



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE NUCLEAR REGULATORY COMMISSION  
AND THE ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of

LONG ISLAND LIGHTING COMPANY

DOCKET NO. 50-322

(Shoreham Nuclear Power Station,  
Unit 1)

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PETITION OF THE SHOREHAM OPPONENTS COALITION  
(SOC) TO SUSPEND CONSTRUCTION PERMIT FOR THE  
LONG ISLAND LIGHTING COMPANY'S SHOREHAM  
NUCLEAR POWER STATION (UNIT 1) AND TO RE-  
NOTICE HEARINGS IN DOCKET NO. 50-322, OR IN  
THE ALTERNATIVE, TO PERMIT LATE INTERVENTION  
OF SOC PURSUANT TO 10 CFR Part 2, SECTION 2.714.

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PETITION OF THE SHOREHAM OPPONENTS COALITION (SOC)  
TO SUSPEND CONSTRUCTION PERMIT FOR THE LONG  
ISLAND LIGHTING COMPANY'S SHOREHAM NUCLEAR  
POWER STATION (UNIT 1) AND TO RENOTICE  
HEARINGS IN DOCKET NO. 50-322, OR IN THE  
ALTERNATIVE, TO PERMIT LATE INTERVENTION OF  
SOC PURSUANT TO 10 CFR Part 2, SECTION 2.714.

1. The petition of the Shoreham Opponents Coalition  
(SOC) seeks the following relief:

- a. That the Commission or the Atomic Safety Licensing Board (Board), as appropriate, issue a new Order and Notice of Hearing for the Shoreham Operating Licensing Proceedings (Docket No. 50-322) to permit intervention by interested and qualified parties in those proceedings;
- b. That the Board grant, in the alternative, the petition of SOC for late intervention pursuant to 10 CFR Part 2.714;
- c. That, pursuant to its authority as contained in 42 USC§2233(d), 2236(a), 2237 and 10 CFR

2.206(c)(1); 50.100 and 50.109, the Commission suspend the construction permit granted to the Long Island Lighting Company (LILCO) for the Shoreham Nuclear Power Station (Unit 1);

- d. That, pursuant to the same authority, the Commission direct the Director of Nuclear Reactor Regulation or the Director, Office of Inspection and Enforcement, as appropriate, to institute such proceedings as may be necessary to suspend or revoke the construction permit for the Shoreham Nuclear Power Station (Unit 1).

2. This Petition is submitted to both the Commission itself and to the Atomic Safety Licensing Board (Board) for Docket No. 50-322. In view of the alternative relief requested, intervenors believe that the submission of a single petition is the most efficient and expeditious method of presenting its interest in this proceeding. Service of this petition has been made on both the Commission and the Board and all parties of record in Docket No. 50-322.

#### Jurisdiction

3. This petition is brought before the Commission pursuant to its authority as contained in 42 USC §§ 2233(d), 2236(a), and 2237; 10 CFR §§ 2.204, 2.206(c)(1), 50.100 and 50.109. Intervenors further petition the Commission

to invoke its inherent supervisory and oversight responsibility for all aspects of the regulatory process and its "overriding responsibility for assuring public health and safety in the operation of nuclear power facilities." In the Matter of Consolidated Edison Co. of New York, Inc. (Indian Point Units 1, 2 and 3); CLI-75-8, NRCI 7518, 173 (1975).

#### Background of the Proceeding

4. The construction permit application for Shoreham Nuclear Power Station (Unit 1) was filed by LILCO on May 15, 1968. Construction permit no. CPPR-95 was issued on April 14, 1973. As stated at page 1-1 of the Final Environmental Statement (FES) for Shoreham (NUREG 0285), the Shoreham reactor was apparently 65% complete as of September 1, 1977, with a scheduled fuel loading of March, 1980. LILCO's Application for an operating license was submitted in September, 1975 together with LILCO's Final Safety Analysis Report (FSAR). These documents were docketed, and the safety and environmental reviews commenced on January 26, 1976.

5. The Notice of Hearing was published by the Commission on March 18, 1976 with April 19, 1976 set as the date for filing of petitions to intervene. Subsequent to publishing of Notice, several schedules for the issuance of NRC Staff's Final Safety Evaluation

Report (SER), discovery and hearings, were set. On September 20, 1976, the Director of the NRC's Office of Nuclear Reactor Regulation projected a date of March, 1977 for the issuance of the Shoreham SER, with discovery, particularization of contentions and hearings to follow. By March 8, 1978, a discovery schedule covering approximately two and one-half months following the issuance of the Shoreham SER was established by Elizabeth Bowers Chairman of the ASLB (Board) for Shoreham. At that time, the SER had still not been issued (ASLB Order dated March 8, 1978, Docket No. 50-322).

6. As of the date of this petition, the SER for Shoreham has still not been submitted by Staff. It is now projected to be issued in the spring of 1980. Should the Chairman's discovery schedule still be feasible in light of regulatory changes prompted by TMI-2 and related matters, hearings on the Shoreham Operating License might begin sometime in the summer of 1980. While informal discovery has been ongoing among existing parties to this proceeding, further discovery on all existing contentions and those still to be admitted will be provided after the issuance of the SER.

Description of the Petitioner

7. The Shoreham Opponents Coalition is an unincorporated association consisting of twenty civic and environmental organizations. Each organization sponsors a range of community activities and educational programs on the questions of energy alternatives and nuclear power, including: energy conferences and workshops; public forums to feature experts on energy issues and alternative technologies; distribution on various publications to the community; participation in local legislative matters involving energy matters; and others. The energy-related projects represent the overwhelming majority of activities of the coalition members.

8. The combined membership of SOC exceeds 10,000 individuals, virtually all of whom reside within sixty miles of the Shoreham nuclear plant. This membership figure does not include the membership of Friends of the Earth, Inc. (FOE), an international organization with local offices in New York City. More than 500 members of FOE reside within sixty miles of the Shoreham nuclear plant.

9. Half of the member groups of SOC were created in response to the TMI accident and related developments. While the individual member organizations of SOC are capable of maintaining their respective

local activities, they have recognized that a meaningful involvement in the Shoreham licensing hearings can only be accomplished through the added organizational and financial resources of a coalition such as SOC.

Accordingly, SOC was established in the fall of 1979 to review the status of the NRC's safety review of the Shoreham nuclear plant and the Shoreham licensing hearings, and to submit this petition to the Commission and the Board. SOC believes that this proceeding represents the last available forum in which it may present its concerns regarding nuclear reactor safety and related environmental issues.



I.

THE COMMISSION OR THE BOARD SHOULD ISSUE A NEW  
ORDER AND NOTICE OF HEARING TO PERMIT  
INTERVENTION BY ALL INTERESTED AND QUALIFIED  
PARTIES IN THE SHOREHAM OPERATING LICENSE HEARINGS

1. Petitioners assert that the Commission is justified in issuing a new Order and Notice of Hearing in Docket No. 50-322 to permit timely intervention by all interested and qualified persons. This action is justified by the significant changes in safety design criteria, operational procedures and the introduction of issues which the Commission now acknowledges are appropriate for litigation in individual licensing proceedings. It can be fairly said that the regulatory requirements which must now be met by the Applicant, when contrasted to those which existed in March of 1976, are sufficient to constitute a new application.

