LILCO, March 21, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

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

LILCO'S TESTIMONY ON CONTENTION 85 (RECOVERY AND REENTRY)

Hunton & Williams
707 East Main Street
Post Office Box 1535
Richmond, Virginia 23212
(804) 788-8200

LILCO, March 21, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

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

LILCO'S TESTIMONY ON CONTENTION 85 (RECOVERY AND REENTRY)

PURPOSE

Contention 85 alleges that LILCO's Emergency Plan does not include general plans for recovery and reentry. This allegation is simply not accurate. LILCO's Emergency Plan, at OPIP 3.10.1, delineates specific standards and procedures for implementing recovery and reentry operations. Indeed, OPIP 3.10.1 anticipates a number of different emergency situations and sets forth specific recovery and reentry procedures for each such situation.

Attachments

Attachment 1 OPIP 3.10.1

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

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

LILCO'S TESTIMONY ON CONTENTION 85 (RECOVERY AND REENTRY)

TESTIMONY

1. Q: Please state your name and business address.

A: [Cordaro] My name is Matthew C. Cordaro. My business address is Long Island Lighting Company, 175 Old Country Road, Hicksville, New York 11801.

[Daverio] My name is Charles A. Daverio. My business address is Long Island Lighting Company, 175 Old Country Road, Hicksville, New York 11801.

[Miele] My name is Michael L. Miele. My business address is Long Island Lighting Company, Shoreham Nuclear Power Station, Post Office Box 628, Wading River, New York 11792.

[Watts] My name is Richard J. Watts. My business address is Impell Corporation, 225 Broad Hollow Road, Melville, New York 11747.

2. Q: Please state your professional qualifications.

A: [Cordaro] I am Vice President, Engineering for LILCO. My professional qualifications are being offered into evidence as part of the document entitled "Professional Qualifications of LILCO Witnesses." I am participating on this panel to provide the LILCO management perspective on Emergency Planning, and to answer any questions pertinent to management. My role in emergency planning for Shoreham is to ensure that the needs and requirements of emergency planning are being met, and that the technical direction and content of emergency planning are being conveyed to corporate management.

[Daverio] I am LILCO'S Supervisor of Emergency Planning and Regulatory Services. I am also Assistant Manager of LILCO'S Local Emergency Response Implementing Organization (LERIO). My professional qualifications are being offered into evidence as part of the document entitled "Professional Qualifications of LILCO Witnesses." As Supervisor of Emergency Planning and Assistant Manager of LERIO, I am responsible for implementing LILCO's Local

Emergency Response Plan. As such, I am familiar with the issues surrounding this contention.

[Miele] I am employed by LILCO as the Radiation Protection Section Supervisor in the Nuclear Engineering Department. My professional qualifications are being separately offered into evidence as part of the document entitled "Professional Qualifications of LILCO Witnesses." I am responsible for the overall management and technical direction of all onsite and offsite aspects of radiological protection for the Shoreham Nuclear Power Station. As such, I am familiar with the issues surrounding this contention.

[Watts] I am the Health Physics Supervisor for the Radiological Services Section-Northeast Region of Impell Corporation. My professional qualifications are being offered into evidence as part of the document entitled "Professional Qualifications of LILCO Witnesses." I have been retained by LILCO to serve as one of the Radiation Health Coordinators for the Local Emergency Response Organization (LERO) and have participated in LERO drills in this capacity. As such, I am familiar with the issues surrounding this contention.

3. Q: Would you please summarize the issues raised by SC Contention 85?

A: In essence, Suffolk County Contention 85 maintains that LILCO'S Emergency Plan does not include a general plan for recovery and reentry into evacuated areas after a radiological emergency. Specifically, the Contention raises concerns that:

Contention 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, Intervenors 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 85 (Recovery/Reentry).

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.

4. Q: Would you briefly describe the scope of this testimony?

A: This testimony will address Contention 85 in its entirety.

5. Q: Where do the concerns expressed in Contention 85 fit into the overall concept of emergency planning?

A: Contention 85 raises concerns about the existence of any general plan or procedures for recovery and reentry into evacuated areas after a radiological emergency. Emergency planning for Shoreham, as for all commercial nuclear power plants, is structured against a background of technical/regulatory documents issued by the Nuclear Regulatory Commission (NRC) and other agencies, including the Environmental Protection Agency and the Federal Emergency Management Agency. Of these, the most directly relevant are NUREG-0654/FEMA-REP-1(Rev.1), Criteria For Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants (November 1980) and NUREG-0396/EPA-529/1-78-016, Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants (December 1978), as well as the NRC's regulations, 10 CFR § 10.47 and

Part 50 Appendix E. While these documents form a backdrop, this and other testimony will address them only to the extent they bear on issues in contention here.

