to provide such security in the event of a radiological emergency. Thus, despite LILCO's recognition of the necessity for "security patrols to prevent vandalism or theft," (Appendix A, at IV-82), the Plan fails to provide for such patrols. In the absence of such agreements, there can be no assurance that the LILCO Plan or the protective actions contemplated in the Plan can or will be implemented.

Contention 24.R. The ingestion exposure pathway EPZ includes portions of the State of Connecticut. LILCO has no agreement with the State of Connecticut under which the State agrees to plan for, recommend or implement protective actions for the portions of the ingestion exposure pathway EPZ that are in Connecticut. In the absence of such an agreement, protective actions for the entire ingestion exposure pathway EPZ

cannot and will not be implemented. Thus, there can be no finding of compliance with 10 CFR Section 50.47(c)(2).

Contention 24.S. LILCO is required to provide site specific emergency response training and periodic retraining for those offsite emergency organizations who may be called upon to provide assistance in the event of an emergency, including personnel responsible for accident assessment, police, security and fire fighting personnel, first aid and rescue personnel, local support services personnel, and medical support personnel. 10 CFR Section 50.47(b)(15); NUREG 0654, Sections II.O.1.a, 4.b, d, f, g and h. In addition, 10 CFR Section 50.47(b)(14) and NUREG 0654 Section II.N. require that there be periodic drills and exercises of emergency response capabilities. LILCO has no agreements with offsite response organizations, or individual workers, to attend LILCO training sessions or to participate in drills or exercises. Such agreements are necessary because unlike its own personnel, LILCO cannot require non-LILCO personnel to receive training, or to participate in drills or exercises. In the absence of such agreements, there is no assurance that an adequate number of properly trained emergency workers will be available to respond effectively to an emergency at Shoreham, in violation of 10 CFR Sections 50.47(b)(14) and 50.47(b)(15), Part 50, Appendix E,

Section IV.F, and NUREG 0654, Sections II.C.1.a, C.1.b. and N. In the absence of trained non-LILCO emergency workers, no aspect of the LILCO Plan can or will be implemented.

Contention 24.T. Under the LILCO Plan, the U.S. Coast Guard is relied upon to provide public notification services for the general public on the waters within the 10-mile EPZ and to restrict access to the EPZ during a radiological emergency at Shoreham. (Plan, at 2.2-2). Since much of the EPZ covers Long Island Sound, prompt notification of boaters and swimmers is important, particularly since the wind often blows offshore. Although the U.S. Coast Guard has agreed to perform marine traffic control functions and to broadcast warnings to the general public on the waters within the EPZ (see Plan, Appendix B, at App-B-8), ~~however,~~ LILCO has no agreement with the U.S. Coast Guard to ~~perform-the-notification-functions-required under-the-Plan~~ alert persons on beaches or at the various marinas in and around the EPZ. In the absence of such an agreement, a portion of the population in the EPZ will not receive notice of an emergency, and persons inside and outside the EPZ may receive substantial doses of harmful radiation. Thus, there can be no finding of compliance with 10 CFR Section 50.47(b)(5), 50.47(b)(10) and NUREG 0654 Sections II.E.5 and E.6.

Contention 24.U. Withdrawn. The LILCO Plan's provisions for recovery and reentry rely upon the appointment of individuals from FEMA and DOE to the Recovery Action Committee. (See OPIP 3.10.1, at Section 3.0.) However, LILCO has no agreement with FEMA, or to provide such personnel. In the absence of such agreements, there is no assurance that proposed recovery and reentry provisions of the LILCO Plan can or will be implemented. Thus, there can be no finding of compliance with NUREG 0654, Section II.M.

Contention 25: Role Conflict of Emergency Workers

Preamble to Contention 25. Emergency workers relied upon by LILCO will have conflicting duties in the event of an emergency. On the one hand, they will be obligated or expected to perform some emergency function under the LILCO Plan; on the other hand, they will be obligated by preexisting family or occupational relationships, to attend to other matters such as the safety of their spouses, children, or other family members. Role conflict for emergency workers was a documented problem at TMI, especially concerning medical personnel; behavior surveys conducted by Suffolk County demonstrate that this will be a problem in a Shoreham emergency as well. Role conflict thus creates the possibility that significant numbers of emergency personnel will look to the needs of their families or others

for which they have responsibility (including themselves) before they report (if at all) to their designated emergency response positions or otherwise respond to a request by LILCO for assistance. This factor will be exacerbated by the fact that many emergency personnel will be asked to respond from a relatively safe area outside the EPZ to a more dangerous area within the EPZ.

Contention 25. Intervenors contend that the LILCO Plan fails to comply with 10 CFR Sections 50.47(a)(1), 50.47 (b)(1) and 50.47(b)(3), because the Plan fails to address the problem of emergency worker role conflict. Intervenors contend that a substantial number of the emergency workers relied upon under the LILCO Plan will resolve such conflicts by attending to their other obligations prior to, or in lieu of performing the emergency functions assigned to them by LILCO. In the absence of such workers, the LILCO Plan cannot and will not be implemented, and there can be no finding of compliance with 10 CFR Sections 50.47(a)(1), 50.47(b), and NUREG 0654 Section II. The emergency workers likely to experience role conflict, the type of conflict, and the effect of such conflict upon the implementability of the LILCO Plan are set forth in paragraphs A-F below.

Contention 25.A. The LILCO Plan is premised on the belief that LILCO personnel in command and control positions, as well as those assigned to perform other emergency response functions, will be willing to report promptly for duty in the event of a radiological emergency. Intervenors contend that LILCO employees located outside the EPZ at the time of an emergency will be reluctant to leave a relatively safe area outside the EPZ to enter a more dangerous area within the EPZ to exercise command and control, supervisory, or other emergency responsibilities. Other LILCO employees, including those located in the EPZ, or whose families are located in the EPZ, will also be reluctant to report for emergency duty without first having attended to the safety of their own families. The "Emergency Worker Tracker System," which LILCO asserts will "ensure that LILCO-employed the immediate families of all emergency workers are provided for throughout the incident" (Plan, at 2.1-7 and 2.1-8), has not even been developed yet, and therefore cannot be relied upon by LILCO to eliminate role conflict of LILCO personnel. Thus, Intervenors contend that LILCO has failed to ensure that LILCO-employed emergency workers will in fact report promptly to perform emergency responsibilities and thus the LILCO Plan is not capable of implementation.

Contention 25.B. The LILCO Plan fails to take into account the role conflict that is likely to be experienced by BNL personnel upon whom LILCO exclusively relies for all offsite accident and dose assessment and projection functions, and for all command, control and coordination functions related to offsite accident assessment and the decision to recommend particular protective actions to the LILCO Director of LERO. Such BNL personnel are likely to have families located in or near the EPZ and therefore are likely to attend to the safety of their families prior to, or in lieu of, reporting for emergency duty. Without BNL personnel, neither offsite accident and dose assessment and projection, nor recommendation of protective actions will be performed.

Contention 25.C. The LILCO Plan fails to take into account the role conflict that will be experienced by school bus drivers. In fact, a substantial number of school bus drivers are likely to attend to the safety of their own families before they report (if they report at all) to perform the bus driving duties which LILCO assumes will be performed. Role conflict of school bus drivers will mean that neither school buses nor school bus drivers will be available to implement the LILCO Plan. Without an adequate number of buses or bus drivers, LILCO will be incapable of implementing the following protective actions:

1. early dismissal of schools (necessary under the LILCO Plan to permit school children to be sheltered or to evacuate with their parents);

2. evacuation of schools;

3. evacuation of persons without access to cars;

and,

4. evacuation of persons in special facilities.

Contention 25.D. The LILCO Plan fails to take into account the role conflict that is likely to be experienced by teachers, other school employees, and crossing guards. In fact, a substantial number of such personnel are likely to attend to the safety of their own families rather than remaining at the schools or at their posts in the event of an emergency. Accordingly, there is no assurance that under the LILCO Plan adequate personnel will be available to supervise children, including those required to walk home, during the early dismissal process, during school evacuations, or in the event that children are sheltered in the schools. As a result, the following protective actions could not and would not be implemented:

1. early dismissal of schools;

2. sheltering of school children in schools; and

3. evacuation of schools.

Contention 25.E. The LILCO Plan fails to take into account the role conflict that is likely to be experienced by (a) the non-LILCO personnel who, under the LILCO Plan, are expected to drive ambulances or rescue vehicles and to provide the necessary medical and paramedical support services in the buses, ambulances, railroad cars and airplanes to be used in evacuating special facilities and handicapped persons at home; or (b) Long Island Railroad (LIRR) personnel, private airplane crews and employees of an unnamed lumber company who, under the LILCO Plan, are expected to perform substantial and essential roles in the proposed evacuation of special facilities and the handicapped. (See Appendix A, at IV-185 to 192). A substantial number of such individuals will attend to the safety of their own families prior to, or in lieu of reporting to perform emergency services. Without such personnel, the following actions could not and would not be implemented:

1. evacuation of special facilities;
2. evacuation of handicapped persons at home; and,
3. transport of contaminated injured persons, or persons injured during an evacuation, to hospitals for treatment.

Contention 25.F. The LILCO Plan fails to take into account the role conflict that is likely to be experienced by the non-LILCO volunteers who are expected, under the LILCO Plan, to staff the relocation centers. LILCO identifies the ARC as the lead agency responsible for the total operation of the relocation centers. (Plan, at 2.2-1, 3.6-7 and 4.2-1). LILCO also relies on the ARC for other specific actions in the relocation centers, such as medical and counseling support. (Plan, at 4.2-1). The Salvation Army also is designated as assisting the ARC. (Plan, at 2.2-1). The LILCO Plan also asserts that LILCO will rely on groups such as churches, industries, and select volunteers, to provide additional services. (Plan, at 4.2-1). The relocation centers will not be adequately staffed, however, because the ARC personnel and other volunteers relied upon by LILCO are likely to attend to the safety of their own families prior to or in lieu of reporting to perform emergency duties. Without such personnel, the relocation centers will not be available or functioning when needed.

~~5C~~ Contention 26: Notification of Emergency Response Personnel

Preamble to Contention 26. 10 CFR Section 50.47(b)(5) requires that an offsite emergency plan include procedures for notification of State and local response organizations and of

emergency personnel. See also 10 CFR Part 50, Appendix E Section IV.C. Procedures must be established regarding the bases for notification of response organizations, including means for verification of messages, and for alerting, notifying, and mobilizing emergency response personnel. NUREG 0654, Section II.E.1 and E.2. Moreover, there must be the capability of notifying these emergency personnel "within 15 minutes after declaring an emergency." 10 CFR Part 50, Appendix E, Section IV.D.3. LILCO is required to establish primary and backup means of communications with local response organizations, to ensure that these communication systems are compatible with one another, and to ensure that there will be 24-hour per day notification to, and activation of, the local emergency response network. NUREG 0654, Section II.F.1.

Without prompt and reliable notification of emergency personnel, there will be delays in mobilizing them and in implementing command and control decisions regarding protective actions for the public. See NUREG 0654, Section II.F.1.e. Prompt and reliable notification of emergency personnel depends upon an adequate, dependable and workable communications system.

Contention 26. Intervenors contend that the LILCO communications system and procedures for notifying emergency

response personnel fail to provide assurance that there will be prompt and reliable notification to such personnel. As a result, the Plan fails to comply with 10 CFR Sections 50.47(b)(5), 50.47(b)(6) and NUREG 0654, Sections II.E and F. Without prompt and reliable notification of emergency response personnel, necessary workers cannot and will not be promptly mobilized, and no aspect of the LILCO Plan, or the protective actions contemplated thereunder can or will be implemented, in violation of 10 CFR Sections 50.47(a)(1), 50.47(b)(8), 50.47(b)(9), and 50.47(b)(10), and NUREG 0654, Sections II.h.4, I., J.9 and J.10. The specific deficiencies in LILCO's system for notifying emergency workers are set forth in paragraphs A-E below.

Contention 26.A. The LILCO Plan designates the LILCO Customer Service Office (Hicksville) as the primary notification point of the LERO, responsible for receiving initial and followup notifications of an emergency from the plant, verifying authenticity and content of information contained in the notification messages, and notifying key emergency response personnel. (See Plan, at 3.3-1). In addition, Customer Service personnel may be responsible for manually verifying emergency worker pager notifications and compiling staffing lists (see, e.g., OPIP 3.3.2, at 13) and for attempting to contact by

telephone all emergency response personnel who do not acknowledge receipt of pager notification (see, e.g., OPIP 3.3.2, at 6). The number of emergency personnel to be contacted increases with the severity of the emergency. (See Plan, at 3.3-1 through 3.3-4; Figures 3.3.2, 3.3.3 and 3.3.4). However, LILCO's Customer Service Office is not capable of serving as the primary notification point of the LERO for the following reasons:

1. Although the LILCO Plan does not indicate the number of personnel assigned to the Customer Service Office, or the training and equipment available to those personnel, LILCO has informally advised Suffolk County that there will only be two operators on duty during the eight-hour midnight shift. In addition, the Plan makes no provision for backup for the on-duty dispatcher(s) in the LILCO Customer Service Office (see Plan, at 3.3-1), other than to instruct the on-duty operator(s) to call out additional Customer Service personnel "in accordance with established restoration procedures" on an "as needed" basis (see, e.g., OPIP 3.3.2, at 2), and to advise the Hicksville Customer Service operator(s) that, in the event of failure of the LILCO paging system, assistance in executing manual call outs of emergency response personnel may be requested from the LILCO Customer Service staffs in the Hewlett

and Brentwood offices (see OPIP 3.3.2, at 16-17). However,
there is no indication in the Plan of the number of personnel
who could or would respond "in accordance with established res-
toration procedures." Nor is there any indication of how
quickly such personnel could respond. Indeed, the Plan does
not even describe LILCO's restoration procedures or what is
meant by calling out personnel on an "as needed" basis. Simi-
larly, with respect to seeking assistance from the Hewlett and
Brentwood offices, the LILCO Plan does not indicate the number
of personnel assigned to those offices, whether the offices are
staffed on a 24-hour basis, or the training and equipment
available to those personnel. Thus, there is no assurance that
staffing of the Hicksville Customer Service Office is will be
insufficient to ensure that the necessary notification
functions will can be performed.

2. The Plan does not indicate that there will be adequate equipment available to Customer Service personnel to permit the necessary notification in a timely manner, i.e., within 15 minutes after an emergency is declared. See 10 CFR Part 50, Appendix E, Section IV.D.3.

As a result, LILCO's provisions for receiving initial notification of an emergency, verifying the information received, and notifying emergency response personnel are deficient and

provide no assurance that emergency personnel will be alerted, notified and/or mobilized.

Contention 26.B. [Not admitted by ASLB]. Under the LILCO Plan, non-dedicated, commercial telephone lines, with no backup means of communication, are relied upon for notifying essentially all categories of emergency response personnel. The notification procedures which are dependent upon commercial telephones are:

1. Notification by the plant and/or LILCO Customer Service of (a) Nassau County, (b) the State of Connecticut, (c) the U.S. Coast Guard, and (d) the Federal Aviation Administration. (See Plan at 3.4-4; Figures 3.3.5 and 3.4.1).

2. Notification of BNL, which will provide all offsite dose and accident assessment and projection personnel. (Plan, Attachment 2.2.1, at 2; Figure 3.3.5).

3. Notification of "key" emergency response personnel who are employed by LILCO, by means of pagers which must be accessed by commercial telephones. (Plan, at 3.4-4 and 3.4-5).

4. Notification of all other emergency response personnel who are employed by LILCO, by means of telephone calls from other emergency workers. (OPIP 3.3.2).

5. Notification of reception hospitals, ambulance and fire/rescue dispatch stations, bus companies, relocation

centers, and, apparently, the American Red Cross and all other non-LILCO organizations and personnel relied upon in the LILCO Plan. (See OPIPs 3.6.4 and 3.6.5).

LILCO's reliance upon commercial telephones for most notification of offsite response personnel is inappropriate. Commercial telephones are subject to overload, or may be out of service in the event of an emergency. The possibility of overload is particularly acute under the LILCO Plan because, in addition to the heavy telephone use by the public which is likely in the event of an emergency, LILCO employees will themselves be making extensive use of the telephone lines. In addition to using the lines for all the notification purposes listed above, the Plan also contemplates LILCO personnel contacting all schools, hospitals, nursing/adult homes, other special facilities, and handicapped persons in the EPZ, to verify their awareness of an emergency, the need to evacuate, and to arrange for assistance. (See OPIPs 3.6.4 and 3.6.5). If commercial telephone lines were not available to LILCO, practically none of the offsite response personnel could be notified, and no aspect of its Plan could be implemented. Given both the enhanced probability of commercial telephone line overload, and the impact of telephone unavailability on the implementation of the LILCO Plan, LILCO's reliance upon commercial telephones

means there can be no assurance that the Plan can or will be implemented.

Contention 26.C. The LILCO Plan provides for notification of "key" ~~LILCO~~ emergency response personnel by pager. (Plan, at ~~3-4-4~~ 3.3-2 through 3.3-4 and 3.4-5). According to LILCO, these key personnel "will not leave the LILCO service territory or New York City while on call," and they are to arrange for coverage by alternates during times when they cannot be on call. (See OPIP 3.3-2, at 14-15). Notwithstanding LILCO's assertion, however, there is no assurance, however, that these key emergency response personnel can reliably be contacted through the LILCO paging system due to distance limitations on transmission, the fact that batteries for the pagers must-be may run down and not be charged or replaced and or tested on a regular basis, and unavailability of the individuals equipped with pagers (for example, because of illness or travel out of the paging area). In addition, ~~the-LILCO-Plan-provides-no means-for-determining-whether-emergency-personnel-in-fact-have received-the-paged-message/notification,~~ although the LILCO Plan provides that emergency personnel equipped with pagers are to call in to LILCO's "automated verification system" upon receipt of notification (see Plan, at 3.4-5), the Plan does not adequately describe this system or how it works. (See OPIP

3.3.2, at 12-13). The limited information provided by LILCO about the system and how it works does not permit a determination that there will be adequate means for LILCO to determine whether emergency personnel in fact receive paged messages/notifications. Nor is there any requirement in the Plan for confirmation of messages by contacted personnel. ~~employees.~~ The Plan only provides that emergency personnel are to respond according to the code displayed on their pagers, regardless of whether verification can or cannot be made. (See OPIP 3.3.2, at 14). Since verification under the Plan is only verification that emergency personnel have received some paged message, the response to the message may not be the response intended and appropriate (e.g., due to pager malfunction, emergency personnel may be notified to go to standby status, rather than to report). As a result, there is no assurance under the LILCO Plan that key ~~LILCO~~ emergency response personnel will be promptly alerted, notified and mobilized.

