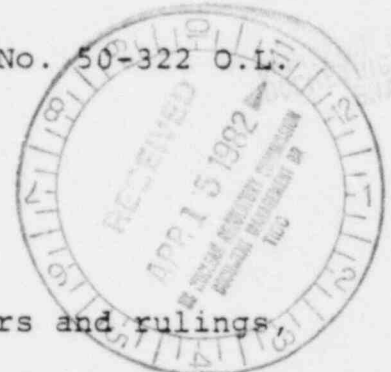


UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
 )  
LONG ISLAND LIGHTING COMPANY )  
 )  
(Shoreham Nuclear Power Station, )  
Unit 1) )

Docket No. 50-322 O.L.



CERTIFICATE OF SERVICE

In accordance with the Board's previous Orders and rulings, Suffolk County hereby delivers and serves copies of its prefiled direct testimony and the other documents listed below in the manner hereafter described:

- 1) Testimony on Suffolk County Contentions 2, 4, <sup>\*</sup>/ 9, 11, and 17, the Notice of Appearance of Christopher M. McMurray, and the Outline of Suffolk County Emergency Preparedness Concerns are to be delivered by hand to the Board (one copy) and parties on April 13, 1982.
- 2) Testimony on Suffolk County Contention 5 and Revised Contention 7B is to be delivered by hand to the Board (one copy) and parties on April 14, 1982.

The remainder of the Service List and additional copies for the Board will be served by placing copies in the mail, first class, postage prepaid, on April 14, 1982.

April 13, 1982

*Lawrence Coe Lanpher*  
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Lawrence Coe Lanpher

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\* / The Contention 4 testimony is not complete. The County did not receive the Quadrex Report (the subject of the County's Motion to Compel Staff discovery, dated April 8, 1982) until late on April 9. (The receipt of the document obviates need for the Board to rule on the Motion). The County's expert received the document by Federal Express on Saturday, April 10. He has determined that the report contains significant data that need to be included in the SC 4 testimony. That testimony, however, cannot be revised prior to April 14, due to the expert's work on other testimony and the inadequate time to review carefully the Quadrex data (the Quadrex Report is roughly 150 pages). The County will thus request leave at the Prehearing Conference to amend the SC 4 testimony by April 21, 1982.

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NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )

LONG ISLAND LIGHTING COMPANY )

(Shoreham Nuclear Power Station, )  
Unit 1) )

Docket No. 50-322 (OL)

OUTLINE OF SUFFOLK COUNTY EMERGENCY PREPAREDNESS CONCERNS

During the Board's conference call with counsel on April 2, 1982, as confirmed in the Board's April 5, 1982 Confirmatory Order Regarding Emergency Planning Issues, the Board directed the parties to outline subjects contemplated for emergency planning contentions which relate to the LILCO onsite Emergency Plan. Accordingly, Suffolk County has reviewed the Shoreham Emergency Plan, dated May 27, 1981, as revised in LILCO's letter transmitting replacement pages, dated January 11, 1982, and has listed below general concerns which are apparent from the face of LILCO's plan. The County emphasizes, however, that further issues are likely to arise when the State, County, and LILCO plans are completed and evaluated as integrated emergency response arrangements.<sup>1/</sup> In this regard, items such as siren location, the nature of public information materials and

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<sup>1/</sup> On its face, the LILCO Plan is incomplete in certain regards. See, e.g., pp. 4-4, 4-8. After the missing materials are provided by LILCO, the County will be in a position to inform the Board of any related concerns.

pamphlets, and evacuation routes must all await completion and integration of the plans. See Plan, pp. 6-13 through 6-16.

The County reiterates its position that the onsite emergency planning issues in Suffolk County are inherently related to the overall onsite/offsite planning effort, and therefore should not be separately considered. The County has reviewed the Section 50.47(b) planning standards to determine which standards involve coordination/interface of onsite and offsite activities; and, has found that virtually every standard involves both onsite and offsite entities. The County attaches hereto a copy of Section 50.47(b) with areas of coordination/interface underlined, and submits that there are few, if any, areas of purely "onsite" activity appropriate for a separate hearing. Even when there are purely onsite activities in an abstract sense, as a practical matter, emergency response activities -- onsite and offsite -- can not be properly divorced from each other and their overall objectives.

The following are issues concerning LILCO's onsite plan that the County has identified.

1. Choice of Protective Actions. LILCO has not assessed the relative benefits of various protective actions, including general evacuation, selective evacuation, sheltering, potassium iodine, under the site-specific circumstances and local conditions which exist in the Shoreham vicinity. Accordingly, LILCO is not in a position to advise the necessary protective actions to be instituted under accident conditions. (10 C.F.R. § 50.47(b)(10)).