Similarly, this and other testimony will not attempt to summarize, in any once place, the contents of LILCO's entire Local Offsite Radiological Emergency Response Plan for Shoreham, but simply to make use of those portions which are particularly relevant to those issues actually in contention. With respect to general plans for recovery and reentry, the principal relevant portion of LILCO's Emergency Plan is Offsite Emergency Planning Implementing Procedure (OPIP) 3.10.1 (Recovery/Reentry), which is appended to this testimony as Attachment 1.

6. Q: Does LILCO's Emergency Plan include a general plan for recovery and reentry?

A: Yes. Contrary to the allegations of Contention 85, LILCO's Plan, at OPIP 3.10.1, sets forth detailed procedures for initiating recovery operations and facilitating reentry of the public into previously evacuated areas.

7. Q: Would you describe LILCO's plan and procedures for recovery and reentry?

A: In the first place, Section 5.1 of OPIP 3.10.1 establishes a Recovery Action Committee. The function of this Committee is twofold: (i) to assist the Director of Local Response in making recovery/reentry decisions; and (ii) to facilitate reentry upon authorization by the Director of Local Response. The chairman of the Recovery Action Committee is the Manager of Local Response. Other members of the Committee include the Health Services Coordinator, Evacuation Coordinator, Support Services Coordinator, Coordinator of Public Information and Radiation Health Coordinator. Representatives of the Federal Emergency Management Agency, Department of Energy, and New York State and County governments also will be invited to participate in the Committee's deliberations.

As stated in OPIPs 3.10.1 and 3.6.6, the Radiation Health Coordinator has the overall responsibility of coordinating environmental surveillance and ingestion pathway monitoring activities in the event of a radiological emergency. Specifically, the Radiation Health Coordinator is responsible for air monitoring

as well as the sampling and analysis of water, milk, foodstuffs, animal fodder and forage, grass, soil and other ground depositions, to determine the nature and extent of any radioactive contamination. On the basis of these data, the Recovery Action Committee will take appropriate recovery and reentry actions in accordance with OPIP 3.10.1.

Section 5.4 of OPIP 3.10.1 sets forth specific reentry procedures for three general classes of emergency situations, depending on the existence and amount of radioactive surface contamination. First, if the radiological emergency does not involve a radiological release, LERO will determine that all utilities are properly functioning in the evacuated area; inform the public, via EBS bulletin, that it is appropriate to reenter the area; and provide public transportation for those who required it during the evacuation.

Second, if the emergency involves a radiological release which results in no offsite surface contamination or in a level of contamination that is deemed acceptable under Attachment 1 of OPIP 3.10.1, LERO will advise the public that it is appropriate to

reenter the previously evacuated area only after it has determined that offsite contamination levels are acceptable, that all utilities are properly functioning, and that transportation is available for evacuees who required it during the evacuation. In addition, LERO will continue to conduct environmental surveillance activities and monitor the level of radioactive contamination, if any, in the affected area. Moreover, if necessary, LERO will arrange for the provision of emergency food supplies to evacuees, in cooperation with the American Red Cross and the United States Department of Agriculture.

Finally, Section 5.4.3 of OPIP 3.10.1 embodies specific recovery and reentry procedures where the radiological release has resulted, at any offsite location, in an unacceptably high level of radioactive surface contamination based on Attachment 1. In such circumstances, LERO initially will undertake to define the area that has been subjected to radioactive contamination. The public then will be instructed, both via EBS bulletin and by LERO personnel stationed at the perimeter of the contaminated area, not to reenter that area. LERO will continue to survey the affected area and proceed

with appropriate protective measures. In addition, LERO will continue to sample and analyze milk, water and foodstuffs in the affected area. On the basis of these analyses, the Radiation Health Coordinator will determine the need, if any, to dispose of contaminated milk and foodstuffs and to arrange for alternative food and water supplies. Once it has been determined that the level of surface contamination in the area no longer exceeds that deemed acceptable under Attachment 1 and that uncontaminated food and water supplies are available, the public will be advised that it is appropriate to reenter the area.