Contention 26.D. The LILCO Plan provides for key ~~LILCO~~ emergency response personnel, after having been contacted through the LILCO paging system, to notify, in turn, other ~~LILCO~~ emergency response personnel by telephone. The number of personnel to be contacted increases with the severity of the emergency. (See OPIP 3.3.2). However, some emergency response

personnel will not be near telephones (such as meter readers and other LILCO employees who may be in the process of performing their normal job functions, or persons who are not at home), will be using their telephones or, for other reasons, will not be able to be contacted. In addition, it will take a substantial amount of time to place the number of telephone calls necessary to reach the required number of ~~LILCO~~ emergency response personnel. (See, e.g., OPIP 3.3.2, ~~at-74-91~~ Attachment 5). Thus, under the LILCO Plan there is no assurance that there will be prompt notification and mobilization of ~~the-LILCO~~ emergency response personnel.

Contention 26.E. The LILCO Plan has no procedures that assure prompt notification of non-LILCO emergency support organizations and personnel, namely, ~~BNB, the-ARC, Salvation-Army,~~ hospitals, and reception and relocation centers, bus companies, and ambulance companies. ~~and-fire/rescue-organizations-the LIRR, an-unnamed-lumber-company-churches, industries, and-other select-volunteers/~~ Presumably, commercial telephones will be used to attempt to contact these organizations and personnel. While there are procedures for notifying other non-LILCO emergency support organizations, namely, the Brookhaven Area Office (which will, in turn, notify DOE-RAP personnel), the U.S. Coast Guard, the Federal Aviation Administration, and the New York

Telephone Company (see OPIP 3.3.2, Attachment 4), notification of these entities is to be by way of commercial telephones, which under the LILCO Plan are assumed to be available. If commercial-telephones-are-to-be-used-and-are-assumed-to-be available-(see-subpart-B-of-this-contention), There is, however, no assurance that the necessary personnel will be capable of being contacted by telephone since they may not be near telephones or may be using their telephones. Further, these same problems make ineffective LILCO's reliance on the Federal Telephone System as a backup means for contacting the Brookhaven Area Office, the U.S. Coast Guard, and the Federal Aviation Administration (see OPIP 3.2.2, Attachment 4). Moreover, under the LILCO Plan there is no provision for verification of messages to non-LILCO emergency ~~these~~ support organizations, as required by NUREG 0654, Section II.E.1. Further, with the exception of the Brookhaven Area Office, the New York Telephone Company, the U.S. Coast Guard, and the Federal Aviation Administration (which are notified if an Alert is declared by LILCO), the LILCO Plan apparently contemplates notification of non-LILCO emergency support organizations only if a Site Area or General Emergency has been declared by LILCO. (See Plan, Figure 3.3.4). Thus, there is no assurance that there will be timely notification to the support organizations relied

upon by LILCO (see Plan, at 2-2-4 2.2-1 and Figure 2.2.1), and there can be no finding that the LILCO Plan can or will be implemented.

Contention 26.F. Under the LILCO Plan, the Emergency Broadcast System ("EBS") can only be activated by communication with WALK radio station. (See OFIP 3.8.2, at 1-2). However, until the local EOC is activated, non-dedicated, commercial telephone, with no backup means of communication, is relied upon for contacting WALK radio station. (See Plan, Figure 3.3.5). In addition, although once the EOC is activated, primary communications with WALK radio station will be via a dedicated telephone line (see Plan, Figure 3.4.1), both LILCO's primary (dedicated telephone) and secondary (commercial telephone) communications means with WALK will have common failure modes under adverse environmental conditions. (See FEMA "Standard Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants," at F-2). As a result, there is no assurance that the EBS can or will be implemented in a timely manner, i.e., within the 15 minutes required by 10 CFR Part 50, Appendix E, Section IV.D.3. (See also NUREG 0654, Section II.E.6 and Appendix 3 thereto.)

Contention 27: Mobilization of Emergency Response Personnel

Preamble to Contention 27. Once offsite emergency response personnel are notified of an emergency and instructed as to their assigned functions,^{8/} necessary emergency actions cannot be taken by those workers, (and therefore many recommended protective actions cannot be taken by the public) until the response personnel report to their assigned locations, obtain the equipment or vehicles they will require to perform their assigned roles, and report to their emergency posts or dispatch locations. The activities that take place between the determination that particular offsite emergency response personnel should be notified and the reporting of such personnel, with necessary equipment, to the locations where emergency functions will be performed, are referred to herein as "mobilization" activities.

Contention 27. LILCO assumes that LILCO and non-LILCO employees will be available to implement command and control directives. However, the emergency response work force upon which the Plan relies will not be promptly available to perform the duties and emergency response functions assigned to them

^{8/} See Contention 26 which sets forth the reasons prompt notification will not occur under the LILCO Plan.

under the LILCO Plan due to extended mobilization times. Although the LILCO Plan fails to provide estimated notification or mobilization times for emergency response personnel (see e.g., NUREG 0654 Section II.C.1.), Intervenor contend, based on surveys of emergency mobilization of the Suffolk County Police Department, that LERO mobilization will take at least several hours. In some cases, detailed in paragraphs A through F below, mobilization will take even longer because after having been notified of an emergency, workers will have to travel substantial distances, in congested traffic, and will have to obtain necessary equipment, before they report to their assigned posts to perform emergency functions. As a result of the extended mobilization times, the LILCO Plan, and the protective actions contemplated therein, cannot and will not be implemented in a timely manner necessary to provide adequate protection to the public. The Plan thus fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(1), 50.47(b)(3), 50.47(b)(8), 50.47(b)(9), and 50.47(b)(10) and NUREG 0654 Sections II.E.2, F.1.e, H.4, and I. The reasons for extended mobilization times are stated in paragraphs A through F below.

A. Many emergency response personnel, particularly those employed by LILCO, live and/or work substantial distances from the EPZ or other emergency services locations.

B. Emergency response personnel will have to travel through congested traffic resulting from public mobilization and evacuation travel, in order to get from their locations upon notification to their initial reporting locations.

C. Many emergency response personnel must report first to a "staging area" or "dispatch location" and then to an assigned post (see OPIP 3-3-2 3.3.3), which will require additional travel through congested traffic. Furthermore, once at the staging areas LERO workers with field assignments will have to pick up personnel dosimetry and receive briefings before they leave for their posts, and many LERO workers, such as traffic guides and route alert drivers, will also have to obtain and install in their vehicles equipment such as mobile radios and public address systems. (OPIP 3.3.4; OPIP 3.6.3; OPIP 3.6.4.)

D. Many emergency response personnel must travel from their notification locations to other locations to obtain equipment or vehicles ~~before~~ after reporting to staging or dispatch locations. Thus, road crews must obtain tow trucks and other equipment from LILCO storage locations which are spread throughout Suffolk and Nassau Counties (OPIP 3-3-2 3.6.3); fuel truck drivers must obtain fuel trucks, go to storage tanks, and fill the trucks with fuel (OPIP 3.6.3); route alert drivers

must obtain vehicles and mount loudspeakers on them (Plan 3.3-4 and 3.3-6; OPIP 3.3.4); bus drivers must be transported from staging areas to bus garages, gain access to the buses ~~(e.g., by "utilizing tool kits to gain entrance into the Bus Company garages" (OPIP 3.6.4 at 6))~~, and prepare the buses for use (e.g., by obtaining gasoline and checking oil (see OPIP 3.6.4, at 7 10)). ~~Long Island Railroad trains must be emptied of other passengers and the trains and a sufficient number of engineers must be brought to the Port Jefferson and Main Line Stations (Appendix A at IV-186))~~ lumber must be obtained, brought to the LIRR trains, and train seats must be removed and replaced with lumber (Appendix A, at IV-186). In addition, procedures for locating necessary equipment, such as buses and trucks, will require time and will further delay the efforts of response personnel to obtain such equipment. (See OPIP 3.6.4).

E. Emergency response personnel must travel from staging or dispatch locations, through congested traffic, to reach the posts where they are to begin to perform their emergency functions.

F. If Many emergency response personnel (e.g. traffic guides, bus drivers, and ambulance companies) are not contacted or expected to report to field locations until the Site or General Emergency Level, as suggested in the Plan (see Plan,

Figures 3.3.2, 3.3.3, 3.3.4). Mobilization times for such workers will be even more extended because the level of traffic congestion encountered by emergency-workers them will be substantially greater.

Contentions 28-34: Communications Among Emergency Response Personnel

Preamble to Contentions 28-34. 10 CFR Section 50.47(b)(6) requires that an offsite plan must provide for "prompt communications among principal response organizations to emergency personnel and to the public." Without prompt and reliable means of communications among emergency personnel once they begin to respond to the emergency, there can be no assurance that necessary and appropriate emergency measures, including those necessary to implement protective action recommendations, can and will be taken as required by 10 CFR Section 50.47(a)(1).

Intervenors contend that LILCO does not provide for adequate, dependable and workable communications among emergency personnel following notification, and therefore there can be no finding of compliance with 10 CFR Sections 50.47(a)(1), 50.47(b)(6), 50.47(b)(8), and 50.47(b)(10), and NUREG 0654, Sections II.E.2, F., H.4, J.9 and J.10. The specific deficiencies, each of which leads to this conclusion, are set forth in Contentions 28-34.

Contention 28. No radio or dedicated telephone links to any Federal agencies are described in the LILCO Plan. Thus, the Plan fails to provide adequate and reliable means of communications with the Federal emergency response organizations relied upon in the Plan (i.e., FEMA, the U.S. Coast Guard, and the Federal Aviation Administration), as required by NUREG 0654, Section II.F.1.c. (See FEMA Report, at 5).

Contention 29. The LILCO Plan does not specify the number of emergency personnel that will be assigned responsibility for manning communications equipment at the EOC, staging areas, transfer points, ambulance dispatch stations, or other communication posts. Further, the Plan does not provide for trained repair technicians capable of keeping communications equipment operational. As a result, there is no assurance that LILCO's communications system can or will be operated in the event of an emergency.

Contention 30. The LILCO Plan fails to demonstrate that there will be sufficient and adequate communications equipment to ensure effective communications among LILCO field emergency personnel, including those expected to perform security functions. The Plan provides that all field personnel, or a member of each crew, and each staging area, bus transfer point, and ambulance dispatch station will be provided with mobile

radios. ~~is unclear as to whether portable or mobile radios are~~
~~to be provided to emergency field personnel.~~ (See Plan, at
3.4-3). 9/- ~~If portable radios are provided, they will have a~~
~~limited broadcast range, and will operate on battery power.~~
~~Batteries are effective for only a short time, but the LILCO~~
~~Plan makes no provision for recharging radio batteries.~~ ~~If, on~~
~~the other hand, mobile radios are provided, With mobile~~
radios, communication ~~s~~ will only be possible if the field per-
sonnel are in their vehicles. Moreover, mobile radios operate
on battery power, and the vehicles must be running, or the ig-
nitition switched on, for the radios to operate. Batteries are
effective for only a limited time, but ~~and~~ the Plan makes no
provision for assuring that vehicle batteries are not rundown
and remain charged. Thus, there is no assurance that transmis-
sion and reception of radio messages will be possible. In
addition, the LILCO Plan fails to take into account the fact
that persons other than emergency response personnel (i.e., the
public) will have access to the radio frequencies to be used by

9/- ~~Although not stated in the Plan, LILCO has informally~~
~~advised the County that each field survey team, traffic~~
~~guide, road crew, and evacuation route spotter, and each~~
~~bus staging location, bus transfer point and ambu-~~
~~lance/fire/rescue dispatch station, will be equipped with~~
~~portable or mobile radios.~~

such personnel. Further, the LILCO Plan relies in part, upon a simplex radio frequencies, system, which limits the range of the field radios. As a result, many emergency field personnel will be unable to hear other field personnel who attempt to communicate on the same frequency. It is essential that field workers be able to communicate with co-workers having similar or related functions. For example, LILCO's traffic guides must be able to communicate information to other traffic guides in order to coordinate traffic control strategy and to be aware of what traffic conditions may be coming. LILCO's traffic guides, however, will not have that capability because they will not have adequate radio equipment or frequencies. The result of such attempted traffic control without adequate means for coordination will result in increased rather than decreased traffic congestion, and extended evacuation times. Other field workers who are unable to communicate information to co-workers performing similar or related functions will be similarly unable to perform their assigned roles effectively or properly.

Contention 31. With the exception of dedicated telephone lines between the staging area coordinators and the EOC emergency response coordinators, there is no backup communications system for the ~~five-frequency~~ LILCO Emergency Radio System, which is intended to provide communications between emergency

response coordinators at the EOC and field emergency response personnel, including field survey teams, traffic guides, road crew and evacuation route spotters, ~~bus~~ staging area coordinators ~~locations~~, ~~bus~~ transfer points coordinators, and ambulance ~~and-fire/rescue~~ dispatch locations. ~~stations~~ (See Plan, at 3.4-3). Although the LILCO Plan does not indicate the number of frequencies which comprise LILCO's Emergency Radio System, LILCO has advised Suffolk County that there are six frequencies and four radio channels available to LILCO. The amount of radio traffic anticipated for an emergency at Shoreham could not be adequately handled by these ~~five~~ six frequencies. However, the Plan has no provision for any backup frequencies to those ~~five~~ six which comprise the Emergency Radio System, in violation of 10 CFR Part 50, Appendix E, Section IV.E.9 and NUREG 0654, Section II.F.1. Moreover, each category of ~~LILCO's~~ field workers will be able to use only a single frequency or channel (two sets of frequencies are paired). ~~one-of-the-five-frequencies~~. Accordingly, if problems develop on that one frequency or channel, communications will be impossible for all workers in that category. In the absence of backup systems, there is no assurance that recommended and appropriate emergency actions can or will be implemented, since command and control instructions may not be communicated to

personnel in the field, and the status of the emergency response may not be communicated to those in command and control.

Contention 32. Under the LILCO Plan, communications between ~~field-personnel~~ traffic guides and bus transfer points and the EOC response coordinators will, ~~in some cases,~~ be relayed through the LILCO staging areas; thus transfer-points, ~~meaning-that~~ these field personnel will be unable to communicate directly with their respective response coordinators at the EOC. (Plan, at 3.4-3). This lack of direct communications will result in the delay of implementation of emergency actions.

Contention 33. The LILCO Plan fails to demonstrate that there will be adequate means of communication between the Shoreham facility, the EOC and BNL the DOE-RAP field monitoring teams, as required by NUREG 0654, Section II.F.1.d. (See FEMA Report, at 5). The Plan does not provide for any radio communications between the DOE-RAP field monitoring teams and the EOC or the Shoreham facility. Instead, LILCO has advised Suffolk County that personnel in the EOC will be able to communicate only with the Brookhaven Area office (via a dedicated telephone line). Apparently, the Brookhaven Area office will separately communicate with the field monitoring teams via BNL

radio frequencies. Thus, if the Brookhaven Area Office had to be evacuated, there would be no means of communicating with field monitoring teams. As-a-result Because, communications between the field monitoring teams and the ECC must be relayed via separate means of communications through the Brookhaven Area office, there is no assurance that necessary and appropriate offsite accident and dose assessment actions, including those necessary to determine the appropriate protective action recommendations, can or will be taken promptly, as required by 10 CFR Sections 50.47(b)(9) and 50.47(b)(10).

Contention 34. The LILCO Plan relies on existing radios in hospitals and in private ambulance and-fire/rescue dispatch locations and vehicles for communications between LILCO command and control personnel and other LILCO emergency workers and these response ~~and~~ organizations and their personnel. (Plan, at 3.4-3.) This proposal fails to ensure adequate communications among response personnel because:

A. The LILCO Emergency Radio System will not be compatible with the radio communications equipment used in day-to-day operations by hospitals and by ambulance/~~fire~~/~~rescue~~ vehicles.

B. The LILCO system will not have direct access to the radio frequencies used by hospitals and by ambulance/~~fire~~/~~rescue~~ vehicles.

C. LILCO has advised Suffolk County that the EOC will not even be equipped with ~~fire/rescue~~ private ambulance vehicle, Emergency Medical Services, or hospital frequencies. Therefore, LILCO proposes to relay communications between the EOC and ~~the-response-organizations~~ ambulance vehicles and hospitals through ~~still-unidentified~~ private ambulance dispatch locations. In this regard, the LILCO Plan provides that one of the LILCO Emergency Radio System frequencies is dedicated for radio communications between the EOC and private ambulance dispatch locations, road crews, and evacuation route spotters. (See Plan, at 3.4-3). Assuming dispatch locations are in fact available to LILCO, ~~the~~ LILCO's proposal precludes direct communications between LILCO personnel and non-LILCO emergency response personnel in the field, which will delay the implementation of emergency actions. In addition, LILCO has advised Suffolk County that fire/rescue organizations (i.e., fire departments and fire/rescue vehicles) are not part of LERO, even though they are relied upon for "their normal response functions during an emergency." (Plan at 2.2.-4). Thus, there is no assurance that "a coordinated communication link for fixed and mobile medical support facilities exists," as required by NUREG 0654, Section II.F.2.