2. As previously stated, the SER for the Shoreham plant was expected to be issued in the spring of 1977. Three years later, we are no closer to the issuance of the SER. In addition, the Commission has mandated new safety modifications for the Shoreham plant, perhaps further delaying the SER. The Commission must agree that TMI-2 and related events have greatly heightened public awareness about reactor safety and an interest in presenting these concerns in licensing proceedings.

In view of the new areas of contention available to existing parties and the fact that final contentions and discovery will not be completed until after the issuance of the SER, there can be little prejudice to existing parties if new intervenors are permitted to join in new areas of contention on an equal footing. To prohibit such new intervention would be to perpetuate the same restrictive and insulated licensing process for which the NRC was so strongly criticized by the Kemeny Commission.

3. By reference to Petitioners' proposed contention 20. (new FES), the Commission may identify at least 10 issues which call for the issuance of a new final environmental report by the Applicant and a new FES. These <sup>factors</sup> and their applicability to reactor safety issues have not previously been available for litigation in this proceeding. This would deny new intervenors their right to an adequate environmental review as required by the National Environmental Policy Act (NEPA 42 USC 4221 et.seq.). The Appeal Board itself has established that a new FES may be necessary when current circumstances differ markedly from those which are reflected in the FES (Allied General Nuclear Services; Barnwell Nuclear Fuel Plant Separations Facility; ALAB-296, 2 NRC 671 (1975)).

4. A new Order and Notice of Hearing is warranted on the basis of individual determinations or regulatory changes made by the Commission itself. Thus, the solutions proposed by the Applicant in response to Lessons Learned Task Force Recommendations; the new requirements for emergency planning; the NRC Staff's obligation to present testimony on unresolved generic safety issues in individual licensing proceedings (Virginia Electric and Power Co., North Anna Nuclear Power Station Units 1 and 2, ALAB-491; 8 NRC 245 (1978)); and the environmental and safety design ramifications of NRC Staff's decision that a class 9 accident is credible, all independently require a new Order and Notice of Hearing in Docket No. 50-322.

5. It is useful to review the criteria under which a Licensing Board may reopen a proceeding after the close of the hearing record. A Board may reopen a proceeding upon the discovery of a "significant unresolved safety issue" or where there are major changes in facts material to the resolution of major environmental issues (see e.g., Vermont Yankee Nuclear Power Corp., ALAB-124; 6 AEC 358(1973); Commonwealth Edison Co.; LaSalle County Nuclear Station; Units 1 and 2; ALAB-153; 6 AEC 821(1973)). Where significant new safety issues are presented to the Board, and where hearings will not commence within the next few months,

the Board cannot fail to include these issues in the proceeding and permit new intervenors to litigate these issues when they are first available for review. Petitioners ~~assert~~ that the contentions submitted with this Petition consist of new issues and that their intervention must be granted for purposes of litigating these issues.

6. In direct response to the accident at TMI-2, the Commission has ordered new hearings prior to the start up of TMI-1. These hearings will cover not only the direct relationship and dependency between TMI Units 1 and 2, but also the owner's implementation of the Lessons Learned Task Force recommendations--which are also applicable to the Shoreham reactor (see Order and Notice of Hearing, Docket No. 50-289, dated August 9, 1979). Petitioner requests the Commission to order similar hearings for the Shoreham reactor.

7. On the basis of the foregoing, Petitioners assert that the Commission is justified in issuing a new Order and Notice of Hearing in Docket No. 50-322, upon such terms and conditions as it deems necessary to avoid undue prejudice to existing parties. Such new hearings will serve the public interest, health and safety and will inspire confidence that the Commission intends a serious review of all reactor safety and environmental issues in this proceeding.

II.

THE PETITION OF THE SHOREHAM OPPONENTS  
COALITION FOR LATE INTERVENTION PURSUANT TO  
10 CFR, PART 2, SECTION 2.714 SHOULD BE GRANTED

1. Petitioners reassert each and every paragraph contained in Section I., supra, as if fully set forth herein.

2. The Order and Notice of Hearing in Docket No. 50-322 was published by the Commissioner on March 18, 1976. This notice set April 19, 1976 as the date for timely filing of Petitioners to Intervene.

3. Part 2.714 of the Commission's Rules of Practice (10 CFR, Part 2, generally) authorizes late intervention subject to a finding by the Commission that the petition should be granted in view of certain conditions specified in 2.714(a) and (d). Petitioner submits that an examination of its petition in the context of those criteria must lead to a decision to grant this petition for late intervention.

4. Half of the Coalition's member groups have come into existence during the last twelve months. In particular, the accident at Three Mile Island has stimulated public concern about reactor safety. The Three Mile Island accident has already had an enormous

impact on the licensing and construction of nuclear power plants and has prompted some immediate activities on Long Island:

- A. The accident at TMI 2 led to the creation of several local citizens groups whose purpose was to broaden the exposure of Suffolk County residents to the nuclear power question and to educate them about energy alternatives;
- B. Increasing numbers of Long Island residents now recognize that the upcoming Shoreham operating license proceedings would be their last opportunity to review critical safety and environmental issues at the Shoreham Plant;
- C. Individual local organizations recognize that a successful intervention in the Shoreham operating license proceedings could only be accomplished through the establishment of an association of organizations with similar interests;
- D. In response to the above needs, SOC was formed in the fall of 1979, and shortly thereafter, the decision to intervene in these proceedings was authorized.

5. Petitioners assert that the Shoreham reactor suffers from numerous design deficiencies and defects in construction and that its completion and operation constitutes a threat to the health and safety of Coalition members and other Long Island residents.

Petitioners believe that a thorough review of, and solution to, all unresolved safety questions affecting the Shoreham plant must be presented before any start-up of the Shoreham plant is authorized. Petitioners further believe that its participation in these proceedings will result in a far safer nuclear reactor at the Shoreham site than currently exists if a decision to operate the plant should ultimately be reached.

6. The filing of this Petition for late intervention is the product of Petitioner's increasing awareness of the inadequacy of the NRC's regulatory review and the uncertain nature of the intervention by Suffolk County. The inadequacy of the NRC's regulatory review was recently cited by the President's Commission on Three Mile Island (Kemeny Commission) which cited the NRC for regulatory failure:

"We therefore conclude that there is no well-thought-out, integrated system for the assurance of nuclear safety within the NRC. We have found evidence of repeated in-depth studies and criticisms both from within the agency and from without, but we found very little evidence that these studies have resulted in significant improvement."

(Kemeny Commission Report,  
Executive Summary, pp. 21-22.)

The Kemeny Commission went on to specify nine serious inadequacies in the NRC's licensing process covering virtually every aspect of reactor safety (Kemeny Commission Report; Executive Summary, pp. 52-54.)

