

investigations or reports, upon which LILCO relies for support of or which concern its position.

2. What evaluations or analyses have been conducted by or on behalf of LILCO to determine if mechanical valve failures similar to those experienced in Brunswick Unit Nos. 1 and 2 and/or Hatch No. 2 MSLIV's, between 1976 and 1981, are possible in Shoreham valves? Describe and identify any evaluations, analyses or other documents which concern the relevance of these failures for the Shoreham valves.

3. What techniques are used to detect the separation of valve stem from stem disc or gate? Describe them and identify all documents which concern these techniques.

4. Identify the operating procedures and other documents used to assist in detection of mechanical failures of passive mechanical valves at Shoreham.

Suffolk Co. Contention 13-15

5. State LILCO's position with respect to Suffolk County Contention 13, as amplified in the County's March 1 Response to the February 8, 1982 Board Order, and with respect to such position identify:

- a. The bases for such position; and
- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

6. State LILCO's position with respect to Suffolk County Contention 14 and with respect to such position identify:

- a. The bases for such position; and
- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

7. State LILCO's position with respect to Suffolk County Contention 15 and with respect to such position identify:

- a. The bases for such position; and
- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

8. Identify each study, evaluation, audit, review, analysis, investigation or other document, performed by or in the possession of LILCO, concerning the effectiveness, efficiency, or adequacy of the design, engineering, procurement, construction, or operation of Shoreham. Such identification should include each study, evaluation, audit, review, analysis, investigation, or other document that was initiated but not formally issued, as well as each that was initiated and resulted in reports, conclusions, findings, recommendations, or other documents. (The identification also should include any reviews or audits by Nuclear Service Corp., now known as Quadrex).

9. Describe and identify all LILCO procedures or other guidance or documents which are designed, in whole or in part, to ensure that replacement parts or materials installed during maintenance activities at Shoreham, related to items identified

as important to safety (for example, the replacement of a transistor or gasket in a Class IE Pressure Transmitter), will not degrade the quality or qualification of the original equipment item.

10. Identify each member of LILCO's operations QA/QC staff, and with respect to each person identified, describe the qualifications that justify his or her designation as a member of the QA/QC staff.

11. State how many LILCO QA/QC personnel will be present during each operating shift at Shoreham when the plant is in operation. Explain the basis for LILCO's selection of this number and outline their respective duties.

12. Describe the QA/QC support to Shoreham operations which is now being provided, or will be provided in the future, by general office personnel employed by LILCO. Identify each LILCO employee who is now, or will be in the future, involved in providing the foregoing support and with respect to each person identified, state his or her qualifications pertaining to QA/QC.

13. Identify each contractor, subcontractor or consultant who provided QA/QC activity for items important to safety at Shoreham, and with respect to each person identified, state the inclusive dates during which such activity was conducted.

14. Identify all documents concerning the QA/QC activity performed by each person identified in response to the preceding Interrogatory, including:

- a. the purchase orders which initiated the activity;

17. With respect to each Regulatory Guide which is identified in response to the preceding Interrogatory as having been met, identify the particular provisions in the FSAR and in LILCO's QA Manual, or in any other LILCO procedure or document, which concern LILCO's compliance with the Regulatory Guide.

18. With respect to each Regulatory Guide which is identified in response to Interrogatory No. 16 as not having been met, identify all documents upon which LILCO relies to justify its position that LILCO's procedures provide a level of safety equivalent to that set forth in the Regulatory Guide.

19. Identify all procedures and related documents which are used by LILCO to identify, locate, report upon, analyze, or investigate equipment failures discovered during installation, pre-operational activity, and maintenance at Shoreham.

20. Identify all documents in the possession of LILCO concerning identification, reporting upon, investigating, or analyzing equipment failures discovered during installation, pre-operational activities and maintenance of operating BWR stations, other than Shoreham, having equipment similar to that at Shoreham.

21. Section 17.2 of the FSAR states "Audit frequency shall be based on the status, safety, and importance of the audited activity and results of prior audits." What are the specific criteria for determining "audit frequency." Identify all documents related to these criteria.

22. Please identify "Those applicable elements of the QA Program in which quality-related activities are more intensive

and impacting upon daily operation" (FSAR Section 17.2) which shall be audited at least annually (i.e. what are the "applicable elements" and what are the "quality-related activities" referred to).

