

LILCO, July 3, 1984

DOCKETED

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

62-11-5 P240

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,	)	Proceeding)
Unit 1)	)	

LILCO'S REVISED TESTIMONY ON CONTENTION 88 (DOSE  
CRITERIA AND COST-BENEFIT ANALYSIS FOR REENTRY)

PURPOSE

Contention 88 states that the LILCO Transition Plan is inadequate because (1) the Plan fails to provide a basis for determining that it is safe for the public to reenter previously evacuated areas, (2) the acceptable surface contamination levels are set forth in disintegrations per minute, rather than in radiation doses to the public, and (3) the Plan does not include provisions explaining how to apply the cost-benefit analysis for reentry called for in the Plan. This testimony will establish that (1) the Plan no longer sets forth acceptable contamination levels for reentry in disintegrations per minute, (2) the radiological criteria for reentry of the public into a previously evacuated area are now set forth in radiation doses to the public, and (3) the contamination levels for reentry

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contained in the Plan satisfy NRC regulations and the NUREG-0654 guidelines. This testimony will also establish that (1) the provision in the LILCO Transition Plan that decisions regarding temporary reentry would be based, in part, on the cost-benefit analysis provided in 10 C.F.R. Part 50, Appendix I, Section II.D, has been removed and replaced with a provision that "emergency dose limitations consistent with the Environmental Protection Agency Protective Action Guidelines for the general public," and (2) the revised provision satisfies NRC regulations and the NUREG-0654 guidelines.

Attachments

Attachment 1	OPIP 3.10.1, Attachment 1
Attachment 2	Section 5.3 of OPIP 3.10.1 (Revision 4)
Attachment 3	10 C.F.R. § 20.105(a).
Attachment 4	Part I, Section IV.C of the New York State Radiological Emergency Preparedness Plan
Attachment 5	Section 5.5.1 of OPIP 3.10.1 (Revision 3)
Attachment 6	Section 5.5.1 of OPIP 3.10.1 (Revision 4)
Attachment 7	Table 5.1 of EPA-520/1-75-001

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1. Q. Please state your names and business addresses.

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

[Daverio] My name is Charles A. Daverio and my business address is Long Island Lighting Company, 100 East Old Country Road, Hicksville, New York, 11801.

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

2. Q. Please summarize your professional qualifications and your role in emergency planning for the Shoreham Nuclear Power Station.

A. [Cordaro] I am Vice President of Engineering for LILCO and have held this position since the spring of 1978. My professional qualifications are being offered into evidence as part of the document entitled "Professional Qualifications of LILCO Witnesses." I am sitting 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 employed by LILCO as 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." In my capacity as Assistant Manager of LERIO, I am responsible for developing and implementing the local emergency response plan for Shoreham.

[Watts] I am the Health Physics and Emergency Planning Supervisor for the Radiological Services Section-Northeast 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 a Radiation Health Coordinator for LERO. As such, I am familiar with the issues surrounding this contention.

3. Q. What is the "Preamble to Contentions 84-91"?

A. The "Preamble to Contentions 84-91" reads as follows:

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.

4. Q. What is Contention 88?

A. Contention 88 reads as follows:

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 a 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 apply this criterion. Thus the Plan fails to comply with 10 CFR Section 50.47(b)(13) and NUREG-0654, Sections II.I.10, and II.M.1.

5. Q. What are the legal standards cited in Contention 88?

A. The legal standards cited in Contention 88 are the following:

10 C.F.R. § 50.47(b)(13)

General plans for recovery and reentry are developed.

NUREG-0654, II.I.10

Each organization shall establish means 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 detailed provisions shall be described in separate procedures.

NUREG-0654, II.M.I

Each organization, as appropriate, shall develop general plans and procedures for reentry and recovery and describe the means by which decisions to relax protective measures (e.g., allow reentry into an evacuated area) are reached. This process should consider both existing and potential conditions.