Moreover, it should be noted that Section 5.5 of OPIP 3.10.1 also contains specific procedures for temporary reentry into an evacuated area. Temporary reentry may be necessary to attend to matters of some urgency, such as firefighting or livestock feeding. In such circumstances, the Health Services Coordinator will decide whether to permit an individual to reenter an evacuated area based on the latest radiological surveys, the circumstances involved, and a cost/benefit analysis.

If temporary reentry is permitted, the reentering person or persons will be escorted by an individual equipped with radiological monitoring equipment. The reentering group will be instructed not to deviate from the prescribed destination or the allotted time. Moreover, upon exiting the area, these individuals will report for a contamination survey at the Brentwood Emergency Worker Decontamination Facility.

8. Q: How does LILCO's Emergency Plan compare with the New York State Radiological Emergency Preparedness Plan with respect to recovery and reentry provisions?

A: The general provisions governing recovery and reentry in the New York State Radiological Emergency Preparedness Plan (the New York Plan) are essentially the same as those of LILCO's Plan in many salient respects, and not in conflict with it, to the extent of our knowledge, in any. For example, like OPIP 3.10.1 of the LILCO Plan, Section IV of Part I of the New York Plan (Rev. 11/83) calls for the establishment of a Recovery Committee (the Committee) which will be responsible for undertaking recovery and reentry operations. Furthermore, as provided in the LILCO Plan, the Committee will determine the status of decontamination activities, operability of utility services, availability of suitable food and

water supplies, and availability of public transportation before terminating any protective actions. Further, as in the case of the LILCO Plan, the New York State Plan calls for continued environmental surveillance and ingestion pathway monitoring after recovery and reentry operations have commenced. In addition, like the LILCO Plan, the New York Plan, at page IV-2 of Part I, provides for temporary reentry into evacuated areas "if the situation warrants," as in the case of a "farmer who must tend to his livestock." Both plans moreover require that parties who reenter affected areas on a temporary basis be equipped with dosimetry equipment. In short, the provisions for recovery and reentry in LILCO's Emergency Plan are comparable to those in the New York State Plan.

ATTACHMENT 1

EPC _____

Approved: _____

Effective Date _____

+OPIP 3.10.1 RECOVERY/REENTRY

1.0 PURPOSE

This procedure provides (1) decision-making guidance for the initiation of recovery operations and the implementation of evacuee re-entry into evacuated areas and (2)guidance for the formation and operation of the Recovery Action Committee.

2.0 RESPONSIBILITY

2.1 The Director of Local Response is responsible for initiating the recovery/re-entry operation.

2.2 The Manager of Local Response is responsible for implementing this procedure and is the Chairman of the Recovery Action Committee.

3.0 PRECAUTIONS

Special situations requiring temporary re-entry require implementation of Section 5.5.

4.0 PREREQUISITES

The prerequisites for the formation of the Recovery Action Committee are:

4.1 An evacuation has been implemented for part or all of the 10-mile EPZ.

4.2 Conditions at the SNPS site have been declared stable and safe by the SNPS Response Manager/Emergency Director.

4.3 No further releases of radioactivity having offsite consequences are expected, as determined by the SNPS Response Manager/Emergency Director.

4.4 Radiological conditions in the evacuated area have been determined by the Radiation Health Coordinator to be stabilized.

5.0 ACTIONS

5.1 Recovery Action Committee

The Director of Local Response directs the formation of the Recovery Action Committee. This committee is convened prior to recovery/re-entry to gather information to assist decision making regarding recovery/re-entry and to implement re-entry upon authorization by the Director of Local Response.

5.1.1 Composition of the Committee

The Director of Local Response will ensure that the Recovery Action Committee is staffed by the following LERO members:

a. Manager of Local Response - Chairman
b. Health Services Coordinator
c. Evacuation Coordinator
d. Support Services Coordinator
e. Coordinator of Public Information
f. Radiation Health Coordinator
g. Others, see Section 5.1.2

5.1.2 Additional committee members may participate if available. They are:

a. FEMA Representative
b. DOE Representative
c. State Representative
d. County Representative

