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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF SECRETARY
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BRANCH

Before the Atomic Safety and Licensing Appeal Board

In the Matter of)
)

LONG ISLAND LIGHTING COMPANY)
)

(Shoreham Nuclear Power Station,)
Unit 1))

Docket No. 50-322-OL

SUFFOLK COUNTY EXCEPTIONS
TO PARTIAL INITIAL DECISION

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October 17, 1983

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NUCLEAR REGULATORY COMMISSION

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Before the Atomic Safety and Licensing Board

OFFICE OF SECRETARY
OF THE COMMISSION
WASHINGTON, D.C. 20545

In the Matter of)
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LONG ISLAND LIGHTING COMPANY)
)

(Shoreham Nuclear Power Station,)
Unit 1))
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Docket No. 50-322 O.L.

CERTIFICATE OF SERVICE

I hereby certify that copies of SUFFOLK COUNTY EXCEPTIONS TO PARTIAL INITIAL DECISION, dated October 17, 1983, have been served to the following this 17th day of October 1983 by U.S. mail, first class.

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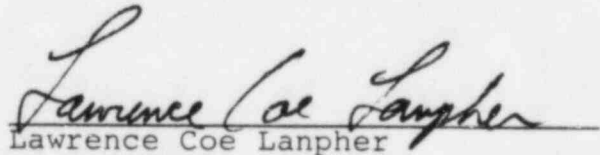
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LONG ISLAND LIGHTING COMPANY)

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Docket No. 50-322-OL

SUFFOLK COUNTY EXCEPTIONS TO PARTIAL INITIAL DECISION

Pursuant to 10 CFR §§2.710, 2.762 and the Appeal Board's September 21, 1982 Order, Suffolk County files exceptions to the Licensing Board's Partial Initial Decision ("PID"), LBP-83-57, which was served September 21, 1983. The County is authorized to state that the Shoreham Opponents Coalition joins in these exceptions. The exceptions generally are referenced to the PID or to separate Licensing Board orders and rulings, except where the Licensing Board has failed to make a requested ruling and citation to the County's proposed opinion and findings is therefore appropriate.^{1/}

^{1/} In certain instances, particularly in connection with Contentions 11, 16, 12-15, and 7B, the PID is silent on issues raised by the County. In these instances, an exception is not possible to a specific portion of the PID

(Footnote cont'd next page)

I. Water Hammer (SC Contention 4)

1. The Licensing Board erred in concluding that the existing design features at Shoreham are responsive to previous start-up and operating experience relating to water hammer. (PID at 12).

2. The Licensing Board erred in failing to find that many plants with the systems listed in PID Findings A-8 and A-9 have experienced serious water hammer events. (PID at 283-84).

3. The Licensing Board erred in concluding that the existing design features at Shoreham "strongly rebut" the County's position that water hammer experience has not been adequately considered. (PID at 12).

4. The Licensing Board erred in finding that preoperational test and operating procedures along with operator training at Shoreham adequately encompass adequate considerations of avoidance or mitigation of water hammer. (PID at 12-13).

(Footnote cont'd from previous page)

and thus the matter is referenced to the County's earlier filings which the Licensing Board (in the County's view) should have adopted.

5. The Licensing Board erred in failing to require a review of all operating, maintenance and testing procedures for the RHR, HPCI, core spray, essential cooling water, isolation condenser, feedwater, and main steam for their appropriateness in preventing water hammer. (County Findings, 1/31/83, Vol. 2, at 84-85).

6. The Licensing Board erred in failing to conclude that LILCO could do more in its procedures to caution operators about water hammer. (County Findings, 1/31/83, Vol. 2, at 86; PID at 13).

7. The Licensing Board erred in failing to find that LILCO water hammer training is inadequate. (County Findings, 1/31/83, Vol. 2, at 86-87; PID at 12-13).

8. The Licensing Board erred in concluding that the Staff's design review of water hammer is complete and adequate. (PID at 14; County Findings, 1/31/83, Vol. 2, at 20).

9. The Licensing Board erred in concluding that experience at other BWR plants has been adequately considered during the design of the Shoreham plant. (PID at 14-16, 286-89; County Findings, 1/31/83, Vol. 2, at 73).

10. The Licensing Board erred in concluding that the "near" resolution of the water hammer generic unresolved safety issue ("USI") and the compliance at Shoreham with Staff's interim strategy for avoiding or mitigating water hammer are an acceptable basis for licensing and provide reasonable assurance to permit reactor operation. (PID at 16-17).

II. Environmental Qualification (SC Contention 8/SOC Contention 19(h))

1. The Licensing Board erred in concluding that all equipment located in a harsh environment which is relied upon to perform a safety function is included in the LILCO environmental qualification program. (PID at 132, 441).

2. The Licensing Board erred in accepting as part of its basis for its decision ongoing studies which have not been completed, have not been reviewed by the Staff, and are not part of the evidentiary record. (PID at 133, 441-42).

3. The Licensing Board erred in concluding that LILCO has complied with requirements regarding the scope of its environmental qualification program in view of the fact that an undefined set of SLCS components which are in a harsh environment and perform a safety function will not be qualified until some future date. (PID at 133, 443-44).

4. The Licensing Board erred in concluding that LILCO's program complied with scope requirements for environmental qualification of safety-related electrical equipment and nonsafety-related equipment regarding the post accident monitoring equipment at issue in this hearing. (PID at 132-33, 440-44).

5. The Licensing Board erred in concluding that the number of nonsafety-related equipment items at Shoreham which are required to be qualified under Section 50.49(b)(2) "will be small." (PID at 134, 444-45).

6. The Licensing Board erred in concluding that LILCO had supplied adequate documentation of its qualification program, particularly in view of the fact that LILCO's program did not explicitly consider nonsafety-related electrical equipment whose failure could prevent safety-related equipment from performing a safety function. (PID at 134, 145, 444-445).

7. The Licensing Board erred in accepting that the so-called "design philosophy" of LILCO and its contractors could constitute compliance with the requirements of 10 CFR 50.49(b)(2). (PID at 134, 136, 445).

8. The Licensing Board erred in inferring that post accident monitoring equipment would be adequately handled in the environmental qualification program and thus comply with Sections 50.49(b) or 50.49(i). (PID at 137, 145).

9. The Licensing Board erred in deciding that the environmental qualification issue, in light of its incomplete status, was ripe for litigation. (PID at 142-43).

10. The Licensing Board erred in finding the LILCO environmental qualification program in compliance with Section 50.49(b)(2), particularly in view of the incomplete status of the environmental qualification program and LILCO's failure to submit a list of nonsafety-related equipment falling under this requirement. (PID at 144).

11. The Licensing Board erred in finding that the deficiencies represented by incomplete justifications for interim operation of unqualified equipment represented minor deficiencies and in concluding that such deficiencies would be resolved shortly. (PID at 143, 449-52).

12. The Licensing Board erred in allowing the delay until fuel load for identification and inclusion in the environmental qualification program of equipment under Section 50.49(b)(2). (PID at 144-45).

13. The Licensing Board erred in concluding that there need be no further litigation of the issue of the scope of 10 CFR 50.49(b)(2). (PID at 144).

14. The Licensing Board erred in failing to require LILCO to prepare a list of all electrical equipment at Shoreham that is important to safety in order to assure compliance with Section 50.49(b)(2). (County Findings, 4/7/83, at 163-65, 168-69, 530-34).

15. The Licensing Board erred in concluding that the LILCO Environmental Qualification Program complied with the requirements of Section 50.49 with respect to aging. (PID at 145, 453-55).

16. The Licensing Board erred in accepting Regulatory Guide 1.75 as part of its basis for concluding that nonsafety-related equipment would not impact safety-related functions. (PID at 445).

17. The Licensing Board erred in concluding that equipment falling within the Section 50.49(b)(2) category will be identified and included in the LILCO environmental qualification program. (PID at 144-45).

18. The Licensing Board erred in delegating its obligation to make findings on compliance with Section 50.49 to the Staff. (PID at 134-35, 144-45; County Findings, 4/7/83, at 169-71).

19. The Licensing Board erred in failing to require the NRC Staff to prepare a generic list of BWR equipment that is important to safety. (County Findings, 4/7/83, at 168; PID at 135).

III. Passive Mechanical Valve Failure (SC Contention 11)

1. The Licensing Board erred in stating that complete failure analysis of safety-related valves is inconsistent with industry practice and has not been performed by other applicants. (PID at 56-57, 312).

2. The Licensing Board erred in its interpretation of an undetected separation of a valve disc from a valve stem as an active failure. (PID at 313).

3. The Licensing Board erred in concluding that electrical failures and lock-outs did not result in undetected mechanical failures of valves. (PID at 316).

4. The Licensing Board erred in implying that SWEC's and GE's programs for collecting, evaluating, and transferring to LILCO information on industry experience with failures will be comprehensive and adequate. (PID at 320).

5. The Licensing Board erred in stating that necessary followup actions to review of industry experience by the Independent Safety Evaluation Group are implemented. (PID at 321).

6. The Licensing Board erred in stating that a period ranging from 3 months to 2 years is adequate for the testing of valves that the Staff determines need not be tested every 3 months. (PID at 47, 323).

7. The Licensing Board erred in implying that LILCO's in-service testing program will provide adequate assurance that valves are reliable and function properly. (PID at 324).

8. The Licensing Board erred in concluding that the record lacks sufficient information on the focus of Generic Task B-58 to indicate a concern by the Staff over passive mechanical failures. (PID at 30).

9. The Licensing Board erred in concluding that there is no basis in 10 CFR Part 50 for requiring the assumption of a passive or undetectable failure of a passive or active

component when designing against a single failure in a fluid system. (PID at 34).

10. The Licensing Board erred in concluding that footnote 2 to the definition of the single failure criterion and the Introduction to 10 CFR Part 50 Appendix A clearly relate to the assumption of passive component failure as opposed to a passive undetectable failure of an active or passive component. (PID at 34).

11. The Licensing Board erred in concluding that an assumption of an undetected failure of a mechanical valve while designing against the failure of an active component would constitute a postulated double failure of active components. (PID at 35, 56).

12. The Licensing Board erred in concluding that LILCO has adequately analyzed the conditions under which failure of a passive component should be assumed in the design of a fluid system against a single failure. (PID at 35, 62).

13. The Licensing Board erred in concluding that LILCO's application of the single failure criterion in the design of Shoreham complies with the requirements of 10 CFR 50, Appendix A. (PID at 35, 62).

14. The Licensing Board erred in concluding that a further overall valve failure analysis is not required or warranted. (PID at 36).

15. The Licensing Board erred in concluding that the record indicates that the safety-related valves at Shoreham are highly reliable. (PID at 36-37, 63).