I. Acceptable Surface Contamination Levels

6. Q. Is it true that the radiological criteria for reentry contained in the LILCO Transition Plan are set forth in disintegrations per minute?
- A. No, this no longer is true. It is true that the radiological criteria for reentry contained in OPIP 3.10.1 of Revision 3 of the LILCO Transition Plan were set forth in disintegrations per minute. Section 5.3 of OPIP 3.10.1 of Revision 3 of the Plan provided that the Radiation Health Coordinator should refer to Attachment 1 of OPIP 3.10.1 in making decisions regarding reentry. Attachment 1 of OPIP 3.10.1, which was based on Table 1 of NRC Regulatory Guide 1.86, set forth acceptable surface contamination levels for reentry in disintegrations per minute. Attachment 1 to OPIP 3.10.1 of Revision 3 of the LILCO Transition Plan is Attachment 1 to this testimony. Attachment 1 of OPIP 3.10.1 has recently been removed from the Plan, however, and



replaced with new radiological criteria for reentry that are set forth in doses to the public rather than in disintegrations per minute. The revised radiological criteria for reentry are included in Revision 4 of the Plan.

7. Q. What provisions does the LILCO Transition Plan now make regarding radiological criteria for reentry?

A. The radiological criteria that will serve as a basis for a determination that it is safe for the public to reenter previously evacuated areas are set forth in Section 5.3 of OPIP 3.10.1 of Revision 4 of the Plan. Section 5.3.2.b provides that:

- b. An area will be considered contaminated if:
  - Evaluation of environmental monitoring results, plant data, and/or laboratory analysis of isotopes shows that direct constant exposure and inhalation of resuspended particulates for one year (allowing for radioactive decay) will result in a dose greater than 500 [millirem] to wholebody or equivalent to any organ.
  - Applicable models for this calculation are contained in Regulatory Guide 1.109 and WASH 1400.
  - Also compare results with Attachment 1 of OPIP 3.6.6 for ingestion pathway considerations.

Section 5.3 of OPIP 3.10.1 (Revision 4) is



Attachment 2 to this testimony. As you can see from Section 5.3.2.b of OP&P 3.10.1, the radiological criteria for reentry are now set forth in terms of an acceptable integrated dose rather than in disintegrations per minute.

8. Q. What basis do you have for believing that previously evacuated areas are acceptable for reentry if the integrated dose is 500 millirem or less?

A. Unfortunately, there are no NRC regulations or NUREG-0654 guidelines that specifically address acceptable offsite radiological levels for reentry. LILCO's radiological criteria for reentry are consistent, however, with both 10 C.F.R. § 20.105(a) and the acceptable contamination levels for reentry found in Part I, Section IV.C of the New York State Radiological Emergency Preparedness Plan.

Section 20.105(a) of 10 C.F.R., which is Attachment 3 to this testimony, requires that any application for a license may include proposed limits of radiation in unrestricted areas resulting from the applicant's possession or use of radioactive material and other sources of radiation. Section 20.105(a) provides further that the Nuclear Regulatory Commission will approve proposed limits on levels of

radiation in unrestricted areas if the applicant demonstrates that the limits are not likely to cause any individual to receive a dose to the whole body exceeding 0.5 rem in any period of one calendar year. Section 20.105(a) of 10 C.F.R. is Attachment 3 to this testimony.

Part I, Section IV.C of the New York State Radiological Emergency Preparedness Plan, which is Attachment 4 to this testimony, also uses 500 millirem as the threshold contamination level for reentry. The New York State Plan provides that "initiated protective actions for the general population will not be relaxed as long as the projected dose commitment exceeds 500 mRem."

9. Q. Contention 88 states that the radiological criteria for reentry contained in the LILCO Transition Plan do not satisfy 10 C.F.R. § 50.47(b)(13), NUREG-0654, II.I.10, and NUREG-0654, II.M.1. Do you agree?

A. No. First, NUREG-0654, II.I.10 does not apply to recovery and reentry provisions of an emergency plan. Section II.I.10 provides for comparison of integrated doses and the protective action guidelines for the determination of protective

actions during the radiological emergency, not during the recovery and reentry phase of the emergency. This is evident from the fact that actual and projected dose rates are to be compared to the protective action guidelines, which are considerably higher than acceptable radiation levels for reentry by the general population. Recovery and reentry operations are addressed in Section II.M of NUREG-0654. The radiological criteria for reentry set forth in Section 5.3 of OPIP 3.10.1 of Revision 4 of the LILCO Transition Plan satisfy 10 C.F.R. § 50.47(b)(13) and NUREG-0654, II.M.1.

## II. Cost-Benefit Analysis of Reentry

10. Q. What is meant by temporary reentry as it is used in the LILCO Transition Plan?
- A. Section 5.5 of OPIP 3.10.1 of the LILCO Transition Plan addresses temporary reentry into previously evacuated areas. Temporary reentry refers to the situation in which it is necessary for an individual to reenter an evacuated zone temporarily to deal with a "pressing matter," such as the need to turn utilities off or on or to attend to livestock.