Thus recent events, both with regard to the accident at Three Mile Island as well as broader issues in the field of nuclear reactor safety have stimulated the need for citizens' intervention such as that proposed by the Shoreham Opponents Coalition and have impressed upon Petitioner the fact that its interest can only be protected through active intervention at this stage of the proceeding.

7. Petitioner asserts that it has a significant stake in the outcome of this proceeding. Virtually all of the Coalition members are located within a 60-mile radius of the Shoreham Plant and virtually all of the Coalition's members are ratepayers of the Applicant, the Long Island Lighting Company. Many of the Coalition members reside in the eastern most portion of Suffolk County and are thus acutely concerned about the difficulty of evacuating that area in the event of a serious accident at the Shoreham Plant. The NRC has recently commenced rulemaking proceedings to impose new requirements for emergency planning and Petitioners accordingly seek to litigate the question of emergency planning through the filing of this Petition to Intervene.

8. Petitioners assert that the pending licensing hearings regarding the Shoreham plant must at this date be reevaluated in the following context: circumstances



surrounding the LIICO Shoreham application, the refutation of major assumptions regarding risk assessment and reactor safety; new requirements regarding emergency planning; reexamination of safety and environmental issues in terms of Class 9 accident probability and unresolved generic safety matters; specific design and operating changes mandated by the Lessons Learned Task Force; new questions about spent fuel storage, transportation and disposal; and so forth. Taken together, these factors constitute sufficient new circumstances to warrant a new proceeding and a fortiori, to permit late intervention. These new circumstances should be the basis of evaluating the timeliness of this Petition.

9 Petitioners have no other forum in which to assert their concerns about reactor safety and environmental issues should this petition be denied. Petitioners are acutely aware that no party to this proceeding is actively opposing the proposed operation of the Shoreham reactor. The official posture of Suffolk County is that of a "neutral" intervenor, and the County's continued intervention is increasingly tenuous. Successful lobbying by the Applicant led to the dismissal of the County's experts, MHB Technical Associates, Inc. These experts are intimately familiar with the design of the Shoreham plant. They were replaced by experts

recommended by the Applicant. Further, the County Executive has stated publicly that he will dismiss the County's Special Counsel in this proceeding, even though the proceeding is at a critical stage.

The second intervenor, North Shore Committee, has not taken the active role which is envisioned by Petitioners, and the North Shore Committee has, in fact, been compelled to drop certain contentions for failure to diligently pursue them. Thus, Petitioners fear more than inadequate public representation in the upcoming hearings: They fear that public representation may border on the non-existent.

10. The essential purpose of Petitioners' intervention is to present the testimony of leading experts in the field of reactor safety and related matters. Petitioners have already retained the firm of MHB Technical Associates to work with Petitioners on the development of contentions and the litigation of specific matters through the course of the operating license proceedings. Petitioners will retain further experts to testify on any other technical or environmental contentions for which intervenor status is granted. As such, the Shoreham Opponents Coalition will make a substantial and positive contribution to this proceeding and to the safety of the Shoreham Plant.

11. Petitioners assert that the need to publish a new Order and Notice of Hearing, or in the alternative, to permit late intervention, is further heightened by recent disclosures of construction defects at the Shoreham Plant. This spring, several hundred pages of construction reports documenting construction defects or modifications, many of them safety related, were found in a town dump some 30 miles from the Shoreham plant. This fall, trial testimony by construction workers and the Assistant Project Manager for the Shoreham plant provided further evidence of construction defects. An investigation has been commenced by the NRC's office of Inspection and Enforcement in King of Prussia, Pa. Petitioners assert that the issues of construction practices and defects must be litigated in the upcoming operating licensing proceedings and that Petitioners must be granted intervenor status on those issues.

#### LATE INTERVENTION

12. The applicable section of the Commission's Rules of Practice regarding late intervention is contained at 10 CFR 2.714(a), (d). The criteria to be used by the Commission consists, in essence, of a two-part test: (1) an explanation of good cause, if any,

for a late filing; (2) a review of four additional factors listed in 2.714(a)(ii-v). Specifically, the regulations provide:

"Nontimely filings will not be entertained absent a determination by the Commission, the presiding officer or the atomic safety and licensing board designated to rule on the petition and/or request, that the petition and/or request should be granted based upon a balancing of the following factors in addition to those set out in paragraph (d) of this section:

- (i) Good cause, if any, for failure to file on time.
- (ii) The availability of other means whereby the petitioner's interest will be protected.
- (iii) The extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record.
- (iv) The extent to which the petitioner's interest will be represented by existing parties.
- (v) The extent to which the petitioner's participation will broaden the issues or delay the proceeding."

13. The showing of good cause is not a prerequisite to the granting of a petition for late intervention:

"A showing of good cause for the tardiness is not a condition precedent to the consideration of the four factors listed in 10 CFR Section 2.714(a), but the burden of justifying intervention on the basis of these factors is considerably greater where the non-timely petitioner has failed to show such good cause." (In the Matter of Nuclear Fuel Services, Inc., West Valley Reprocessing Plant, CLI-75-4, 1 NRC 273 (1975)).

As indicated below, petitioners believe that they have shown good cause for the late filing of this petition but that in any case, late intervention should be granted on the basis of a consideration of all factors specified in 10 CFR Section 2.714.

14. In addition to the analysis of the instant petition pursuant to the criteria mentioned in paragraph II.12. above, the Commission must also consider:

1. The nature of the petitioner's right under the Act to be made a party to the proceeding;
2. The nature and extent of the petitioner's property, financial or other interests in the proceeding;
3. The possible effect of any order which may be entered in the proceeding on the petitioner's interest (10 CFR Section 2.714(d)).

GOOD CAUSE

15. As indicated in paragraph II.4. above, SOC was organized in the fall of 1979 and shortly thereafter, reached a decision to submit this petition for late intervention or to renounce the proceedings. The formation of SOC was in direct response to a series of developments within and without the NRC during the past twelve months, which developments have drastically changed the circumstances surrounding

the safety of the Shoreham Nuclear Reactor. Among these new developments are the following:

1. The accident at Three Mile Island in late March, 1979;
2. The formation of the "Lessons Learned Task Force" and the subsequent mandating by the NRC of various design and operational changes to all nuclear plants either in the operating or licensing stage;
3. The admission by NRC Staff that the accident at Three Mile Island was a "class 9" accident and the resulting impact of this determination on the environmental impact statement analysis and related issues;
4. The significant modification by the NRC and the EPA on the subject of evacuation requirements applicable to nuclear power plants and the commencement of a rule-making to enforce new evacuation criteria;
5. The issuance of a Report by the Inter-agency Review Groups on Radioactive Waste Management on the yet unresolved problems with regard to the disposal of radioactive wastes;
6. The issuance of the "Lewis Report," which concluded that the Wash-1400 "Reactor Safety Study" "Fault Tree" analysis should not be a basis for the analysis and resolution of safety considerations in licensing proceedings;
7. The admission by the NRC that substantial errors are contained in "Table S-3", particularly with regard to radon health effects and the health effects from other radioactive isotopes, and the decision by the NRC to permit the litigation of those effects in individual siting proceedings;
8. The policy change being implemented by the NRC according to which NRC Staff has been ordered to present testimony in individual siting proceedings regarding the impact of unresolved "generic" safety considerations as contained in NUREG-0510 (January, 1979).