16. The Licensing Board erred in concluding that an analysis to detect failures in Shoreham's modified MSIVs is not necessary. (PID at 38).

17. The Licensing Board erred in concluding that since it is overall system function that must be preserved, it is not necessary to have position indication for all safety-related valves. (PID at 41).

18. The Licensing Board erred in concluding that LILCO has made adequate and reasonable use of valve stem position indicators. (PID at 42, 63).

19. The Licensing Board erred in concluding that there is no basis in the record for requiring LILCO to outfit all safety-related valves with devices to detect operability or requiring LILCO to perform a failure analysis. (PID at 42).

20. . The Licensing Board erred in concluding that there is reasonable assurance that the program described by LILCO for monitoring and evaluating industry experience is adequate. (PID at 45, 63).

21. The Licensing Board erred in stating that it cannot be concluded that separations from valve stems are "fairly common" on the basis of IE Bulletin 83-03 stating that numerous check valve failures have occurred in systems important to safety. (PID at 55).

22. The Licensing Board erred in stating that there is no basis to conclude that comprehensive failure analysis would produce a result significantly more capable of protecting the safety function of valves than the present methodology. (PID at 57, 63).

23. The Licensing Board erred in concluding that a failure analysis is not needed to provide assurance of the adequacy of LILCO's abilities to detect passive failures of mechanical valves. (PID at 57).

24. The Licensing Board erred in finding that the record lacks adequate basis to support assertions that LILCO has not adequately justified the basis for its requests for relief from

the ASME Code three-month testing interval for valves. (PID at 57).

25. The Licensing Board erred in concluding that it is not possible to check many HCU check valves during operation. (PID at 58).

26. The Licensing Board erred in concluding that the gap in the record regarding the adequacy of LILCO's IST program is not significant enough to preclude the Board's finding reasonable assurance of the adequacy of LILCO's IST program to permit fuel load and operation up to five percent of rated power. (PID at 7, 61, 63-64).

27. The Licensing Board erred in concluding that there is little likelihood of an undetectable check valve failure occurring at Shoreham in the time period between the issuance of the PID and the final resolution of this contention. (PID at 61).

28. The Licensing Board erred in concluding that LILCO's analysis of component failures would bound undetected single failures of the components of fluid systems. (PID at 62).

29. The Licensing Board erred in concluding that LILCO will take timely, appropriate corrective actions based upon its monitoring and evaluation systems. (PID at 63).

30. The Licensing Board erred in not adequately addressing LILCO's development of criteria for determining whether position indicators will be required on manual valves. (County Findings, 1/31/83, Vol. 2, at 124; PID at 318).

31. The Licensing Board erred in not addressing LILCO's lack of an analysis to determine the relative reliability of different kinds of indicators. (County Findings, 1/31/83, Vol. 2, at 124).

32. The Licensing Board erred in not addressing LILCO's historically slow efforts to recognize and act upon valve problems experienced throughout the industry. (County Findings, 1/31/83, Vol. 2, at 129).

33. The Licensing Board erred in not addressing LILCO's failure to quantify the reliability of Shoreham's valves in a meaningful way. (County Findings, 1/31/83, Vol. 2, at 119).

34. The Licensing Board erred in concluding that MSIV disc and stem separations are detectable. (PID at 316).

35. The Licensing Board erred in stating that the only example of a valve utilized at Shoreham which the County cited as being unreliable and subject to undetectable failures is the Rockwell-Edward MSIV. (PID at 37).

36. The Licensing Board erred in concluding that the reason "certain other valves", including check valves, do not have position indicators is because their reliability is high. (PID at 318).

37. The Licensing Board erred in concluding that a stem to disc separation in the MSIV would be detectable prior to a request to close. (PID at 319).

38. The Licensing Board erred in concluding that mechanical valves inadvertently "locked out" in the improper position as a result of operator error are beyond the scope of this contention. (PID at 34 (footnote), 311).

IV. Anticipated Transients Without Scram
(SC Contention 16)

1. The Licensing Board erred in striking a majority of the testimony of Suffolk County's witness on Contention 16. (Tr. 8522-34; County Findings, 1/31/83, Vol. 2, at 133).

2. The Licensing Board erred by not requiring that LILCO correct the ambiguities in the ATWS procedure. (PID at 69-70).

3. The Licensing Board erred in concluding that "(1) procedures have been established by LILCO for assuring mitigating actions can be taken in an ATWS event, (2) sufficient time

will be available to take such actions, and (3) operators will be trained to implement safety procedures" provide the level of protection required by GDC 20. (PID at 72-73).

4. The Licensing Board erred in failing to consider the severe consequences and the potential damage that could result from a severe ATWS event. (County Findings, 1/31/83, Vol. 2, at 133).

5. The Licensing Board erred in failing to find that the alternate rod insert ("ARI") is a preventive system rather than a system to mitigate an ATWS event. (PID at 345; County Findings, 1/31/83, Vol. 2, at 135, 155-56).

6. The Licensing Board erred in failing to find that the simulator used to train Shoreham operators to mitigate ATWS events is of a plant which is different in many respects from Shoreham. (PID at 71, 344-45; County Findings, 1/31/83, Vol. 2, at 138).

7. The Licensing Board erred in failing to evaluate the cumulative amount of time necessary for an operator to perform the multiple steps in the ATWS procedure. (County Findings, 1/31/83, Vol. 2, at 140-41).

8. The Licensing Board erred in failing to note the conflict of opinion between LILCO and Staff witnesses regarding the most likely operator's actions in attempting to scram the reactor. (County Findings, 1/31/83, Vol. 2, at 142-43).

9. The Licensing Board erred in failing to consider the time required for an operator to make multiple attempts to achieve scram before initiating the standby liquid control system. (County Findings, 1/31/83, Vol. 2, at 144-46).

10. The Licensing Board erred in failing to consider the conflict of interests that would impact the operator in deciding to use the standby liquid control system. (County Findings, 1/31/83, Vol. 2, at 148-49).

11. The Licensing Board erred in failing to conclude that there are deficiencies in LILCO's ATWS procedure with respect to maintaining water level after standby liquid control system injection. (County Findings, 1/31/83, Vol. 2, at 151).

12. The Licensing Board erred in failing to consider the testimony which dealt with the questions whether a 43-gallon per minute standby liquid control system was adequate and whether a redundant and a higher volume system of 86-gallons per minute was required. (County Findings, 1/31/83, Vol. 2, at 156-59).

13. The Licensing Board erred in failing to address the fact that in the FSAR LILCO takes no credit for operator actions to initiate safety functions within 10 minutes of an initiating event, which contradicts the LILCO procedures and actions on ATWS. (County Findings, 1/31/83, Vol. 2, at 159-61).

14. The Licensing Board erred in failing to conclude that the Shoreham reactor, with the present SLCS design, may not survive a severe ATWS event. (County Findings, 1/31/83, Vol. 2, at 158).

15. The Licensing Board erred in failing to find that other plants under licensing review are considering redundant SLCS designs, and that modifications necessary to have two SLCS pumps operate simultaneously on Shoreham are possible and would not pose any safety risk. (County Findings, 1/31/83, Vol. 2, at 156-59).

16. The Licensing Board erred in failing to find that the SLCS procedures were tested on the simulator of the Limerick plant which has a higher capacity, redundant SLCS. (County Findings, 1/31/83, Vol. 2, at 138, 156).

17. The Licensing Board erred in narrowing the scope of its PID to include only the three interim measures proposed by the Commission for mitigating ATWS and failing to address the part of SC Contention 16 which questions whether these measures adequately compensate for the lack of an automatically initiated and totally redundant ELCS which meets the single failure criteria. (PID at 66-73).

V. Seismic Design (SOC Contention 19(e))

1. The Licensing Board erred in concluding that the Regulatory Guide 1.60 Design Response Spectrum is overly conservative for most sites. (PID at 79, 353).

2. The Licensing Board erred in stating that LILCO was only required to demonstrate that its design response spectrum was developed in accordance with the Commission's regulations. (PID at 79).

3. The Licensing Board erred in concluding that the earthquake records used to develop the design spectrum for Shoreham were primarily from stiff sites that contained a broad frequency content of motion. (PID at 80, 354-55).

4. The Licensing Board erred in concluding that to adopt the County's position with respect to the conservatism of the

LILCO spectrum for Shoreham "would effectively be holding that compliance with this Regulatory Guide [Regulatory Guide 1.60] is mandatory for an applicant to comply with 10 C.F.R. Part 100, Appendix A." (PID at 83).

5. The Licensing Board erred in concluding that the Shoreham Design Response Spectrum is adequately conservative. (PID at 84-85, 357-61).

6. The Licensing Board erred in concluding that the differences between the Shoreham spectrum and the Regulatory Guide 1.60 spectrum are insignificant. (PID at 84-86, 359-60).

7. The Licensing Board erred in failing to conclude that the 15-17 percent exceedence of the Reg. Guide 1.60 spectrum over the Shoreham spectrum represents a concern which must be alleviated prior to the grant of any operating license. (County Findings, 1/31/83, Vol. 2, at 36; PID at 84-85; 358-60).

VI. Mark II Containment (SC Contention 21)

1. The Licensing Board erred in concluding that the load definitions in NUREG-0808 are not more or less conservative than those appearing in the interim load definitions. (PID at 92, 370).

2. The Licensing Board erred in concluding that the County's alleged "misreading" of the record could only be viewed as intentional. (PID at 93).

3. The Licensing Board erred in failing to conclude whether it finds adequate the design modification intended to alleviate the possible opening of vacuum breakers during the initial pool swell phases of a LOCA at accelerations higher than those used to qualify the values. (PID at 96, 375).

4. The Licensing Board erred in concluding that part of the basis for the County's assertion that "the Staff's conclusion that plant licensing and operation is acceptable prior to this vital qualification step is without appropriate technical or regulatory basis" is that the Staff deemed the modification to the design necessary to assure that the breaker will perform properly. (PID at 97).

5. The Licensing Board erred in finding no reason to regard the qualification of the redesigned valve as anything other than confirmatory in nature. (PID at 97).

6. The Licensing Board erred in finding that there is reasonable assurance that the Shoreham containment is designed with adequate conservatism to protect the public health and safety with respect to all of the Humphrey concerns, except for the operation of the RHR discharge mode in the steam condensation mode. (PID at 101).

7. The Licensing Board erred in stating that there is no evidence contrary to the Staff's testimony that even if Mr. Humphrey was correct, these other concerns would result in no erosion of the safety margin which exists in the plant and no design modifications to the plant would be expected. (PID at 101).

8. The Licensing Board erred in relinquishing its jurisdiction over the Staff's review of LILCO's confirmatory analysis of the Humphrey concerns. (PID at 101-02).