The LILCO Plan does not provide for early protective action recommendations to be given for persons for whom the full range of protective actions may not be available or for whom special requirements may be needed. Examples include persons utilizing beaches (sheltering not possible), schools (need to reunite with families), hospitals and other specialized institutions (need for assistance generally and, in any evacuation), and bedridden persons. (10 C.F.R. § 50.47(b)(10)).

2. Public Notification. The Shoreham Plan does not include provisions for siren use (or recommending siren use) at an early enough time in a possible accident scenario to allow advance alert of the public (especially those in schools, large workplaces, institutions, or on beaches) so as to permit preparation to implement protective actions rapidly if such become necessary. (10 C.F.R. § 50.47(b)(5)).

3. Response Organizations. The letters of agreement in Appendix B to the Plan and the Contracts in Appendix C of the Plan are out-of-date. (10 C.F.R. § 50.47(b)(1)).

4. Offsite Coordination. LILCO has failed to demonstrate offsite planning and coordination with the State of Connecticut. (10 C.F.R. §§ 50.47(b)(1), (b)(3), (c)(2)).

5. Protective Action Planning. The LILCO Plan fails to identify, characterize, address, and plan for necessary actions (including sequences of protective actions) to ensure that persons outside the basic 10-mile planning zone (even assuming, arguendo, the appropriateness of a constrained 10-mile zone) will not interfere with necessary protective actions for persons

within the 10-mile zone. Such interference could occur if persons outside the 10-mile zone, particularly those to the east, voluntarily sought to evacuate to the west, passing through the plume exposure EPZ, thus increasing the number of persons needing to be dealt with in an emergency. Moreover, LILCO has not taken cognizance of the "evacuation shadow phenomenon" or of other sociological and psychological factors that may be pertinent to emergency planning and preparedness on Long Island, particularly given the geographic and demographic configurations of the elongated island. (10 C.F.R. §§ 50.47(b)(1), (b)(5), (b)(6), (b)(7), (b)(8), (b)(10), (b)(14), (b)(15), (c)(2)).

6. Assessment and Monitoring. LILCO has failed to demonstrate that it has adequate assessment equipment and personnel immediately available to monitor accurately plume dispersal and other parameters necessary to predict with reasonable assurance the offsite consequences of various accidents. In particular, LILCO's commitment to only three monitoring teams (Plan, p. 5-10) is inadequate given the large area and population that will need to be covered. (10 C.F.R. § 50.47(b)(9)).

Further, the projected deployment of survey teams is too limited and LILCO should also utilize real time monitors at fixed locations that can be remotely interrogated. The program is also inadequate for failing to require deployment of monitoring teams prior to the site emergency stage and for committing to deployment at that stage only within 60 minutes (Plan, p. 6-8). (10 C.F.R. § 50.47(b)(9)).

7. Choice of Protective Actions. The LILCO Plan (p. 4-2) specifies that sheltering is the immediate protective action at the general emergency action level until an assessment can be made whether an evacuation is indicated and, if so, whether it can be accomplished prior to "significant" radiological release and transport to the affected areas. This general guidance is inadequate:

(a) It fails to provide for populations for which sheltering may be impossible (persons on beaches, for example).

(b) It is not based on an analysis of the relative benefits of sheltering versus evacuation, and given Shoreham's location, no evidence is apparent to support LILCO's guidance.

(c) It does not define what is meant by the term "significant" release. (10 C.F.R. §50.47(b)(10)).

8. Public Information. LILCO's plans for public affairs activities in an emergency (Plan, e.g., pp. 5-14, 5-15, 5-23, 5-24) are inadequate, inter alia, for failing to provide for necessary coordination with offsite entities (including Suffolk County, neighboring cities, Nassau County, the States of New York and Connecticut, the NRC, and FEMA), and for failing to provide that Suffolk County will have overall responsibility for making data available to the public and for all decisions affecting the Suffolk County population. (10 C.F.R. §§ 50.47(b)(5), (b)(7)).<sup>2/</sup> Moreover, the Plan does not appear to address

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<sup>2/</sup> LILCO's plans for an emergency news center (Plan, p. 7-3B) are not adequate because they are not integrated into County emergency planning activities for dissemination of information regarding the course of the accident.

emergency response activities which relate to the more critical types of security situations and, particularly, to the complications caused by a security induced emergency where predictability is lost.