8-6- Contentions 35-44: Training of Emergency Workers

Preamble to Contentions 35-44. 10 CFR Section

50.47(b)(15) requires that radiological emergency response training be provided to those who may be called on to assist in an emergency. In addition, 10 CFR Section 50.47(b)(14) requires that periodic exercises be conducted to evaluate major portions of emergency response capabilities, periodic drills be conducted to develop and maintain key skills, and that deficiencies identified as a result of exercises or drills be corrected. See also, 10 CFR Part 50, Appendix E, Section IV.F.

Under the LILCO Plan, in order to provide training "to those who may be called on to assist in an emergency," LILCO must ensure that both its own personnel and the personnel of non-LILCO emergency response organizations are adequately trained, and that they participate in drills and exercises that meet the requirements of the regulations. See NUREG 0654, Sections II.N. and O. Intervenors allege in Contentions 35 - 44 that LILCO's Plan fails to demonstrate that adequate training can and will be provided to emergency response personnel.^{10/}

^{10/} LILCO has advised Suffolk County that training materials are still under development. When those materials are developed and produced for the County's review, the County may revise these contentions. More specific contentions

(Footnote cont'd next page)

Contention 35. [Not admitted by ASLB]. In violation of 10 CFR Section 50.47(b)(15), 10 CFR Part 50, Appendix E, Section IV.F. and NUREG 0654, Section II.O, the LILCO Plan fails to demonstrate that adequate training will be provided with respect to:

A. An understanding of the LILCO emergency planning basis and emergency classification system;

B. Basic principles of radiation and health effects/health physics;

C. Dealing with problems unique to radiological emergencies, such as the high levels of anxiety and distrust a radiological emergency is likely to provoke, leading to both population overreaction (spontaneous evacuation) and underreaction (failure to evacuate); and

D. The specific tasks and duties under the Plan and implementing procedures.

Contention 36. [Not admitted by ASLB]. The LILCO Plan fails to demonstrate that proposed training can or will be effectively implemented. Specifically:

(Footnote cont'd from previous page)

cannot be formulated at this time, given the lack of the LILCO training materials.

A. There is no indication that training methods will encompass changing needs and circumstances.

B. There is no definition of acceptable standards of performance for each response role during initial and requalification training.

C. Instructor qualifications are not set forth in the Plan.

D. Lesson plans and specific training objectives are not set forth.

E. Despite references in the Plan to the contrary (see, e.g., OPIP 5.1.1, at 9), there is no training manual for emergency response personnel, nor does LILCO intend to develop such a training manual.

F. The only training courses described in the Plan -- i.e., the FEMA training courses (Plan, at 5.1-1 and Table 5.1-1) and the training courses offered by the ARC (Plan, at 5.1-7 and Attachment 5.1.1) -- will not be used to train LERO personnel.

Thus, there is no assurance that there will be adequate training of the personnel relied upon by LILCO, as required by 10 CFR Section 50.47(b)(15) and NUREG 0654, Section II.0.1. (See FEMA Report, at 15.)

Contention 37. [Not admitted by ASLB]. LILCO is required to provide site specific emergency response training and periodic retraining for those offsite emergency organizations who may be called upon to provide assistance in the event of an emergency, including personnel responsible for accident assessment, police, security and fire fighting personnel, first aid and rescue personnel, local support services personnel, and medical support personnel. NUREG 0654, Sections II.O.1.a, 4.b, d, f, g and h. LILCO has apparently provided no training to the LILCO and non-LILCO emergency response personnel who will be relied upon under the LILCO Plan. The Plan states that LILCO intends to "offer" emergency response training "to all members of LERO support organizations, including fire and ambulance companies, police, and private groups." (OPIP 5.1.1, at 3). However, the Plan does not include a list of non-LILCO organizations or personnel who have received or will receive emergency response training, nor does the Plan specify or describe the initial or periodic retraining that has been or will be provided to emergency response organizations and personnel. Thus, there can be no finding that an adequate number of trained emergency workers will be available to respond to an emergency at Shoreham and to implement the LILCO Plan, in violation of 10 CFR Sections 50.47(a)(1) and 50.47(b)(15), 10 CFR

Part 50, Appendix E, Section IV.F, and NUREG 0654, Sections II.O.1.a and O.1.b.

Contention 38. [Not admitted by ASLB]. The training offered by LILCO to non-LILCO personnel may be in direct conflict with the previous training of such personnel. As a result, the ability of non-LILCO personnel to perform as expected under the LILCO Plan, and coordination of the emergency response, will be significantly impaired, resulting in a failure to accomplish necessary training goals in violation of 10 CFR Section 50.47(b)(15), 10 CFR Part 50, Appendix E, Section IV.F, and NUREG 0654, Section II.O.1. There is thus no assurance that the LILCO Plan can or will be implemented, and there can be no finding of compliance with 10 CFR Section 50.47(a)(1).

Contention 39. LILCO's Plan fails to deal effectively with the problem of attrition. As a result, LILCO cannot demonstrate that adequate numbers of trained support organization personnel will be available to respond to an emergency at Shoreham and thus cannot demonstrate compliance with 10 CFR Sections 50.47(a)(1) and 50.47(b)(15), 10 CFR Part 50, Appendix E, Section IV.F and NUREG 0654, Section II.O.1.

A. With respect to LILCO personnel, the Plan relies on quarterly general training and semi-annual job-specific

training to qualify new LERO members for positions opened through attrition. (Plan at 5.1-7, 5.1-8; OPIP 5.1.1 at 6-7.) Such training for new members is insufficient, because it does not assure that trained LILCO employees will be available to fill positions in LERO as the need arises. As a result, there is no assurance that LERO will be fully staffed with trained personnel on a continuous basis. ~~states that an initial qualification course "will be scheduled each quarter for newly assigned emergency response organization staff designees" - - - -~~ (OPIP-5.1.1.7-at-2) - - - However, To ensure compliance with 10 CFR Section 50.47(b)(15), 10 CFR Part 50, Appendix E, Section IV.F and NUREG 0654, Section II.O.1, LILCO must demonstrate that all personnel are trained in their designated emergency response organization positions. Thus, LILCO should make satisfactory completion of its emergency response training program a prerequisite to the hiring of personnel who will be assigned emergency response duties.

B. With respect to all non-LILCO personnel, except Coast Guard and ambulance personnel, the Plan ignores the issue of attrition. (OPIP 5.1.1, Section 5.1.3.2 and Attachment 1.) And, with respect to the Coast Guard and ambulance companies, LILCO will attempt to counteract the effects of attrition only if notified by one of these groups that understaffing exists.

(Plan at 5.1-6; OPIP 5.1.1, Section 5.1.3.3.) However, the Coast Guard and ambulance companies are under no obligation to maintain necessary staffing for LERO, to notify LILCO of "understaffing," or otherwise to assure LILCO's compliance with 10 CFR § 50.47(b)(15), 10 CFR Part 50, Appendix E, Section IV.F and NUREG 0654, Section II.0.1. Therefore, there is no assurance that ~~Moreover~~ LILCO will ~~not~~ know whether personnel in any non-LILCO emergency response support organizations who might have been trained at one time by LILCO remain with their respective organizations, and thus remain available to respond to an emergency at Shoreham. Thus, there is no assurance that any non-LILCO support organizations will be sufficiently staffed with adequately trained emergency response personnel.

Contention 40. There is no assurance that LILCO personnel can adequately perform the emergency functions and duties they are assigned under the LILCO Plan. The Plan calls upon LILCO personnel to perform emergency functions which, in most instances, are unrelated to their LILCO job functions. For example, LILCO meter readers are to serve as Traffic Guides (OPIP 2.1.1, at 30 28), Customer Relations personnel are to serve as Evacuation Route Spotters (id., at 37 32), LILCO maintenance foremen and mechanics are to serve as Radiological Monitoring Personnel (id., at 18 17), and various designers, planners and

analysts are to serve as Security Personnel (id., at 61-64
47-54). There is no assurance that LILCO training will compen-
sate for this lack of job-related experience, especially when
the tasks to be performed may be accompanied by high levels of
stress and fatigue involving life-threatening situations.
Training alone cannot prepare people for the actual stress and
trauma that accompany emergency conditions. Experience is also
essential.^{11/} Moreover, training that is not regularly applied
or used will be ineffective. Thus, even if their initial
training were adequate, LILCO personnel will forget what was
learned during that training. Following their training, LILCO
personnel will be expected to perform their regular job
functions, which have no relation to their emergency roles,
rather than applying or using their emergency training. This
will minimize any benefits gained through the emergency
training, especially since general classroom ~~that~~ training ~~is~~ ,
exercises, and almost all drills are only repeated on an annual
basis, job-specific classroom training is only repeated on a
semi-annual basis, and there are no incentives for LILCO per-
sonnel to learn or to retain the emergency training provided to

^{11/} For example, doctors and police officers are required to
intern as residents and to serve as rookie police officers
before their training is completed.

them. Accordingly, LILCO cannot demonstrate compliance with 10 CFR Section 50.47(b)(15), or that the emergency functions and duties assigned to LILCO personnel under the Plan can or will be implemented, as required by 10 CFR Section 50.47(a)(1).

Contention 41. All necessary emergency personnel must be trained adequately in the proper use of the communications equipment relied upon in the LILCO Plan. Such training must include instruction in the proper use of radio frequencies, the range of coverage available for each frequency, and proper radio discipline. The LILCO Plan, however, ~~only requires that there be "communication drills" and that exercises shall test, inter alia, emergency response capabilities, "including communications capabilities," (Plan, at 5.2-2 and 5.2-3),~~ The Plan gives no indication of the scope or content of the proposed communication drills and exercises, does not provide such training. The Plan provides for a "communications drill" that is designed primarily to test equipment. (Plan at 5.2-1; OPIP 3.4.1.) Only persons in those selected LERO positions designated as "communicators" will participate in this drill. (Plan at 5.2-2, 5.2-2a). In addition, it is clear from the Plan and drill scenarios that other than the workers assigned to remain at the EOC, ENC, and staging areas, LERO workers will receive

essentially no practical communications training, and that even the workers assigned to the EOC, ENC, and staging areas will not receive enough. Thus, there is no assurance that LILCO's Plan satisfies the requirements of 10 CFR Section 50.47(b)(15) or that emergency response personnel will be prepared and adequately trained to initiate and receive communications, as required by 10 CFR Section 50.47(b)(6) and NUREG 0654, Section II.F.

Contention 42. [Not admitted by ASLB]. Many of the LILCO personnel relied upon to implement the LILCO Plan, including those in positions of command and control as well as those with coordination and field functions, are not residents of Suffolk County. Therefore, they lack a sense of the territorial imperative that is a principal motivating factor for emergency response personnel. Without proper motivation, training will not be effective to ensure adequate emergency response, particularly for persons asked to perform in a potentially life-threatening situation. Thus, LILCO fails to demonstrate compliance with 10 CFR Sections 50.47(a)(1) and 50.47(b)(15), 10 CFR Part 50, Appendix E, Section IV.F and NUREG 0654, Section II.O.1.

Contention 43. [Not admitted by ASLB]. Because many LILCO personnel are not area residents, they will not be

familiar with the geography, topography, road network, demography, school and other facility locations, jurisdictional limits of emergency and volunteer organizations and their capabilities, and other local conditions in and around the EPZ. Moreover, they will not be aware of the internal workings of the communities within the EPZ. As a result, emergency personnel may be unable to deal promptly with, and make correct decisions concerning, unexpected situations or contingencies, as required by 10 CFR Section 50.47(a)(1), including: traffic accidents at key intersections; obstructions of evacuation routes; situations where persons refuse to evacuate because they fear that their homes/businesses will be unprotected; unavailability of relied upon emergency resources or personnel. Training alone cannot serve as a substitute for experience and is even less effective when those expected to manage and coordinate the emergency response or implement that response in the field are unfamiliar with, and may not have a concerted interest in, the area of the emergency. Thus, LILCO cannot demonstrate compliance with 10 CFR Section 50.47(b)(15), 10 CFR Part 50, Appendix E, Section IV.F, and NUREG 0654, Section II.O.1.

Contention 44. The LILCO Plan fails to demonstrate that drills and exercises will adequately test the training of emergency response personnel so as to ensure that personnel are

familiar with, and capable of performing, their duties under the Plan as required by 10 CFR Section 50.47(b)(14), 10 CFR Part 50, Appendix E, Section IV.F, and NUREG 0654, Section II.N. Specifically:

A. [Subparts A, B and C not admitted by ASLB]. Scenarios for the drills and exercises required by the Plan have not yet been developed by LILCO.

B. Even assuming the proposed drills and exercises were to test adequately the training and performance level of emergency response personnel, the Plan provides no assurance that training or performance deficiencies will be corrected. Exercises test, but do not train, emergency personnel. Thus, retraining should immediately follow the critique of a drill or exercise so as to take into account any identified training deficiencies.

C. The LILCO Plan does not adequately specify the type and the frequency of drills. See NUREG 0654, Section II.N.2.

D. The provisions of the Plan ~~does not provide~~ for quarterly testing of communications with Federal emergency response organizations ~~or~~ and States within the ingestion pathway--NUREG-0654, Section II.N.2.a--Moreover, the Plan ~~does~~ do not provide for testing whether the content of messages is

understood by emergency response personnel. NUREG 0654,
Section II.N.2.a. Id. (See FEMA Report, at 13.)

E. The Plan fails to describe how exercises and drills are to be carried out to allow "free play for decisionmaking." NUREG 0654, Section II.N.3. (See FEMA Report, at 14.)

F. Although the LILCO Plan asserts that fails-to provide-for "official observers from Federal, State or local governments will be on hand to observe, evaluate and critique [an] annual training exercises," (Plan at 5.2-4), there is no indication in the Plan that any such entities have agreed to send observers as required by NUREG 0654, Section II.N.4. (See FEMA Report, at 14). In addition, although Nor-does the Plan describes a proposed procedure provide-adequate-means for evaluating observer and participant comments, NUREG-0654, Section-II-N-5---(See-FEMA-Report,-at-14-)--Instead,-under-the LILCO-Plan, post-exercise/drill critiques will be performed primarily by LILCO, and evaluation of critiques and decisions as to necessary actions will be made by LILCO personnel. (Plan, at 5.2-4 5+2-3; OPIP 5.1.1, at 10c-10h 8-and-9). NUREG 0654, Section II.N.5. (See FEMA Report, at 14.) LILCO, however, will not be able to critique adequately its own Plan, including the exercises or drills conducted under the Plan, or

to evaluate and/or act upon such critiques due to its lack of expertise and objectivity. Thus, deficiencies in the LILCO Plan and implementing procedures may not be identified or corrected.

Contentions 45-51: Accident and Dose Assessment and Projection

Preamble to Contentions 45-51. 10 CFR Section 50.47(b)(9)

requires offsite plans to provide that:

Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.

See also 10 CFR Part 50, Appendix E, at Section IV.B. Similarly, NUREG 0654, Section II.I.8 requires the identification of an appropriate organization which:

shall provide methods, equipment and expertise to make rapid assessments of the actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways. This shall include activation, notification means, field team composition, transportation, communication, monitoring equipment and estimated deployment times.

Intervenors contend that the LILCO Plan fails to comply with these requirements for the reasons set forth in Contentions 45-51.

Contention 45. The LILCO Plan appears to rely exclusively on BNE (a) DOE-RAP personnel, and (b) personnel from an unidentified "outside consultant," for offsite accident and dose assessment and projection, as well as for all command, control and coordination functions related to offsite accident assessment and projection and the decision to recommend

particular plume exposure and ingestion pathway protective actions to the LILCO Director of LERO (i.e., the Radiation Health Coordinator, RAP Team Captain, Environmental-Assessment Coordinator, Dose Assessment Teams Function, Environmental Survey Coordinator Function, and Offsite Survey Teams). (Plan, Section 3.5.B; Figure 3.5.2; OPIPs 2.1.1, 3.5.1, 3.5.2, 3.5.3 and ~~3.5.6~~ 3.6.6) The Plan does not identify by name, title or qualification the DOE-RAP or other outside consultant ~~BNL~~ and/or-FRMAP personnel who are expected to perform offsite accident and dose assessment functions and thus fails to comply with NUREG 0654, Section II.A.2.a.

Contention 46. The Plan does not identify an individual ~~at-BNL~~ from DOE-RAP or from an "outside consultant" who will be responsible for assuring continuity of technical, administrative and material resources. In addition, there is no assurance that ~~BNL~~ DOE-RAP or the unidentified outside consultant who is to provide personnel to fill the position of "Radiation Health Coordinator" is capable of providing prompt or continuous services (24-hour) for a protracted period. Thus the Plan fails to comply with NUREG 0654, Sections II.A.4, and C.1.b. Indeed, the Plan states that "approximately eight persons" will perform the duties assigned in the Plan to DOE-RAP (Plan at 2.2-3); there is no indication of how many

~~individuals are available provides for only one BNL representative, respectively, to act as "Radiation Health Coordinator." Environmental Assessment Coordinator, and Environmental Survey Coordinator, only two BNL representatives to comprise the Dose Assessment Staff, and only four BNL representatives to comprise the two Survey Teams. (Plan, Figure 2.2.1 at 2).~~ Thus, Even if the initial staffing for offsite monitoring and dose assessment were assumed to be adequate, there is no provision for augmentation of initial staffing on a continuous basis as required under 10 CFR Section 50.47(b)(1) and NUREG 0654, Sections II.A.1.e and A.4.

Contention 47. [Not admitted by ASLB]. The LILCO Plan indicates that the information on fission product releases to be used by BNL personnel in making offsite dose projections is limited to noble gases and iodines. (See Plan, Figure 3.3.3, at 2, and OPIPs 3.5.2 and 3.6.1). LILCO has failed to comply with NUREG 0654 Section II.E.4.f, which requires information to offsite dose assessment and projection personnel to include the "chemical and physical form of released material, including estimates of the relative quantities and concentration of noble gases, iodines, and particulates." (Emphasis added).