5.2 Tasks and assigned responsibilities of the Recovery Action Committee members are as follows:

	Task	Responsible Individual
a.	Administration	Manager of Local Response
b.	Air Monitoring	Radiation Health Coordinator
c.	Ingestion Pathway Sampling	Radiation Health Coordinator
d.	Environmental Media Survey	Radiation Health Coordinator
e.	Laboratory Analyses	Radiation Health Coordinator
f.	Re-entry Area Identification	Radiation Health Coordinator
g.	Public Dose Commitment	Radiation Health Coordinator

Task	Responsible Individual
h. Environmental Decontamination	Health Services Coordinator
i. Transportation	Evacuation Coordinator
j. Traffic Control	Evacuation Coordinator
k. Communications	Manager of Local Response
l. Security	Support Services Coordinator
m. Public Information	Coordinator of Public Information

5.2.1 The Recovery Action Committee will perform the actions identified in Sections 5.3, 5.4, and 5.5 of this procedure.

5.3 Initial Recovery/Re-Entry Actions

5.3.1 The Radiation Health Coordinator will:

a. Direct that surveys of the affected area be initiated. These surveys will include the following as appropriate:

1. Air Monitoring

2. Ingestion Pathway Sampling - Surface water (including lakes, ponds, and sumps), potable water, milk, crops (vegetables, fruit), forage, fin fish, shell fish

3. Environmental Survey - Ground, equipment, structures, vehicles

c. Compare the results of the surveys with the guidance contained in Attachment 1 (for re-entry) and Attachment 1 of OPIP 3.6.6 (for ingestion considerations).

d. Advise the Manager of Local Response as to the results of the surveys and the indicated actions.

5.3.2 The Manager of Local Response will convene the Recovery Action Committee to discuss the status of tasks enumerated in Section 5.2 in preparation for re-entry.

5.3.3 The Manager of Local Response will indicate to the Director of Local Response when all facets of the re-entry operation are determined to be ready.

5.3.4 The Director of Local Response will authorize the initiation of the re-entry operation.

5.3.5 The Support Services Coordinator advises the American Red Cross to begin deactivation of the relocation centers.

5.3.6 All Recovery Action Committee coordinators notify the members of the response organization that re-entry operations are initiated.

5.3.7 All Recovery Action Committee coordinators notify the members of the response organization that re-entry operations are initiated.

5.3.8 Either the Radiation Health Coordinator or the U.S. Environmental Protection Agency Office of Radiation Programs in accordance with their FRMAP assessment functions estimates total population exposure.

5.4 Re-Entry - Permanent (Note: Re-Entry/Temporary is detailed in Section 5.5)

The Recovery Action Committee gives consideration to the number of people that have been evacuated, the transportation needs (including special), and the logistics at the relocation centers. Re-entry actions may vary depending upon the specific emergency conditions. Following are the three major re-entry scenarios:

5.4.1 The radiological emergency involved an evacuation but did not involve a radiological release. The Manager of Local Response will direct the appropriate Recovery Action Committee members to initiate these tasks:

a. Determine that all utilities are functioning in the evacuated area.

b. Provide transportation for those who required it during evacuation.

c. Inform the public of LERO recommendations to re-enter the evacuated areas.

5.4.2 The radiological emergency involved an evacuation and a radiological release; however, no contamination is identified or the level is less than that described in Attachment 1. The Manager of Local Response directs the appropriate coordinators to initiate these tasks:

a. Determine that all utilities are functioning in the evacuated area.

b. Provide transportation for those who required it during evacuation.

c. Inform the public of LERO recommendations to re-enter the evacuated areas.

d. Place TLDs in predetermined, strategic locations throughout the evacuated area consistent with the locations utilized by SNPS as described in EPIP 2-6 and 2-15. Determine exposure of these units as frequently as the results require.

e. Depending on the elapsed time that the evacuees had been absent, emergency food provisions may be supplied in cooperation with the American Red Cross mobile feeding facilities and the U.S. Department of Agriculture (USDA).