9. LILCO Staff Augmentation. LILCO's plans for offsite assistance to onsite activities are inadequate. (Plan, pp. 5-15, 5-16, 6-21A). The inadequacies include:

(a) Failure to provide necessary training for offsite entities; and

(b) Failure to consider how offsite entities' other responsibilities during an emergency might affect their ability to provide onsite assistance. (10 C.F.R. §§ 50.47(b)(1), (b)(2)).<sup>3/</sup>

10. Training. LILCO has failed to demonstrate that it has an adequate training program to prepare its personnel to implement the Plan. (10 C.F.R. § 50.47(b)(14)). In this regard, Chapter 8 of the LILCO Plan is merely conclusory and provides no details regarding the nature, scope and extent of the necessary training for full and adequate implementation of the Plan in conjunction with implementation of the offsite plans. Further, the proposal for retraining conducted once per calendar year

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<sup>3/</sup> For example, LILCO relies on the Wading River Fire Department to transport major onsite injuries to Suffolk County Hospital (Plan, p. 6-21A). LILCO has not demonstrated any training for the Department or that the Department will be available on a reliable basis (in light of other potential duties in an emergency) to perform this function.

(Plan, p. 8-1), is inadequate for maintaining the regional level of readiness required under Section 54.47.

11. LILCO Staff Augmentation. LILCO has failed to demonstrate that it can timely augment its staff in accordance with NUREG-0654, Table B-1. Indeed, LILCO's equivalent table, Table 5-1, merges the 30 and 60-minute LILCO staff augmentation, making it impossible to determine if LILCO even commits to all requirements of that Table. (10 C.F.R. § 50.47(b)(2)).

12. Accident Assessment and Monitoring. LILCO's description of its accident assessment equipment (Plan, p. 6-2) is inadequate because LILCO fails to provide data concerning the classification and qualification status of the equipment (important in assessing availability in accident situations), and because the likely error bands for the equipment are not provided. This is important because protective actions will likely be based, at least in part, on assessment results. Thus, LILCO and offsite personnel need to know the degree of accuracy of the equipment. (10 C.F.R. § 50.47(b)(9)).

13. Emergency Equipment. At page 6-6 of the Plan, LILCO states:

In the event that the Radiation Monitoring System computer is not operational, the plant operators have an EPIP, Determination of Offsite Doses . . . to estimate offsite doses as prescribed in the Offsite Dose Calculation Manual.

This procedure may employ the meteorology used in Chapter 15 of the FSAR and will assume an isotopic composition used for the FSAR accident analysis. This data combined with gross activity release information will be used to evaluate the severity of the accident.



The use of Chapter 15 isotopic concentrations is improper since the Chapter 15 design basis accidents, by definition, are not severe enough to have serious offsite consequences. (10 C.F.R. § 50.47(b)(8), (b)(9)).

14. Assessment and Monitoring. The post-accident sampling capability is inadequate because it may take up to 3 hours to draw and analyze samples. (Plan, p. 6-7). LILCO has not demonstrated that this is an acceptable time frame. (10 C.F.R. § 50.47(b)(9)).

15. Medical Facilities. The Plan should not rely upon Central Suffolk Hospital for treatment of contaminated persons because that facility, located 9 miles from the plant, may itself need to be evacuated. (Plan, p. 6-21). Backup hospitals closer than Philadelphia, Pennsylvania should be provided. (Plan, p. 6-21A). (10 C.F.R. § 50.47(b)(12)).

16. Emergency Facilities. Suffolk County cannot determine the adequacy of the Technical Support Center or the other emergency facilities set forth in Chapter 7 of the LILCO Plan. The County has not had an opportunity to visit these sites and, indeed, the Technical Support Center is not even built. Accordingly, the County reserves the right to offer contentions with respect to these facilities. (10 C.F.R. § 50.47(b)(8)).

17. Emergency Facilities. LILCO proposes to activate its Emergency Operations Facility ("EOF") only upon declaration of a Site Area or General Emergency. (Plan, p. 7-3A). The EOF should be activated at an earlier time in an accident to ensure

operational readiness in the event that an accident escalates to a more severe classification level. (10 C.F.R. § 50.47(b)(8)).

18. Assessment and Monitoring. At page 7-12B of the LILCO Plan, LILCO discusses its dose assessment model. From this brief discussion, it is clear that this model does not exist. Accordingly, no judgment on its adequacy can be reached at this time.

19. Exercises. In discussing annual exercises, LILCO states that "the scenario will be rotated each year to ensure all major elements of the plan are tested over a 5-year period." (Plan, p. 8-13). This is inconsistent with the requirement of Appendix E to Part 50, which specifies that the annual exercise shall test as much of the integrated plans as is reasonably achievable.