16. The cumulative impact of these developments and their inevitable and admitted impact on the licensing process, constitutes the motivating force behind the formation of the Shoreham Opponents Coalition. The Coalition has been formed for the express purpose of carrying forth a credible intervention in the Shoreham operating licensing proceedings, including the representation by counsel and the retaining of experts to testify on behalf of SOC on nuclear safety-related issues in the form of contentions in this proceeding. The safety of the Shoreham nuclear plant is of critical concern to the member organizations and individual members of SOC in that the overwhelming majority of those members reside within a sixty-mile radius of the plant.

17. The Board cannot underestimate the impact of the above eight factors on local community awareness of the issue of nuclear reactor safety and the impetus which these developments have provided for an effort such as the proposed intervention. The creation of new local organizations, such as many of the member organizations of SOC; the willingness and desire of thousands of local Long Island residents to seek representation in these hearings through the Coalition; and the drastic revisions to reactor safety requirements, licensing regulations and assessments of fuel cycle

considerations such as waste disposal, strongly suggest that the Shoreham operating licensing hearings will be virtually a new proceeding.

18. There is a range of issues regarding reactor safety and environmental impact generally which are now ripe for review in these proceedings and which were not available at the time the notice for hearing was filed. Safety issues such as those designated by the Lessons Learned Task Force or raised by new emergency planning requirements are just now becoming available for litigation. These factors require that an organization such as SOC be permitted to join the proceeding at this stage on these new issues to assist the Board in establishing a thorough record on the safety of the Shoreham plant.

19. Similarly, the NRC's acknowledgement that a Class 9 accident is credible, necessitates significant revisions to the Shoreham FES and ultimately to reactor design. The impact of a Class 9 accident has not been considered in this proceeding and has only become ripe for litigation in the wake of TMI 2.



OTHER MEANS BY WHICH  
PETITIONER'S INTEREST MAY BE PROTECTED

20. The Shoreham operating license proceeding is the last forum available to petitioners for the consideration of safety issues relating to the operation of the Shoreham nuclear plant. There exists no state proceeding in which these issues may be reviewed as was the case for LILCO's Jamesport Nuclear Units 1 and 2.

21. There are, at present, only two intervenors to the Shoreham proceeding: Suffolk County and the North Shore Committee Against Nuclear and Thermal Pollution. As previously mentioned, Suffolk County's participation in the Shoreham licensing proceedings has been extensive, although as a "neutral" intervenor. However, Suffolk County is a municipal party and its continued participation is subject to the whims of the Suffolk County Legislature. Within the last year, the County Legislature discharged the engineering consulting firm of MHB Technical Associates, thereby seriously hampering the County's ability to pursue with vigor contentions available to it. Private intervenors such as those represented by SOC, cannot be asked to rely on the representation offered by a neutral intervenor whose status in the proceedings

may be suddenly altered by a vote of the County Legislature. As further evidence of Suffolk County's tenuous Intervention, the new County Executive has announced he will dismiss the County's special counsel, Irving Like. The other remaining intervenor is the "North Shore Committee" which has two contentions still alive in this proceeding. The North Shore Committee is a private intervenor, but it has been unable to aggressively pursue a variety of prior contentions available to it. The North Shore Committee, in fact, was required to drop several areas of contentions for just this reason. Petitioners intend to pursue specific new contentions aggressively in this proceeding if they are granted Intervenor status, and there appears to be no other intervenor with the resources or inclination to advocate those contentions.

CONTRIBUTION OF PETITIONERS  
TOWARDS DEVELOPING A SOUND RECORD

22. The participation of SOC in the Shoreham operating license proceedings will be of great assistance to the Board in developing a sound record. As previously stated, SOC has retained the firm of MHB Technical Associates to litigate specific contentions in this proceeding and other experts will be retained by Petitioners depending upon the nature of the contentions which we are permitted to litigate.

23. Petitioners will submit testimony of individuals with construction experience at the Shoreham plant in order to bring to the Board's direct attention the existence of safety defects and poor construction practices. The active participation by Petitioners on the numerous issues referred to in paragraph II. 15. above will be invaluable for the purpose of convincing the public at large that critical safety considerations at the Shoreham plant will be thoroughly reviewed before the plant goes on line. At present, the Coalition members and the public at large do not have confidence that this result will be obtained without the aggressive participation of a private intervenor such as SOC.

THE EXTENT TO WHICH PETITIONER'S  
PARTICIPATION WILL BROADEN THE ISSUES  
OR DELAY THE PROCEEDING

24. As mentioned in paragraph II.15. above, the NRC itself has substantially broadened the issues available for litigation in this particular proceeding through its mandated design and operation changes and its reevaluation of generic issues and emergency planning. Many of these issues are available for litigation for the first time and thus participation by Petitioner will result in no broadening of the issues.

Petitioner seeks to intervene on precisely these new safety and environmental issues which the NRC itself admits must be reexamined. The principal concern of both the NRC and Petitioner is to evaluate the safety of the Shoreham nuclear plant in the context of these new considerations and to ensure that all safety related deficiencies in that plant are resolved prior to its going operational.

25. The involvement of Petitioner in this proceeding will not lead to a delay in the commencement of the proceeding. NRC Staff has suggested that the final Safety Evaluation Report will not be issued until early spring of 1980, at the earliest, and hearings will not commence until some number of months after the issuance of the final SER. Petitioner will not delay the proceeding if it adheres to the discovery schedule established after the issuance of the SER.

26. Petitioner has submitted with this Petition a list of particularized contentions which it intends to pursue during the course of these proceedings. Petitioner will submit its full range of contentions to the Board according to the schedule established after the issuance of the SER.

27. Petitioner is prepared to commence discovery immediately upon the Board's grant of this petition to intervene. Petitioner recognizes that discovery may be limited in those areas of contention which have been already submitted in this proceeding. However, since Petitioner intends to pursue discovery primarily in areas that have not previously been the subject of contentions in this proceeding, Petitioner does not anticipate any delay in the proceedings if its Petition to Intervene is granted. Petitioner will have the assistance of experts and counsel during the discovery phase so that discovery requests will be specific and responsive to the issues available for contention. Since existing parties will be entitled to further discovery after the issuance of the SER, discovery on existing issues by Petitioner can proceed in step with that of other parties without replowing old ground.

28. In its consideration of this Petition, the Board must take into account the factors listed in 10 CFR Section 2.714(d). With regard to each of these factors, the case to admit Petitioner to this proceeding is strong.

(a) Virtually all of the member organizations and individual members of SOC reside within 60 miles of the Shoreham Nuclear Plant; many of the Coalition members reside within a mile or two of that plant.

(b) Many of the Coalition members are property owners within that same 60 mile radius and virtually all of the Coalition members are ratepayers to the Long Island Lighting Company. As such, these Coalition members collectively have a significant financial and property stake in the costs and safety of the Shoreham nuclear plant and the outcome of this proceeding.