9. The Licensing Board erred in determining that the pendency of the issue of the operation of the RHR discharge mode in the steam condensation mode does not create any health

or safety issue which should preclude the issuance of a license for operation of Shoreham at 5 percent or less power. (PID at 7-8, 103).

10. The Licensing Board erred in concluding that the only verification of the steam bypass testing program lacking is the "absolute" verification which would be demonstrated by having an accident. (PID at 107).

11. The Licensing Board erred in determining that LILCO's steam bypass testing program provides adequate assurance that the health and safety of the public will be protected. (PID at 107).

12. The Licensing Board erred in concluding that evidence on the record demonstrates that Shoreham's Mark II containment design has been shown to be capable of accomodating the combined loads from transient and LOCA events with sufficient design margin to satisfy 10 CFR 50 Appendix A. (PID at 108).

13. The Licensing Board erred in concluding that there is adequate evidence to demonstrate that LILCO's program to examine the differences between the design and confirmatory ARS provides reasonable assurance that the local exceedances do not represent a design deficiency. (PID at 112).

14. The Licensing Board erred in concluding that LILCO has already undertaken the very analysis of the confirmatory ARS exceedance of the design basis ARS that the County wants LILCO to perform. (PID at 112).

15. The Licensing Board erred in not addressing the issue of the Staff failing to perform detailed analysis of whether the two piping lines that LILCO is required to reevaluate are representative of all six piping lines in the system. (PID at 113).

16. The Licensing Board erred in finding no basis in the record for concluding that a reanalysis of 100 percent of all piping is warranted. (PID at 113).

17. The Licensing Board erred in relinquishing jurisdiction of the issue of piping reanalysis. (PID at 114).

18. The Licensing Board erred in failing to require further testimony on the piping reanalysis issue. (PID at 114).

19. The Licensing Board erred in refusing to find Staff testimony deficient based on lack of knowledge of certain of Staff's witnesses on particular aspects of Staff review of Shoreham. (PID at 114).

20. The Licensing Board erred in concluding that proper seal performance is insured through a combination of design features, including seal pressurization and monitoring, and pressure tests. (PID at 381).

21. The Licensing Board erred in concluding that the redesign of building pipe supports as a result of load combination tests adequately accommodates increased building vibration loads. (PID at 384).

22. The Licensing Board erred in concluding that the fact that the design basis response spectra do not bound the confirmatory program ARS in all cases is not significant. (PID at 386).

23. The Licensing Board erred by not addressing the issue of the adequacy of Staff review of the quality assurance provided to the testing program backing up the Mark II definition program. (County Findings, 1/31/83, Vol. 2, at 186).

24. The Licensing Board erred in failing to address the issue that as late as mid-1982, new loading condition problems were still being identified for the Mark II containment. (County Findings, 1/31/83, Vol. 2, at 42).

VII. Safety Relief Valves Tests and Challenges
(SC Contention 22, SC Contention 28(A)(vi)
and SOC Contention 7A(6))

1. The Licensing Board erred in concluding that the issues of safety relief valve tests and challenges were ripe for litigation, in view of the fact that the NRC Staff had not received all the information it felt was necessary to evaluate fully the applicability of the generic test results to the Shoreham SRVs. (PID at 116).

2. The Licensing Board erred in having LILCO and the Staff meet after hours on a hearing day to have the Staff review the responses by LILCO to the issues related to this hearing and thus, in effect, to create supplemental Staff testimony at the last minute. (PID at 117).

3. The Licensing Board erred in allowing the preparation of supplemental testimony by LILCO as a result of the after hours ad hoc safety evaluation meeting between LILCO and the NRC. (PID at 394).

4. The Licensing Board erred in concluding that the NRC Staff was able to "completely" review LILCO's reply to Staff questions during the after hours ad hoc meeting between LILCO and the Staff. (PID at 117).

5. The Licensing Board erred in concluding that the Staff's review at the hearing made it possible for the Staff to conclude that the SRV systems at Shoreham had been demonstrated to comply with NUREG 0737, II.D.1. (PID at 117).

6. The Licensing Board erred by allowing supplemental data to be supplied after the hearing closed and concluding that the Staff's confirmatory review completed in February 1983 was apparently acceptable because "no party has asserted the results are inconsistent with the hearing record." (PID at 117).

7. The Licensing Board erred by concluding that testing for conditions of high pressure liquid flow through the SRVs is not needed due to the details of the Shoreham design, and the fact that the potential for high pressure water discharge is very low. (PID at 118, 399).

8. The Licensing Board erred in concluding that its position on not testing the SRVs under conditions of high pressure water discharge was supported by the County witness during cross examination. (PID at 118, 399).

9. The Licensing Board erred in concluding that the relief valves would not be challenged by two-phase or water only

flow because "the probability of high pressure water and/or water/steam discharge is so low that it is very unlikely that any particular ATWS event would challenge the relief valves with either two-phase or water only flow." (PID at 118, 402-03).

10. The Licensing Board erred in concluding that the County's proposed finding distorts NUREG 0737, Section II.D.1 on the requirements for ATWS testing of SRVs in boiling water reactors. (PID at 118, 400-02).

11. The Licensing Board erred in its opinion that SRV testing under ATWS conditions was unequivocally not required by the NRC Staff. (PID at 118).

12. The Licensing Board erred in concluding that LILCO complied with the requirements of NUREG 0737, Section II.D.1 although LILCO did not pursue SRV testing under ATWS conditions. (PID at 118).

13. The Licensing Board erred in concluding that valve cycling in realistically hypothesized ATWS events is not a matter for concern. (PID at 119).

14. The Licensing Board erred in concluding that the contention on SRV testing was without merit. (PID at 119).

15. The Licensing Board erred in concluding that "the County's selective abstraction of Section II.D.1 is inappropriate because the applicability statement applies to all of the listed requirements in Section II.D.1 not just the two cited by the County." (PID at 402).

16. The Licensing Board erred in interpreting Section II.D.1 to state that "ATWS testing is not required for BWR reactors." (PID at 402).

17. The Licensing Board erred in its view that Suffolk County's proposed findings 22:27-22:31 misrepresent the record. (PID at 403-04).

18. The Licensing Board erred in its view that Suffolk County proposed findings 22:27-22:31 constituted an attempt to "selectively combine these disparate statements to reach the County's finding" and that it "is unwarranted and distorts the actual record." (PID at 403-06).

19. The Licensing Board erred in its interpretation of Section II.K.3.16 of NUREG 0737, "Reduction of Challenges and Failures of Relief Valves -- Feasibility Study and System Modification," to be as much interested with SORVs as it is with reduction of challenges to SRVs. (PID at 119-22).

20. The Licensing Board erred in concluding that the SRV evaluation performed for Shoreham proceeded from an appropriate benchmark plant configuration, that an appropriate "order of magnitude" reduction in SRV events from this benchmark will be accomplished by the design and procedural SRV improvements being implemented at Shoreham, and that this reduction meets the goal described in NUREG 0737, Item II.K.3.16. (PID at 122).

21. The Licensing Board erred in its view that the "set-point drift" problem identified in Board Notification 82-79 does not fall within the scope of either of the two SRV contentions, nor alters the Board's conclusions on those contentions. (PID at 123, 413).

22. The Licensing Board erred in concluding that a set-point drift problem is distinct from the subject matter of NUREG 0737, Item II.K.3.16. (PID at 413).

23. The Licensing Board erred in its conclusion that LILCO has met its burden of proof on the SRV contentions. (PID at 124).

24. The Licensing Board erred by not finding that the valves selected for use at Shoreham are Target Rock valves and that Target Rock valves have historically given rise to serious

concerns because they have failed to close after being operated and that in a study by Southwest Research, they were identified as being the cause of unscheduled outages with a frequency high enough to be of concern. (County Findings, 1/31/83, Vol. 2, at 198-99).

25. The Licensing Board erred by not disregarding the Staff's prefiled testimony on SRV Testing, due to a lack of information and incomplete evaluation. (County Findings, 1/31/83, Vol. 2, at 201, 203).

26. The Licensing Board erred by not finding that the Staff's review of the SRV test program was incomplete and imprecise, and that the conclusions stated in Staff testimony and the SER were without apparent basis, thus requiring the Staff to hurriedly assemble responses and initiate piping system analysis in an attempt to close out the acknowledged open items. (County Findings, 1/31/83, Vol. 2, at 205).

27. The Licensing Board erred by failing to find that the NRC Staff had submitted no notification to applicants of its interpretation of the requirements of NUREG 0737, Item II.D.1, with regard to which plants required ATWS testing. (County Findings, 1/31/83, Vol. 2, at 205-07).

28. The Licensing Board erred by not finding that the wording of II.K.3.16 stated that "those changes which are shown to reduce relief valve challenges without compromising the performance of the relief valves or other systems should be implemented" and that it provides guidance that "challenges to the relief valve should be reduced substantially (by an order of magnitude)." (County Findings, 1/31/83, Vol. 2, at 210).

29. The Licensing Board erred by failing to find that the unexplained failures of the two stage Target Rock valves of the type used at Shoreham, as identified in Board Notification 82-79, relate to the overall performance of the two stage valve and thus are pertinent to whether LILCO will realize the improvements expected from the two stage valves. (County Findings, 1/31/83, Vol. 2, at 213).

30. The Licensing Board erred by not requiring that an appropriate explanation of the two stage Target Rock valve performance anomalies be provided along with assurance that appropriate procedural or hardware changes had been incorporated to preclude those events from happening at the Shoreham plant. (County Findings, 1/31/83, Vol. 2, at 215).

31. The Licensing Board erred by not requiring that the MSIV change be incorporated at Shoreham prior to fuel loading. (County Findings, 1/31/83, Vol. 2, at 215).

32. The Board erred by not requesting that the revised interpretation of Item II.K.3.16 of NUREG 0737 be reviewed and approved by the Commission and formally communicated to licensees. (County Findings, 1/31/83, Vol. 2, at 215).

VIII. Post Accident Monitoring (SC
Contention 27/SOC Contention 3)

1. The Licensing Board erred by allowing the post accident monitoring issue to be litigated in view of its incomplete status, and the Staff's default in its obligation to present technical evaluation of the sufficiency of LILCO's compliance with post accident monitoring requirements. (PID at 125-26).

2. The Licensing Board erred in relying upon documents not a part of the evidentiary record, and in assuming that the contents of such documents have ameliorated the County's concerns with regard to schedule. (PID at 126, 420-23).

3. The Licensing Board erred in interpreting Reg. Guide 1.97, Revision 2, requirements for detectors to assist in "release assessment" and "indication of breach" (PID at 427) to exclude the capability "to locate the area of leakage" and therefore to reject the proposed findings and other conclusions which flow from that premise. (PID at 127-28, 429).