Similarly, NUREG 0654 Section II.I.10 requires that means be established

for relating the various measured parameters (e.g., contamination levels, water and air activity levels) to dose rates for key isotopes (i.e., those given in Table 3, page 18) and gross radioactivity measurements. Provisions shall be made for estimating integrated dose from the projected and actual dose rates and for comparing these estimates with the protective action guides.

The referenced Table 3 lists radionuclides with significant contribution to dominant exposure modes, and includes several radionuclides in addition to noble gases and iodines. Neither the release information to be provided by LILCO to BNL or LERO, nor the dose projections to be calculated by BNL personnel, include or take into account isotopes other than noble gases and iodines. (See OPIPs 3.5.2 and 3.6.1). Thus, LILCO has failed to comply with this requirement of NUREG 0654, and 10 CFR Section 50.47(b)(9). See FEMA Report at 7. The result of LILCO's failure to take into account isotopes other than noble gases and iodines is that the dose projections to be used by the Director of LERO in making protective action recommendations to the public will be too low (i.e., non-conservative).

An example of a release isotope which should be included in dose projection calculations is Tellurium-132, which may have a life-threatening impact due to external exposure and/or inhalation. It has been predicted that 80 percent of the

Tellurium inventory would be released in a severe core melt accident; this release isotope is identified as one of the largest health risks. (See WASH 1400, Appendix VI, Figure 13.1 and Figure 13.2). The Plan's failure to measure key isotopes such as Tellurium-132 (e.g. OPIP 3.6.1) is thus a significant deficiency contrary to the guidance of NUREG 0654, Section II.1.10.

Contention 48. Withdrawn. The most sensitive scale (0-50mR/hr) of the instrument to be used in offsite radiation surveys (R0-2A) is not sensitive enough to provide accurate low level radiation measurements (i.e., one mR/hr) as required. (OPIP 3.5.1, at 4). Thus, LILCO has failed to comply with 10 CFR Section 50.47(b)(9).

Contention 49. The dose projection worksheets, liquid release worksheets, ground deposition calculations and required computations used for dose assessment projections and downwind surveys (OPIPs 3.5.2 and 3.5.3), require unrealistically accurate communications of complex data from survey teams to assessment teams in order to obtain the required calculated results. There are no provisions in OPIPs 3.5.2 or 3.5.3 for dealing with missing data, communications failures, the necessity of converting measurements from one unit to another, or the need for conversion factors if alternate equipment is used.

Thus, there is no assurance that those procedures will provide reliable data for use in making protective action decisions and, accordingly, there is no compliance with the 10 CFR Section 50.47(b)(9) requirement that an adequate method be provided for assessing the potential consequences of an offsite release.

Contention 50. Withdrawn. The Plan provides for integrated dose calculation updates once every hour or once every four hours. The Plan also provides for analyses of samples at laboratories in Philadelphia, Pennsylvania; Maplewood, New Jersey; Rockville, Maryland; Pittsburgh, Pennsylvania; and Westwood, New Jersey. (See Plan, at 3.5-2 to 3.5-4). The wind speed on Long Island ranges from five to ten miles per hour 70 percent of the time and wind direction changes frequently; these factors could cause the plume to travel at a rate of speed and in directions that would make the proposed intervals between dose updates and the time necessary to obtain analyses results far too long. Such delays in obtaining accurate dose assessments could lead to incorrect protective action recommendations since by the time a dose calculation is made for one area the plume could have already proceeded to other areas. Given the conditions on Long Island, the failure to provide for integrated dose calculations every 15-30 minutes

is a violation of 10 CFR Section 50.47(b)(9) and NUREG 0654 Section II.I.8.

Contention 51. The LILCO Plan identifies preselected dose sampling locations for areas within 11 miles of the plant. (Plan, at Table 3.5.1). The Plan thus fails to comply with NUREG 0654 Section II.J.10.a, which requires the identification of sampling and monitoring points for areas up to 50 miles from the plant. Sampling and monitoring beyond the 10-mile EPZ is required to ascertain whether doses beyond the EPZ exceed the PAGs, requiring the initiation of protective actions. See NUREG 0654 Section I.D.2.

Contention 52: Emergency Operations Center

[Not admitted by ASLB]. Preamble to Contention 52. 10

CFR Section 50.47(b)(8) requires that "[a]dequate emergency facilities and equipment to support the emergency response are provided and maintained." Furthermore, NUREG 0654, Section II.H.3, requires the "establish[ment of] an emergency operations center for use in directing and controlling response functions." Among other things, the direction and control of response functions requires: prompt communications among principal response organizations, to emergency personnel, and to the public (10 CFR Section 50.47(b)(6)); the receipt and analysis of all field monitoring data and coordination of sample media (NUREG 0654, Section II.H.12); and early notification and clear instruction to the populace within the EPZ (10 CFR Section 50.47(b)(5)).

The LILCO Plan provides that the Shoreham Emergency Operations Center ("EOC") will be located at the LILCO Brentwood Operations Facility. LILCO states that "[o]n a day to day basis, the facility is operated 24 hours per day involved in LILCO business activities," but that during an emergency at Shoreham, "a portion" of that facility will be utilized as the EOC. (Plan, at 4.1-1). The EOC will not be activated until "declaration of an Alert or higher classification"

(id.), or until the Director of Local Response orders its activation. (OPIP 4.1.1, at 1).

Contention 52. Intervenor contend that the LILCO Plan does not comply with 10 CFR Sections 50.47(b)(5), 50.47(b)(6) and 50.47(b)(8), and NUREG 0654, Sections II.H.3 and II.H.12, in that an EOC for use in directing and controlling response functions has not been established.^{12/} Until such a facility has been satisfactorily established, equipped, and rendered operational, LILCO is unable to perform any of the following functions required by 10 CFR Section 50.47:

A. Notification of local response organizations and notification of emergency personnel by organizations (10 CFR Section 50.47(b)(5)).

B. Early notification and clear instruction to the populace in the EPZ (10 CFR Section 50.47(b)(5)).

C. Prompt communications among principal response organizations to emergency personnel and to the public (10 CFR Section 50.47(b)(6)).

^{12/} If LILCO ever establishes an EOC, the Intervenor may have specific contentions regarding its adequacy. Such contentions cannot be formulated at this time, however, given the lack of this facility.

D. Dissemination of coordinated information to the public (10 CFR Section 50.47(b)(7)).

E. Assessment and monitoring of actual or potential offsite consequences of a radiological emergency (10 CFR Section 50.47(b)(9)).

Contention 53: Security During a Radiological Emergency

Contention 53. [Not adopted by ASLB]. Intervenors contend that LILCO will be unable to provide adequate security in evacuated areas or other areas where evacuees may congregate, and therefore the Plan fails to comply with 10 CFR Section 50.47(a)(1), 50.47(b)(1), and 50.47(b)(3), and NUREG 0654 Sections II.A.2.a, J.9 and J.10. Specifically:

A. Despite LILCO's recognition of the necessity for "security patrols to prevent vandalism or theft in vacated neighborhoods." (Appendix A, at IV-82), the Plan in fact fails to provide for such patrols.^{13/} Without security, there may be looting, vandalism, and theft in the evacuated areas. The Plan thus fails to comply with 10 CFR Sections 50.47(b)(1) and 50.47(b)(3), NUREG 0654, Section II.J.10.j., and it cannot be

^{13/} While the Plan appears to assume that this task will be performed by local law enforcement agencies, (see Appendix A at IV-82) in fact, no such law enforcement agencies will do so. See Contentions 10 and 24.P.

implemented, in violation of 10 CFR Section 50.47(a)(1) and NUREG 0654 Sections II.J.9 and J.10.

B. The LILCO Plan fails to provide for security at certain key areas within the EPZ where security will be essential, including fuel allocation points, staging areas for emergency response personnel and transfer points for evacuees. The Plan also fails to provide for security at the ENC. Without adequate security in these areas, adequate protective measures could not and would not be implemented, in violation of 10 CFR Section 50.47(a)(1) and NUREG 0654, Sections II.J.9 and J.10.

Contention 54: Medical and Public Health Support

Contention 54. [Not admitted by ASLB] 10 CFR Section 50.47(b)(8) requires that there be adequate emergency facilities and equipment to support the emergency response, and Section 50.47(b)(12) requires that there be arrangements for medical services for contaminated injured individuals. LILCO fails to meet these requirements because ambulances will be unable to respond where needed due to:

A. traffic congestion which will exist during an evacuation, and

B. LILCO's proposed use of ambulances for the evacuation of special facilities and the handicapped. (See Contentions 23, 65, 72, 73)

Contentions 55-59: Notification to the Public

Preamble to Contentions 55-59. 10 CFR Section 50.47(b)(5) requires that means be established to provide early notification and clear instruction to the populace within the plume exposure pathway EPZ. The public notification system should be capable of essentially completing the initial notification of the public in the plume exposure pathway EPZ "within about 15 minutes." 10 CFR Part 50, Appendix E, Section IV.D.3. (See also NUREG 0654, Section II.E.6 and Appendix 3 thereto).

Intervenors contend that under LILCO's Plan, there is no assurance that the public will receive notification of an emergency within 15 minutes, and as a result, there is no assurance that adequate protective actions can or will be implemented, as required by 10 CFR Section 50.47(a)(1) and NUREG 0654, Sections II.J.9 and J.10. The specific deficiencies in the LILCO Plan are set forth in Contentions 55-59.

Contention 55. Under the LILCO Plan, a system of 89 fixed sirens will be used to alert the public to an emergency at the Shoreham plant. (Plan, at 3-4-5 3.4-6). However, as a result of the deficiencies noted in Contention 26, LILCO will be unable to contact its key command and control personnel in a timely manner, thus potentially delaying the decision to activate the siren system, in violation of 10 CFR Section

50.47(b)(5), Part 50, Appendix E, Section IV.D.3, and NUREG 0654, Sections II.E.6 and Appendix 3.

Contention 56. The LILCO Plan does not provide adequate backup in the event of failure of the LILCO siren system. LILCO relies upon public address systems or loudspeakers, mounted on LILCO vehicles driven by "Route Alert Drivers," to provide backup to the sirens. (Plan, at 3.3-4 and 3.4-6; OPIP 3.3.4, at 3 4). However, the proposal to drive vehicles equipped with loudspeakers through the non-activated siren areas to alert the public is impractical, unworkable, and will not provide notification within 45 15 minutes as required by NUREG, 0654 Appendix 3. (See Contention 27.) In addition, some persons will not hear the broadcast message (such as persons with impaired hearing, persons outside the EPZ), and other persons will not understand the broadcast message (such as children, and non-English speaking persons). Route alert drivers are also required to abandon a route if dosimetry readings exceed specified levels. (OPIP 3.3.4, at-5, Attachment 1). Accordingly, there is no assurance that persons in the EPZ will be promptly notified of an emergency, and entire segments of the population may never be alerted at all, in violation of 10 CFR Sections 50.47(a)(1), 50.47(b)(5), Part 50, Appendix E, Section IV.D.3, and NUREG 0654, Sections II.E.6 and Appendix 3.

Contention 57. The LILCO Plan provides that ~~these~~ special facilities ~~or~~ and organizations with a large number of personnel (such as schools, hospitals, nursing homes, handicapped facilities, and major employers) will be equipped with a tone alert radio which, upon activation by the EBS signal from WALK radio, is to broadcast automatically the emergency message. (Plan, at 3.3-4, ~~3-3-5~~ and 3.4-6 and ~~Table~~ OPIF 3.4.1, Attachment 1). ~~The Plan asserts that these tone alert radios will provide special facilities with additional alerting or preparation time.~~ However, since notification would coincide with notification to the general public, ~~in fact~~ these special facilities and organizations would not have any additional alerting or preparation time (for evacuation, sheltering, or implementation of other protective actions). Moreover, ~~these~~ the tone alert radios depend upon the EBS signal broadcasting from WALK radio station. Should the EBS signal originate from other stations, the radios would not activate and there would not be automatic transmission of the EBS message. Further, WALK radio does not broadcast on its AM frequency 24 hours per day. Thus, there is no assurance that tone alert radios will provide adequate notification of an emergency to special facilities and other organizations within the EPZ, in violation of 10 CFR Sections 50.47(a)(1) and 50.47(b)(5), Part 50,

Appendix E, Section IV.D and NUREG 0654, Sections II.E.5, E.6, and Appendix 3.

Contention 58. Under the LILCO Plan, the proposed evacuation of special facilities (such as schools, handicapped facilities, nursing/adult homes, and hospitals) and the handicapped at home requires the Public Schools Coordinator, Private Schools Coordinator, Health Facilities Coordinator and the Home Coordinator, working under the direction of the Special Facilities Evacuation Coordinator, and-the-Home Coordinator to verify by telephone that the special facilities and individuals are aware of the need to evacuate and to determine their specific needs for assistance. (OPIP 3.6.5). This does not provide an adequate, workable or dependable means of timely notification of or communication with these people, because the process of contacting them will take too long, persons to be contacted may not be near telephones, and handicapped persons may be unable to communicate by telephone. Thus, the Plan fails to comply with 10 CFR Sections 50.47(b)(5) and 50.47(b)(6), Part 50, Appendix E, Section IV.D.3, and NUREG 0654, Sections II.E.1, E.2, E.5, E.6, and Appendix 3.

Contention 59. Under the LILCO Plan, the U.S. Coast Guard is relied upon to provide public notification to the general public on the waters within the 10-mile EPZ. (Plan at 2.2-2).

However, the Coast Guard does not have the capability of notifying the public within 15 minutes and thus the LILCO Plan fails to comply with 10 CFR Sections 50.47(b)(5), 50.47(b)(6), Part 50, Appendix E, Section IV.D and NUREG 0654, Sections II.E.5, E.6 and Appendix 3.

Contentions 60-83: Protective Actions

Preamble to Contentions 60-83. 10 CFR Section 50.47(a)(1) requires a finding of reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. In addition, 10 CFR Section 50.47(b)(10) requires the development of a range of protective actions for the public; guidelines for the choice of protective actions must be consistent with Federal guidance. Such guidance includes the Manual of Protective Action Guides ("PAGs") (EPA-520/1-75-001), which sets forth the threshold projected dose levels at which protective actions are to be commenced. The PAGs are embraced in NUREG 0654, Sections II.J.7 and J.9, and are referenced in the LILCO Plan, at Section 3.6, and OPIP 3.6.1. NUREG 0654, in Sections II.J.9 and J.10, requires that there be established "a capability for implementing protective measures based upon protective action guides and other criteria." (Emphasis added).

In Contentions 60-83, Intervenor's contend that LILCO's Plan does not provide reasonable assurance that adequate protective measures can and will be implemented to protect the population from the potential health hazards of an accident at Shoreham. Thus, (a) there is no reasonable assurance that the measures proposed in the LILCO Plan would, if taken, provide

adequate protection from the potential consequences of an emergency at Shoreham; and (b) there is no reasonable assurance that the proposed measures could or would in fact be taken in the event of an emergency.

Contentions 60-62: Sheltering

Further Preamble to Contentions 60-62. The LILCO Plan provides that the protective action of sheltering may be recommended (Plan, at 3.6-5), and that it is "the preferred protective action if sufficient protection is offered by sheltering, or if no additional benefit is gained by evacuation." (OPIP 3.6.1, Section 3.2). Intervenors contend that as to the proposed protective action of sheltering, the LILCO Plan fails to comply with 10 CFR Section 50.47(a)(1) and NUREG 0654, Section II.J.9, because there is no assurance that sheltering, as a protective action, could or would be effectively implemented in the event of an emergency in a manner which would protect the public. Indeed, the facts indicate that many people will refuse to shelter and will, instead, choose to evacuate,^{14/} and that many other persons, as a practical matter, will be unable to shelter. Thus, sheltering cannot be viewed as an adequate

^{14/} See Contention 23: The Evacuation Shadow Phenomenon, for further discussion of this matter.

protective action, as LILCO appears to believe, for the reasons set forth in SC Contentions 60-62.

Contention 60. At page 3.6-5 of the LILCO Plan, LILCO states:

Th[e] protective action [of selective sheltering] may be ordered at projected doses below the accepted PAGs to minimize radioactive exposure, particularly to pregnant women and children ~~and~~ in addition,

...

The ~~Selective~~ Sheltering option may be recommended as an effective option for individuals who could not be safely evacuated. This would include individuals who have been designated medically unable to withstand the physical stress of an evacuation, as well as those individuals who require constant, sophisticated medical attention.

The Plan fails to set forth guidelines to be used by command and control personnel: (a) in choosing to recommend the protective action of selective sheltering; or (b) in determining the individuals who should or would be subject to such a recommendation. Rather, as quoted above, the Plan contains only generalized statements which, in fact, provide no guidance at all. In addition, there are no procedures which indicate the means by which such a recommendation would or could be implemented. The Plan thus fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(10) and NUREG 0654, Sections II.J.9 and J.10.

Contention 61. Intervenor's contend that a protective action recommendation of sheltering would not or could not be implemented. Specifically, a substantial number of the people who might be advised to shelter, as a practical matter, will be unable to do so because:

A. A large number of the homes and other structures in the EPZ are constructed of wood and have no basements. According to LILCO's shielding factors (Plan, Table 3.6.5), the protection offered by such shelter is limited, at most, to a reduction in dose of only 10 percent from that received with no shelter. As a practical matter, persons with access to such structures have little "shelter" available, and thus sheltering should not be considered as a protective action for these persons.

B. Persons who are traveling in their cars or other vehicles at the time of a sheltering recommendation may not be able to reach shelter fast enough to obtain any protection from a release of radioactive fission products. Vehicles offer essentially no protection from radioactive doses.