11. Q. Does the LILCO Transition Plan provide for cost-benefit analysis based on a \$1,000/person-rem during temporary reentry?

A. No, this no longer is true. It is true that Section 5.5.1 of OPIP 3.10.1 of Revision 3 of the LILCO Transition Plan, which is Attachment 5 to this testimony, provided that the Health Services Coordinator would base his decision regarding a request for temporary reentry, in part, on "the cost-benefit analysis provided by the NRC in 10 C.F.R. Part 50, Appendix I, Section IID." This provision recently has been removed from the Plan, however, and replaced with a provision that he will consider "emergency dose limitations consistent with the Environmental Protective Agency Protective Action Guidelines for the general public." Section 5.5.1 of OPIP 3.10.1 of Revision 4 of the LILCO Transition Plan is Attachment 6 to this testimony. Table 5.1 of EPA-520/1-75-001, which sets forth the protective action guidelines for the general public, is Attachment 7 to this testimony.

12. Q. What are the exposure guidelines for the general public set forth in Table 5.1 of EPA-520/1-75-001?

A. Mandatory evacuation and controlled access are recommended if the projected dose to the whole body is 5 or more rems. See Attachment 7 to this testimony.

13. Q. What is the basis for your decision to limit whole body radiation exposure from temporary reentry to less than 5 rems?

A. A person reentering an evacuated area temporarily to deal with a pressing matter would be acting, in effect, as an emergency worker. (The New York State Plan treats such persons as emergency workers. See Part I, Section IV.C of the New York State Radiological Emergency Preparedness Plan, which is Attachment 4 to this testimony.) Thus, emergency worker exposure levels would apply. The exposure level for LERO workers set forth in the LILCO Transition Plan is 5 rems. See page 3.9-2 of the LILCO Transition Plan. Five rems is a conservative value for emergency workers. This is evident from the fact that the exposure level for emergency workers set forth in the Environmental Protection Agency Protective Action Guidelines is 25 rems.

14. Q. Do the provisions in the Plan regarding criteria to be applied in considering a request for temporary reentry satisfy the NRC regulations and NUREG-0654 guidelines regarding recovery and reentry?

A. Yes. NUREG-0654, II.M.1 provides that the licensee "shall develop general plans and procedures for reentry and describe the means by which decisions to relax protective measures (e.g., allow reentry into an evacuated area) are reached." Section 5.5.1 of OPIP 3.10.1 of Revision 4 does exactly what is prescribed in NUREG-0654, II.M.1.

## ACCEPTABLE SURFACE CONTAMINATION LEVELS

Nuclide (1)	Average/ <sup>(2)(3)</sup> 100 cm <sup>2</sup>	Maximum/ <sup>(2)(4)</sup> 100 cm <sup>2</sup>	Removable/ <sup>(2)(5)</sup> 100 cm <sup>2</sup>
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.



<u>Task</u>	<u>Responsible Individual</u>
h. Public Dose Commitment	Radiation Health Coordinator
i. Environmental Decontamination	Health Services Coordinator
j. Transportation	Evacuation Coordinator
k. Traffic Control	Evacuation Coordinator
l. Communications	Manager of Local Response
m. Security	Support Services Coordinator
n. 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 Nuclear Engineer will review the plant status and ensure that the plant is stable, no significant releases occurring, and other requirements for entering the recovery phase are satisfied.

5.3.2 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
- b. An area will be considered contaminated if:
  - o Evaluation of environmental monitoring results, plant data, and/or laboratory analysis of isotopes shows that direct constant exposure and inhalation of resuspended particulates for one year (allowing for radioactive decay) will result in a dose greater than 500 mR to wholebody or equivalent to any organ.

- o Applicable models for this calculation are contained in Regulatory Guide 1.109 and WASH 1400.
      - o Also compare results with Attachment 1 of OPIP 3.6.6 for ingestion pathway considerations.
    - c. Advise the Manager of Local Response as to the results of the surveys and the indicated actions.
  - 5.3.3 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.
  - 5.3.4 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.
  - 5.3.5 The Director of Local Response will authorize the initiation of the re-entry operation.
  - 5.3.6 The Support Services Coordinator advises the American Red Cross to begin deactivation of the relocation centers.
  - 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:

## Chapter I—Nuclear Regulatory Commission

## § 20.106

protective equipment is first used under the provisions of this section.