4. The Licensing Board erred in concluding that Reg. Guide 1.97, Revision 2, requirements for items C-14 and E-2 can be achieved using the existing noble gas effluent monitor on the reactor building stand-by ventilation system. (PID at 427).

5. The Licensing Board erred in presuming that the County's concern was that flow meters were needed to compensate for inadequately trained operators. (PID at 128).

6. The Licensing Board erred in citing "very low probability" of an accident scenario as part of its justification for not including a flow meter in the standby liquid control system. (PID at 129).

7. The Licensing Board erred by failing to conclude that the Reg. Guide 1.97, Revision 2, requirements for unambiguous direct indications of the variables to be measured justified adding flow measurements in the RHR and the standby liquid control systems. (County Findings, 1/31/83, Vol. 2, at 58-59, 231-34).

8. The Licensing Board erred in only ruling on whether the "intent of the Regulatory Guide [RG 1.97, Revision 2] is being met" and whether the "operation of Shoreham is justified in the interim period prior to a Staff determination that LILCO

has complied with Regulatory Guide 1.97, Revision 2." (PID at 126).

9. The Licensing Board erred in concluding that the technical points raised by the County are "based on misunderstanding of the Shoreham design" or "unrealistics and illusive speculation." (PID at 127-28, 429-30).

10. The Licensing Board erred in making findings on this contention and leaving to the Staff the review of LILCO's compliance with Regulatory Guide 1.97, Revision 2. (PID at 126, 129).

11. The Licensing Board erred in striking portions of the County's prefiled testimony. (PID at 417-18; Tr. 7042-53).

IX. Safety Classification and Systems Interaction
(SC/SOC Contention 7B; SOC Contention 19(b))

1. The Licensing Board erred in stating that the County's submissions on Contention 7B were inaccurate in some instances. (PID at 146).

2. The Licensing Board's decision to address Contention 7B in parts by posing so-called "constituent questions" resulted in a decision which failed to come to grips with the key issues posed by this contention. (PID at 147, 149-51; County Findings, 5/9/83, at 2-15).

3. The Licensing Board erred in concluding that LILCO has treated SS&Cs in accordance with an item's importance to safety, regardless whether the item is classified as safety-related or not. (PID at 148, 177).

4. The Licensing Board erred in refusing to strike portions of LILCO's 7B testimony. (PID at 462; Tr. 4330).

5. The Licensing Board erred in permitting Ashok C. Thadani to be added to the Staff panel. (PID at 483).

6. The Licensing Board erred in asking for LILCO to present additional 7B testimony. (PID at 465).

7. The Licensing Board erred in limiting the number of examples the County could present in its 7B testimony. (ASLB March 15, 1982 Order).

8. The Licensing Board erred in concluding that there is no uniformly accepted definition of "systems interaction." (PID at 151, 465-68).

9. The Licensing Board erred in concluding that there is no uniformly accepted methodology for conducting systems interaction analysis. (PID at 151-52, 161, 468-69, 476, 541-43).

10. The Licensing Board erred in concluding that the NRC does not have an explicit, direct regulatory requirement for LILCO to perform a systematic systems interaction analysis for Shoreham (PID at 153-54, 469, 472-74; County Findings, 5/9/83, at 85-86) and that intervenors and Staff witness Conran would have the Licensing Board impose such a requirement. (PID at 153, 533, 536-37).

11. The Licensing Board erred in concluding that the intervenors identified no NRC requirements for more than what the Staff has required with respect to Shoreham, and that there are no requirements for systematic systems interaction analysis beyond those required by the Staff. (PID at 154, 304; County Findings, 5/9/83, at 85-86).

12. The Licensing Board erred in concluding that LILCO has gone beyond that which is required by the Staff in taking into account systems interaction in its analysis of the reliability of systems to provide reasonable assurance that the Shoreham design adequately protects from credible accidents. (PID at 154, 191).

13. The Licensing Board erred in concluding that there is reasonable assurance that Shoreham can be operated safely despite the pendency of USI A-17. (PID at 154, 162).

14. The Licensing Board erred in concluding that LILCO and the Staff have applied adequate methodology to assure that the Shoreham design adequately protects the public from credible accidents. (PID at 154-55).

15. The Licensing Board erred in implying that the systems interaction concern is adequately addressed by assessing plant designs against regulatory guides and the SRP. (PID at 155).

16. The Licensing Board erred in concluding that by classifying systems properly and by clearly identifying those that are safety-related, adverse interactions can be avoided, to the extent that adverse interactions are those that lead to

unacceptable consequences to the health and safety of the public. (PID at 155-56).

17. The Licensing Board erred in implying that the studies performed by GE, SWEC, and the ISEG of LILCO and the Staff's actions have adequately addressed systems interaction concerns. (PID at 156-59, 480-505; County Findings, 5/9/83, at 97-101).

18. The Licensing Board erred in concluding with respect to Shoreham that the Staff will assure that the effects of power supply, sensor, and sensor impulse line failures on several control systems at the same time will be acceptable, and that the Staff's evaluation will assure that the effects of high energy line breaks and the resulting harsh environment will not cause control system malfunctions resulting in consequences more severe than those in the FSAR accident analysis. (PID at 159, 538-41).

19. The Licensing Board erred in concluding that LILCO and the Staff have adequately taken into account systems interaction in their analysis of the reliability of systems to determine whether there is reasonable assurance that the Shoreham design adequately protects from credible accidents. (PID at 160-61, 180; County Findings, 5/9/83, at 79-82).

20. The Licensing Board erred in concluding that LILCO has far exceeded any regulatory requirements for systems interaction analysis and that the totality of these analyses, although not performed as a dedicated, single exercise, nevertheless represents the equivalent of such an exercise, performed in a thoroughly professional manner. (PID at 161; County Findings, 5/9/83, at 97-101).

21. The Licensing Board erred in concluding that the County has failed to identify any systems interaction that has not been considered and has failed to identify any structure, system, or component that is improperly classified. (PID at 161; County Findings, 5983, at 79-82, 91-95, 150-77).

22. The Licensing Board erred in concluding that actions taken by the Commission (e.g., the individual studies performed and the national laboratory surveys) have most likely taken care of the main systems interaction issues. (PID at 162).

23. The Licensing Board erred in concluding that the studies already performed by LILCO would have identified any systems interaction that may or may not have been important. (PID at 162).

24. The Licensing Board erred in concluding that there is no basis for requiring anything more of LILCO on USI A-17 at this time. (PID at 162).

25. The Licensing Board erred in failing to conclude that the lack of progress on USI A-17 is material to resolution of Contention 7B. (PID at 162-63, 788-96).

26. The Licensing Board erred in concluding that the difference in meaning accorded to the concept "important to safety" is not crucial to resolution of Contention 7B. (PID at 164).

27. The Licensing Board erred in stating that the term "safety-related" appears only in the introduction portion of Appendix B. (PID at 167).

28. The Licensing Board erred in concluding that there is no evidence that the definitions contained in the Denton Memorandum were ever adopted by the Staff or distributed outside NRR. (PID at 169, 555).

29. The Licensing Board erred in implying that there is no regulatory requirement, as such, for classification and qualification of systems important to safety. (PID at 172).

30. The Licensing Board erred in implying that there is no requirement that a licensee be able to identify all SS&Cs which are important to safety. (PID at 174-75, 555-56; County Findings, 1/31/83, Vol. 1, at 101-03).

31. The Licensing Board erred in concluding that by putting an FSAR together and addressing the items the Staff requires to be addressed, an Applicant identifies items important to safety. (PID at 175, 559-60).

32. The Licensing Board erred in concluding that the regulations and Staff practice both permit and encourage the use of a range of safety requirements dependent on safety function, rather than a single requirement to which all structures, systems, and components must conform, and that LILCO has, in effect, actually done just this for nonsafety-related, safety-related and important to safety structures, systems and components. (PID at 177, 723-24).

33. The Licensing Board erred in concluding that LILCO meets all of the requirements of the NRC with respect to classification and qualification except the explicit adoption of the terms "important to safety" and "safety-related." (PID at 177-78, 725-27, 729).

34. The Licensing Board erred in failing to conclude that the Staff did not review LILCO's alleged QA program for nonsafety-related items. (PID at 565, 576-77).

35. The Licensing Board erred in failing to conclude that the Staff did not review LILCO's environmental qualification program for nonsafety-related items. (PID at 134-35, 144-45).

36. The Licensing Board erred in concluding that in the absence of specific requirements for specific SS&Cs, there may arise differences of opinion between the NRC and any licensee over what quality treatment is appropriate for a particular SS&C which is not safety-related, and that this would be the case regardless of whether a licensee professed to agree with the Commission's definitions of safety-related and important to safety. (PID at 178).

37. The Licensing Board erred in concluding that FSAR Table 3.2.1-1 is not a design control document but rather it is merely a summary of the classification of plant equipment included in the FSAR for NRC information. (PID at 178, 717).

38. The Licensing Board erred in concluding that LILCO and the Staff addressed each of the Intervenor's concerns and that by using the Standard Review Plan the Staff systematically

reviewed the design of Shoreham and determined that a systematic methodology was used to identify systems, structures, and components important to safety, but not safety-related, and that this assured the Staff that LILCO properly addressed the nonsafety-related items that the Staff considers important to safety. (PID at 179, 183, 559, 572-83, 709, 714).

39. The Licensing Board erred in concluding that General Electric, Stone and Webster, and LILCO have applied quality standards and quality assurance to all plant systems, commensurate with the function of the system in the reliable and safe operation of the plant. (PID at 179, 714).

40. The Licensing Board erred in implying that the design basis accident approach described in the PID is sufficient to assure the health and safety of the public. (PID at 181-82).

41. The Licensing Board erred in finding that General Electric performed a comprehensive, systematic examination of the safety aspects of Shoreham [called the Nuclear Safety Operational Analysis]. (PID at 182, 801).

42. The Licensing Board erred in assuming that new techniques, such as probabilistic risk assessment, failure modes

and effect analyses, systems interaction analyses, and dependency analyses, are not required by the regulations in the classification of structures, systems, and components. (PID at 183-84).

43. The Licensing Board erred in concluding that the determination of accident sequences to be used in the design basis of Shoreham was not an ad hoc exercise, but has been a systematic and comprehensive review. (PID at 184).

44. The Licensing Board erred in stating that all requirements for systems interaction analyses are contained in the SRP, Reg. Guide 1.70, or in other regulatory guides. (PID at 184-85).

45. The Licensing Board erred in concluding that to "the extent that systems interaction is required to be taken into account in determination of accident sequences which should be considered within the design basis of the plant, this has been done." (PID at 185).

46. The Licensing Board erred in not adequately considering the failure of LILCO to identify and resolve the Michaelson concern as part of the design process and how this failure affects the adequacy of reliance on current Staff requirements. (PID at 185, 683-85).