23. What is the established procedure for correcting errors or violations identified in audit reports? (Please identify the documented procedure(s), qualifications of planned reviewers, and information pertaining to any other organization other than LILCO which could be involved.)

24. Describe the training qualifications of the personnel who will be conducting the audits referred to in Section 17.2 of the FSAR where it states "Audits shall be conducted in accordance with written, approved procedures, plans and checklists by qualified personnel not directly responsible for the area being audited."

25. Section 17.2 of the FSAR states: "Responsibility and authority for establishing the implementing QA Program requirements relating to audits may be delegated, as deemed necessary by LILCO, to other organizations." Does LILCO plan to delegate this responsibility and authority to other organizations? If so, please list the organizations and qualifications of the organizations.

26. Identify the available supplemental QA support staff which may be required (and when it is anticipated it would be required) from other areas within LILCO, consultants, or contractors as stated in FSAR Section 17.2. Please include a description of the qualifications and required training of this

supplemental support. Please provide the documented line of responsibility and communication established when supplemental support is required. (Note: this answer may be combined with that to No. 12.)

27. Please provide a list of responsibilities of the Operating Quality Assurance Engineer when supplemental support is used.

28.* / Does LILCO intend to hire an independent consultant to perform a non-NRC, third-party physical inspection and review of the quality assurance/quality control program for Shoreham? If the answer is yes, please describe the scope of the review, the qualifications of consultants being considered and projected schedules.

29. Does LILCO believe an adequate QA documentation base exists at Shoreham appropriate to generating operating procedures, training and replacement programs? If yes, please describe this base.

30. Does LILCO believe that there is an adequate base of QA documentation which provides a traceable path to verify the appropriateness of changes in the design and construction of Shoreham. Provide the bases for your response and identify all documents which concern this matter.

31. Identify LILCO's QA procedures for cross-checking between existing documentation and equipment at Shoreham.

32. Identify all organizations which have conducted QA

* / Interrogatories 28-38 concern primarily Contention 15.

audits at Shoreham, and with respect to each, identify the date(s) of each audit and its scope. Please provide copies of these audits. (Answer may be omitted if all such audits already are being produced in accordance with the County's March 5 document request).

33. Describe the approximate total number of hours of LILCO audits of Shoreham, the number of noncompliances found, the number of violations discovered, and the approximate number of hours spent closing out audit violations and noncompliances. Identify all documents concerning these matters.

34. Describe the qualifications of the LILCO inspection staff primarily responsible for inspecting Shoreham. Identify the documents which concern these qualifications.

35. What is the LILCO procedure for insuring that all construction QA violations and noncompliances are closed out and all corrective actions have occurred satisfactorily prior to operation? Please provide examples of cases where corrective actions have been satisfactorily closed out.

36. Does LILCO believe it has identified and resolved all quality deficiencies and root causes of nonconformances at Shoreham to date? If yes, please provide a list of all quality deficiencies and root causes discovered, including their respective corrective actions. If no, what quality deficiencies and/or root causes does LILCO believe it has not identified and resolved, what action is planned to investigate these, and on what basis does LILCO justify that its QA program has been implemented in accordance with the requirements of 10 C.F.R.

50.34(a)(7) and 10 C.F.R. 50 Appendix B? Identify all documents which concern identification of quality deficiencies and root causes of nonconformances.

37. Describe the baseline criteria (and identify all related documents) against which the effectiveness of the LILCO QA Program is quantitatively measured by LILCO. If none exists, please provide the basis for not having such.

38. Have comparative measures been used in the LILCO program as a means of determining improvements in, or the effectiveness of, corrective actions at Shoreham? If so, please describe them. If not, what are the means used to determine that corrective actions are effective? Please identify all documents concerning any measures used to determine corrective action effectiveness.

Suffolk Co. Contentions 18-19.

39. State LILCO's position with respect to Suffolk County Contention 18, as revised in the County's March 1 Response to the Board's February 8 Order, and with respect to such position identify:

- a. The bases for such position; and
- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

40. State LILCO's position with respect to Suffolk County Contention 19 and with respect to such position identify:

- a. The bases for such position; and

- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

41. Identify all changes, proposed or implemented, to control room equipment or other equipment or to Shoreham procedures, which have been made or proposed in response, in whole or in part, to any control room audit, including any by the NRC Staff.