(41 FR 52301, Nov. 29, 1976, as amended at 43 FR 29270, July 7, 1978; 47 FR 16164, Apr. 15, 1982)

## § 20.104 Exposure of minors.

(a) No licensee shall possess, use, or transfer licensed material in such a manner as to cause any individual within a restricted area who is under 18 years of age to receive in any period of one calendar quarter from radioactive material and other sources of radiation in the licensee's possession a dose in excess of 10 percent of the limits specified in the table in paragraph (a) of § 20.101.

(b) No licensee shall possess, use or transfer licensed material in such a manner as to cause any individual within a restricted area, who is under 18 years of age to be exposed to airborne radioactive material possessed by the licensee in an average concentration in excess of the limits specified in Appendix B, Table II of this part. For purposes of this paragraph, concentrations may be averaged over periods not greater than a week.

(c) The provisions of §§ 20.103(b)(2) and 20.103(c) shall apply to exposures subject to paragraph (b) of this section except that the references in §§ 20.103(b)(2) and 20.103(c) to Appendix B, Table I, Column 1 shall be deemed to be references to Appendix B, Table II, Column 1.

(25 FR 10914, Nov. 17, 1960, as amended at 41 FR 52302, Nov. 29, 1976)

## § 20.105 Permissible levels of radiation in unrestricted areas.

(a) There may be included in any application for a license or for amendment of a license proposed limits upon levels of radiation in unrestricted areas resulting from the applicant's possession or use of radioactive material and other sources of radiation. Such applications should include information as to anticipated average radiation levels and anticipated occupancy times for each unrestricted area involved. The Commission will approve the proposed limits if the applicant demonstrates that the proposed limits are not likely to cause any individual

to receive a dose to the whole body in any period of one calendar year in excess of 0.5 rem.

(b) Except as authorized by the Commission pursuant to paragraph (a) of this section, no licensee shall possess, use or transfer licensed material in such a manner as to create in any unrestricted area from radioactive material and other sources of radiation in his possession:

(1) Radiation levels which, if an individual were continuously present in the area, could result in his receiving a dose in excess of two millirems in any one hour, or

(2) Radiation levels which, if an individual were continuously present in the area, could result in his receiving a dose in excess of 100 millirems in any seven consecutive days.

(c) In addition to other requirements of this part, licensees engaged in uranium fuel cycle operations subject to the provisions of 40 CFR Part 190, "Environmental Radiation Protection Standards for Nuclear Power Operations," shall comply with that part.

(25 FR 10914, Nov. 17, 1960, and 46 FR 18526, Mar. 25, 1981)

## § 20.106 Radioactivity in effluents to unrestricted areas.

(a) A licensee shall not possess, use, or transfer licensed material so as to release to an unrestricted area radioactive material in concentrations which exceed the limits specified in Appendix B, Table II of this part, except as authorized pursuant to § 20.302 or paragraph (b) of this section. For purposes of this section concentrations may be averaged over a period not greater than one year.

(b) An application for a license or amendment may include proposed limits higher than those specified in paragraph (a) of this section. The Commission will approve the proposed limits if the applicant demonstrates:

(1) That the applicant has made a reasonable effort to minimize the radioactivity contained in effluents to unrestricted areas; and

(2) That it is not likely that radioactive material discharged in the effluent would result in the exposure of an individual to concentrations of radio-

## New York State Radiological Emergency Preparedness Plan

## PART I SECTION IV

## IV. RECOVERY

A. INTRODUCTION

As provided by the New York State Disaster Preparedness Plan, a Recovery Committee having authority and major responsibilities to make decisions relating to recovery activities will be appointed by the Disaster Preparedness Commission (DPC). This committee will be comprised of representatives of the Commission's membership, and such other agencies as the Commission Chairman may designate. Specifically included will be representatives of the Departments of Agriculture and Markets, Commerce, Health, Environmental Conservation, Labor, Social Services, State, Transportation, Office of General Services, State Energy Office, Public Service Commission, Division of State Police and Division of Military and Naval Affairs/Office of Disaster Preparedness.

B. RESPONSIBILITIES

The Committee is responsible for directing State resources and recovery activities and for assisting in the total cooperative effort involving any or all of the other organizations having recognized roles in recovery. During recovery operations the Committee is responsible for developing practical time parameters and activities consistent with this plan, and insures that there are adequate communications systems and processes for all State activities. The Committee reports to the DPC and keeps it apprised of all matters relating to the recovery effort.

