UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
Public Service Electric and Gas Company, et al.	)	Docket No. 50-354
	)	
	)	
(Hope Creek Generating Station)	)	
	)	

INTERVENOR'S SECOND SET OF INTERROGATORIES AND REQUEST FOR PRODUCTION OF DOCUMENTS TO APPLICANTS

Pursuant to the Rules of Practice of the Nuclear Regulatory Commission ("NRC"), 10 C.F.R. §2.740(b), and the Atomic Safety and Licensing Board's Special Preharing Conference Order (December 21, 1983), the Public Advocate of the State of New Jersey ("Intervenor" or "Public Advocate") hereby propounds the following interrogatories to Public Service Electric and Gas Company, et al. ("Applicants") to be answered fully in writing, under oath, in accordance with the definitions and instructions below.

Additionally, pursuant to 10 C.F.R. §2.741, the Public Advocate requests that Applicants produce for inspection and copying (or provide copies of) those documents designated by applicants in their respective answers below and those requested by intervenor in his request for production of documents.

These interrogatories and request for production of documents are in six parts as follows: I - Pipe Cracks Interrogatories; II - Pipe Cracks Request for Documents; III - Management Competence Interrogatories; IV - Management Competence Request for Documents; V - Environmental Qualification Interrogatories; and VI - Environmental Qualification Request for Documents.

Definitions and Instructions

1. For each interrogatory, please state the full name, business address, and title or position of each person providing information for the answer to the interrogatory.

2. The following definitions shall apply:

a. "Intervenor" shall refer to the Public Advocate of the State of New Jersey, or any official, employee, or consultant thereof.

b. "Document" or "writing" shall mean any written, printed, typed, or other graphic matter of any kind or nature, and all mechanical and electronic sound recordings or transcripts thereof, in the possession, custody, or control of intervenor, or its officials, employees, or agents; it shall also mean all copies or drafts of documents by whatsoever means made.

c. "Date" shall mean the exact day, month, and year, if ascertainable, or, if not ascertainable, the best approximation (including the event's relationship to other events in the relevant context of the interrogatory).

d. "NRC" or "Commission" shall mean either the Atomic Energy Commission or the Nuclear Regulatory Commission, as appropriate, including its regulatory staff and adjudicatory boards, as indicated by the context of the interrogatory.

e. "Specify" or "identify" when referring to a proceeding before the Nuclear Regulatory Commission, means that the answer shall set forth the proceeding, applicant, docket

number, relevant date, and any other descriptive information appropriate to the request.

f. "Specify" or "identify," when referring to an individual, corporation, or other entity, means that the answer shall set forth the name, present or last known business address, and, if a corporation or other entity, its principle place of business or, if an individual, his or her title or titles and employer. Once an individual, corporation, or other entity has been identified in answer to an interrogatory, it shall be sufficient thereafter when identifying that individual, corporation or other entity to state merely his, her, or its name.

g. "Basis" shall mean any document (as defined in 2(b) above), analysis, study, reference, or source upon which intervenor relies for any assertion in the contentions or which will be referred to or used in cross-examination of Applicants' witnesses.

h. "Applicants," "P.S.E.&G.," "You" or "Your" shall refer to Public Service Electric & Gas Company, et al., applicants in this proceeding, or any official, employee, contractor, subcontractor or consultant thereof.

3. These interrogatories request all knowledge and information in applicants' possession and/or knowledge and information in the possession of applicants' agents, representatives, consultants, and, unless privileged, attorneys.

4. In your answer, repeat each interrogatory set forth herein and then set forth an answer thereto separately and fully. As to any interrogatory,

section or subsection of said interrogatory that you refuse to answer or which is objected to for any reasons, separately state the grounds for any such refusal. Where a complete answer to a particular interrogatory, section or subsection of said interrogatory is not possible, such interrogatory, section or subsection of said interrogatory should be answered to the extent possible and a statement made indicating the reason for the partial answer.

5. Identify any documents used as the basis for the answer to each interrogatory.

6. If the answer to any interrogatory is based upon a calculation, describe (a) the calculation, (b) identify any documents setting forth such calculation, (c) identify the person who performed each calculation, (d) when it was performed, (e) each parameter used in such calculation, each value assigned to the parameters, and the source of your data, (f) the results of each calculation, and (g) how each calculation provides a basis for the answers.

7. If the answer to any interrogatory is based upon conversations, consultations, correspondence or any other type of communications with one or more individuals (a) identify each such individual by name and address, (b) state the educational and professional background of each such individual, (c) describe the information received from such individual and its relation to your direct answer, (d) identify each writing or record related to each such conversation, consultation, correspondence or other communication with such individual.

8. In accordance with 10 C.F.R. §2.740(e) and the Licensing Board's Order of December 21, 1983, these interrogatories are continuing in nature and require prompt supplemental answers should applicants obtain or identify supplemental information or documents.