42. Identify all panel drawings and other documents concerning the proposed or implemented changes identified in response to the preceding Interrogatory. Also, identify all LILCO employees, contractors and subcontractors who participated in or have knowledge concerning the changes identified in response to the preceding Interrogatory or concerning any control room audits.

Suffolk Co. Contention 21.

43. State LILCO's position with respect to Suffolk County Contention 21 and with respect to such position identify:

- a. The bases for such position;
- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

44. Identify any LILCO acceptance criteria different than the acceptance criteria generated by and for the Mark II containment long-term generic program. For each different

criterion, provide justification for its use on Shoreham and identify any documents related thereto.

45. If no different acceptance criterion is identified in response to the preceding Interrogatory, is it LILCO's position that all of the Mark II long-term generic program acceptance criteria apply to Shoreham? If the answer is yes, does the Shoreham Mark II comply with all the acceptance criteria? Please provide the basis for your position. If not, describe each difference or noncompliance and justify each noncompliance.
Suffolk Co. Contention 23.

46. State LILCO's position with respect to Suffolk County Contention 23 and with respect to such position identify:

- a. The bases for such position;
- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

47. What is the planned refueling schedule for Shoreham (i.e., 12 month or 18 month fuel cycle)? To what extent has this fuel cycle been committed? Identify all documents which concern this refueling schedule.

48. Please state whether the Rev. 22, July 1981 description of the "primary containment purge system," in FSAR Section II.E.4.2, "Containment Isolation Dependability," page II.E.4.2-8, Item #6, "Purge Valves" is accurate and a complete representation of the system as currently designed. If this description is

correct, please answer Interrogatories 49-51. If this description is not correct, please answer Interrogatories 52-54.

49. Identify the procedures referred to in FSAR Section II.E.4.2 "Containment Isolation Dependability," page II.E.4.2-8, item #6, "Purge Valves," where it states that:

The valves, which satisfy the SRP Section 6.2.4. item II.3.F sealed closed barrier definition . . . , are then positioned by existing Shoreham administrative and/or operational procedures."

50. Identify the documentation that verifies that the sealed-closed barrier purge valves (referred to in Interrogatory 48) will be under administrative control to assure that they cannot be inadvertently opened. Also, identify (including identification of documents) what physical means of administrative control will be used to assure that the purge isolation valves cannot be inadvertently opened.

51. Identify all analyses and other documents which concern purge isolation valve closure time for both automatic closure (i.e., containment isolation signal) and remote manual operation.

52. If the current primary containment purge system design is not correctly described in the FSAR Section noted above (Interrogatory 48), please explain all changes that have been made in the system design, its function, and your bases for the design modification, and identify all documents concerning the changes.

53. For the design change(s) described above in answer to Interrogatory 52, please explain how, and for what function the system will be operated during each of the five operational

conditions (power operation, startup, hot shutdown, cold shutdown, and refueling).

54. For the design change(s) described, in answer to Interrogatory 52, state which NRC requirements and guidelines, including specific references to subsections, have been considered in modifying the system design and operation.

55. Identify all analyses and other documents performed and any responses made to the NRC regarding the applicability, impacts, and results of the NUREG-0803 study (Generic Safety Evaluation Report Regarding Integrity of BWR Scram System Piping) on the Shoreham plant design. Also explain your bases (including identification of documents) for whatever action has been taken, and a schedule for whatever action will be taken in the future regarding this subject.

Suffolk Co. Contention 24.

56. State LILCO's position with respect to Suffolk County Contention 24 and with respect to such position identify:

- a. The bases for such position; and
- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

57. Identify each piping system where the Shoreham design is not in full compliance with the NUREG-0313 Revision 1.

- a. Provide the justification for each noncompliance identified; and

b. Identify all documents which concern the non-compliance and/or LILCO's determination of which items comply and which do not comply.

58. Describe the Shoreham system for feedwater control at low flow conditions. Does the Shoreham feedwater design and feedwater flow control system design comply with NUREG-0619? If not, describe each difference and identify all documents which concern each difference.