The New York State Commissioner of Health continues to have the primary responsibility for recommending protective actions; for overseeing the total related radiological program; and for modifying, relaxing, and discontinuing protective actions.

The Director of the Office of Disaster Preparedness (ODP) coordinates State and Federal assistance and programs with perceived needs and the requests of the local jurisdictions.

Local Chief Executives assess the needs of their affected areas in conjunction with the Office of Disaster Preparedness. They direct recovery operations in their jurisdictions.

The Governor may appoint a Recovery Planning Council (as designated by Title VIII, Section 802 of the Public Works and Economic Development Act of 1965, as added by Title V of Public Law 93-288 - "The Disaster Relief Act of 1974") to help determine local needs in the recovery effort.

### C. OPERATIONS

Recovery operations commence as soon as the situation is stabilized and involves the following four major considerations:

- Determination of the recovery actions to be taken.
  - Dissemination of information on the appropriate recovery action.
  - Provision of available State and Federal disaster assistance to affected areas.
  - Requirements for continued monitoring.
1. A general consideration for lifting any protective action initiated as a result of the emergency takes into account the benefit received from the reduction of the projected dose, should the protective measures continue, against the social and economic costs of continuing the action taken. However, initiated protective actions for the general population will not be relaxed as long as the projected dose commitment exceeds 500 mRem. Certain individuals may be allowed reentry to an affected area if the situation warrants. An example is the farmer who must tend his livestock. In this case the farmer is treated as an emergency worker, given personal dosimetry equipment and emergency worker exposure levels apply.

In determining the projected dose commitment all possible exposure pathways are considered. These include:

- a. External exposure resulting from surface contamination and all projected future atmospheric releases related to the accident.
- b. Ingestion of contaminated milk, or other agricultural products, or water.
- c. Inhalation of radionuclides resulting from resuspension of deposited material or from projected atmospheric releases resulting from the accident.

Factors to be considered in assuring that the lifting of protective measures will not result in undue risk to public health include the following:

- a. Sampling and monitoring of radiation and evaluation of data by the Department of Health.
- b. Decontamination activities, including waste disposal, under the direction of the Department of Health, undertaken by the appropriate local agency depending on the method utilized.
- c. Security, including police and fire protection for affected areas -- will be provided by State and local police, and local fire agencies.
- d. Availability of medical service -- will be ascertained by State and local health officials.



- e. Availability of electric power and telephone communications -- will be ascertained by Public Service Commission.
  - f. Adequacy of food and water supply -- will be determined by Department of Agriculture and Markets and Department of Health.
  - g. Operability of sanitary systems -- will be determined by Department of Environmental Conservation.
  - h. Availability of transportation -- will be determined by local officials.
  - i. Availability of sources of heat -- will be ascertained by State Energy Office.
  - j. Condition and needs of the affected population -- will be surveyed and determined by Department of Social Services with assistance from the American National Red Cross.
2. Dissemination to the public of information pertaining to recovery actions commences after consideration has been given to the following factors:
- a. The status of the services and conditions enumerated in the preceding portion of this plan. This includes information and guidance on methods the public should employ to overcome existing deficiencies, i.e., sources of emergency water supplies, restrictions on use of all non-canned foodstuffs, etc.
  - b. The consistency of public announcements between all levels of government. The Public Information Officers and affected County Public Information Officers coordinate such releases with each other before they are issued.
  - c. The methods by which these announcements are made depends in large part on the existing situation and the affected areas. Television and commercial radio broadcasts are the primary means of dissemination. Follow-up newspaper articles are also used. In special cases printed handouts and voice communications are used for Congregate Care Centers and similar facilities.
3. State and Federal assistance can be made available to assist affected counties in recovering from the effects of a radiological emergency.

Article 2-B of the New York State Executive Law provides that when the Governor declares a disaster emergency for an affected area he may direct any and all agencies of the State government to provide assistance under the coordination of the DPC. Such State assistance may include:

- a. utilizing, lending, or giving to political subdivisions, with or without compensation therefor, equipment, supplies,

facilities, services of State personnel, and other resources, other than the extension of credit;

- b. distributing medicine, medical supplies, food and other consumable supplies through any public or private agency authorized to distribute the same;
- c. performing on public or private lands temporary emergency work essential for the protection of public health and safety, clearing debris and wreckage, making emergency repairs to and temporary replacements of public facilities of political subdivisions damaged or destroyed as a result of such disaster; and
- d. making such other use of their facilities, equipment, supplies and personnel as may be necessary.