C. 1. According to the Plan, if sheltering is recommended for the general public, schools in the EPZ are expected to make no provision for sheltering children in schools. (Appendix A at II-20; See also OPIP 3.8.2 at 19, 21).

However, the Plan fails to There are no procedures indicating
how, or under what circumstances, a sheltering order for
schools would be made, nor are there any procedures indicateing
how, if at all, such an order could or would be implemented by
the schools. Contrary to the assumption in the LILCO Plan (see
OPIP 3.6.5 at 10a), most school officials have not performed
"preplanning" that makes them capable of implementing a shel-
tering recommendation. Therefore, the Plan provides no assur-
ance that sheltering could or would be implemented for children
in schools.

Many schools in the EPZ have no basements or other areas
suitable for sheltering large numbers of children. Moreover,
the Plan contains no information concerning sheltering
capacities or shielding factors for schools, in violation of
NUREG 0654 Section II, J.10.m. Therefore the Plan provides no
information upon which those in command and control could de-
termine whether sheltering is an appropriate protective action
for children in schools, in violation of 10 C.F.R. Section
50.47(b)(10).

In addition, the Plan states that if schools have initi-
ated early dismissals, LILCO will not recommend to the schools
that any other protective actions, including sheltering, be
taken, even if such a recommendation is made for the general

public. (See OPIP 3.8.2 at 5). Thus, if LILCO were to recommend that schools institute an early dismissal, and school authorities were to follow that recommendation, school children would not have access to shelter for hours (see SC Contention 69), even though a sheltering recommendation could be in effect for the rest of the LPZ population.

2. Patients in hospitals, nursing homes and other special facilities will not be able to shelter even though the LILCO Plan now characterizes sheltering as "the primary protective action recommendation" for hospitals (OPIP 3.6.5 at 1), and states that sheltering "may be the preferred protective action" for nursing homes (Appendix A at II-29). The Plan contains no procedures or other provisions for the implementation of a sheltering recommendation for special facilities, nor does LILCO have agreements with any special facilities to develop or implement such procedures. Therefore, the Plan provides no assurance that sheltering could or would be implemented in special facilities.

Furthermore sheltering could not in actuality be implemented because of numerous practical problems apparently not considered by LILCO, including lack of adequate hallways, basements and other common areas, lack of equipment and facilities, inability to shut down ventilation and air conditioning

systems, inability to reinforce or relieve personnel or replenish expended supplies. Finally, the Plan does not describe the sheltering capacities or shielding factors of the special facilities in a manner sufficiently detailed to allow those in command and control of the emergency response to make an informed decision as to whether sheltering is the correct protective action, and thus fails to comply with NUREG 0654 Section II.J.10.M and 10 CFR Section 50.47(b)(10).

D. Transients who are on beaches, in parks or in other outdoor recreation areas will have no access to shelter. Contrary to the requirement of NUREG 0654 Section J.10.a, the Plan fails to identify public sheltering areas. (See FEMA Report, at 8).

E. Persons who are in boats in the EPZ will have no access to shelter.

Moreover, even if people were willing and able to follow a sheltering recommendation, there is no assurance that taking such action would provide any significant dose savings and thus prevent persons in the EPZ from receiving health-threatening radiation doses for the following reasons:

F. [Subpart F not admitted by ASLB]. Those who take shelter in wood frame buildings without basements will receive 90 percent of the dose they would receive from the plume if they were outside the shelter. (See Plan, Table 3.6.5).

G. Many other homes in the EPZ, even if they provide more shielding than a wood house, will only reduce doses about 50 percent. In a severe accident, a 50-percent dose reduction will still result in health-threatening doses.

H. According to LILCO, the average shielding factor available in the EPZ is 0.7, which means that, on the average, those who follow a sheltering recommendation will nonetheless receive 70 percent of the dose they would receive from the plume if they were outside the shelter.

I. The cloud doses resulting from a release of radioactive fission products from the Shoreham plant could be so substantial that even taking into account the 30 percent average dose reduction provided by shelter in the EPZ, persons who follow a sheltering recommendation could still receive doses that would cause adverse health effects.^{15/}

Thus, sheltering is not an adequate protective action in the event of an emergency at Shoreham, and the Plan, therefore, fails to comply with 10 CFR Sections 50.47(a)(1) and 50.47(b)(10), and NUREG 0654 Section II.J.9.

^{15/} See Contention 22 discussion of the site specific consequences of an accident at Shoreham.

Contention 62. [Not admitted by ASLB]. The LILCO Plan makes no provision for relocation, or for monitoring the radiological exposure, of persons who have taken shelter from a passing plume. Rather, after a sheltering order, the LILCO plan is silent regarding what action(s) a person is supposed to take at a later time. Relocation of sheltered persons and monitoring are likely to be necessary after plume passage to prevent people from receiving substantial doses, in addition to those received while in shelters, from ground contamination which will remain even after plume passage. Thus, the Plan fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(10), and NUREG 0654 Sections II.J.9 and J.12.

Contentions 63-77: Evacuation

Contention 63. The LILCO Plan states at pages-3+6-5-to 3.6-6:

Selective Evacuation may be implemented to evacuate from the affected area of the plume exposure EPZ members of the general public who might have a low tolerance to radiation exposure. Specifically, this would include pregnant women and children 12 years and under.

The Plan fails to set forth guidelines to be used by command and control personnel: (a) in choosing to recommend the protective action of selective evacuation; or (b) in determining, identifying and locating the individuals who should be subject

to such a recommendation. In addition, there are no procedures which indicate the means by which such a recommendation could or would be implemented. The Plan thus fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(10), and NUREG 0654 Sections II.J.9 and J.10.

Contention 64. The LILCO Plan proposes an EPZ consisting of 19 separate zones. In the event of a radiological emergency at Shoreham requiring evacuation of the EPZ, it is LILCO's intended strategy to evacuate all zones within two miles of the Shoreham plant, but only a portion of those zones outside of the two-mile radius. (See OPIP 3.6.1, Attachment 2). ~~conduct~~ ~~"a-systematic-area-by-area-evacuation-downwind-of-the-reactor."~~ ~~(Plan-Appendix-A-at-I-5).~~ LILCO's Plan, however, fails to account for the fact that the wind shifts quickly on Long Island, with average wind speeds of approximately 10 miles per hour. Under such conditions, a shift in wind direction could quickly direct the plume over an area that was not in the original plume pathway, and thus not included in the initial evacuation order, before that area could be evacuated.

Intervenors contend that given wind conditions on Long Island, in the event any evacuation due to a radiological emergency is required, LILCO must evacuate at least a radius of five to seven miles around the plant. Any partial evacuation

of only certain zones within a five to seven mile radius would expose the population of the nearby unevacuated zones to the risk of a sudden wind shift and consequent health-threatening exposure to radiation. Under these conditions, the LILCO evacuation plan ~~ef-staged-evacuation~~ fails to constitute an adequate protective action, as required by 10 CFR Sections 50.47(a)(1) and 50.47(b)(10).

Contention 65: Evacuation Time Estimates

Further Preamble to Contention 65. Section IV of Appendix E to 10 CFR Part 50 requires that license applicants "provide an analysis of the time required to evacuate and for taking other protective actions for various sectors and distances within the plume exposure pathway EPZ for transient and permanent populations." (See also, NUREG 0654, Section II.J.8 and Appendix 4). Accurate estimates of the time necessary to evacuate the Shoreham EPZ (or portions thereof) are essential to evaluating the evacuation route system. In particular, such estimates must be accurate and reliable so that command and control personnel who are considering what protective actions might be ordered for particular persons can estimate whether, given projected release and dispersion of health-threatening fission products from the Shoreham plant, evacuation can be accomplished before such dispersion takes place. (See 10 CFR

Section 50.47(b)(10); NUREG 0654 Section II.J.10.m). A decision to order evacuation, if based on inaccurate evacuation time estimates, could result in evacuees' being trapped in queues or slow moving traffic inside or outside the EPZ, thus exposing them to a release of fission products from the Shoreham plant.

LILCO has submitted evacuation time estimates for the 10-mile EPZ, which estimates are contained in Appendix A, at V-3, and OPIP 3.6.1, Attachment 4.^{16/} LILCO estimates that the time for evacuation will vary from about two to two-and-one-half hours for only the inner EPZ sectors, to a maximum of approximately six hours for evacuation of the entire EPZ under adverse weather conditions.

Contention 65: Intervenors contend that LILCO's evacuation time estimates are inaccurate, unreliable and, in fact, should be far longer. LILCO's evacuation time estimates are so underestimated that under the LILCO Plan an evacuation may be ordered which realistically cannot be completed prior to release and dispersion of fission products from the Shoreham plant. Evacuees will be caught in queues or delayed in heavily

^{16/} The FEMA Report at 11-12 notes that the time estimates are inadequate in part because the estimates in OPIP 3.6.1 are incomparable to those in Appendix A.

congested traffic within the EPZ. Under many accident conditions, there will be a dispersal of radioactive materials while such traffic conditions still exist, resulting in unacceptable health-threatening exposure to the evacuees. The automobiles of the evacuees will offer essentially no protection from the plume.

The specific deficiencies in LILCO's estimates and further bases for this contention are set forth in paragraphs A-H below.

Contention 65.A. The LILCO evacuation time estimates ignore or underestimate the time required for people to mobilize and ready themselves for evacuation. The LILCO estimates in Appendix A include only the time involved in the actual evacuation trip out of the EPZ. (Appendix A, Table XIV). LILCO assumes in OPIP 3.6.1 that complete mobilization of the public will take about 20 minutes after receiving notification, which grossly underestimates the time it will take for mobilization, especially during working hours. In fact, it will likely take at least from one to more than three hours for people to mobilize before they can begin to evacuate. This mobilization time will be required because:

1. Following activation of the prompt notification system, it will take time for people to become aware of the

emergency, to become informed of the recommended protective actions and to determine their own course of action.

2. Where possible, most families will seek to evacuate as a unit. Specifically, working parents will leave work and drive to schools and/or home to pick up their children prior to evacuating. There will also be travel to and from various locations as family groups are assembled from work locations, relatives' homes, day care centers, and the like. Mobilization time must include time for the travel necessary to assemble family groups. In addition, families with school children who do not pick up their children themselves, will delay the start of their evacuation until all their children have returned home. Given the length of time necessary to implement early dismissals (see Contention 69), mobilization times could be increased significantly by this fact.

3. It will take time for the evacuees to gather necessary provisions before evacuating. (See "Emergency Procedures: Shoreham Nuclear Power Station," at 8). In addition, some persons will seek to go to banks, stores and other such facilities for money and provisions.

4. Travel within the EPZ during the mobilization period (work/home, home/school, to banks and stores, etc.) prior to commencing evacuation will result in heavy traffic

congestion which will lengthen the time necessary to complete mobilization travel.

Contention 65.B. Heavy traffic congestion from mobilization traffic, due to both high demand and conflicting traffic flow (i.e., some traffic flow in directions different than prescribed evacuation directions), will lengthen evacuation times. LILCO's evacuation time estimates do not appear to take this cause of congestion and resulting evacuation delay into consideration. Thus, the LILCO estimates are inaccurate for this additional reason.

Contention 65.C. The LILCO traffic control plan, as described in Appendix A, even if assumed to be lawful and capable of being implemented, will, in fact, constitute an additional source of congestion which has been ignored in LILCO's evacuation time estimates. If such congestion were taken into account, the LILCO estimates would increase substantially. The Plan will cause additional congestion for the following reasons:

1. LILCO's estimates assume that its traffic guides will screen all motorists moving in a direction contrary to its prescribed traffic flow to determine whether each person has "good reason" for going in that direction. (Appendix A, at IV-83; see also, IV-8). Thus, a traffic guide presumably would

stop or otherwise delay all such motorists, question them, and attempt to persuade or order them not to go in their intended directions if their reasons for doing so were judged not to be sufficient. This screening process will impede traffic flow, resulting in congestion and further increasing the evacuation time estimates. It will also require more traffic guides than LILCO has designated for each traffic post.

2. LILCO's attempted use of traffic controls may cause aggressive behavior on the part of those attempting to take protective actions. This aggressive behavior will stem in part from fear of a radiological emergency (which is perceived by the population to be different from other emergencies) and in part from confrontations that will result when motorists wish to travel contrary to the directions of the LILCO traffic guide, or are stopped by guides for screening. Conflicts between motorists and traffic guides will result in traffic blockages, confusion, accidents and possibly injuries, all of which will increase congestion.

3. Because under the LILCO Plan neither LILCO's traffic guides nor any other LERO personnel will alter traffic signal lights, traffic guides may attempt to implement a control strategy counter to the direction given by the signals. (See FEMA Report at 10 citing non-compliance with NUREG 0654,

Section II.J.10.j). Such simultaneous and potentially contradictory instructions to motorists will cause confusion and congestion, thus further delaying traffic movement. (Id.)

4. In some cases, LILCO's prescribed routes direct motorists to travel contrary to their perceptions of the most expeditious way out of the EPZ. (See, e.g., Post #19 described in Appendix A, at IV-56). This will cause confusion and anxiety on the part of the motorists and confrontations with traffic guides.

Contention 65.D. The LILCO time estimates assume that "[n]o major vehicle breakdown or other types of incidents [will] occur which block major routes for an extended time." (Appendix A, at V-2). This assumption is unrealistic and leads to an underestimation of the time required for evacuation. Examples of factors which increase congestion and thus increase time estimates, and which should have been included in LILCO's estimates, include:

1. Anticipated traffic accidents and automobile breakdowns, including running out of gas (for example, the Suffolk County police responded in 1982 to 10,000 incidents such as accidents and breakdowns on the Suffolk County portion of the Long Island Expressway, thus indicating the potential for this factor to influence severely evacuation times);

2. The absence of shoulders on some primary or secondary routes which will be used during an evacuation;

3. Road construction/repair work which can be assumed to be ongoing at any time; and

4. Abandonment of vehicles under emergency conditions.

Contention 65.E The LILCO evacuation time estimates do not take into account the additional congestion to be encountered by evacuating motorists that will result from the evacuation and early dismissals of schools and the evacuation of those in special facilities and the handicapped. Such evacuations and dismissals will involve the use of large numbers of buses, ambulances and trains which will be traveling in all directions through the EPZ, on prescribed evacuation routes and other roads, making frequent stops. If the impact of special evacuations were taken into account, the LILCO time estimates for evacuating motorists would increase substantially.

Contention 65.F. Behavior research demonstrates that stress and anxiety induced by a radiological emergency at Shoreham will diminish driving skills and awareness, and impede the processing of information necessary for a driver to make decisions and drive properly. The geography of Long Island, with its narrow, limited land area, may create a feeling of

being "closed-in," which may increase the likelihood of poor driver behavior. Decreased driving skills and driver awareness will cause confusion, congestion and accidents and, if properly taken into account, would increase LILCO's evacuation times. LILCO, however, has failed to take these factors into account in its evacuation time estimates.

Contention 65.G. The LILCO Plan does not include evacuation time estimates for evacuation of those with special needs who cannot rely on private transportation, such as school children, persons without access to cars, persons in health care or other special facilities, and the handicapped. (See FEMA Report at 11, citing noncompliance with NUREG 0654, Section II.J.10.1 and Appendix 4, at 4-9 to 4-10). The individuals in charge of making protective action recommendations must know how long it will take to evacuate these portions of the population. The Plan thus fails to comply with 10 CFR Appendix E, Section IV, and NUREG 0654, Section II.J.8 and Appendix 4.

Contention 65.H. The LILCO Plan (OPIP 3.6.2) provides for two evacuation route spotters to report information to the EOC regarding traffic congestion on evacuation routes. (Contrary to the requirement of NUREG 0654 Section II.A.2.a., the LILCO employees expected to fill these positions are not identified by job title in the Plan. See OPIP 2.1.1, at 32.) Without the

ability to spot congested areas effectively, LILCO will be unable to implement appropriate measures for evacuees to avoid such congestion, resulting in increased evacuation times.

LILCO's route spotters will be ineffective because:

1. LILCO has not provided enough route spotters to cover the evacuation routes. (See FEMA Report at 11).

2. The LILCO route spotters will be unable to move expeditiously through heavily congested traffic, especially since the evacuating motorists will not defer to LERO vehicles operating without police sirens or flashers. (Id.)

Contention 66: Removal of Obstacles from the Roadway and Provisions for Fuel

Contention 66. NUREG C654 Section IX.J.10.k requires that an offsite plan provide "[i]dentification of and means for dealing with potential impediments . . . to use of evacuation routes, and contingency measures."

In the event of a radiological emergency at Shoreham and subsequent evacuation (recommended and/or voluntary), it is likely that there will be many instances of automobile accidents and vehicle breakdowns caused by the large number of vehicles on the road, stop-and-go conditions, overheating while idling in queues, driver inattention, failure to obey the rules of the road and other such conditions. In addition, it is

likely that many evacuees will not begin the evacuation with a full tank of gas. Many cars may run out of gas, both inside and outside the EPZ, as a result of extended operation times due to congestion, stop-and-go conditions and time spent sitting in queues. Such occurrences, along with abandonment of vehicles and construction which may be in progress at the time an evacuation is ordered, will result in obstructions and blockages on roadways in use during the evacuation. Taking such occurrences into account would cause evacuation time estimates to increase. (See SEC Contention 65). In addition, it is essential that such obstacles be removed in a timely manner so that evacuation times will not increase even more due to substantial periods of reduced roadway capacity. Under the LILCO Plan, removal of obstacles will be performed by LILCO road crews using 12 LILCO tow trucks and line trucks, ~~and a gasoline contingency plan is "under development."~~ Gasoline will be provided by LILCO fuel trucks which are to be dispatched to seven specific locations. (See Plan at 4.4-3 and 4.4-4; Appendix A at IV-192 176; OPIP 3.6.3 at 46a-46b).