(c) Consequently, any determination rendered by the Commission on the LILCO Shoreham operating license application will be determinative of Petitioner's interests and concerns regarding the Shoreham nuclear plant. Absent a determination by the Commission to grant late intervenor status to Petitioner, there may well be a prejudice to Petitioner's standing to challenge a determination issued by the Commission in favor of the LILCO application.

29. For all of the foregoing reasons, and for any other reasons which are deemed relevant by the Board, Petitioner believes it has made a substantial showing of good cause for the late filing of this

petition and that a review of the other factors to be balanced by the board pursuant to 10 CLR Part 2.714 require that this Petition be granted.

III.

THE COMMISSION SHOULD SUSPEND THE  
CONSTRUCTION PERMIT FOR THE SHOREHAM  
NUCLEAR POWER STATION OR INSTITUTE SUCH  
PROCEEDINGS AS MAY LEAD TO THE SUSPENSION  
OF THAT CONSTRUCTION PERMIT

1. Recent actions by the Commission and recent events in commercial nuclear reactor operation have clearly established that all nuclear reactors under construction are likely to undergo substantial modification or retrofit prior to the issuance of an operating license. Pursuant to 10 CFR Part 50.100 and 50.109, the Commission has broad authority to revoke, suspend or modify in whole or in part a construction permit:

"...for failure to construct or operate a facility in accordance with the terms of the construction permit or license... or for violation of, or failure to observe, any of the terms and provisions of the act, regulations, license, permit, or order of the Commission."

2. Petitioners assert that there are several reasons why construction should cease at the Shoreham Plant:

- a) Testimony by construction workers from the plant have revealed shoddy construction practices, defects in reactor safety systems and the possibility that these defects are being concealed prior to NRC inspection;
- b) The NRC's office of Inspection and Enforcement is investigating these charges and has promised to investigate every allegation of improper construction. By failing to halt construction in the face of these allegations, the NRC is running a risk that defects will be concealed or that construction expenditures made at this time may have to be redone at a future date;
- c) The New York State Public Service Commission (PSC) has commenced a formal investigation into the 500% cost overruns at the Shoreham plant. The purpose of this investigation is to avoid unnecessary expenditures that might be incurred if modifications or retrofits are required pursuant to 10 CFR Part 50.109. The PSC is without authority to suspend construction to avoid such cost overruns. A suspension of the construction permit by the Commission will enable the PSC to keep future construction costs to a minimum, which is in the direct interest of the Applicant's ratepayers.

3. The Commission's failure to suspend the Shoreham construction permit will severely prejudice the cost/benefit analysis that will be required as part of any new EIS ordered by the Commission. Continued construction expenditures will create greater incentive to complete the Shoreham plant, even in the face of acknowledged inadequacies in plant construction or design.

4. For all of the foregoing, the Commission must suspend the Shoreham construction permit or take such action to institute proceedings that may lead to the suspension of the Shoreham construction permit.



IV.

PARTICULARIZED CONTENTIONS OF  
THE SHOREHAM OPPONENTS COALITION

Introduction

Pursuant to 10 CFR Part 2.714(a)2, the Shoreham Opponents Coalition (SOC) has formulated twenty contentions for submission in Docket No. 50-322 (In the Matter of Long Island Lighting Company: Shoreham Nuclear Power Station, Unit 1).

The public notice in this proceeding was issued in March 18, 1976. Since that time the regulatory and design criteria applicable to commercial nuclear reactors have undergone significant revision. No single event has had as great an impact on the regulation and design of nuclear reactors as the accident at Three Mile Island Unit 2 in Harrisburg, Pa. (TMI).

The contentions which follow signify the most significant areas of public concern regarding reactor licensing, operation and safety. Without exception, the impact of each of these issues on the public health and safety has been dramatized during the past several months. In many areas, the Nuclear Regulatory Commission has determined a need to make wholesale revisions in its requirements of potential licensees.

Some changes, such as those mandated by the Commission's "Lessons Learned Task Force", have already been instituted (NUREG-0578). With regard to the Shoreham nuclear plant, the applicant must propose solutions to the problems identified by the NRC. The integrity of these solutions must be subject to public scrutiny.

In other areas, such as Emergency Planning, the NRC has instituted rulemaking proceedings in order to impose new standards on licensees. The Shoreham nuclear plant must demonstrate compliance with these standards.

In yet another area, the NRC has decided that major safety and environmental problems previously ignored, must now be confronted. Thus, the NRC has ordered the NRC Staff to demonstrate a solution to dozens of unresolved generic safety issues as they apply in individual licensing proceedings and to assess, in each proceeding, its "confidence" in dealing with the storage, transportation and disposal of spent reactor fuel.

Without question, the attitude of the NRC, and now the public, towards reactor safety, has undergone a fundamental change. The issues stated above, and those represented by the numerous documents listed below, constitute entirely new standards against which the safety of future nuclear plants, and hopefully, operating plants, will be judged.

In numerous new areas, the NRC no longer speculates whether or not certain changes will be made. The problems identified by the "Lessons Learned Task Force" must be solved before Shoreham will be permitted to operate. Evacuation plans of significant scope must be developed prior to reactor operation. The NRC and the public must be satisfied that generic safety questions, or problems associated with spent reactor fuel, have been resolved. The overall environmental impacts of the nuclear option must be reevaluated in the light of Class 9 accidents and numerous other issues.

The Shoreham nuclear reactor was planned, designed and a construction permit was issued more than 10 years before these recent developments. Shoreham, and other plants nearing completion, must be evaluated on a case-by-case basis against the experience of Three Mile Island and new attitudes about reactor safety.

We have listed below more than two dozen recent NRC studies and decisions which provide the basis for the contentions which follow. The listing of documents is not intended to be complete, as the issues presented have been repeated in many additional documents. Years after the filing of the Notice for this proceeding, it is still not possible to accurately identify many of the safety issues that will be reviewed in that proceeding. ✓

The Shoreham Opponents Coalition believes that each of the contentions which follows is critically relevant to the Shoreham nuclear plant and that these contentions reflect the new issues to be examined in licensing proceedings. SOC reserves its right to amend and expand these contentions as the applicant provides further information on designated safety issues. We urge that the Coalition and its experts be admitted to this proceeding and that these contentions be accepted for regulatory and public review.

Recent NRC Documents and Studies Affecting the Shoreham Nuclear Plant

1. "NRC Staff Response to Board Question No. 4 Regarding the Occurrence of a Class 9 Accident at Three Mile Island," Public Service Electric and Gas Co. (Salem Nuclear Generating Station, Unit No. 1) Docket No. 50-272.
2. Investigation Into the March 28, 1979 Three Mile Island Accident by Office of Inspection and Enforcement; NUREG-0600.
3. "TMI-2 Lessons Learned Task Force Final Report"; NUREG-0585.
4. "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping"; NUREG-0313; Rev. 1 (for Comment).
5. "Cladding Swelling and Rupture Models for LOCA Analysis"; NUREG-0630.
6. "Preliminary Analysis and Views of the Nuclear Regulatory Commission on the Recommendations of the President's Commission on the Accident at Three Mile Island," Nov. 9, 1979, and letter from Joseph Hendrie to Dr. Frank Press, Nov. 9, 1979.