59. What modification, if any, has been made to the Shoreham design to protect the feedwater nozzles from excessive thermal cycling due to fluctuations in feedwater temperature? Identify all documents which concern any modification or which concern any decision not to effect modifications.

Suffolk Co. Contention 25.

60. State LILCO's position with respect to Suffolk County Contention 25 and with respect to such position identify:

- a. The bases for such position; and
- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

Suffolk Co. Contention 26.

61. State LILCO's position with respect to Suffolk County Contention 26 and with respect to such position identify:

- a. The bases for such position; and
- b. All analyses, correspondence, and other documents, including test results, research, audits,

investigations or reports, upon which LILCO relies for support of or which concern its position.

62. State LILCO's basis for selection of materials used in areas of high neutron flux.

63. Identify specifically where low cobalt steels were used in the reactor vessel and internals, coolant boundary, reactor water cleanup water system, spent fuel pool cooling and cleanup system, demineralized water systems, tanks, and control rod drives and drive water system. Identify all documents which concern where these steels were used.

64. Identify all procurement documents that specified low cobalt steel materials.

65. Identify all design procedures that require the evaluation of low cobalt steels for replacement of piping, valves, and components.

66. Describe and identify LILCO's ALARA design criteria for separation or isolation of components and piping systems in the reactor and radwaste buildings.

67. Has LILCO incorporated into its design, provisions for decontamination of the reactor water cleanup system? If so, identify drawings and other documents concerning the locations of decontamination access.

68. Have provisions for decontamination of the reactor water cleanup system been incorporated in Shoreham design and procedures? If so, list the equipment and design criteria used and identify all documents which concern decontamination of this system.

69. Identify LILCO's criteria for flushing or decontamination procedures. Also, identify and describe the bases upon which these procedures are to be implemented, e.g. fixed schedules, radiation levels, maintenance requirements?

70. Identify the systems that have taps for flushing purposes, including the RWCS, recirculation piping system, radwaste systems, etc. In addition, do the reactor cleanup, condensate, and radwaste demineralizers, tanks, pumps and evaporators also have taps for flushing?

71. Does LILCO utilize a condenser design that uses the minimum number of shell connections required to minimize air leakage through flanges and connectors?

72. Has LILCO established water chemistry procedures to limit iron-cobalt radiation buildup in order to reduce primary system radiation exposure rates? If yes, identify the procedures. If no, identify all LILCO analyses or other documents which concern whether such water chemistry procedures are necessary and describe the alternatives to water chemistry procedures for minimizing iron-cobalt radiation build-up which LILCO intends to use at Shoreham.

73. Identify the most recent LILCO procedures for monitoring and control of individual and plant total annual occupational radiation doses. Also identify all documents that concern whether individual exceedance of three rem per quarter will occur only on an emergency basis and require special management approval. Provide the bases upon which special management approval would occur.

74. Identify all documents or other data which ensure that a review of individual and plant exposure totals will be performed at least annually by LILCO's Review of Operations Committee and every two years by the Nuclear Review Board. Please also explain what actions will be taken to reduce radiation levels and/or exposure if the in-plant totals exceed 1000 man-rem in two successive years.

75. Identify LILCO's procedure or other means to reduce radiation levels and/or exposure if the in-plant totals significantly exceed U.S. plant averages.

76. According to procedure SP61.016.03, LILCO's policy is ALARA. The FSAR (12.1) states LILCO's policy as ALAP. Please state whether ALARA or ALAP has been or will be the operative policy.

77. Section 12.1.3 of FSAR commits LILCO to Regulatory Guide 8.8 (July 1973). Is this still LILCO's only commitment in this regard?

78. Please provide the basis for the ISI-drywell piping estimates of annual dose listed in Table 12.4.3-1 of the FSAR. Please also provide the basis for comparison between the Mark I containment and the Mark II containment at Shoreham.

79. Has LILCO, Stone & Webster and/or General Electric performed any analyses of the Tsuruga Nuclear Power Station iron-cobalt water chemistry control program in relation to Shoreham? If the answer is affirmative, identify these documents, and identify any changes adopted for Shoreham's iron-cobalt water chemistry control program based on these analyses. If the answer

is negative, please explain why LILCO, Stone & Webster and/or General Electric do not feel such a comparative analysis is warranted.