Intervenors contend that the LILCO Plan fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(10) and NUREG 0654, Section II.J, because LILCO will be unable to provide for obstacles to be removed from the roads, or to provide adequate fuel supplies for evacuees for the following reasons:

A. LILCO does not have an adequate number of tow trucks to enable LILCO personnel to remove all potential road obstructions. ~~7-nor-does-the-Plan-specify-the-number-of-such-vehicles-at-its-disposal~~ (See FEMA Report at 11, citing non-compliance with NUREG 0654, Section II.J.10.k). ~~In-addition, contrary-to-NUREG-0654-Section-II-A-2-a-7-the-LILCO-employees expected-to-be-part-of-the-road-crews-have-not-been-identified by-job-title--See-0PIP-2-2-17-at-39.~~

B. The tow truck deployment points proposed by LILCO are not located so as to allow rapid dispatch of the tow trucks to the aid of disabled vehicles. In addition, once they have been dispatched to an obstruction location, the tow trucks and other LILCO equipment will only be able to move as fast as the traffic flow, which will be extremely slow. Therefore, they will be unable to respond to the site of an obstruction in an expeditious manner.

C. LILCO's Plan makes no provision for the evacuation of persons whose cars break down or are in accidents.

D. The LILCO Plan does not provide for snow removal. (See FEMA Report at 11, citing non-compliance with NUREG 0654, Section II.J.10.k). Rather, the Plan assumes that "snow removal will be provided by local organizations in their normal fashion during an emergency." (Plan at 2.2-5). This

assumption is unwarranted. LILCO has no agreements with local jurisdictions or other entities within and around the EPZ to provide snow removal services during an emergency, nor can it assure that local personnel assigned to snow removal duties will perform those functions during an emergency, for the reasons cited in Contentions 15, 25 and 27.

E. Withdrawn. LILCO's fuel trucks, which are designed for transporting fuel, are not equipped to pump fuel in the manner necessary to refuel automobiles. Furthermore, LILCO's fuel trucks are not equipped with necessary fire prevention equipment, such as is found on gasoline pumps and trucks designed for refueling aircraft. Therefore, the public will be subjected to an unacceptable risk of fire and/or explosions.

F. The seven fixed sites chosen for fuel distribution will be able to service only a small portion of the evacuating population. Therefore, the fuel needs of many evacuees will be unmet. Furthermore, no provisions have been made to handle queues at fuel allocation sites which may back up into evacuating traffic, thus causing further congestion and delays.

Contention 67: Evacuation of Persons Without Access to Automobiles

Contention 67. LILCO assumes that in the event an evacuation is ordered, most members of the population will attempt to

leave using their personal vehicles. However, a substantial portion of the population in the EPZ does not own or have access to an automobile. LILCO proposes that people who do not have access to an automobile at the time of an evacuation order will be evacuated by buses running special evacuation routes, with bus stops purportedly no more than one-half mile from each such person's home. (Plan at 3.6-6; Appendix A, at III-35 and III-36, IV-87 76 to IV-~~178~~ 163; OPIP 3.6.4). However, LILCO's proposal cannot be implemented, and LILCO's proposed evacuation of people without access to cars would not provide adequate protection for such people, because the evacuation would take too long. As a result of the time necessary to complete the evacuation, persons may be exposed to health-threatening radiation doses. Thus, the LILCO Plan fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(10) and NUREG 0654 Sections II.J.9 and J.10. Specifically:

Contention 67.A. According to LILCO's estimates, approximately ~~285~~ 333 forty-passenger buses are required to transport those able-bodied persons who would need transportation out of the EPZ (see Appendix A, at IV-74b ~~87-te-IV--178~~; OPIP 3.6.4). In fact, however, LILCO will either need more than ~~285~~ 333 buses or those buses will have to make many more runs than anticipated by LILCO because LILCO has substantially

underestimated the number of people who will need such transportation:

1. LILCO appears-to-base-its-estimates-solely-on the-number-of-households-without-cars---(See-Appendix-A-at III-35)---its-estimates-thus-ignere underestimate the significant number of people who belong to households with automobiles, but who may not have access to such vehicles because at the time of an evacuation order, the vehicles are in use by another member of the household. LILCO's proposal for evacuating persons without access to transportation must include adequate methods of evacuating the members of vehicle-owning households who may not have access to a car. LILCO's estimates of the number of buses required do not adequately appear-to take such people into account.

2. LILCO's estimates also fail to take into account those persons who rely on public transportation to get into the EPZ but who, in the event of an emergency, may not be able to rely on such means to evacuate.

3. LILCO assumes that its route buses will be filled to 75% capacity; however, there is no basis for this assumption. In fact, the route bus capacity factors are likely to be significantly lower than 75%, which will result in a need for many more buses to evacuate people without access to cars.

Contention 67.B. Withdrawn. The Plan fails to provide adequate staffing to accomplish the proposed evacuation, in violation of 10 CFR Section 50.47(b)(1). Specifically, it provides for only a single Bus Coordinator, who must maintain contact with all bus drivers. OPIP 3.6.4, at 7 (item 9). In addition, the Bus Coordinator must stay in contact with staging area coordinators and bus company operators, among others. OPIP 3.6.4, at 2. In addition, in violation of NUREG 0654 Section II.A.2.a., the Plan fails to identify by job title the LILCO employees who will serve as bus drivers. (See OPIP 2.1.1, at 42).

Contention 67.C. The staggered departures and multiple bus runs necessary under LILCO's plan to evacuate the people in each zone (Appendix A, at IV-87 76 to IV-178 163; OPIP 3.6.4, at 11-32), even using LILCO's ~~unrealistically-low~~ estimates of the number of people likely to need such evacuation, will result in ~~lengthy~~ evacuation travel times far longer than those set forth in Appendix A at 8a. Specifically, the LILCO Plan provides that ~~in-the-many-cases-where-buses-are-required-to make-more-than-one-run,~~ the bus routes will terminate at designated "transfer points" with each bus in many cases required to make more than one run. As noted in Contention 67.D, several transfer points are in the EPZ. Transfer buses will transport

the evacuees from the transfer points to relocation centers.
Of the 285 buses which LILCO estimates it will require, 109 are
expected to perform two runs and 14 are expected to perform
three runs. Only as buses finish the required number of runs,
will people who have been deposited at transfer points be
bussed from the transfer points to relocation centers. LILCO's
estimated route times begin and end with the assumed transfer
points. (See Appendix A, at IV-87 76 to IV-178 163, V-8a; OPIP
3.6.4). LILCO's estimated evacuation times, however, assume
that route buses will be dispatched from transfer points and
return to the transfer points at specific intervals (or "head-
ways") and that there will be little or no waiting at the
transfer points for buses to the relocation centers. Further-
more, the last transfer buses are assumed to clear the EPZ 15
minutes after leaving the transfer points. (Appendix A at V-7)
These assumptions are erroneous, however, since they do not
consider the severe traffic congestion that will exist, for
reasons set forth in Contention 65 at the same time that the
route and transfer buses are attempting to make their trips.
Thus, the route times for each route bus will be longer than
estimated by LILCO. In addition, it is likely to take far
longer than 15 minutes for the last transfer buses to clear the
EPZ after leaving the transfer points. The time required for

an-evacuee-to-get-from-the-bus-stop-near-his-home-to-a relocation-center, taking into account the need for multiple bus runs and waiting at a transfer point, will be substantially greater than the estimated route times. -- LILCO's "estimated route times" for the evacuation buses to reach the transfer points are also unrealistically low in that they fail to take into account the congested conditions that will exist due to the factors set forth in Contentions 65.

Contention 67.D. Although GPIP-3.6.4 instructs LILCO employees to inform evacuees at transfer points "that they are outside of the 10-mile EPZ," in fact, The eleven new transfer points designated by LILCO do not appear to have adequate structures which could provide shelter from adverse radiological or weather conditions for evacuees while they are waiting to be transferred to relocation centers. Furthermore, four of the eleven twelve transfer points are inside the EPZ, and three are practically on the boundary of the EPZ, and one is on the EPZ boundary. In addition, of the remaining five six transfer points, three are located approximately one one-half mile or less beyond the EPZ boundary, one is approximately one mile from the EPZ boundary and two are approximately two and a half miles beyond the boundary. Under the LILCO Plan, people are likely to be kept waiting for substantial time periods,

because of delays, congestion, etc., before they are transported from transfer points to relocation centers. Leaving people at the ~~seven~~ eight transfer points within or very close to the EPZ will not provide protection for them. Leaving them at the other ~~five~~ three transfer points, all less than five miles beyond the EPZ boundary, conflicts with the intent of NUREG 0654, Section II.J.10.h, and could result in these people also receiving health-threatening radiation doses.

Contentions 68-71: Evacuation of School Children

Further Preamble to Contentions 68-71. The LILCO Plan proposes that if schools are in session upon the declaration of an Alert or Site Area emergency in which no protective actions are recommended for the general public, schools are expected to implement their early dismissal plans. (Appendix A at II-20). If an evacuation, or a combination of sheltering and evacuation were recommended for the general public while schools were in session, the schools in the EPZ are expected to evacuate children to "predesignated reception centers." If any protective actions are recommended for the general public, schools outside the EPZ which have students living in the EPZ, according to LILCO, "will retain those students at the school when the school day ends." (Id.) two-means-of-implementing-a-protective action-of-evacuation-with-respect-to-children-who-are-in schools-at-the-time-of-an-evacuation-order:--(1)-by-recommending-that-schools-implement-existing-early-dismissal policies-so-children-may-return-to-their-homes-and-evacuate with-their-parents-(Plan7-at-3.3-57-3.6-67-Appendix-A7-at IV-182-to-IV-1857)-and-(2)-by-performing-a-bus-evacuation-of the-children-directly-from-the-schools-to-relocation-centers (Plan7-at-2.1-57-3.6-5-to-77-Appendix-A7-at-IV-182-to-1857-OPIP 3.6.57). For the reasons set forth in Contentions 68-71, the

LILCO Plan does not provide an adequate and implementable means of evacuating school children, and thus fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(10), and NUREG 0654, Sections II.J.9 and J.10.

Contention 68. The LILCO Plan fails to specify the bases upon which LILCO would continue to make a protective action recommendation of early dismissal (as opposed to sheltering or evacuation) to schools if they had initiated an early dismissal, even if other protective actions were being recommended for the general public (OPIP 3.8.2. at 5), would-be-made, and thus does not comply with 10 CFR Section 50.47(b)(10), and NUREG 0654, Section II.J.10.m. ~~Although Appendix-A-states-(at IV-182)-that-schools-"will-probably-be-advised-to-institute-an early-dismissal-(emphasis-added)-when-they-receive-a-tone alert-radio-notification-via-EBG-of-the-"declaration-of-an alert-or-above-classification"-the-basis-to-be-used-by-LILCO in-deciding-to-issue-such-a-"probable"-advisory-is-not-stated.- There-is-also-no-basis-provided-for-the-possible-early-dismissal-of-the-South-Country, Three-Village, and-Sachem-School-Districts---(See-Appendix-A-at-IV-183)-~~

Contention 69. LILCO appears to assume that its recommendation, at the time no protective actions are recommended for the general public, that schools implement an early dismissal,

will result in children being protected in the event of a subsequent protective action recommendation of sheltering or an evacuation order, because children could thereby shelter or evacuate with their parents. (See Appendix A, at II-20, OPIP 3.8.2 at 5.). In fact, there is no assurance that early dismissal will provide children with adequate protection from health-threatening radiation doses, and therefore the Plan fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(10), and NUREG 0654 Sections II.J.9 and J.10, for the following reasons:

Contention 69.A. [Not admitted by ASLB]. Under the LILCO Plan, the decision to implement an early dismissal rests with the schools. (See Appendix A, at IV-182). The recommendation to dismiss early will be made over the EBS radio (Plan at 3.6-6; Appendix A at IV-182). The Plan contains no provisions for the transmission of any detailed information to school authorities about the emergency, its anticipated or potential progress, or the possible dangers involved in implementing an early dismissal. Therefore, under the LILCO Plan, the appropriate school authorities will have no means of obtaining the information necessary to permit an informed and timely decision. The Plan also fails to provide indemnification for the school authorities in the event that their decision with

respect to an early dismissal results in injury to children. Because they will not have adequate information or protection from liability arising out of their decision, there is no assurance that the schools will be able to, or actually will, make the appropriate decision with respect to early dismissal.

Contention 69.B. The LILCO Plan does not incorporate or provide any essential details of ~~the~~ early dismissal plans for the schools or school districts in or near the EPZ. It is thus impossible to tell whether such plans for a Shoreham emergency actually exist ~~and~~, or, if they do, ~~so~~, the extent to which they are compatible with the LILCO Plan.

Contention 69.C. Early dismissal will not result in the timely arrival of children at their homes so they can be protected by their parents because:

1. Even under non-emergency conditions it takes hours to implement early dismissals due to the time required to make the necessary decision, to mobilize the necessary personnel and vehicles, and to perform the necessary number of bus runs. Under emergency conditions, the time required to accomplish an early dismissal is likely to be substantially greater, due particularly to congested road conditions and role conflict experienced by bus drivers and other personnel in authority. In addition, early dismissal policies rely upon large

numbers of children walking home, distances of up to two to three miles, which can take a substantial amount of time.

2. Under the LILCO Plan, schools will receive notification of an emergency at the same time as the rest of the public (by means of tone alert radios activated by the EBS announcement (see Plan, at 3.3-4; Appendix A at II-19 and 3-3-5)). Therefore early dismissal traffic, including those children expected to walk home, will encounter early evacuation and mobilization traffic.

Contention 69.D. The Plan does not provide for prior notification of parents if early dismissal is going to occur. According to surveys, between 30 and 40 percent of the school children within the plume EPZ return from school to an empty home because both parents hold daytime jobs (or, in the case of single-parent families, the sole parent holds a daytime job). As a result, many children will be sent home to empty houses, and may be uncared for during the emergency.

Contention 69.E. The Plan fails to provide a means of dealing with an escalation of the emergency (and accompanying need to recommend protective actions of sheltering or evacuation) that may occur during the lengthy process of early dismissal. Indeed, the LILCO Plan provides that once schools initiate early dismissal, LILCO will not inform the schools of

subsequent sheltering or evacuation protective action recommendations. (OPIP 3.8.2 at 5). Thus, in the event of such an escalation, children are likely to be stranded in schools, or en route to their homes (walking or on buses), without available shelter, means of evacuation or other protection. Children would thus be exposed to health threatening radiation doses.

Contention 70. ~~The LILCO Plan states that the Shoreham-Wading-River-School-District "is the only district which has the option of relocating its students."~~ (Appendix A at IV-183).~~---~~ Thus Although the LILCO Plan states that schools will be advised to evacuate if evacuation or a combination of sheltering and evacuation is recommended for the general public, the Plan does not identify relocation centers for, or the means or procedures to evacuate, any of the schools. ~~other than those in the Shoreham-Wading-River-School-District.~~ (Appendix A at II-20.) Thus, the LILCO Plan has no provision concerning how its proposed evacuation and relocation of children, or the safe reuniting of children with their families, could or would be implemented. And, contrary to LILCO's assumption, there is no evidence in the Plan that school officials have conducted "preplanning" for a Shoreham emergency. (See OPIP 3.6.5 at 10a). Intervenor's contend that in

failing to provide for an implementable evacuation of the school children in the ~~16-ether~~ school districts in the EPZ ~~even-in-the-event-of-a-fast-moving-event, (see-Appendix-A-at IV-183),~~ the LILCO Plan fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(10), and NUREG 0654 Sections II.J.9 and II.J.10.

Contention 71. Intervenor's contend that the Plan's provisions proposed for evacuation of school children (Appendix A at ~~IV-183-to-186~~ II-19 to II-21; OPIP 3.6.5) are-deficient could not and would not be implemented for the following reasons:

Contention 71.A. Assuming the availability of relocation centers for evacuated nursery school children (the Plan fails to identify any such centers), under the LILCO Plan, a timely evacuation of the nursery schools in the EPZ (see Appendix A at II-20, II-21; OPIP 3.6.5) could not be implemented because:

1. Even if LILCO had agreements with companies to provide a sufficient number of buses and agreements with schools or parents permitting children to ride in buses being driven by LILCO employees in for an evacuation of nursery schools (see Contention 24), many of the buses in fact would not be accessible to LILCO employees because they would be in the custody of the normal school bus drivers, or the buses would be located substantial distances away.

2. The LILCO Plan has no provision for supervision of children at schools, on buses or at relocation centers, remainder of subpart A.2 not admitted by ASLB or for indemnification of school authorities in the event children are injured or contaminated in connection with an evacuation.

Contention 71.B. An evacuation of nursery and other schools, even if buses and bus drivers were available (See Contention 24) ~~using LILCO employees as bus drivers~~, would take too long and children would not be adequately protected from health threatening radiation doses because:

1. Evacuating buses would encounter congestion from other mobilization and evacuation traffic, and thus would be substantially delayed in traveling from schools to relocation centers (~~assuming the Plan fails to identify any such relocation centers existed~~).

2. Normal school dismissals require substantial numbers of multiple bus runs as well as staggered dismissal times. In the event of an evacuation, an even larger number of multiple bus runs (requiring several hours) would be necessary to transport all children out of the EPZ.

Contention 71.C. Although the Plan asserts that "those schools outside the EPZ which have students living in the EPZ will retain those students at the school when the school day

ends, if any protective actions are recommended for the general public in any area of the EPZ," (Appendix A at II-20), this assertion is without basis. The Plan provides no assurance that this LILCO proposal could or would be implemented for the following reasons:

1. The Plan does not incorporate or provide any essential details of any plans of schools for retaining children in school after the end of the school day. Thus, it is impossible to tell whether such plans actually exist or, if they do, the extent, if any, to which they are compatible with the LILCO Plan.

2. The Plan does not provide for prior notification of parents if children are to be retained in school after the end of the school day. Schools are not authorized to retain children without parental consent.