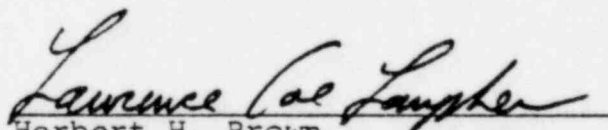
20. Public Information. LILCO describes its public information/education program in Section 8.4 of the Plan. This description is inadequate and does not provide assurance that an adequate program will in fact be implemented. (10 C.F.R. § 50.47(b)(7)). For instance, it is specified that the dissemination of information will be required at least annually. However, for an adequate program, information dissemination must be on a continual basis. Further, there is no evidence that LILCO is making a systematic analysis to determine the necessary elements of an effective public information program which ensures that the public is well informed and capable of responding correctly to information provided in an emergency. Finally, a comprehensive social survey of the attitudes, potential role conflicts, and

other attributes of the population and emergency workers who must respond to a Shoreham emergency is necessary.<sup>4/</sup>

21. Emergency Workers. LILCO cannot assure availability of emergency workers because it has not assessed possible role conflicts or other considerations which might cause workers to fail to report for and/or refuse to exercise their responsibilities. (10 C.F.R. §§ 50.47(b)(1), (b)(2)).

Respectfully submitted,

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April 13, 1982

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<sup>4/</sup> Further comments regarding the adequacy of the public information program cannot now be made because Appendix F to the LILCO Plan, relating to emergency preparedness information, is under development and will not be available until some time in April 1982. The County notes that the LILCO Plan specifies that the public information effort must be integrated and unified on behalf of New York State, Suffolk County and LILCO.

and other organizations capable of augmenting the planned response have been identified.

(4) A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

(5) Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and followup messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.

(6) Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.

(7) Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors), the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations), are established in advance, and procedures for coordinated dissemination of information to the public are established.

(8) Adequate emergency facilities and equipment to support the emergency response are provided and maintained.

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

(10) A range of protective actions have been developed for the plume exposure pathway EPZ for emergency workers and the public. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.

(11) Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides.

(12) Arrangements are made for medical services for contaminated, injured individuals.

(13) General plans for recovery and reentry are developed.

(14) Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.

(15) Radiological emergency response training is provided to those who may be called on to assist in an emergency.

(16) Responsibilities for plan development and review and for distribution of emergency plans are established, and planners are properly trained.

(c)(1) Failure to meet the standards set forth in paragraph (b) of this subsection may result in the Commission declining to issue an Operating License; however, the applicant will have an opportunity to demonstrate to

(2) An evaluation model is the calculational framework for evaluating the behavior of the reactor system during a postulated loss-of-coolant accident (LOCA). It includes one or more computer programs and all other information necessary for application of the calculational framework to a specific LOCA, such as mathematical models used, assumptions included in the programs, procedure for treating the program input and output information, specification of those portions of analysis not included in computer programs, values of parameters, and all other information necessary to specify the calculational procedure.

(d) The requirements of this section are in addition to any other requirements applicable to ECCS set forth in this Part. The criteria set forth in paragraph (b), with cooling performance calculated in accordance with an acceptable evaluation model, are in implementation of the general requirements with respect to ECCS cooling performance design set forth in this Part, including in particular Criterion 35 of Appendix A.

[Sec. 50.46 as added January 4, 1974, effective February 4, 1974 (39 F. R. 1003); amended effective July 25, 1974 (39 F. R. 27121); amended effective March 3, 1975 (40 F. R. 8789).]

[¶ 7434a]

Sec. 50.47. Emergency plans.—(a)(1) No operating license for a nuclear power reactor will be issued unless a finding is made by NRC that the state of onsite and offsite emergency preparedness provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

(2) The NRC will base its finding on a review of the Federal Emergency Management Agency (FEMA) findings and determinations as to whether State and local emergency plans are adequate and capable of being implemented, and on the NRC assessment as to whether the applicant's onsite emergency plans are adequate and capable of being implemented. In any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on a question of adequacy.

(b) The onsite and offsite emergency response plans for nuclear power reactors must meet the following standards:<sup>1</sup>

(1) Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations within the Emergency Planning Zones have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.

(2) On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified.

(3) Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's near-site Emergency Operations Facility have been made,

<sup>1</sup> These standards are addressed by specific criteria in NUREG-0654; FEMA-REP-1 entitled "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and

Preparedness in Support of Nuclear Power Plants—for Interim Use and Comment" January 1980.