7. Memorandum from Jerry Wilson, Project Manager, to all Parties in Docket No. 50-322 (Shoreham Nuclear Unit No. 1) re; Status of NRC Review of Shoreham Operating License Application and Status of Remaining Open Issues (Encl. 2).
8. "Anticipated Transients Without Scram for Light Water Reactors," NUREG-0460.
9. "TMI-2 Lessons Learned Task Force Status Project and Short Term Recommendations," NUREG-0578.
10. NRC Investigation Into Allegations of Construction Defects Revealed During Trial of Shoreham Defendant (and Trial Transcript)
11. NRC Generic Proceeding to Reassess Confidence in Safe Disposal of Nuclear Waste (in Response to Court of Appeals decision in Northern States)
12. "Identification of Unresolved Safety Issues Relating to Nuclear Power Plants," NUREG-0510.
13. "NRC Program for the Resolution of Generic Issues Related to Nuclear Power Plants," NUREG-0410.
14. Decision by the Appeal Board in Virginia Electric and Power Co. (North Anna Nuclear Power Station, Units 1 & 2), ALAB-491, 8 NRC 245 (1978).
15. Report of the President's Commission on the Accident at Three Mile Island, The Need for Change: The Legacy of Three Mile Island, October, 1979 ("Kemeny Report").
16. NUREG/CR-0400. Risk Assessment Review Group Report to the U.S. Nuclear Regulatory Commission, U.S. Nuclear Regulatory Commission, Washington, D.C., September, 1978, p. vii.
17. NRC Siting Task Force, NUREG-0625.
18. NUREG 0396/EPA 520/1-78-016 - Planning Basis For Development of State and Local Government Radiological Emergency Response Plans in Support of LWN Power Plants, USNRC, Washington, D.C., December, 1978.
19. NRC/EPA proposed Rulemaking on Emergency Response Plans, 10 CFR Part 50 (December, 1979).

20. Sandia Labs test results on IEEE-279, Cable Separation.
21. Underwriter's Lab Fire Tests, 9/15/78
22. I & E Bulletin 79-26, Nov. 20, 1979 (Control Rod Failure and Loss of Boron)
23. NRC Pipe Crack Study Group, NUREG 0531.
24. EMD-78-110, Areas Around Nuclear Plants Should Be Better Prepared For Radiological Emergencies, USGAO, Washington, D.C., March 30, 1979.
25. Draft Action Plans - NUREG/0660.

## 1. Site Suitability

Intervenors contend that the Shoreham plant site does not adequately fulfill the requirements of 10 CFR, Part 50, Appendix A, Criteria 1., and 10 CFR, Part 100.10. Deficiencies are evidenced by the facts that:

- The NRC Staff is now recommending that more stringent population density standards be applied (NRC Siting Policy Committee Report, NUREG-0625).
- Concern is now being expressed regarding serious contamination of the Long Island water table in the post-accident era.
- The NRC Seismic Qualification Review has not yet been completed.
- The NRC has proposed new evacuation criteria as evidenced by the recent rulemaking on Emergency Planning (10 CFR Part 50) commenced by the NRC.

## 2. Emergency Planning

(a) Intervenors contend that the applicant has not adequately described the Shoreham emergency plans, procedures, and equipment as required by 10 CFR, Part 50, Appendix E, including an evaluation of the lessons derived from the events associated with the Three Mile Island accident. Specific issues of concern include the following:

- (i) Capability of the operators and react effectively at all times.
- (ii) Adequacy of existing emergency response plans for the Shoreham Plant.

- (iii) Capability of the applicant and its designated personnel to take effective emergency action if required.
- (iv) Adequacy of instrumentation to monitor the Shoreham plant during and following an accident including post-accident monitoring instrumentation.
- (v) Capability of the applicant's personnel and the off-site officials charged with ensuring public safety during an emergency to work efficiently and effectively in pursuant of evacuation or other protective actions.
- (vi) Adequacy of agreements between the applicant, State of New York, County of Suffolk, and other local authorities to enable responsible officials to respond decisively and constructively to an emergency in all ways that affect the public safety.
- (vii) Adequacy of emergency planning zones including the area encompassed by (theoretical) class 9 accidents.
- (viii) Adequacy of health treatment facilities for treating irradiated members of the public.
- (ix) Adequacy of public training programs.
- (x) Capability of Shoreham plant instruments to initiate the emergency plan including an automatic alarming and initiating system for notifying responsible local governmental officials.
- (xi) Adequacy of local medical supplies and equipment including the availability of potassium iodide tablets, a mild laxative, and a filter mask to diminish doses from internal emitters.



3. Accident Monitoring

The Intervenor's contend that the applicant has not adequately demonstrated that the Shoreham design meets the requirements of 10 CFR, Part 50, Appendix A, criteria 19 because of inadequate instrumentation to be sure the plant is being maintained in a safe condition during and following an accident, based on:

- The experience at the TMI-2 accident which showed accident and post-accident monitoring instruments were inadequate.
- The recent revision 2 of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident" details the needed devices and qualifications of instruments, many of which are not presently a part of the Shoreham design.

4. Human Factors

The applicant has not demonstrated and the NRC has not confirmed that the control room design at Shoreham and the training program for the operators (including simulator training) is adequate to comply with 10 CFR 50 Appendix A, Criterion 13 and Criterion 19, and to provide the timely control necessary to protect the health and safety of the public.

- The Shoreham Plant does not have a training simulator available which duplicates the specific features of the Shoreham control room.
- The human factor criteria and details of the control room design are not described in the FSAR.

- The NRC has not made a detailed evaluation of the human factors involved in the control room design, the simulator training program and the combined effect of these areas on safety.
- The effects of human error have not been specifically factored into the evaluation of control room design, operator training effectiveness and person-machine interface adequacy.

5. ALARA

Intervenors contend that the Shoreham plant design does not comply with the standards for protection against radiation exposure to workers regarding achievement of as-low-as-reasonably-achievable exposure objectives required by 10 CFR Part 20.1. Lack of compliance is evidenced by new information regarding:

- NRC response to the Kemeny Commission Report recommendation concerning the need for "better" understanding of the health effects of ionizing radiation.
- demonstration of lack of adequate design at TMI (and by implication, Shoreham) to ensure operability of the non-safety portions of a plant in the post-accident condition.
- inadequate attention to control room post-accident habitability design demonstrated at TMI-2.
- lack of attention given in the design to ensure recovery from accidents, including measuring, assessment, clean up, and waste disposal as demonstrated at TMI-2.