3. The Plan has no provisions concerning how its proposed retaining of children and the safe reuniting of children with their families could or would be implemented in the event of a Shoreham emergency.

Contention 72: Evacuation of People in Special Facilities

Contention 72. The LILCO Plan proposes to evacuate all hospitals, nursing homes and other special health care facilities in the EPZ, using buses, ambulances, ~~the Long Island Railroad~~ ~~and airplanes.~~ and ambulettes. (Plan, Appendix A at II-28 to 30, 29, ~~III-37~~, ~~IV-179 to 180~~, IV-166 to 168; ~~IV-185 to 192~~; IV-172 to 178; OPIP 3.6.5). This aspect of the Plan cannot be implemented; accordingly, people in special facilities will not be adequately protected in the event of an emergency and the LILCO Plan fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(3), 50.47(b)(8), 50.47(b)(10) and NUREG 0654, Sections II.A.3, C and J for the following reasons:

Contention 72.A. Assuming the necessary vehicles were available to LILCO and were mobilized, the time necessary, following mobilization, to accomplish the proposed evacuation of special facilities will be too long to provide adequate protection from health-threatening radiation doses. Evacuation will take too long as a result of: the large number of trips necessary to transport persons individually to relocation centers ~~or to LIRR stations~~; the other mobilization and evacuation traffic congestion which the evacuation vehicles will encounter; and the time necessary to load and unload passengers

from ambulances ~~and-ente-trains-or-planes~~. Thus, the Plan fails to comply with 10 CFR Sections 50.47(a)(1) and 50.47(b)(10).

Contention 72.B. Withdrawn. LILCO's plan to use the LIRR to evacuate up to 845 patients, by converting passenger cars to accommodate patients on mattresses (Plan, Appendix A, at IV-186), is unworkable and cannot be implemented in a timely manner because:

1. There is no assurance that any LIRR trains and necessary engineers, much less a sufficient number of them (see Appendix A, at IV-186), will be available at the Port Jefferson and Main Line stations to participate in the proposed evacuation.

2. It will take a long time to perform the necessary modifications to the LIRR cars, and the Plan does not provide for personnel to perform such modifications.

3. Limited access and loading conditions at the Port Jefferson and Main Line stations make the proposed evacuation impractical.

4. The Plan does not provide for health care personnel to accompany the patients in the railroad cars, or to meet patients and provide necessary support and transportation services at points of disembarkation.

Contention 72.C. The Plan fails to identify any relocation or reception centers for persons evacuated from any hospitals, nursing homes, or other special health care facilities other than the United Cerebral Palsey of Greater Suffolk Inc.

Contention 72.D. The LILCO Plan recognizes that under certain circumstances the evacuation of John T. Mather Memorial, St. Charles and Central Suffolk Hospitals might be necessary, and that LILCO may recommend such an evacuation. (Appendix A at II-28, IV-172; OPIP 3.6.5 at 8). However, the Plan fails to specify adequately or accurately the circumstances that would necessitate an evacuation of the hospitals, and does not include adequate procedures to permit the person in command and control to make an accurate determination as to whether or not such an evacuation is needed. Thus, the Plan fails to comply with NUREG 0654 Section II.J.10.m and 10 CFR Section 50.47(b)(10).

Contention 72.E. Instead of planning to provide adequate protection to hospital patients in the event of such an evacuation, the LILCO Plan simply provides that "LERO will evacuate these facilities using an ad hoc expansion of transportation resources that are presently committed to other aspects of evacuation." (Appendix A at II-28, IV-172). Apparently, this

ad hoc plan will not be developed until an emergency actually occurs. (See Appendix A at II-28; II-172, 173). The ad hoc plan will utilize the vehicles assigned to implement the evacuation of other segments of the population, but such vehicles will be supplied for the purpose of evacuating hospital patients only "on an as available basis," and only "as the rest of the affected population evacuation nears completion." (Appendix A at IV-173). Thus, there is no assurance that adequate protective measures could or would be taken for hospital patients and LILCO has thus failed to satisfy the requirements of 10 CFR Sections 50.47(a)(1) and 50.47(b)(10), and NUREG 0654, Section II.J.10.d

Contention 73: Handicapped People at Home

Contention 73. The LILCO Plan proposes to use ambulances to evacuate handicapped people who are not in special facilities. (OPIP 3.6.5). Intervenor's contend that this aspect of the LILCO Plan cannot be implemented in a timely manner and therefore will not provide adequate protection to handicapped persons in the EPZ. Thus, this aspect of the Plan fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(1), 50.47(b)(3) and 50.47(b)(10), and NUREG 0654, Sections II.A.3, C.4 and J, as specified in paragraphs A and B below.

Contention 73.A. All handicapped persons in need of special evacuation services will not be known to LILCO and therefore will not be evacuated in the event of an emergency. The preregistration system proposed by LILCO (Plan, Appendix A, at II-18; see also Information Brochure), will not result in identification of a substantial number of persons who may need assistance in order to evacuate because:

1. Many people who will require assistance will not return the postcards to LILCO because they do not: (a) perceive themselves to be handicapped; (b) desire to be identified as handicapped; (c) understand the reason or need to return the cards; (d) remember to return the cards; and/or (e) desire to rely on LILCO assistance in the event of an emergency.

2. There is no provision for verifying the completeness of the LILCO listing to be compiled from the returned postcards.

3. There is no provision for regularly updating the listing.

Contention 73.B. The LILCO Plan does not provide for the assistance and equipment necessary to accomplish an evacuation of handicapped persons at home, and thus fails to comply with 10 CFR Sections 50.47(b)(1), 50.47(b)(3), 50.47(b)(5) and 50.47(b)(8), and NUREG 0654, Sections II.A.3, C.4, E and J. Specifically:

1. The only provision for notifying non-deaf handicapped individuals of a pending evacuation is by means of a telephone call from the LILCO Home Coordinator. (OPIP 3.6.5). This is an inadequate and ineffective means of notifying many handicapped individuals such as those who are deaf, bedridden, unable to get to a telephone or unable to communicate on a telephone, and thus LILCO fails to comply with 10 CFR Section 50.47(b)(5) and NUREG 0654, Sections II.E.5 and E.6. (See FEMA Report at 9).

2. [Subpart B.2 not admitted by ASLB.] There is no provision in the Plan for assisting handicapped individuals with the preparation necessary prior to evacuation (such as locating and packing clothing and medication, notifying relatives or friends).

3. One LILCO employee -- the Home Coordinator -- is supposed-to-contact responsible for contacting all the handicapped persons and identifying and contacting all reception centers (none of which are identified in the Plan). (OPIP 3.6.5, Section 5.1.2). One-person-will-not-be-able-to-perform these-functions While OPIP 3.6.5 provides that the Home Coordinator should "[d]raw on Communications and Administrative Support personnel to assist in this effort," there is no indication that such personnel will be available. Thus, there is

no assurance that disabled persons will be notified promptly enough to permit timely evacuation.

4. The proposed evacuation would take far too long, and as a result, handicapped people would be likely to receive health-threatening doses of radiation because evacuating vehicles would encounter congestion from other mobilization and evacuation traffic, and thus would be substantially delayed in traveling to the homes of handicapped individuals, and to relocation centers.

5. The LILCO Plan calls for the deaf to be alerted of an accident, and advised of the appropriate protective action, by LILCO route alert drivers who are expected to drive to the home of each deaf resident within the EPZ (OPIP 3.6.5). This proposed notification will not be timely, however, since route alert drivers will be delayed by mobilization and evacuation traffic. Furthermore, even disregarding expected traffic conditions, there is no assurance that enough route alert drivers will be assigned to this function to enable LILCO to carry out such notification promptly.

Contentions 74-77: Relocation Centers

Further Preamble to Contentions 74-77. An offsite emergency plan must include means of relocating evacuees and must provide for relocation centers located at least five miles and

preferably 10 miles beyond the EPZ. NUREG 0654, Sections II.J.10.g and h. Such relocation centers are essential to provide food and shelter to those evacuees who have no alternative places to stay and also to provide radiological monitoring and decontamination for evacuees and their vehicles. The relocation centers must have sufficient personnel and equipment to monitor evacuees within a 12-hour period. NUREG 0654, Section II.J.12.

The LILCO Plan calls for the establishment of relocation centers outside the EPZ at the following facilities (Plan, at 4.2-1; OPIP 4.2.1):

- Suffolk County Community College (primary)
- BOCES Islip Occupational Center (primary)
- State University of New York at Stony Brook (primary)
- State University of New York at Farmingdale (backup)
- St. Joseph's College, Patchogue (backup).

The Intervenor contend that LILCO will be unable to provide adequate relocation centers and services for evacuees, and thus the Plan fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(8), 50.47(b)(10), and NUREG 0654 Section J. The specific deficiencies which lead to this conclusion are set forth in Contention 74-77.

Contention 74. Two of the three primary relocation centers designated by LILCO are well within 20 miles from the Shoreham site. Both Suffolk County Community College and the State University of New York at Stony Brook are only three miles beyond the EPZ. In addition, many evacuees who need relocation services will not use the relocation centers proposed by LILCO because they will perceive those centers as being too close to the plant (e.g., only 13 miles). Accordingly, LILCO's relocation centers will not provide the necessary services to evacuees and accordingly, the LILCO Plan does not comply with NUREG 0654, Section II.J.10.h.

[Rewritten by ASLB to state as follows:] Two of the three primary relocation centers designated by LILCO are well within 20 miles from the Shoreham site. Both Suffolk County Community College and the State University of New York at Stony Brook are only three miles beyond the EPZ boundary contrary to the requirements of NUREG 0654, Section II.J.10.h.

Contention 75. The LILCO Plan provides no estimates of the number of evacuees who may require shelter in a relocation center, and the Plan fails to demonstrate that each such facility has adequate space, toilet and shower facilities, food and food preparation areas, drinking water, sleeping accommodations and other necessary facilities. Accordingly, there is no

assurance that the relocation centers designated by LILCO will be sufficient in capacity to provide necessary services for the number of evacuees that will require them. Thus, LILCO fails to comply with NUREG 0654, Sections II.J.10.g and J.12.

Contention 76. [Not admitted by ASLB]. LILCO's Plan limits the facilities for radiological monitoring and decontamination of the evacuated public to only the five relocation centers designated in the Plan. (See Plan, at 3.6-7, 4.2-2 to 4.2-4). The Plan provides for monitoring and decontamination only of those evacuees who stop at the relocation centers. Thus, there is no provision for monitoring or decontamination of evacuees and vehicles who leave the EPZ but choose not to go to relocation centers. However, based on the TMI experience, it appears likely that many evacuees will bypass the centers in favor of a destination more distant from the radiation hazard. In order to provide adequate protection to the public as required by 10 CFR Sections 50.47(a)(1) and 50.47(b)(10), LILCO must provide a means for monitoring and decontaminating all evacuees.

Contention 77. The equipment used by LILCO to measure thyroid contamination at relocation centers -- RM 14 with HP270 probe -- (see OPIP 3.9.2) will be incapable of differentiating the required signal from background readings. The instrument's

most sensitive scale (0-500 cpm) is insufficiently sensitive for the accurate measurement of a-75 150 cpm or 0.13 mR/hr reading (the threshold for requiring hospital care) or a-"50 cpm-above-background"-reading---(See Plan, at 3.9-4, OPIP 3.9.2)---In addition, the instrument is not sufficiently sensitive to the energy spectrum given off by radioiodine to insure accurate detection of radioiodine thyroid contamination in the presence of background readings which are likely to be elevated above the 50 cpm maximum (10-15 cpm nominal) assumed by LILCO. (OPIP 3.9.2 and Plan, at 3.9-4). In addition, the Plan provides no information or instruction on how to make a measurement if the background reading exceeds 50 cpm. Accordingly, the LILCO plan fails to comply with NUREG 0654 Section II.J.12.

Contentions 78-83: Food, Milk, Water and Livestock Control

Further Preamble to Contentions 78-83. 10 CFR Section 50.47(b)(10) requires that protective actions for the ingestion exposure pathway EPZ "appropriate to the locale" be in place. The ingestion exposure pathway generally covers an area approximately 50 miles in radius. 10 CFR Section 50.47(c)(2). Plans for the ingestion pathway are required to "focus on such actions as are appropriate to protect the food ingestion pathway." Id. The purpose of these requirements is to protect the

public from consumption of contaminated foodstuffs. NUREC 0654, Section II.J.11.

Contention 78. Withdrawn. The LILCO Plan does not adequately identify the LILCO or LERO personnel who will be responsible for making or implementing protective action recommendations or decisions with respect to the ingestion exposure pathway EP2. The Plan states that the Director of Local Response is responsible for the protective action function (Plan, Figure 3.6.1), while the Health Services Coordinator will provide "coordination for local resources involved in controlling food, milk, water and livestock feed supplies" (Plan, at 3.6-8), and the Coordinator of Public Information will "advise farmers on the recommended practices with respect to livestock and agricultural products" (Plan at 3.6-8). However, the responsibility for implementation of the Ingestion Pathway Protective Action Procedure is assigned to the Dose Assessment Staff under the guidance of the Environmental Assessment Coordinator. (OPIP 3.6.6, section 2.0). The Plan thus fails to comply with 10 CFR Sections 50.47(b)(1), and 50.47(b)(3).

Contention 79. Withdrawn. The Plan fails to provide for protective actions for the portion of the ingestion exposure pathway in the State of Connecticut. The Plan thus fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(1),

50.47(b)(3), 50.47(b)(10), 50.47(c)(2), and NUREG 0654, Section II.J.11.

Contention 80. Withdrawn. OPIP 3.6.6 -- "Ingestion Pathway Protective Actions" -- requires dose projections to be made as a prerequisite to implementing the procedure. The projections are to be made according to OPIP 3.5.2. Such projections are inadequate for use in determining ingestion exposure pathway protective actions, however, because those dose projections are limited to the area only 10 miles from the plant (OPIP 3.5.2 Section 5.2.7 and Attachment 3). Thus, they cannot be relied upon to provide the dose projections necessary for protective action recommendations for the 50 mile ingestion pathway EPZ. The Plan thus fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(9), 50.47(b)(10), 50.47(c)(2), and NUREG 0654, Section II.J.11.

Contention 81. The Plan contains ~~no~~ insufficient procedures or other means of implementing the protective actions set forth in ~~Attachments-7-and-8-of~~ OPIP 3.6.6. Thus, LILCO has not developed adequate plans for the 50-mile ingestion exposure pathway, and there is no compliance with 10 CFR Sections 50.47(a)(1), 50.47(b)(1), 50.47(b)(3), 50.47(b)(10), 50.47(c)(2) and NUREG 0654 Section II.J.11. Specifically:

Contention 81.A. The Plan does not state:---(1)-how-the removal-of-lactating-dairy-animals-from-contaminated-pasturage and/or-the-provision-of-substitute, uncontaminated-stored-feed, will-be-achieved;-(2)-how-uncontaminated-water-sources-are-to be-obtained-or-provided-for-lactating-dairy-animals;-(3)-how and-under-what-criteria-meats, meat-products-and-animal-feeds are-to-be-considered-on-a-case-by-case-basis; or-(4)-how-all livestock-can-be-isolated;--In-addition, the-Plan provide adequate has no procedures or guidance governing the disposition of contaminated lactating dairy animals, or the treatment of uncontaminated lactating dairy animals should uncontaminated stored feed not be available. Thus, there is no assurance that the milk or meat products of these animals will be kept from public consumption.

Contention 81.B. The Plan calls for withholding contaminated milk from the market to allow radioactive decay of short-lived radionuclides but does not call for its disposal or continued withholding after the decay period. (OPIP 3.6.6, Attachment 7, at 1). The Plan provides no standards for determining what constitutes an adequate "decay period" or for identifying short-lived radioisotopes, nor does it contain any provisions for dealing with long-lived isotopes which would pose a serious health consequence to the public. In addition,

the Plan does not state: (1) how the withholding of contaminated milk would be achieved; (2) how the prolonged storage and special pasteurization of milk would be achieved; (3) how the diversion of the production of fluid milk would be achieved; or (4) how the introduction of milk supplies into commerce would be prevented.

Contention 81.C. The Plan calls for removing contamination from washing-contaminated fruit and vegetables by washing, brushing, scrubbing or peeling and-milling-and-polishing-contaminated-grains (OPIP 3.6.6, Attachment 7, at 1a). However, the Plan contains no procedures for disposing of the wash water or milling residue, which could pose a serious potential for adverse health consequences. In addition, the Plan does not state: (1) how the removal of surface contamination from fruits and vegetables by washing, milling, brushing, etc. would be achieved; (2) what the criteria are for a contaminated operations area and how to measure it; how-the-milling-and-polishing-of-contaminated-grains-would-be-achieved; or (3) how the many informal local farm stands can be found and controlled.

Contention 81.D. The Plan contains no maps showing key land use data, watersheds, water supply intakes and treatment plants and reservoirs. Nor does it state: (1) how and from where alternative drinking water supplies would be made

available; or (2) how affected wells would be identified and isolated and reservoirs secured.

Contention 81.E. The Plan does not state: (1) how the diet of all residents and visitors is to be restricted; (2) who will pay for condemnation and under what procedures condemnation will be executed; or (3) how exports of agricultural products and ducks from Suffolk County or Connecticut to other parts of the country can be controlled or prevented.

Contention 81.F. The Plan does not provide for personnel, facilities, equipment or even a communications network to implement any of the actions listed in subparts A through E.

Contention 82. Withdrawn. The Plan does not provide for the confiscation of fish or other sea life from the Long Island Sound which may be contaminated, and thus does not consider the necessary range of foodstuffs. Since about one-half of the possible plume trajectories are over the Long Island Sound where there is much commercial and recreational fishing, there must be procedures for monitoring and controlling this path to the food chain. Without incorporating these considerations in Section 3.6.6 and the related OPIPs, the Plan does not meet the requirements of 10 CFR Sections 50.47(a)(1), 50.47(b)(10), 50.47(c)(2), and NUREG 0654, Section II.J.11.