The Chief Executive officer of any affected county which has need of Federal disaster assistance accumulates and submits through ODP District office to the Director, ODP, data as required by Public Law 93-288 and appropriate regulations. This data will be submitted to the Governor through the Recovery Committee and the Chairman of the Disaster Preparedness Commission with a recommendation as to whether the Governor should request the President to declare an Emergency or Disaster as defined by Public Law 93-288. If such a request is made and granted, the Federal assistance which will then be provided would be administered by the Director, ODP, for the Recovery Committee, appropriate State agencies and local governments in accordance with procedures adopted for use in administering Federal aid for any other type of an emergency or disaster declared by the President.

In instances where a Presidential declaration is either not requested or granted, specific types of Federal assistance may be provided by individual Federal agencies acting within their own statutory authorities. The Governor may request such assistance, based on recommendations of the Director of the Office of Disaster Preparedness and the Recovery Committee which will be submitted through the Chairman of the Disaster Preparedness Commission.

- 4. A radiation monitoring program for contaminated areas will be established by the State Commissioner of Health. This monitoring program may be long term depending upon the type, levels, and extent of the contamination. The monitoring will also take into account the nature of the contamination as well as the area affected. Future activities affecting release of radiation (venting, etc.) will also require monitoring. Other State agencies will cooperate and assist the Department of Health in monitoring for long term effects. Monitoring programs will continue until acceptable levels are reached.

Medical follow-up to monitor the effects of radiation on the public and emergency workers after the incident may be established, if required. Currently, the State Department of



Health conducts an ongoing study of selected health statistics for counties with and without nuclear facilities as part of its epidemiological program. This program will be enhanced in the event of a radiological emergency.

All personnel monitoring equipment distributed during the emergency will be collected, assuring that exposure records for emergency workers are complete.

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.

## 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 emergency dose limitations consistent with the Environmental Protection Agency Protective Action Guidelines for the general public.

### 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.

Table 5.1 Recommended protective actions to reduce whole body and thyroid dose from exposure to a gaseous plume

Projected Dose (Rem) to the Population	Recommended Actions(a)	Comments
Whole body <1 Thyroid <5	No planned protective actions.(b) State may issue an advisory to seek shelter and await further instructions. Monitor environmental radiation levels.	Previously recommended protective actions may be reconsidered or terminated.
Whole body 1 to <5 Thyroid 5 to <25	Seek shelter as a minimum. Consider evacuation. Evacuate unless constraints make it impractical. Monitor environmental radiation levels. Control access.	If constraints exist, special consideration should be given for evacuation of children and pregnant women.
Whole body 5 and above Thyroid 25 and above	Conduct mandatory evacuation. Monitor environmental radiation levels and adjust area for mandatory evacuation based on these levels. Control access.	Seeking shelter would be an alternative if evacuation were not immediately possible.
Projected Dose (Rem) to Emergency Team Workers		
Whole body 25 Thyroid 125	Control exposure of emergency team members to these levels except for lifesaving missions. (Appropriate controls for emergency workers, include time limitations, respirators, and stable iodine.)	Although respirators and stable iodine should be used where effective to control dose to emergency team workers, thyroid dose may not be a limiting factor for lifesaving missions.
Whole body 75	Control exposure of emergency team members performing lifesaving missions to this level. (Control of time of exposure will be most effective.)	

(a) These actions are recommended for planning purposes. Protective action decisions at the time of the incident must take existing conditions into consideration.

(b) At the time of the incident, officials may implement low-impact protective actions in keeping with the principle of maintaining radiation exposures as low as reasonably achievable.

LILCO, July 3, 1984

CERTIFICATE OF SERVICE

04 JUL-5 P2:09

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

I certify that copies of

LILCO'S MOTION TO ADMIT SUPPLEMENTAL TESTIMONY ON CON-  
TENTION 85 (RECOVERY AND REENTRY)

LILCO'S SUPPLEMENTAL TESTIMONY ON CONTENTION 85 (RECOV-  
ERY AND REENTRY)

LILCO'S MOTION TO ADMIT LILCO'S REVISED TESTIMONY ON  
CONTENTION 88 (DOSE CRITERIA AND COST-BENEFIT ANALYSIS  
FOR REENTRY);

LILCO'S REVISED TESTIMONY ON CONTENTION 88 (DOSE  
CRITERIA AND COST-BENEFIT ANALYSIS FOR REENTRY)

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