47. The Licensing Board erred in agreeing with Staff that current regulatory requirements and procedures provide an adequate degree of public health and safety. (PID at 186).

48. The Board erred in concluding that LILCO's and the Staff's determinations of accident sequences which should be considered within the design basis of the plant have taken into account systems interaction, both prudently and properly, and provide reasonable assurance for the protection of public health and safety. (PID at 186).

49. The Licensing Board erred in concluding that the FSAR identifies items important to safety. (PID at 187, 584).

50. The Licensing Board erred in stating that LILCO "applies quality standards and quality assurance to all systems, structures, and components" at Shoreham commensurate with their importance to safety and the reliable operation of the plant." (PID at 187-88, 713-14).

51. The Licensing Board erred in failing to find that LILCO does not comply with GDC 1 in view of the Board's determination that there is no systematic program which defines QA for nonsafety-related items. (PID at 597-98, 602).

52. The Licensing Board erred in concluding that GE has an adequate QA program for SS&Cs important to safety but not safety-related. (PID at 613; County Findings, 5/9/83, at 43-44).

53. The Licensing Board erred in failing to conclude that S&W does not have a planned and systematic means to ensure that QA is applied appropriately to all SS&Cs which are important to safety but not safety-related. (County Findings, 5/9/83, at 41-43).

54. The Licensing Board erred in concluding that intervenors have failed to show by example that any structure, system, or component has not received quality assurance treatment commensurate with its importance to safety functions. (PID at 188, 588-93; County Findings, 5/9/83, at 79-82).

55. The Licensing Board erred in concluding that despite the differences in terminology, LILCO has, in effect, taken into account classification and qualification of systems important to safety in the determination of accident sequences which should be considered within the design basis of the plant. (PID at 188).

56. The Licensing Board erred in concluding that there is no explicit requirement that a dedicated, systematic systems interaction analysis be performed. (PID at pp. 191, 197).

57. The Licensing Board erred in concluding that intervenors did not show any credible accident sequence indicating a need for classification changes as a result of considerations of system interaction. (PID at 192).

58. The Licensing Board erred in concluding LILCO has applied a quality assurance program for all plant systems, regardless of classification, which would be considered in the determination of whether the design basis of the plant adequately protects the public health and safety. (PID at 193).

59. The Licensing Board erred in failing to conclude that GDC-1 does require use of current methodologies (such as fault tree analyses) as a regulatory requirement. (PID at pg. 194).

60. The Licensing Board erred in relying upon the Shoreham PRA as a means by which LILCO has allegedly assessed systems interactions. (PID at 194-96).

61. The Licensing Board erred in stating that there is no requirement that the safety function of each piece of equipment be defined. (PID at 199).

62. The Licensing Board erred in stating that the definition of "important to safety" would matter substantially only in an extreme case where a utility planned to apply no QA at all to an item. (PID at 553).

63. The Licensing Board erred in failing to conclude, as urged by the County, that LILCO's misinterpretation of GDC-1 and the term "important to safety" has had a substantive impact on LILCO's regulatory compliance which cannot be overcome by mere imposition of the license conditions set forth by the Board. (County Findings, 5/9/83, at 18, 30-49, 51-52, 53-61, 101-06; see, e.g., PID at 710-16, 721-22, 723-24, 725-45, 757-58, 760, 776-77, 784-85, 837, 845, 1395).

64. The Licensing Board erred in failing to conclude that the traditional design basis accident ("DBA") approach used by LILCO focuses on safety-related SS&Cs and therefore fails to address systematically the safety functions of all SS&Cs which are important to safe operation of Shoreham. (County Findings, 5/9/83, at 3, 73, 76-77).

65. The Licensing Board erred in concluding that no re-review of the Shoreham application is required as a result of LILCO's misinterpretation of the term "important to safety." (PID at 713, 754-55).

66. The Licensing Board erred in finding that the Staff has performed a systematic review of the Shoreham application. (PID at 713).

67. The Licensing Board erred in not accepting the County position that the Staff's proposed resolution of the safety classification issue was inadequate. (PID at 728).

68. The Licensing Board erred in failing to find that LILCO does not understand what is minimally required for safety. (PID at 737, 740-41, 755-57).

69. The Licensing Board erred in failing to find that the traditional DBA approach applied by LILCO largely ignores the risks to safe operation caused by multiple failure accidents and fails to identify systematically adverse systems interactions which can affect satisfactory functioning of safety-related SS&Cs. (County Findings, 5/9/83, at 4, 77-78; PID at 198).

70. The Licensing Board erred in failing to find that LILCO has failed to establish and implement a quality assurance program to cover all Shoreham SS&Cs which are important to safety. (County Findings, 5/9/83, at 4, 37-49; PID at 584).

71. The Licensing Board erred in failing to find that LILCO has failed to use available methodologies which would supplement and compensate to some degree for limitations of the traditional DBA approach. (County Findings, 5/9/83, at 4-5, 95-101; PID at 194-95, 197).

72. The Licensing Board erred in failing to find that there is a need to supplement existing methodologies used by LILCO for classification and identification of systems interactions. (PID at 701-05).

73. The Licensing Board erred in failing to find that Intervenors had established that several potentially severe adverse systems interactions existed at Shoreham involving the BWR water level measurement system which had not been adequately addressed by LILCO in the design process. (County Findings, 5/9/83, at 7, 91-95; PID at 653-84).

74. The Licensing Board erred in failing to conclude that LILCO has not used a sufficient methodology for classification of SS&Cs according to their safety functions and their potential for impacting safety. (County Findings, 5/9/83, at 11-13).

75. The Licensing Board erred in failing to conclude that LILCO's traditional DBA methodology has been applied in an inconsistent manner and is insufficient to identify all systems interactions. (County Findings, 5/9/83, at 11-13, 79-82, 89-90).

76. The Licensing Board erred in failing to accept the County's position that the record does not support a finding that Shoreham meets the North Anna standard and can be operated safely given the current status of USIs A-17 and A-47. (County Findings, 5/9/83, at 13-14, 109-23).

77. The Licensing Board erred in apparently concluding that USI A-17 is only a confirmatory program. (PID at 472, 520).

78. The Licensing Board erred in failing to accept the County's position that LILCO's misinterpretation of GDC-1 was significant during design and construction of Shoreham. (County Findings, 5/9/83, at 53-58).

79. The Licensing Board erred in failing to require LILCO to prepare a list of all SS&Cs important to safety. (County Findings, 5/9/83, at 62-63).

80. The Licensing Board erred in failing to order LILCO to conduct a systematic review of its emergency operating procedures. (County Findings, 5/9/83, at 83-85; PID at 692-700).

81. The Licensing Board erred in failing to rule that the Shoreham PRA was not sufficient to create compliance with NRC regulatory requirements pertaining to systems interactions. (County Findings, 5/9/83, at 101-06; PID at 818, 820).

82. The Licensing Board erred in accepting the Staff assertion that progress on USI A-17 has provided no indication that present review procedures and criteria do not provide reasonable assurance that systems interactions will be within the limits of previous safety analyses. (PID at 472).

83. The Licensing Board erred in failing to directly address whether LILCO has a QA program for SS&Cs important to safety as required by GDC-1. (County Findings, 5/9/83, at 37-49; PID at 597-98).

84. The Licensing Board erred in failing to find that the SLCS has not been appropriately classified. (PID at 634-37).

85. The Licensing Board erred in failing to find that the TBS has not been appropriately classified. (PID at 637-45).

86. The Licensing Board erred in failing to find that RCIC system has not been appropriate classified. (PID at 645-48).

87. The Licensing Board erred in failing to find that the RBM system has not been appropriately classified. (PID at 648-53).

88. The Licensing Board erred in failing to find that the Level 8 Trip was an example of LILCO's inadequate classification methodology. (PID at 685-88).

89. The Licensing Board erred in failing to find that LILCO's FSAR commitment to GDC 1 was inadequate. (PID at 707-08).

90. The Licensing Board erred in not requiring LILCO to compile a list of SS&C's important to safety. (PID at 738, 741, 743, 765, 768-69).

91. The Licensing Board erred in failing to rule that there is no basis for Staff testimony that Shoreham's QA program for nonsafety-related items complies with the Staff's interpretation of GDC 1. (PID at 759).

92. The Licensing Board erred in stating that the LILCO QA programs for nonsafety-related items have been documented and implemented. (FID at 759, 840, 844-45).

93. The Licensing Board erred in failing to adopt the County's list of actions which LILCO should have been required to perform to rectify the safety classification problem. (PID at 778-79).

X. Quality Assurance/Quality Control (SC Contentions 12-15)

1. The Licensing Board erred in stating that the County had misrepresented the record on the QA/QC contentions. (PID at 203).

2. The Licensing Board erred in stating that no one disputes the existence of quality assurance programs of LILCO and the Staff. (PID at 204).

3. The Licensing Board erred in precluding Suffolk County from moving into evidence quality assurance audits and other documents prepared by LILCO or its contractors. (Tr. 10,286-89).

4. The Licensing Board erred in failing to find that LILCO has no QA/QC program which covers SS&Cs important to safety but not safety-related. (County Findings, 4/7/83, at 18-20; 5/9/83, at 37-49).

5. The Licensing Board erred in failing to conclude that the LILCO QA program does not satisfy 10 CFR Part 50, Appendix A, GDC 1. (County Findings, 4/7/83, at 18-20).

6. The Licensing Board erred in failing to accept the County's proposed decision relating to the requirements for a QA/QC program. (County Findings, 4/7/83, at 12-18; 5/9/83, at 37-49).

7. The Licensing Board erred in concluding that it provided ample opportunity to the County to present evidence of failures on the part of LILCO and the Staff to comply with the Commission's QA/QC requirements. (PID at 205).

8. The Licensing Board erred in concluding that LILCO and the Staff had effective programs for identifying and correcting QA/QC deficiencies. The Licensing Board also erred in concluding that LILCO's and the Staff's programs for operation of Shoreham meet the Commission's requirements and will provide adequate protection of the health and safety of the public. (PID at 206).

9. The Licensing Board erred in stating that an allegedly isolated instance of a QA/QC breakdown does not constitute non-compliance with Appendix B. (PID at 207-08; County Findings, 4/7/83, at 28-33).

10. The Licensing Board erred in finding regulatory compliance/noncompliance based upon evidence whether the QA/QC deficiencies resulted in or, if not identified, would have resulted in specific conditions which would affect plant design or operation. (E.g., PID at 208, 217-20, 971, 1021, 1024, 1031; County Findings, 4/7/83, at 7-8, 33-39).

11. The Licensing Board erred in concluding that the key factor in assessing the adequacy of a QA/QC program is to assess the significance of the errors which are found. (PID at 856).