I. PIPE CRACKS: INTERROGATORIES

1. For each of the following types of piping, list and identify all piping of that type that has been or is planned to be used in safety-related systems in the construction of the Hope Creek generating station. For each such piping, list the chemical composition, diameter, wall thickness, operating pressure and temperature, design pressure and temperature, and identify the system of which it is a part:

   (a) type 304 stainless steel piping;

   (b) type 316 stainless steel piping;

   (c) type 304L stainless steel piping;

   (d) type 316L stainless steel piping;

   (e) type 316K stainless steel piping;

   (f) type 304NG stainless steel piping;

(g) type 316NG stainless steel piping;

(h) type 347NG stainless steel piping;

(i) type 308L stainless steel piping;

(j) IGSCC-resistant low-strength carbon steel piping;

(k) IGSCC-resistant and NRC approved nickel-based piping; and

(l) cast low-carbon/high-ferrite austenitic stainless steel piping.

2. Provide a listing of all piping welds on all type 304SS or 316SS piping. Identify each weld by serial number or other weld identification number; state whether the weld is a field weld or a shop weld and identify any and all IGSCC-countermeasures used or applied; and provide the quantification of the stress rule index value for each of the welds.

3. Identify and describe all plans and procedures to mitigate intergranular stress corrosion cracking (IGSCC) by means of hydrogen water chemistry at the Hope Creek generating station. If hydrogen water chemistry is not to be utilized as a countermeasure to IGSCC, explain why it is not to be so used.

4. Identify and describe all plans and procedures to mitigate IGSCC in safety-related systems by means of reducing the tensile residual stress level in the heat-affected zones of susceptible piping. In responding to this interrogatory, include the following information.

(a) each instance in which induction heating stress improvement (IHSI) has been utilized on welds at the Hope Creek generating station. For each such instance, identify the piping on which the weld was performed by size and type and the system of which the piping is a part.

(b) each instance in which heat-sink welding (HSW) has been utilized at the Hope Creek generating station. For each such instance, identify the piping on which the weld was performed by its size and type and the system of which the piping is a part.

(c) each instance in which corrosion-resistant cladding (CRC) of field welds was utilized at the Hope Creek generating station. For each such instance, identify the piping on which the weld was performed by its size and type and the system of which the piping is a part.

(d) each instance in which last-pass heat-sink welding (LPHSW) has been utilized at the Hope Creek generating station. For each such instance, identify the piping on which the weld was performed by its size and type and the system of which the piping is a part.

5. Identify and describe the inspection techniques, methods, plans and procedures that will be utilized at the Hope Creek generating station to detect IGSCC. For each such inspection technique, method, plan or procedure, identify or describe:

(a) the planned frequency of the inspection;

(b) the reliability of the technique, method, plan and procedure in measuring the length and depth of pipe cracks;

(c) the equipment to be utilized;

(d) the personnel that will conduct the inspection;

(e) the specific procedures to be followed; and

(f) the reports that will be prepared following the inspection.

6. Describe any and all plans designed to minimize or eliminate variability in operator procedure in IGSCC detection.

7. Describe any and all plans designed to minimize or eliminate variability in equipment performance in IGSCC detection.

8. State:

(a) whether the calibration blocks for ultrasonic testing (UT) will contain welds:

(b) where on the calibration blocks the calibration reflectors will be located; and

(c) whether notches or side-drilled holes will be used as calibration reflectors on the calibration blocks.

9. State whether 60° shear wave UT examination will be performed.

10. State whether a skewed scan UT examination will be performed on welds to detect defects oriented other than parallel or perpendicular to the weld.

11. State whether the 50% DAC method of crack length sizing will be revised for use at the Hope Creek generating station to require that end points of a flaw be determined by loss of signal amplitude to the background noise level.

12. State whether consideration was or is now being given in the planning, design, or construction of Hope Creek to the need for adequate access for UT weld inspection in pipe joint design and installation. If so, describe in full all changes in design or installation that have resulted or will result from this consideration.

13. Identify all employees of PSE&G and of its contractors and subcontractors that have performed baseline UT inspections during the construction stage of the Hope Creek generating station. For each individual who performed such baseline UT inspections, state the individual's name, age, job description, qualifications, educational level, training and experience. Also identify whether each such individual will continue to be utilized to perform periodic UT inspections durthe life of the plant.

14. State whether passing the EPRI/NDE Center one-week training course on IGSCC crack detection (EPRI/NDE training course) will be a job requirement for Hope Creek UT operators. Identify all other training that will be required of or provided to such operators.

15. List and describe the ways in which the requirements of IEB 83-02 and IEB 83-03 have been or will be complied with at Hope Creek.

16. State whether the crack-tip diffraction sizing approach will be utilized in crack detection at Hope Creek. If so, describe this approach, estimate its accuracy, identify the operators that will be utilizing this approach and state the planned frequency of such inspections.

17. State whether automated UT data collection by mechanical scanners will be utilized at the Hope Creek generating station. If so, describe the procedures and equipment to be utilized, and identify the systems to be inspected using this means.

18. State whether automated UT data recording techniques will be utilized at the Hope Creek generating station. If so, describe the techniques and equipment to be utilized.