6. Quality Assurance/Quality Control

(a) Intervenors contend that the Applicant has not adequately developed and implemented a quality assurance program for the design, procurement, construction, and installation of structures, systems, and components for the Shoreham nuclear station as required by 10 CFR, Part 50, Appendix B, Criteria 1 through 18, and 10 CFR, Part 50, Appendix A, Criterion 1 with regard to the following:

- (i) Adequacy of disposition of specific construction deficiencies identified and described by Shoreham construction workers.
- (ii) Adequacy of quality requirements for non-safety related structures, systems, and components, with particular emphasis on those non-safety items which may be subject to system interactions between safety and non-safety related items.
- (iii) Adequacy of design verification by vendors including General Electric, of safety related equipment such as pumps, valves, instruments, motors and switch gear with emphasis on special processes, environmental qualification, qualification for aging, and seismic qualification.
- (iv) Adequacy of a review of NDE and NDT records.
- (v) Failure to provide an adequate corrective action program to define and resolve deficiencies discovered during construction.
- (vi) Adequacy of applicant's disposition of non-conformances for safety-related items.
- (vii) Adequacy of vendors, including General Electric, for reporting and dispositioning of non-conformances identified during the manufacture of safety-related items.

- (viii) Adequacy of safety classification of safety and non-safety structures, systems, and components.
- (ix) Adequacy of in-service inspection program including compliance with the requirement of Section XI of the ASME Code.
- (x) Adequacy of design verification program for potential system interactions between safety and non-safety related equipment.

#### 7. Generic Technical Issues

a. Intervenors contend that the Regulatory Staff has not adequately assessed the generic unresolved technical issues, both singularly and cumulatively, applicable to a BWR of the Shoreham design, in reviewing the Shoreham operating license application, and, as a result the Regulatory Staff has not required the Shoreham structures, systems, and components to be backfitted to current regulatory practices as required by 10 CFR, 50, 55(a) and 10 CFR, Part 50, 109, with regard to:

- (i) The list of category A, B, C, and D technicals issues defined in NUREG-0510, NUREG-0371, and NUREG-0471.
- (ii) Additional generic issues identified in 1979 including those identified as a result of the TMI-2 accident.

b. Intervenors contend that the applicant has not addressed the generic unresolved technical issues, as identified in (a) (i) and (a) (ii) above in the Shoreham FSAR to enable Regulatory Staff to review the plant as to all current regulatory practices including regulations,

regulatory guides, standard review plans and Branch technical positions as required by 10 CFR, Part 50, 109, and as further defined in 10 CFR, Part 50, Appendix A (General Design Criteria).

c. Intervenors contend that the applicant is deficient in that the Shoreham FSAR does not include an adequate plan, schedule and acceptance criteria for resolving each of the generic technical issues applicable to Shoreham, as listed in (a)(i) and (a)(ii) of this contention, as required by 10 CFR Part 34(b).

d. Intervenors contend that the Shoreham SER prepared by the Regulatory Staff is inadequate in that the SER does not identify and describe the plan and schedule for resolving each of the generic technical issues identified in Section (a)(i) and (a)(ii) of this contention and applicable to the Shoreham BWR as required by 10 CFR, Part 50.57.

#### 8. Instrumentation

Intervenors contend that Shoreham Nuclear Unit No. 1 does not have the capability to directly measure the temperature of fuel rods within the reactor core. General design criteria Number 13 requires instrumentation to monitor variables where appropriate to insure adequate safety and further provides that the instrumentation shall directly measure the desired variable. IEEE 279, Section 4.8, as incorporated in

10 CFR 50.55(h), states that:

To the extent feasible and practical protection system inputs shall be derived from signals which are direct measures of the desired variables.

The absence of such instrumentation and the failure of applicant and staff to require equivalent levels of protection poses a threat to public health and safety.

9. Operator Indicators

As evidenced by the accident at Three Mile Accident Unit 2, accident conditions can be aggravated by the operation of the plant while one or more safety systems are inoperable. At Three Mile Island, two auxiliary feedwater system valves were closed when they should have been open. Intervenor's contend that the Shoreham Plant does not contain an adequate system to inform the reactor operator when a safety system has been deliberately disabled. Applicant must provide a system which meets the specifications of regulatory guide 1.47 or its equivalent in order to adequately protect the public health and safety and which complies with 10 CFR Part 50, Appendix A, Criteria 20, 21 and 22.

10. Qualification of Non-Safety Equipment

Intervenors contend that applicant has failed to qualify numerous systems which are important to safety according to the requirements of General Design Criterion 4. As evidenced by the accident at Three Mile Island Unit 2, the accident environment in which equipment important to safety must function has been severely underestimated, leading to the failure of equipment previously thought to be environmentally qualified. Intervenors contend that the criteria for determining the adequacy of environmental qualification should be that contained in Regulatory Guide 1.89 or its equivalent. A failure to meet such criteria constitutes unreasonable danger to the public health and safety.

11. Qualification of Non-Safety Systems

As indicated by the accident at Three Mile Island 2, reactor systems and components which are currently classified as "non-safety related" may in fact have a significant effect on the integrity of the reactor core and on reactor safety in general. This is true since those systems might affect, directly or indirectly, temperature, pressure, flow and/or reactivity. At Section 3.2 of NUREG-0578 (TMI-2 Lessons Learned Task Force Report-Short Term Recommendations), the Lessons Learned Task Force indicates that it will further study

the problem of qualifying non-safety according to safety standards. Intervenor's contend that this short-term recommendation by staff is inadequate to protect the public health and safety. Intervenor's contend that all systems and components which can either cause or aggravate an accident or which might be used to mitigate an accident, must:

1. be identified and classified as components important to safety;
2. must be required to meet all safety grade designed criteria.

12. Mark II Containment

Intervenor's contend that the Shoreham primary containment system does not adequately fulfill the requirements of 10 CFR, Part 50, Appendix A, Criteria 4, 16, 50 and 51. This contention is supported by the fact of new information regarding:

- recently obtained evidence presented alleging shoddy Quality Control practices during the containment construction regarding lack of proper control of welding rod, cracks and honeycomb in the containment walls and basement, seawater intervision into uncurved concrete, improper curing of concrete by reason of early stripping of forms and inadequate freeze protection.
- the recent decision to install substantial additional downcomer bracing at another Mark II plant due to test discrepancies at one of the full scale Mark II confirmation tests and the associated implication that similar deficiencies exist at Shoreham.



-the unresolved issue of LOCA hydrogen generation quantities demonstrated at TMI-2 and the possible need for containment inerting, venting, or strengthening at Shoreham.

13. Anticipated Transient Without Scram (ATWS)

The applicant and the staff have not resolved the ATWS issue in a manner which permits the Shoreham Nuclear Plant to comply with 10 CFR 50, Appendix A, Criterion 20, 21 and 29 for the following reasons:

- The SER OPEN ITEMS LIST (resulting from October 17, 1979 meeting) shows the interim ATWS position for Shoreham is merely an RPT plus procedural/training requirements.
- BWR's are more sensitive to ATWS problems than PWR's and NUREG-0460 indicates that RPT will not prevent major fuel damage for some combinations of failures and sequences in an ATWS event.
- The experience at TMI-2 shows that procedural and manual functions may be overlooked or misoperated during the course of an accident and therefore cannot be relied upon to accomplish safety functions with a high probability of success.