12. The Licensing Board erred in finding that LILCO developed a QA program for Shoreham prior to the formal NRC requirements for such a program and prior to the commencement of construction at the site and for attaching any significance to such findings. (PID at 209).

13. The Licensing Board erred in concluding that the LILCO QA program meets regulatory requirements. (PID at 855-56).

14. The Licensing Board erred in concluding that LILCO made an early commitment to quality in the design, procurement, construction and operation of Shoreham. (PID at 854-55, 861-62).

15. The Licensing Board erred in concluding that the LILCO QA manual was reviewed and approved by the NRC Staff. (PID at 855-56).

16. The Licensing Board erred in concluding that LILCO has established and is implementing an operational QA program in accordance with Appendix B. (PID at 211).

17. The Licensing Board erred in concluding that LILCO has applied QA in an adequate manner to nonsafety-related structures, systems and components. (PID at 209, 889-94, 898; County Findings, 4/7/83, at 19-20).

18. The Licensing Board erred in concluding that the LILCO operational QA program is applied in a satisfactory manner to nonsafety-related systems, structures and components. (PID at 211).

19. The Licensing Board erred in concluding that the LILCO operational QA engineer has sufficient organizational freedom and independence from cost and schedule concerns when opposed to safety considerations. (PID at 211-13, 878-86, 946-48; County Findings, 4/7/83, at 149-56).

20. The Licensing Board erred in concluding that the SWEC EA audits looked at the adequacy of the design itself. (PID at 214-15).

21. The Licensing Board erred in concluding that LILCO's audit and surveillance program was effective and generally timely in the detection and follow-up of deficiencies in design, construction and installation at Shoreham. (FID at 216).

22. The Licensing Board erred in breaking down the QA/QC deficiencies into discrete subgroups such as calculations, drawings, etc., in judging QA/QC compliance and should, instead, have focused on whether the combined deficiencies, when viewed together, represented a failure to effectively implement the QA/QC program. (PID at 216-42, 986).

23. The Licensing Board erred in failing to adopt the County's position that all QA/QC deficiencies and audit observations are significant when judged in the context of the purposes and requirements of the NRC's regulations. (e.g., PID at 222, 217-42, 1029-32; County Findings, 4/7/83, at 33-39).

24. The Licensing Board erred in concluding that deficiencies identified in the area of calculations were minor and were readily corrected without impact on the adequacy of the Shoreham design, construction and installation. (PID at 217-20).

25. The Licensing Board erred in concluding that the ready traceability audit observations had no adverse impact and have been satisfactorily corrected and in failing to find that these problems constituted an overall Appendix B violation. (PID at 217-18, 988-95; County Findings, 4/7/83, at 42-45).

26. The Licensing Board erred in concluding that the calculation deficiencies did not constitute non-compliance with 10 CFR Part 50, Appendix B, Criterion 5. (PID at 217-20, 1003-14; County Findings, 4/7/83, at 41).

27. The Licensing Board erred in concluding that the audit observations in the documentation of review category were only minor implementation concerns which were not significant to the integrity of plant design and in failing to conclude that these observations were significant in terms of Appendix B compliance. (PID at 218, 972, 996).

28. The Licensing Board erred in failing to conclude that the calculation audit observations in the miscellaneous important concern category constituted violations of 10 CFR Part 50, Appendix B, and in failing to conclude that these instances support a finding that the LILCO QA program was inadequate. (PID at 218-19, 998-1002, 1004-05).

29. The Licensing Board erred in concluding that the drawing discrepancies reported in the early pilot audits were not significant. (PID at 221, 1005).

30. The Licensing Board erred in failing to find that the observation under the category of "Important Concerns" related to drawings was significant and constituted a violation of Appendix B. (PID at 221-22, 1016-17).

31. The Licensing Board erred in concluding that LILCO complied with Criterion VI of Appendix B. (PID at 1031).

32. The Licensing Board erred in concluding that proper corrective action was taken to correct illegible documents. (PID at 223, 1024).

33. The Licensing Board erred in the area of document control audit observations in concluding that the 26 observations relating to indices, logs, files, manuals, procedures and instructions, 13 of which dealt with manuals not being kept up-to-date, do not constitute violations of Appendix B. (PID at 223-24, 219-20, 237-38, 976, 1025-29).

34. The Licensing Board erred in repeatedly finding that audit observations were not a concern because corrective and preventative actions were taken. (PID at 217-42).

35. The Licensing Board erred in failing to conclude that Appendix B was violated due to repeated failures by LILCO to control E&DCRs. (PID at 224-31, 866, 1039-43, 1251-53; County Findings, 4/7/83, at 50-56).

36. The Licensing Board erred in concluding that if one or two organizations do not have a correct copy of an E&DCR, this is not a major problem. (PID at 1037).

37. The Licensing Board erred in stating that E&DCRs were carefully monitored by personnel at the site. (PID at 1037).

38. The Licensing Board erred in concluding that the E&DCR system at the plant was working satisfactorily in 1976-77. (PID at 1038, 1042-43).

39. The Licensing Board erred in stating that the NRC Staff had confirmed that the overall E&DCR distribution and control system was satisfactory. (PID at 224-25, 1038-39).

40. The Licensing Board erred in concluding that no difficulties with logging and posting of E&DCRs and other E&DCR difficulties have affected the safety of the plant, in finding these problems insignificant, and in failing to conclude that these violated Appendix B. (PID at 225-29, 1038, 1043-84, 1087, 1092-99).

41. The Licensing Board erred in concluding that adequate corrective and preventative action for the E&DCR deficiencies had been taken. (PID at 228-29).

42. The Licensing Board erred in relying on the E&DCR verification program as a basis for finding the E&DCR deficiencies insignificant. (PID at 1048, 1085-86).

43. The Licensing Board erred in failing to conclude that Appendix B was violated due to repeated failures by LILCO to adequately implement its QA/QC storage program. (PID at 231-37, 1105-06, 1230-31; County Findings, 4/7/83, at 61-71).

44. The Licensing Board erred in finding that Shoreham complies with ANSI N.45.2.2 (1972). (PID at 231, 1099, 1107-08).

45. The Licensing Board erred in implying that the seven storage audit findings where damage was reported were not significant in a QA/QC context. (PID at 231, 1100, 1105).

46. The Licensing Board erred in failing to conclude that the results of the storage surveillance program documented that the LILCO storage QA/QC program fails to comply with applicable QA/QC regulatory requirements. (PID at 231-33, 1101-04).

47. The Licensing Board erred in failing to find that the number and repetition of storage deficiencies was excessive. (PID at 1105).

48. The Licensing Board erred in finding that the storage history card audit observations constituted random discrepancies rather than a pattern of breakdowns in the QA/QC program. (PID at 233, 1110, 1114).

49. The Licensing Board erred in failing to find that the audit observations involving protection against weather constitute violations of 10 CFR Part 50 Appendix B. (PID at 234, 1117-18).

50. The Licensing Board erred in concluding that the lack of caps and covers discovered in 41 audit observations generally was the result of work being performed on particular material and that there would have been no effect on quality or the integrity of the plant even if they had not been replaced since other audits and inspections would have detected the problems. The Board also erred in finding that there was no overall or recurring patterns of missing caps and covers. Finally, the Licensing Board erred in failing to find that the cap/cover deficiencies constituted a violation of Appendix B. (PID at 234-35, 1124-29).

51. The Licensing Board erred in failing to conclude that there was a failure by LILCO to comply with the QA/QC requirements related to environmental protection of installed equipment. (PID at 235, 1101-03, 1131-41).

52. The Licensing Board erred in failing to find that the housekeeping deficiencies documented at the Shoreham plant constituted a pattern of Appendix B violations and were indicative of a poor management attitude by LILCO with respect to QA. Further, the Licensing Board erred in finding that the housekeeping problems at Shoreham have been adequately resolved. (PID at 235-37, 264-65, 1147, 1146-63).

53. The Licensing Board erred in failing to conclude that the number of housekeeping deficiencies was unreasonable. (PID at 1143).

54. The Licensing Board erred in concluding that housekeeping and cleanliness do not directly affect equipment operability. (PID at 1146).

55. The Licensing Board erred in concluding that the RAT housekeeping deficiencies were not adverse to quality and would not affect startup. (PID at 1311).

56. The Licensing Board erred in concluding that LILCO has complied with QA/QC regulatory requirements for keeping controlled copies of manuals up-to-date. (PID at 237-38, 974-75; County Findings, 4/7/83, at 71-73).

57. The Licensing Board erred in concluding that LILCO does or will prior to fuel loading comply with NRC requirements related to the FSAR. (PID at 219, 238-29, 268-69, 1007-08; County Findings, 4/7/83, at 74-77).

58. The Licensing Board erred in failing to conclude that LILCO has failed to maintain the FSAR up-to-date. (PID at 1183-85).

59. The Licensing Board erred in failing to conclude that the drywell spray problem identified in the CAT inspection was an Appendix B violation. (PID at 1186-88, 1250-51).

60. The Licensing Board erred in failing to require completion and Staff review of the SPCR program prior to fuel load. (County Findings, 4/7/83, at 77).

61. The Licensing Board erred in failing to conclude that LILCO has not complied with NRC QA/QC regulatory requirements which pertain to electrical separation. (PID at 240-41, 1236, 1253-54; County Findings, 4/7/83, at 78-82).

62. The Licensing Board erred in failing to find that the LILCO welding deficiencies constituted violations of Appendix B. (PID at 241-42, 1232-33).

63. The Licensing Board erred in failing to conclude that the NRC inspection program applied to Shoreham was not adequate to verify that the Shoreham QA/QC program was effective. (PID at 243-44, 1324).

64. The Licensing Board erred in finding that the NRC's I&E program constitutes a systematic means to inspect the major phases of a nuclear plant construction project. (PID at 243, 1202, 1228-29).

65. The Licensing Board erred in concluding that the Shoreham QA/QC program includes adequate review and physical inspection to verify compliance with Appendix B. (PID at 1206).

66. The Licensing Board erred in failing to conclude that the I&E program does not verify that a licensee's QA/QC program is being effectively implemented. (PID at 1206, 1207).

67. The Licensing Board erred in finding that the Teledyne review was indicative of a LILCO commitment to QA. (PID at 1206-07).

68. The Licensing Board erred in failing to find the I&E program inadequate with respect to items important to safety but not safety-related. (PID at 1208; County Findings, 5/9/83, at 32, 49).

69. The Licensing Board erred in concluding that the I&E program requires the root causes of deficiencies to be corrected. (PID at 267, 1209, 1322).

70. The Licensing Board erred in finding that the NRC's I&E program provides continuing assurance of compliance with regulatory requirements throughout the life of the facility. (PID at 245, 1207).

71. The Licensing Board erred in failing to accept the County position that little weight can be given to the I&E conclusion that LILCO has properly implemented its overall QA program. (County Findings, 4/7/83, at 110, 112-17).