Contention 83. [Not admitted by ASLE]. The Long Island duck industry must be included for special consideration in the Plan. There must be procedures for putting commercially grown ducks on special feed and for restraining the movement of contaminated ducks into the commercial market and the food chain. LILCO's mere listing of the duck growers in OPIP 3.6.6 does not constitute the proper consideration. The dietary factor from OPIP 3.6.6, Attachment 6, which should be applied to commercially grown ducks should also be defined. Without the further development of duck procedures, the Plan does not comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(10), 50.47(c)(2) and NUREG 0654, Section II.J.11.

Contentions 84-91: Recovery and Reentry

Preamble to Contentions 84-91. The LILCO Plan proposes that short-term and long-term recovery and reentry operations will be performed by LILCO personnel following a radiological emergency at Shoreham (Plan, at 3.10-1 and 3.10-2; OPIP 3.10.1). For the reasons specified in Contentions 84-91, Intervenor contend that contrary to the emergency planning standards of 10 CFR Section 50.47(b)(13) and NUREG 0654, Section II.M, the LILCO Plan fails to include general plans for recovery and reentry, including the development of necessary procedures and methods that are capable of being implemented.

Contention 84. [Not admitted by ASLB]. LILCO states that "the initiation of Recovery and implementation of Reentry is a non-utility decision-making process" (OPIP 3.10.1, at 1). Contrary to 10 CFR Sections 50.47(b)(1) and 50.47(b)(3), LILCO identifies no non-utility entity, with necessary authority, which has agreed to undertake the initiation of the recovery and reentry processes. Accordingly, under the LILCO Plan recovery and reentry cannot be initiated or implemented, and there is no compliance with 10 CFR Sections 50.47(a)(1), 50.47(b)(13), and NUREG 0654 Section II.M.

Contention 85. ~~The LILCO Plan states-(at-3.10-1)-~~

~~BERG personnel will continue to monitor the affected areas and when radiation levels are such that it is safe to enter the area, will inform the Director of Local Response-(a LILCO employee).--The Director of Local Response will then appoint a Recovery Action Committee to develop a recovery plan for the restoration of the area to its pre-emergency condition.~~

~~(Emphasis added).--The LILCO Plan thus merely states that a plan for recovery and reentry will be developed.~~ The LILCO Plan at 3.10-1 states that after site conditions are controlled the Director of Local Response will appoint a Recovery Action Committee which "will plan and implement actions for the restoration of the affected areas to their pre-emergency conditions." (Id.) The LILCO Plan thus provides merely that

planning for recovery and reentry will commence after the appointment of the Recovery Action Committee; at this time, no such plan exists. This is contrary to the requirement of 10 CFR Section 50.47(b)(13) that "[g]eneral plans for recovery and reentry are developed," (emphasis added), and NUREG 0654 Section II.M.

Contention 86. [Not admitted by ASLB]. Although the Plan asserts several general types of "Recovery and Reentry operations" (Plan, at 3.10-1 and 3.10-2), the Plan fails to identify the persons or organizations who will: determine when such operations are necessary or appropriate; determine if they are adequate; have the capability of performing the operations; provide the necessary equipment; or determine if they are performed properly. There is no provision in the Plan which identifies when, under what circumstances, how, or according to what criteria, the listed operations are to be performed. Indeed, the Plan does not state that any of the operations ever would or could actually be performed. The list of operations contained in the Plan does not constitute a "plan" at all; it is merely a compilation of hypothetical actions. The Plan thus fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(1), 50.47(b)(3), 50.47(b)(13), and NUREG 0654, Sections II.M.1 and II.M.2.

Contention 87. [Not admitted by ASLB] The Plan fails to identify, by name, title or qualification, the individuals from FEMA and DOE who are to be appointed to the Recovery Action Committee by the LILCO Director of LERO. (See OPIP 3.10.1, at Section 3.0.) It thus fails to comply with 10 CFR Sections 50.47(b)(1), 50.47(b)(3), and NUREG 0654, Sections A.1, A.2, and C.1.

In addition, the LILCO and BNL employees who will be appointed to the Recovery Action Committee (see OPIP 3.10.1, at Section 5.1) are not qualified or capable of exercising the responsibilities which LILCO apparently expects them to fulfill (see OPIP 3.10.1, at Sections 5.2 and 5.3). Similarly, the LILCO employee who will serve as Health Services Coordinator (i.e., a Department or Division manager of LILCO's Environmental Engineering Department (OPIP 2.1.1 at 7)), is not qualified or capable of "recommending . . ., modifying, relaxing and discontinuing protective actions" as stated in the Plan. (Plan, at 3.11-1). Accordingly, the purported recovery and re-entry activities could not and would not be implemented.

Finally, the Plan fails to assign specific recovery and reentry responsibilities to particular members of the proposed Recovery Action Committee. Further, the Plan fails to document that any of the personnel or equipment required for recovery

and reentry activities, designated in Sections 5.3.2, 5.3.3, and 5.3.4 of OPIP 3.10.1, will be available to LILCO. The Plan thus fails to comply with NUREG 0654, Sections II.M.2, A, and C, as well as with 10 CFR Sections 50.47(a)(1), 50.47(b)(1), 50.47(b)(3), and 50.47(b)(13).

Contention 88. OPIP 3.10.1 sets forth "Acceptable Surface Contamination Levels" in units of disintegrations per minute. The Plan does not include a method for converting such information into radiation doses to the public (e.g., persons-rem). The Plan also fails to state the dose criteria that will provide the basis for a determination that it is safe for the public to reenter previously evacuated areas. The Plan calls for cost benefit analysis based on a \$1,000/person-rem during temporary reentry (OPIP 3.10.1 at 5), but provides no guidance on how to analyze a situation in order to be able to apply this criterion. Thus the Plan ~~and thus~~ fails to comply with 10 CFR Section 50.47(b)(13) and NUREG 0654, Sections II.I.10, and II.M.1.

Contention 89. [Not admitted by ASLB] The Plan fails to include a radiological cleanup plan and procedures to provide for the physical removal of radionuclides, stabilization of the radionuclides in place, and environment management which covers the following factors:

- A. The type of surface contaminated;
 - B. The external environment to which the surface is exposed;
 - C. The applicability of weapons fallout data (particles from weapons fallout are typically 100 microns or more in diameter);
 - D. The possible radiological hazards to the decontamination operators;
 - E. The level of decontamination required;
 - F. The consequences of the decontamination operation;
- and,
- G. The costs involved.

In addition, the Plan fails to identify the anticipated decontamination factors ("DF"), and fails to cite or develop a technical basis for a DF. (The DF is a measure of decontamination effectiveness and is defined as the amount of contaminant per unit surface area before contamination, divided by the amount of contamination after decontamination.) The Plan also fails to address the following external factors that affect the efficiency of decontamination operations:

- H. Wet and dry deposition;
- I. Major weather changes after deposition;

J. Aging physical and chemical actions;

K. Particulate matter size (aerosols expected to be released from a reactor core meltdown would be less than 10 microns in diameter);

L. Contaminated surface characteristics; and

M. Operator or team skill, training and incentive.

Finally, the Plan fails to set forth the criteria or methods for decontamination of the various types of surfaces, (structures, paved areas, vehicles and equipment, land areas and soil, water, vegetation, animals, and humans), which could become contaminated. The Plan thus fails to comply with 10 CFR Sections 50.47(a)(1) and 50.47(b)(13).

Contention 90. [Not admitted by ASLB]. The Plan fails to address the means for handling and disposing of the volumes and forms of radioactive waste that may result from decontamination operations. The Plan thus fails to comply with 10 CFR Sections 50.47(a)(1) and 50.47(b)(13).

Contention 91. [Not admitted by ASLB]. The Plan fails to demonstrate that LILCO has the required financial resources to provide for the direct costs associated with the necessary recovery and reentry activities, including decontamination during the period until restoration of community life has been completed. Intervenors contend that LILCO lacks such necessary

financial resources and thus the Plan cannot be implemented. The Plan thus fails to comply with 10 CFR Sections 50.47(a)(1) and 50.47(b)(13).

Contention 92: State Emergency Plan

Contention 92. There is no New York State or State of Connecticut emergency plan to deal with an emergency at the Shoreham plant before this Board. (See Plan, at Attachment 1.4.2). In addition, the LILCO Plan fails to provide for coordination of LILCO's emergency response with that of the State of New York or the State of Connecticut (assuming, arguendo, such a response would be forthcoming). (See FEMA Report at 1.) In the absence of a State emergency plan for Shoreham, there can be no finding of compliance with 10 CFR Sections 50.47(a)(2), 50.47(b), or NUREG 0654, Section I.E, I.F, I.H or II.^{17/}

Contentions 93-96: Loss of Offsite Power

Preamble to Contentions 93-96. The LILCO Plan must

^{17/} In LBP-83-22, at 60, the ASLB mentioned that contentions would be appropriate concerning lack of coordination between the LILCO plan and the State plan. As noted in this contention, however, there is no State Plan before the Board. Thus, there is in fact noncompliance with all the NUREG-0654 planning requirements which pertain to the State. The County has not alleged separate contentions as to each of these, it being considered sufficient to note merely the lack of any State plan.

provide an adequate response for even "the worst possible accident, regardless of its extremely low likelihood." NUREG 0654, Section I.D. at 7. This includes a loss of offsite power, which would not be unlikely in conjunction with a severe accident at Shoreham. The LILCO Plan, however, contains no measures for dealing with such a circumstance, and thus does not provide for the protection of the public health and safety, for the reasons set forth in contentions 93-96 below.

Contention 93. 10 CFR Section 50.47(b)(8) requires the emergency response organization to establish "adequate facilities" to maintain the emergency response. See also NUREG 0654, Section II.H. The LILCO Plan fails to satisfy this requirement by failing to allow for the possibility of a loss of offsite power. Specifically:

A. The LILCO Plan does not indicate that the EOC has a backup power supply nor does it provide for the management of the emergency response from another location. In the event of a loss of offsite power the EOC would become inoperable and LERO would become unable to implement an emergency response.

B. The LILCO Plan does not indicate that backup power supplies have been established for staging areas, bus transfer points, receiving hospitals, or relocation centers. In the event of a loss of offsite power, these facilities would become inoperable.

Contention 94. 10 CFR Section 50.47(b)(5) and NUREG 0654, Section II.E.2 require that emergency plans provide for the prompt notification of response personnel. See also 10 CFR Part 50 Appendix E, Sections 4C and D. Notification channels must remain open on a 24-hour basis. NUREG 0654, Sections II.F.1.a. The LILCO Plan violates this requirement by not allowing for the possibility of a loss of offsite power. Specifically:

A. The LILCO Plan does not indicate that the LILCO Customer Service Office has a backup power supply. In the event of a loss of offsite power, the LILCO Customer Service Office will become inoperable. Thus, the SNPS Control Room will be unable to notify LERO and initiate the emergency response process. See LILCO Plan at Section 3.3.

B. The LILCO Plan does not indicate that the EOC has a backup power supply. In the event of a loss of offsite power, the EOC will become inoperable, and LERO will be unable to notify emergency personnel in the field.

Contention 95. 10 CFR Section 50.47(b)(5) requires every emergency plan to provide for early notification and clear instruction to those within the plume EPZ. These requirements are distinct: the public must be given an early alert signal and a follow-up instructional message. See NUREG 0654,

Appendix 3, Section B(2)(a). The LILCO Plan violates these requirements by failing to take account of the possibility of a loss of offsite power. Specifically:

Contention 95.A. LILCO relies on a system of sirens for providing an immediate alert to the public. See LILCO Plan at 3.3-4; OPIP 3.3.4. However, the LILCO Plan does not indicate that the sirens have a backup power supply. Therefore, in the event of a loss of offsite power, the sirens will not function.

Contention 95.B. Withdrawn. LILCO relies on the transmission of emergency broadcast messages by radio station WALK as the "primary direct communications link to the public after activation of the sirens." LILCO Plan at 3.3-6. But the LILCO Plan does not indicate that WALK has a backup power supply. Therefore, in the event of a loss of offsite power, WALK would cease transmissions. The LILCO Plan suggests that there is a "backup" system involving CBS radio in New York City. See LILCO Plan at 3.3-7. But this system evidently depends on the transmission capabilities of Long Island radio stations which, like WALK, will become inoperable in the event of a loss of offsite power.

Contention 95.C. Withdrawn. The LILCO Plan does not indicate that radio station WALK has a backup power supply, or

that any other broadcasting facility has the capability to transmit the emergency broadcast signal used to activate the tone alert radios which will allegedly be provided to hundreds of facilities within the plume EPZ. See LILCO Plan at 3.3 pp. 6-7. In the event of a loss of offsite power, WALK would cease transmissions and would be unable to activate the tone alert radios.

Contention 95.D. LILCO relies on tone alert radios to provide the extra evacuation time required by large facilities such as factories and schools. See LILCO Plan at 3.3-4,5. The tone alert radios will evidently operate on AC power rather than on batteries. Therefore, in the event of a loss of offsite power, the tone alert radios would not function.

Contention 95.E. Emergency plans must provide formal means for dissemination of information to the public through the news media. See NUREG 0654, Section II.G.3 and 10 CFR Section 50.47(b)(7). LILCO relies on the establishment of an Emergency News Center to satisfy this requirement. See OPIP 3.8.1. However, the LILCO Plan does not indicate that the Emergency News Center has a backup power supply or that a backup news facility has been established. Therefore, in the event of a loss of offsite power, the Emergency News Center will become inoperable and LILCO's public notification duties will not be satisfied.

Contention 96. 10 CFR Section 50.47(b)(10) requires each emergency plan to provide for protective actions which protect the public health and safety in the event of an accident. NUREG 0654, Section II.J.9 requires a demonstration that the protective actions within a plan are capable of being implemented. The LILCO Plan does not satisfy these requirements because it fails to take account of the possibility of a loss of offsite power. Specifically:

Contention 96.A. Assuming that an evacuation of the plume EPZ were determined to be the appropriate protective action, the LILCO Plan relies heavily on the services of private firms such as ambulance services, LILCO Plan at 3.7-1, and bus companies, OPIP 3.6.4. ~~at-27-and-lumber-companies7-Appendix-A~~
~~at-IV-1867~~ However, in the event of a loss of offsite power these firms and facilities would become inoperable and close. LERO would thus become unable to utilize those services.

Contention 96.B. Assuming that an evacuation of the plume EPZ were determined to be the appropriate protective action, LERO would be responsible for evacuating scores of hospitals, nursing homes, and facilities for the handicapped. However, the LILCO Plan does not indicate that these facilities have backup power supplies. In the event of a loss of offsite power, evacuation of these facilities would be either

impossible or far more difficult and time-consuming than indicated in the LILCO Plan.

Without functioning elevators, non-ambulatory persons could be moved only with extreme difficulty, if at all. Without lighting, nighttime evacuation of these facilities would be all but impossible. Without functioning medical equipment, management would attempt some form of limited evacuation on its own. In any case, this potential circumstance is not taken into account in the LILCO Plan.

Contention 96.C. Assuming that evacuation of the plume EPZ were determined to be the appropriate protective action, the successful implementation of such an action would depend on the functioning of systems and facilities that would in fact be inoperable in the absence of offsite power. These include: residential lighting, public streetlights, traffic signals, and service stations. The LILCO Plan does not indicate that any of these facilities and systems have backup power supplies. Therefore, in the event of a loss of offsite power, the Plan would not provide for the protection of the public health and safety.

SOC Contention 97: Bad Weather

SOC Contention 97. The LILCO Plan is inadequate because it fails to take account of the possibility that a severe

accident at Shoreham might occur in tandem with severe adverse weather, i.e., heavy snow. This deficiency violates the applicable standards in several respects.

C- tention 97.A. [Not admitted by ALSB] Prompt notification of the public is mandated by 10 CFR Section 50.47(b)(6) and NUREG 0654, Sections II.E.6 and II.J.10. The means specified by the LILCO Plan for immediate public notification are the siren system and, as a backup, route alerting. In the event of a heavy snowfall, however, neither of these means will work. Heavy snow may damage commercial telephone lines and prevent communications, via pagers, with those LERO personnel responsible for activating the siren and emergency broadcast systems. Even if these persons were contacted, they would be unable to travel to the EOC, and from there to initiate the siren and emergency broadcast systems. Moreover, during a heavy snowfall, the route alerting system would not constitute a reliable backup to the siren system because route alert drivers would not receive notification of the emergency (due to the inoperability of the EOC), would not be able to reach the staging areas (because of impassable roads), or (for the same reason) would not be able to travel from the staging areas along the designated alert routes.

Contention 97.B. Pursuant to 10 CFR Section 50.47(b)(10) the LILCO Plan must designate a range of protective actions appropriate to a variety of circumstances. See also NUREG 0654, Section II.J.9. This includes unfavorable weather. Yet the LILCO Plan's procedures for evacuation completely disregard the possibility of the existence of deep snow. SOC contends that the evacuation procedures outlined in the LILCO Plan would not work during a heavy snowfall, for the following reasons:

1. Key LERO personnel would be unable to travel to the EOC, as required by the LILCO Plan at 3.3;
2. Neither traffic guides, road crews, evacuation route spotters, ambulance drivers nor staging area coordinators would be able to travel to the staging areas, as required by OPIP 3.3.3 at-2 and 3.6.3 at-5, 6;
3. Even if the persons listed in (2) above were to reach the staging areas, they would be unable to travel to their assigned posts/routes, as required by OPIP 3.6.3;
4. Bus drivers and shuttle operators would be unable to travel to staging areas, as required by OPIP 3.6.4 at-4 and, in any case, would be unable to complete their assigned trips;
5. Relocation center staff would be unable to travel to the relocation centers; and

6. Members of the public would be unable to evacuate their homes or places of work.

Dated: January 12, 1984
Washington, D.C.