14. Reactor Coolant Relief and Safety Valves

Intervenors contend that the Shoreham Reactor Coolant System Relief and Safety Valves have not been subjected to appropriate qualification testing to verify the capability of these valves to function during transient and accident conditions. These valves form part of the Reactor Coolant System Pressure Boundary. In the absence of appropriate testing of these valves and verification of their capability, applicant cannot demonstrate compliance with General Design Criteria 1, 14, 15 and 30, thereby endangering the public health and safety.

15. Control Rod Life

Intervenors contend that the reactor control rod design proposed for use at the Shoreham Plant does not meet the requirements of 10 CFR, Part 50, Appendix A, Criteria 4, 21, and 22. This contention is supported by the issuance by the NRC's I & E Bulletin 79-26 which advises the operators of BWR's of a recently observed control rod failure mode that can go undetected, jeopardizing the shutdown capability of the reactivity control system and endangering the public health and safety.

16. Emergency Core Cooling System

Intervenors contend that the Emergency Core Cooling System (ECCS) to be used in the mitigation of loss of coolant accidents does not meet the requirements of 10 CFR, Part 50.46, 10 CFR, Part 50, Appendix K, and furthermore, that the ECCS design verification program does not comply with 10 CFR, Part 50, Appendix B, Criterion III. This contention is supported by the fact of new information regarding:

- new test results obtained by the NRC Staff concerning inadequate modeling of clad swelling and flow blockage (NUREG-0630).
- incomplete results from the General Electric (GE) core spray test program.
- lack of resolution of the GE two-loop-test-apparatus discrepancies.
- uncertainty regarding peak clad temperature predictions and hydrogen generation non-conservatism evidenced at the TMI-2 accident.

17. Protection System Functioning

Intervenors contend that the design of the Shoreham Nuclear Unit No. 1 violates 10 CFR 50.55a(h) (sec. 4.16 of IEEE 279) which states:

the protection system shall be so designed that, once initiated, a protection system action shall go to completion.

As evidenced by the accident at Three Mile Island Unit 2, a reactor operator can shut off the emergency core cooling system prior to the completion of its stated function. Such an action by a reactor operator can aggravate a reactor accident and the failure of the Shoreham design to prevent such operator actions endangers the public health and safety. The Shoreham design must be modified so that operator action cannot disable a safety system once it has been initiated prior to that system's completion of its safety function.

18. Fire Protection

Intervenors contend that the applicant has not submitted an acceptable Fire Hazards Analysis to demonstrate the adequacy of his plant design to conform with the fire protection requirements of 90 CFR 50 Appendix A, Criterion 3 and considering the following additional information:

- The recommendations for greater cable separation and separate divisional cable spreading rooms per the recommendations of NUREG-0050.
- The requirements of Revision 2 of Regulatory Guide 1.75 regarding Physical Independence of electrical systems.
- The results of fire tests conducted at Sandia in July of 1977 which showed the minimum requirements for cable construction per IEEE 383-1974 may not provide adequate protection against fires, and the separation of R.G. 1.75 may not be sufficient to protect separated safety divisions.
- There is no approved Fire Hazards Analysis for Shoreham which demonstrates that the plant has an in-depth fire protection system.

19. Applicability of Regulatory Guides

Current NRC procedure does not require that existing nuclear plants under construction meet the criteria contained in NRC Regulatory Guides. As indicated by the accident at Three Mile Island Unit 2, the accident was aggravated or caused by factors which were the subject of Regulatory Guides but which were not incorporated into the design of Three Mile Island Unit 2. Similarly, the Shoreham Nuclear Unit 2 design does not incorporate all safety requirements contained in recent regulatory guides. The failure of the applicant and staff to demonstrate that the Shoreham design conforms with each regulatory guide presently applicable to plants of the GEBWR type unduly endangers the public health and safety.

20. New Final Environmental Statement

Intervenors contend that the FEIS prepared for the Shoreham Nuclear Power Station Unit No. 1 (NUREG-0285) fails to adequately assess numerous significant environmental issues and fails to meet the requirements of 10 CFR, Part 51, 23, and 51.26. Intervenors contend that the NRC must prepare a new FEIS for Shoreham Nuclear Unit 1. The areas of inadequacy in the existing FEIS include, but are not limited to:

- (a) Risk Assessment
- (b) Emergency Planning
- (c) Waste Disposal and transportation of spent reactor fuel
- (d) Failure to assess the consequences of a Class 9 accident
- (e) Health effects of low-level radiation
- (f) Need for the proposed facility and available alternatives
- (g) The environmental impacts of plant clean-up in the event of a serious accident.
- (h) Overall cost/benefit analysis
- (i) Environmental and cost/benefit impact resulting from failure to resolve generic safety issues as contained in NUREG-0410 and 0510.
- (j) New Final Environmental Report by applicant pursuant to 10 CFR Part 51.21.

RESERVATIONS

1. Petitioners reserve the right to amend their Contentions from time to time, to accommodate further issues which Petitioners believe ought to be raised within a reasonable time after each or any of the following:

- i. An Advisory Committee on Reactor Safeguards (ACRS) Meeting.
- ii. ACRS letter.
- iii. Issuance of a Final Environmental Impact Statement (FES).
- iv. Issuance of the Safety Evaluation Report (SER).
- v. Comments of anyone on the FES.
- vi. Regulatory Staff questions.
- vii. Applicant's answers to Regulatory Staff questions.
- viii. Amendments by the Applicant to any part of the application including the Preliminary Safety Analysis Report (PSAR) or the Environmental Report (ER) and site addendums.
- ix. Information generated by State agencies which have jurisdiction over the application in connection with matters which may affect this proceeding.
- x. Information submitted to the United States Environmental Protection Agency or regulations issued by that Agency, including but not limited to radiation release standards.
- xi. Matters obtained in discovery from anyone, and
- xii. The Regulatory Staff evaluation.

2. Petitioners reserve the right to participate by offering evidence and cross-examining and seeking discovery in connection with contentions raised or placed into issue by other parties to the proceeding in accordance with well-established principles of law and announced by the Atomic Safety and Licensing Appeal Board in ALAB-244, RAI-74-11 857 (November 21,



1974) and ALAB-252, RAI 75-1\_\_\_\_\_ (Slip Op.  
January 6, 1975).

3. Petitioners reserve the right to serve its contentions without prejudice to its right to present legal arguments on the basis of a full evidentiary record in this proceeding concerning, specifically, the comingling of promotional and regulatory responsibilities in the NRC, the constitutionality of the Price Anderson Act, and the constitutionality and validity of the NRC regulations governing this proceeding.

4. Should any of the contentions of Petitioners be deemed to constitute an attack on any rule or regulation of the Commission, they reserve the right to petition pursuant to 10 CFR, §2.758 that the application of such rule or regulation be waived or an exception made for this proceeding on the ground that the special and unprecedented circumstances with respect to the site of the proposed unit are such that application of the rule or regulation would not serve the purposes for which it was adopted.

Respectfully submitted,

BY:

  
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