72. The Licensing Board erred in concluding that the I&E inspection program applied to LILCO, General Electric, and Stone and Webster was adequate to check upon the adequacy of design review and design implementation at those facilities or to otherwise ensure compliance with QA/QC requirements. (e.g., PID at 245-47, 257-58, 859-60, 867-68, 1210, 1211-14, 1219, 1262).

73. The Licensing Board erred in failing to find the I&E program deficient for failing to systematically review LILCO audits. (PID at 1214-15, 1266-69; County Findings, 5/9/83, at 49).

74. The Licensing Board erred in concluding that the I&E inspection reports for Shoreham are not indicative of a pattern of QA/QC breakdowns. (PID at 247-50, 1220, 1322-23).

75. The Licensing Board erred in concluding that it is not useful to assess the number of I&E violations which have been cited against particular Appendix B criteria. (PID at 1223-24).

76. The Licensing Board erred in concluding that identification of Appendix B violations does not imply a pattern of breakdowns. (PID at 1238).

77. The Licensing Board erred in failing to find that the 1982 CAT inspection documented numerous problems with the implementation of the LILCO QA/QC program which should not have occurred at that date in the construction of the plant. (PID at 251-57).

78. The Licensing Board erred in ruling that statistical methodologies of the kinds advocated by County witnesses are

not feasible and need not be adopted in a nuclear power plant QA/QC inspection and audit program. (PID at 212-13, 258-59, 267-68, 921-30, 950-51, 1325).

79. The Licensing Board erred in concluding that the Staff's CAT inspection methodology permitted extrapolation to be made from the sample to the population involved. (PID at 1241).

80. The Licensing Board erred in denying Suffolk County the opportunity to present witnesses concerning the NRC's RAT inspection. (PID at 850-51, 1277).

81. The Licensing Board erred in failing to conclude that the RAT inspection documents deficiencies in the LILCO QA/QC program concerning overreliance by LILCO on final inspections. (PID at 261; County Findings, 4/7/83, at 376-77).

82. The Licensing Board erred in failing to accept the County position that the RAT inspection confirmed that LILCO's QA/QC program had not been properly implemented. (County Findings, 4/7/83, at 82-109).

83. The Licensing Board erred in failing to conclude that the RAT inspection confirmed that LILCO has failed to provide adequate verification of completed construction in the area of

Control Rod Drive ("CRD") piping supports, pipe hangers and cable tray supports. (PID at 262-63; County Findings, 4/7/83, at 91- 99).

84. The Licensing Board erred in concluding that the welding violations in I&E Inspection Report 79-07 were significantly different from the violation involving welds on CRD hydraulic line supports (Violation A(1)) identified in the RAT inspection. (PID at 1288).

85. The Licensing Board erred in failing to conclude that the RAT inspection documented inadequacies of the Shoreham OQA organization to inspect the work assigned to its purview. (PID at 263; County Findings, 4/7/83, at 100-02).

86. The Licensing Board erred in failing to conclude that the RAT inspection confirmed that LILCO has failed to control cold set and cold set status of spring hangers inside the primary containment. (PID at 264; County Findings, 4/7/83, at 102-05).

87. The Licensing Board erred in failing to conclude that the RAT inspection documented that LILCO has failed to implement adequate procedural controls over rework/repair to final inspected items. (PID at 264; County Findings, 4/7/83, at 105-09).

.88. The Licensing Board erred in concluding that submittal of the appropriate notification form from construction to FQC advising FQC of work being performed after FQC has inspected previous work is a redundant procedural control, with notification achieved through delivery to FQC of the documents controlling the work. (PID at 1307).

89. The Licensing Board erred in concluding that the RAT inspection findings do not reflect that the LILCO QA/QC program is producing unsatisfactory results. (PID at 1284).

90. The Licensing Board erred in failing to conclude that LILCO has not applied adequate QA/QC to items which are important to safety but not safety-related. (PID at 265-66, 862; County Findings, 4/7/83, at 4, 19-20; 5/9/83, at 37-49).

91. The Licensing Board erred in failing to find that there needs to be a full physical inspection and design review of the Shoreham plant. (PID at 1239, 1271; County Findings, 4/7/83, at 1-2, 11-12, 147-48).

92. The Licensing Board erred in finding no basis for the County's contention that the Staff's I&E program has not adequately verified LILCO's QA program for Shoreham. (PID at 269).

93. The Licensing Board erred in concluding that the Staff's audit program did not indicate lapses, breakdowns or inconsistencies in LILCO's QA system. (PID at 267).

94. The Licensing Board erred in concluding that the Torrey Pines Technology ("TPT") review was an "independent" verification of the adequacy of Shoreham's construction and the QA program for the construction phase. (PID at 269-70, 1333, 1337, 1357-58, 1362-65; County Findings, 4/7/83, at 120-21).

95. The Licensing Board erred in finding that the entire construction control process was reviewed by TPT. (PID at 270-71, 1338-39, 1345-46; County Findings, 4/7/83, at 123-32).

96. The Licensing Board erred in concluding that TPT was the final arbiter of the scope of its inspection. (PID at 1339-41).

97. The Licensing Board erred in concluding that TPT reviewed the procedures used in the construction process. (PID at 1343-44).

98. The Licensing Board erred in failing to conclude that TPT was able to judge the adequacy of the entire construction control program. (PID at 1347-48).

99. The Licensing Board erred in concluding that the initial discrepancy report review process by TPT did not assess safety significance. (PID at 1355).

100. The Licensing Board erred in failing to find that LILCO's corrective and preventative action plans related to TPT were inadequate. (PID at 1369; County Findings, 4/7/83, at 140-41).

101. The Licensing Board erred in concluding that LILCO's Corrective Action Plans will resolve the discrepant conditions underlying each of the Findings. (PID at 278).

102. The Licensing Board erred in failing to find that the scope of the TPT review was deficient regarding equipment important to safety but not safety-related, electrical equipment, and QA/QC programs. (PID at 271; County Findings, 4/7/83, at 123-32).

103. The Licensing Board erred in rejecting the County's position on the use of statistical methodology, including as that methodology would have applied to the TPT analysis and also to compliance with Criterion 18 of Appendix B. (PID at 273-76, 923, 1349, 1351-52, 1359-60; County Findings, 4/7/83, at 141-47).

104. The Licensing Board erred in failing to find that TPT had improperly applied its own procedures. (County Findings, 4/7/83, at 132-37).

105. The Licensing Board erred in failing to conclude that the TPT review documented serious QA/QC deficiencies at Shoreham. (PID at 276-79, 1367-68; County Findings, 4/7/83, at 137-40).

106. The Licensing Board erred in failing to rely on the testimony of Dr. Samaniego. (PID at 1360-61).

107. The Licensing Board erred in concluding that nothing resulting from the TPT study leads the Board to conclude other than that LILCO and the Staff have satisfied Commission requirements relating to QA/QC. (PID at 279).

108. The Licensing Board erred in failing to find LILCO's Corporate Statement of QA Policy to be defective. (PID at 858; County Findings, 1/31/83, Vol. 2, at 106-08; 5/9/83, at 35, 47).

109. The Licensing Board erred in finding that the number of stop work orders at Shoreham illustrates the efforts made by supervisors, craftsmen and QA personnel to correct quickly any nonconforming conditions. (PID at 876).

110. The Licensing Board erred in concluding that the Staff's findings at Shoreham evidence "LILCO's success in identifying and correcting any nonconforming conditions at the construction site" (PID at 877).

111. The Licensing Board misconstrued Contention 13(c) as pertaining only to safety-related SS&Cs. (PID at 887).

112. The Licensing Board erred in concluding that the audit programs under LILCO's responsibility comply with Criterion 18 and were effective in identifying problems and initiating corrective action before they became significant. (PID at 949-50, 978-79).

113. The Licensing Board erred in failing to find that LILCO does not comply with Appendix B, Criterion 18. (County Findings, 4/7/83, at 21-28).

114. The Licensing Board erred in concluding that S&W Engineering Assurance audit results confirmed that S&W has a thorough audit program covering the engineering process, that auditors perform thorough audits, and that the technical adequacy of the work is of high quality. (PID at 965).

115. The Licensing Board erred in concluding that none of the conditions revealed by the LILCO audit program had an

impact on the integrity of the design or the safety of the plant or revealed any significant conditions adverse to quality. PID at 971-74).

116. The Licensing Board erred in concluding that the Shoreham QA program more than meets Appendix B. (PID at 977).

117. The Licensing Board erred in its definition of an Appendix B violation. (PID at 978-79; County Findings, 4/7/83, at 28-33).

118. The Licensing Board erred in its conclusion that LILCO satisfies Appendix B. (PID at 979-84).

119. The Licensing Board erred in implying that Mr. Hubbard did not have all the qualifications necessary to be a QA/QC expert. (PID at 1319-20).

XI. Emergency Planning^{2/}

1. The Licensing Board erred in bifurcating emergency

^{2/} The emergency planning exceptions pertain primarily to the so-called Phase I issues. Phase II issues are still pending before another Licensing Board and, thus, exceptions are not appropriate at this time. The County has included exceptions regarding denial of the County's motion to terminate (exceptions 20, 21, 23, 24) but it is unclear whether those exceptions presently should be briefed. The County may seek Appeal Board guidance on that matter.

planning issues into so-called Phase I and Phase II issues. (Confirmatory Order Regarding Emergency Planning Issues, April 5, 1982; Pre-Hearing Conference Order (Phase I-Emergency Planning), July 25, 1982, at 1-2).

2. The Licensing Board erred in requiring that emergency planning contentions based on the LILCO onsite emergency plan be filed by June 22, 1982. (ASLB Prehearing Conference Order, April 20, 1982, at 7).

3. The Licensing Board discovery schedule for emergency planning issues during Phase I was in error. (Prehearing Conference Order, April 20, 1982, at 8).

4. The Licensing Board erred in ruling that emergency planning contention EP1 was not admissible. (Prehearing Conference Order (Phase I - Emergency Planning), July 27, 1982, at 5-7).

5. The Licensing Board erred in ruling that certain emergency planning contentions (EP4, EP11, EP13, EP18, EP19, EP20, EP21, EP22, EP23, EP24, EP25, EP26) were not admissible as written. (Prehearing Conference Order (Phase I - Emergency Planning), July 27, 1982, at 7-17).

6. The Licensing Board erred in ruling that certain emergency planning contentions (EP2.G, EP2.H, EP5.B, EP5.C, EP5.D, EP8, EP15) were not admissible during Phase I emergency planning proceedings. (Prehearing Conference Order (Phase I - Emergency Planning), July 27, 1982, at 8-10).