80. Identify the criteria LILCO provided Stone & Webster for minimizing occupational doses. Identify all documents which concern these criteria.

81. Identify all analyses performed by or for LILCO on shielding operational areas to determine expected dose levels for routine operations.

82. Identify all analyses performed by or for LILCO on shielding maintenance areas to determine expected dose levels for routine operations.

Suffolk Co. Contention 27.

83. State LILCO's position with respect to Suffolk County Contention 27 and with respect to such position identify:

- a. The bases for such position; and
- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

Suffolk Co. Contention 28.

84. State LILCO's position with respect to Suffolk County Contention 28(a)(i) and with respect to such position identify:

- a. The bases for such position; and
- b. All analyses, correspondence, and other documents, including test results, research, audits,

investigations or reports, upon which LILCO relies for support of or which concern its position.

85. State LILCO's position with respect to Suffolk County Contention 28(a)(iii) and with respect to such position identify:

- a. The bases for such position; and
- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

86. State LILCO's position with respect to Suffolk County Contention 28(a)(iv) and with respect to such position identify:

- a. The bases for such position; and
- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

87. State LILCO's position with respect to Suffolk County Contention 28(a)(vi) and with respect to such position identify:

- a. The bases for such position; and
- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

Suffolk Co. Contention 31.

88. State LILCO's position with respect to Suffolk County Contention 31 and with respect to such position identify:

- a. The bases for such position; and

- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

89. Does LILCO contend the cable design and physical arrangement of the Shoreham cable spreading room comply with IEEE-384-1977? If yes, identify all documents which concern this LILCO position. If no, describe each case where it does not comply and identify all documents concerning such noncompliance.

90. Does LILCO contend the cable design and physical arrangement of the Shoreham cable spreading room comply with Reg. Guide 1.75 Rev. 2? If yes, identify all documents which concern this LILCO position. If no, describe each case where it does not comply and identify all documents concerning such noncompliance.

91. Does LILCO contend the physical separation of electrical cables and conduits in the steam tunnel complies with Reg. Guide 1.75 Rev. 2? If yes, identify all documents which concern this LILCO position. If no, describe each case where the physical separation does not comply and identify all documents concerning such noncompliance.

92. Identify the design criteria which LILCO applied to the physical separation of electrical cables in (a) the cable spreading room and (b) the steam tunnel at Shoreham.

93. What standards and regulatory guides (including revisions and issue dates) were used by LILCO as guidance in the design of the cable spreading room and steam tunnel at Shoreham?

SOC Contentions.

94. With respect to each SOC Contention as to which a substantive objection has not been interposed, state LILCO's position and with respect to such position identify:

- a. The bases for such position; and
- b. All analyses, correspondence, and other documents, including test results, research, audits, investigations or reports, upon which LILCO relies for support of or which concern its position.

Please state your answer separately as to each SOC Contention.

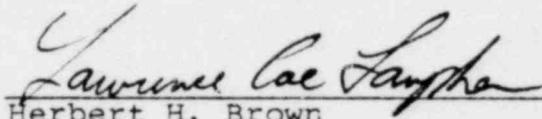
95. With respect to SOC Contention 19(e) concerning seismic design, please identify all consultants of LILCO concerning the possible effects of seismic activity on the operation of the Shoreham plant.

- a. Identify and describe all work performed by such consultants during the last 24 months, including a description of any mathematical models of the effects of ground motion on structures, systems, and components at the Shoreham plant.

- b. Identify and describe all work of such consultants concerning seismic activity in the northeastern United States and southeastern Canada during the past 24 months.

Respectfully submitted,

DAVID J. GILMARTIN
Suffolk County Attorney
PATRICIA A. DEMPSEY
Assistant Suffolk County Attorney
Suffolk County Department of Law
Veterans Memorial Highway
Hauppauge, New York 11788



Herbert H. Brown
Lawrence Coe Lanpher
Karla J. Letsche
KIRKPATRICK, LOCKHART, HILL,
CHRISTOPHER & PHILLIPS
1900 M Street, NW, 8th Floor
Washington, D.C. 20036
(202) 452-7000

Attorneys for Suffolk County

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