5.4.3 The radiological emergency involved evacuation and a radiological release where the evacuated area or a portion of it is determined to be contaminated beyond the levels stated in Attachment 1. The Manager of Local Response ensures that the following tasks are performed:

a. Continue radiological surveys (per Section 5.3) and plot the data on a map so that those portions of the evacuated area that are contaminated are accurately defined. These areas are not recommended for re-entry.

b. Around those contaminated areas (as defined in the preceding paragraph), create a buffer zone with readily recognized physical boundaries and place personnel so that the returning population will be advised of the

possible exposure. EBS messages will also advise the public of the physical boundaries of these areas.

c. Survey the contaminated area(s) as much as possible with consideration of the degree of contamination and the safety of the Radiological Assessment Teams to determine the means of decontamination or other disposition. The decision with regard to this area(s) is made by the Director of Local Response.

d. Wastes from decontamination operations are collected and safely transported from the affected areas.

e. Based on the results of laboratory analyses of food samples taken from the affected area, the Radiation Health Coordinator makes a comprehensive evaluation of the possible need to transport drinking water or food stuffs into that area.

f. For areas not contaminated, proceed as described in Sections 5.4.2a-e.

5.4.4 The Recovery Action Committee will meet periodically, as required by existing conditions, until the evacuated area is returned to normal. The committee will consider problems such as additional areas to be re-entered, the situation of evacuees not yet permitted re-entry, and the mitigation of offsite radiological consequences.

5.5 Re-Entry - Temporary

There are situations wherein the evacuated zone must be re-entered by civilians either during the radiological emergency or after it--when the area has not been radiologically cleared for re-entry. Such situations may include the need to turn off/on utilities, attend to livestock, fight a fire, or other matters of a pressing nature. In these instances, the individual(s) seeking temporary re-entry contact(s) the Health Services Coordinator at the Local Emergency Response Organization at the Emergency Operations Center in Brentwood.

Use the following procedure for these situations:

5.5.1 The Health Services Coordinator considers the request to re-enter the evacuated area and makes his decision based on the latest radiological surveys, the circumstances involved, and the cost-benefit analysis provided by the NRC in 10 CFR Part 50, Appendix I, Section IID.

CAUTION
PERMISSION IS TO BE AUTHORIZED ONLY FOR A SPECIFIC DESTINATION AND TIME PERIOD.

5.5.2 The individual will be directed to report to a staging area near the destination. The staging area will be advised of the special re-entry permission.

5.5.3 The re-entering individual is assigned an escort with a vehicle to provide transportation and radiological monitoring capability.

5.5.4 The re-entering person is assigned personnel dosimetry, if necessary.

5.5.5 The group may not deviate from the designated destination nor the allotted time.

5.5.6 Upon exit, the individuals report to the Brentwood Emergency Worker Decontamination facility to be checked.

5.6 The Director of Local Response may halt or reverse the recovery/re-entry operation when a change of conditions warrants such actions.

6.0 REFERENCES

6.1 U.S. Nuclear Regulatory Commission, Regulatory Guide 1.86, "Termination of Operating Licenses for Nuclear Reactors," June 1974.

6.2 Code of Federal Regulations, Title 10, Part 50, Appendix I.

6.3 OPIP 2.1.1, Organization Implementation

6.4 OPIP 3.5.1, Downwind Surveying

6.5 OPIP 3.6.6, Ingestion Pathway Protective Actions

7.0 ATTACHMENTS

1. Acceptable Surface Contamination Levels

ACCEPTABLE SURFACE CONTAMINATION LEVELS

Nuclide (1)	Average (2)(3) 100 cm^2	Maximum (2)(4) 100 cm^2	Removable (2)(5) 100 cm^2
U-nat, U-235 U-238, and associated decay products	5,000 dpm (6) alpha	15,000 dpm alpha	1,000 dpm alpha
Transuranics RA-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100 dpm	300 dpm	20 dpm
Th-nat, Th-232 Sr-90, Ra-223 Ra-224, U-232, I-126, I-131, I-133	1,000 dpm	3,000 dpm	200 dpm
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above	5,000 dpm beta-gamma	15,000 dpm beta-gamma	1,000 dpm beta-gamma

NOTES:

(1) Where surface contamination by both alpha- and beta-gamma-emitting nuclides exists, the limits established for alpha- and beta-gamma-emitting nuclides should apply independently.

(2) As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

ACCEPTABLE SURFACE CONTAMINATION LEVELS
(continued)

NOTES: (continue)

(3) Measurments of average contaminant should not be averaged over more than 1 square meter. For objects of less surface area, the average should be derived for each such object.

(4) The maximum contamination level applies to an area of not more than 100 cm^2.

(5) The amount of removable radioactive material per 100 cm^2 of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency.

(6) dpm-Disintegrations per minute

Reference: Regulatory Guide 1.86, Termination of Operating License for Nuclear Reactors, Table 1.