7. The Licensing Board erred in failing to rule on the admissibility of certain emergency planning contentions (EP2.E, EP2.C, EP2.F, EP3.C, EP6.C, EP7, EP10, EP14, EP17). (Prehearing Conference Order (Phase I - Emergency Planning), July 27, 1982, at 7-13).

8. The Licensing Board erred in rewording emergency planning contention EP27. (Prehearing Conference Order (Phase I - Emergency Planning), July 27, 1982, at 18-21).

9. The Licensing Board erred in ruling that the intervenors must file contentions regarding the adequacy of the Technical Support Center prior to the actual completion of that structure. (Prehearing Conference Order (Phase I - Emergency Planning), July 27, 1982, at 21).

10. The Licensing Board erred in ruling that Phase I emergency planning depositions had to be completed no later than August 27, 1982. (Prehearing Conference Order (Phase I - Emergency Planning), July 27, 1982, at 22).

11. The Licensing Board erred in ruling that during Phase I discovery, documents relevant only to Phase II were also discoverable. (Prehearing Conference Order (Phase I - Emergency Planning), July 27, 1982, at 23-25).

12. The Licensing Board erred in ruling that Suffolk County had to produce irrelevant documents dealing with non-nuclear emergencies. (Prehearing Conference Order (Phase I - Emergency Planning), July 27, 1982, at 24-25).

13. The Licensing Board erred in failing to admit certain amended emergency planning contentions (EP1, EP2.D, EP2.E, EP3.A(1) and (4), EP3.C, EP3.D, EP7.B, EP9, EP11, EP14.D, EP15.C, EP15.G, EP16.A, EP16.B, EP16.C, EP17.A, EP17.C, EP18, EP19, EP21, EP22, EP24). (Supplemental Prehearing Conference Order (Phase I - Emergency Planning), September 7, 1982, at 7-64).

14. The Licensing Board erred in ruling that Phase I written direct testimony needed to be submitted by October 12, 1982. (Supplemental Prehearing Conference Order (Phase I - Emergency Planning), September 7, 1982, at 65).

15. The Licensing Board erred in compelling the County to produce during discovery documents protected by the

attorney-client and executive privileges and by the attorney work product doctrine. (Memorandum and Order Ruling on LILCO's Motion to Compel Discovery of Suffolk County Emergency Planning Documents, September 22, 1982).

16. The Licensing Board erred in compelling Suffolk County to produce a document protected by executive privilege. (Supplemental Memorandum and Order Ruling on LILCO's Motion to Compel Discovery of Suffolk County Emergency Planning Documents, September 29, 1982).

17. The Licensing Board erred in ruling that the Phase I emergency planning hearings would proceed through the use of so-called "evidentiary depositions". (Memorandum and Order Ruling on Licensing Board Authority to Direct That Initial Examination of the Pre-Filed Testimony Be Conducted by Means of Prehearing Examinations, November 19, 1982).

18. The Licensing Board erred in ruling that the intervenors had "defaulted" on their Phase I emergency planning contentions and for dismissing those contentions with prejudice. (Memorandum and Order Confirming Ruling on Sanctions for Intervenors' Refusal to Comply with Order to Participate in Prehearing Examinations, December 22, 1982).

19. The Licensing Board erred in denying Suffolk County's Motion to Terminate the Shoreham Operating License Proceeding. (Memorandum and Order Denying Suffolk County's Motion to Terminate the Shoreham Operating License Proceeding, April 20, 1983).

20. The Commission erred in upholding the Board's denial of Suffolk County's Motion to Terminate the Shoreham Licensing Proceedings. (Memorandum and Order (CLI-83-13), May 12, 1983).

21. The Commission erred in ruling that fuel loading and low power testing could proceed despite the existing uncertainties surrounding offsite emergency planning. (Order (CLI-83-17), June 30, 1983).

22. The Commission erred in refusing to rule on Suffolk County's Motion for Commission Ruling on LILCO's "Utility Plan" for Emergency Preparedness. (Order, July 15, 1983).

23. The Licensing Board erred in denying the County's Motion for Rejection of LILCO Transition Plan and for Certification to the Commission. (Memorandum and Order Denying "Motion for Rejection of LILCO Transition Plan And For Certification to the Commission", August 30, 1983).

XII. Low Power Operating License

1. The Licensing Board erred in rejecting the County's argument that prior to issuance of a low power license, LILCO and the Staff must comply with the National Environmental Policy ("NEPA") by preparing supplemental environmental analyses which consider the alternative that the plant would be licensed to go to low power, go critical, contaminate the facility, and then be abandoned without ever having generated commercial power. (PID at 1373-90).

2. The Licensing Board erred in finding that the Appeal Board decision in the Diablo Canyon proceeding (ALAB-728) is applicable to the instant proceeding. (PID at 1376-78).

3. The Licensing Board erred in failing to order the Staff to conduct a detailed, objective cost benefit balancing relating to the potential costs and benefits of a low power operating license for Shoreham, followed by the abandonment of the plant and to compare the results to the costs and benefits of the low power testing proposed by LILCO. (PID at 1378-80).

4. The Licensing Board erred in failing to rule that Shoreham abandonment after low power operation is a reasonably foreseeable possibility for which additional environmental

analyses must be performed before any low power operating license can lawfully be issued. (PID at 1380-81).

5. The Licensing Board erred in concluding that previous Commission precedents barred the Licensing Board from ordering the Staff and LILCO to perform the additional environmental analyses urged by Suffolk County. (PID at 1388).

6. The Licensing Board and Commission erred in failing to rule that no low power operating license can be issued until the Commission has determined whether offsite emergency preparedness for Shoreham can and will satisfy the requirements of 10 CFR + 50.47 and Appendix E to Part 50. (ASLB Memorandum and Order Referring Denial of Suffolk County's Motion to Terminate to the appeal Board and Certifying Low-Power License Question to the Commission, LBP-83-17, April 20, 1983; NRC Order, CLI-83-17, June 30, 1983).

XIII. Other Procedural Rulings

1. The Licensing Board erred in setting the schedule for submission of pleadings and other filings relating to admission of contentions. (Memorandum and Order Approving Stipulations, Deferring Rulings on Summary Judgment Pending Further Particularization, Scheduling a Conference of Parties and Setting an

Estimated Schedule for the Filing of Testimony, February 8, 1982).

2. The Licensing Board erred in directing the parties to pursue all remaining discovery of information prior to the conference of parties on March 9 and 10, 1982. (Id.).

3. The Licensing Board erred in failing to admit Suffolk County Contentions 6, 7, and 29 in the form presented by Suffolk County and, instead, revising those contentions into Contention 7B. (Memorandum and Order Confirming Rulings at the Conference of Parties (Regarding the Remaining Objections to Admissibility of Contentions and Establishment of Hearing Schedule), March 15, 1982).

4. The Licensing Board erred in denying admission of Suffolk County Contention 30 regarding documentation of deviations. (Id.).

5. The Licensing Board erred in refusing to admit Suffolk County Contention 16 relating to anticipated transients without scam in the form presented by the County. (Id.)

6. The Licensing Board erred in rejecting SOC Contentions 1 and 2 related to emergency planning matters. (Id.).

7. The Licensing Board erred in setting a schedule calling for completion of discovery soon after the March 1982 Prehearing Conference and for commencement of hearing on May 4, 1982. The Licensing Board also erred in requiring Suffolk County to present testimony first (and on an unduly restricted schedule for testimony preparation) on Contention 7B, allowing LILCO and the Staff to file testimony several weeks after the hearing on the Suffolk County Contention 7B testimony. (Id.; Schedule for Submission of Prefiled Testimony, March 23, 1982, at 2).

8. The Licensing Board erred in ruling on the Suffolk County motion to compel discovery, dated March 18, 1982, that all inspection of the produced documents had to be completed by April 2, 1982. (Confirmatory Order Regarding Suffolk County and SOC Motions to Compel Discovery from LILCO, March 30, 1982).

9. The Licensing Board erred in denying admission of SOC's construction permit extension contentions. (Memorandum and Order Ruling on SOC's Construction Permit Extension Contentions and Request for Hearing of Shoreham Opponent's Coalition, May 14, 1982).

10. The Licensing Board erred in granting the LILCO motion to strike portions of the Suffolk County testimony on SC Contention 21. (Tr. 7025-28).

11. The Licensing Board erred in granting LILCO's motion to strike portions of the Suffolk County testimony on Contention 22. (Tr. 7945-48).

12. The Licensing Board erred in granting LILCO's motion to strike portions of the County's testimony on Contention 16. (Tr. 8527-34).

13. The Licensing Board erred in denying the County's motion to strike portions of the LILCO testimony on Contention 7B. (Tr. 4330-39).

14. The Licensing Board erred in denying Suffolk County's motion to strike portions of the LILCO testimony on water hammer procedures and training. (Tr. 8547-48).

15. The Licensing Board erred in denying the County's motion to strike portions of LILCO's prefiled testimony on Contention 16. (Tr. 8522-24).

16. The Licensing Board erred in requiring Suffolk County to provide LILCO, in advance, detailed information regarding

the precise LILCO documents and portions thereof that would be used in cross-examination on Suffolk County Contentions 12-15. (E.g., Suffolk County Submittal of QA/QC Information, 10/12/83, filed pursuant to ASLB telephone order).

17. The Licensing Board erred in limiting cross-examination by Suffolk County on the QA/QC contentions. (E.g., Tr. 11,319-20, 13,269).

18. The Licensing Board erred in never granting the Suffolk County offers of proof, dated November 5, 1982 and November 9, 1982.

19. The Licensing Board erred in rejecting the admission into evidence of certain audit findings designated by Suffolk County in a November 4, 1982 filing entitled "Suffolk County Designation of Audit Data to be Moved into Evidence." (Tr. 13,993-14,017).

20. The Licensing Board erred in adopting an unreasonable schedule, both for review, discovery and prefiled testimony, relating to the Torrey Pines Technology report. (Tr. 16,403-05).

21. The Licensing Board erred in repeatedly permitting LILCO and the NRC Staff to supplement their witness panels and/or their prefiled testimony. (E.g., PID at 280, 302, 347, 364, 390-91, 394, 463; Tr. 2681-84, 3836-38, 5838-40).

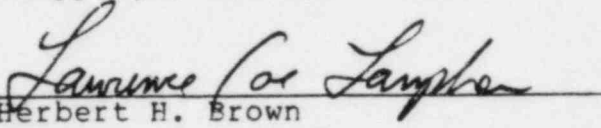
22. The Licensing Board erred in failing to defer its partial initial decision until after the parties had had a

chance to thoroughly review and analyze the Teledyne Engineering report.

23. The Licensing Board erred in granting LILCO's motion to strike portions of Suffolk County's supplemental Contention 7B testimony. (Tr. 20,370-85).

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October 17, 1983