19. State whether an automated UT data interpretation system or systems will be utilized at the Hope Creek generating station. If so, describe the equipment and procedures to be utilized, and identify the interpretation algorithm to be used.

20. Describe the processes that will be used for conducting "blind test" performance demonstrations to quantify the flaw detection probability and characterization accuracy for candidate ultrasonic inservice inspection systems. (UT/ISI).

21. Specify the flaw detection probability and characterization accuracy standards that will be implemented at Hope Creek as a qualification for performing UT/ISI.

22. State whether you will meet the minimum requirements developed by the Ad Hoc Committee for Development of Qualification Requirements for Nuclear Utility Examination Personnel in September 1983 (NUR-MR-1A). If so, provide a copy of your "Written Practice" as required by NUR-MR-1A specifying how you will comply with those minimum requirements.

23. State whether you will intend to meet the procedure and personnel qualification requirements code case being developed by the ASME Section XI Working Group on Nondestructive Examination.

24. State whether you will meet the requirements of the lastest version of Code Case N-335.

25. State whether the Hope Creek generating station will utilize an acoustic leak detection system. If so, describe the system that will be utilized at Hope Creek and identify where and how it will be used.

26. State whether the Hope Creek generating station will utilize a moisture-sensitive tape leak detection system. If so, describe the system that will be utilized at Hope Creek and identify where and how it will be used.

27. State whether the Hope Creek generating station will utilize a sump pump monitoring system to detect pipe cracks and leaks. If so, describe the system that will be utilized at Hope Creek and identify where and how it will be used. Also identify the surveillance intervals and limits on unidentified leakage to be utilized.

28. Identify all systems within the Hope Creek generating station that you have determined are very unlikely to be susceptible to IGSCC. Explain the reasons for this determination.

29. Identify all systems within the Hope Creek generating station that you have determined are likely to be susceptible to IGSCC. Explain the reasons for this determination.

30. Provide your flaw evaluation criteria for IGSCC. Specify what length and depth of cracking will be accepted for continued operation without repair for each piping size and for each joint specific load utilized in every system within the Hope Creek generating plant.

31. Identify all instances in which continued operation without repair will be permitted where crack length exceeds 25% of pipe circumference.

32. For each of the following categories, state whether you will inspect pipe welds according to the following minimum schedule:

(a) 25% of the welds of each pipe size in ten years, with one-third of these inspected every three and one-third years or the nearest refueling outage: for welds on stainless steel type 304L, 316L, 316K, 304NG, 316NG, 347NG and 308L piping; low-strength carbon steel piping; NRC-approved nickel-based piping; cast low-carbon/high ferritte austenic stainless steels; and welds solution heat-treated after fabrication and welding:

(b) 50% of the welds of each pipe size in ten years, with at least one-third of these inspected every three and one-third years of the nearest refueling outage: for welds on piping to which IHSI, HSW or LPHSW has been applied, where hydrogen water chemistry has been continuously implemented.

(c) 100% in six years, with at least one-half of these to be inspected every three and one-third years or the nearest refueling outage: for all other welds.

33. Estimate the total cost, including the cost of purchasing replacement power during shut-down, of IGSCC-related damage to the Hope Creek generating station during the life of the plant. List separately each category of estimated expenses for each expected incident and the statistical source for all such estimates.

34. List your estimate of the current cost of replacing all type 304 stainless steel piping with IGSCC-resistant piping for each system within the Hope Creek generating station that utilizes type 304 piping. Identify the statistical sources for all such estimates.

35. List and identify all welds that will require manual rather than automated UT inspection, as stated at page 10 of Applicants' Answer To Proposed Contentions Of The Public Advocate of the State of New Jersey dated November 18, 1983. For each such weld, identify the dimensions of the piping involved, its type and the system of which it is a part.

36. Identify each person whom you expect to call as an expert witness with respect to contention 1 relating to pipe cracks. For each such person, state the subject matter on which he or she is expected to testify, the substance of the facts and opinions to which he or she is expected to testify, and a summary of the grounds for each such opinion. Also describe the educational and professional qualifications of each such person, the publications, if any, of the person, and identify any previous proceeding in which that person has testified.

II. PIPE CRACKS: REQUEST FOR DOCUMENTS

1. Provide a copy of the letter from R. L. Mittl, General Manager - Licensing and Environment, Engineering and Construction to Director, Nuclear Reactor Regulation, Nuclear Regulatory Commission, dated September 28, 1979.

2. Provide copies of any and all written letters, notes, forms, reports, memoranda, agreements, minutes, resolutions, applications, analyses, contracts, policies, plans or any other writing relating to intergranular stress corrosion cracking (IGSCC).

3. Provide copies of any and all written letters, notes, forms, reports, memoranda, agreements, minutes, resolutions, applications, analyses, contracts, policies, plans or any other writing relating to the selection of piping for the Hope Creek generating station.

4. Provide copies of any and all written letters, notes, forms, reports, memoranda, agreements, minutes, resolutions, applications, analyses, contracts, policies, plans or any other writing relating to the mitigation of or countermeasures to IGSCC at the Hope Creek generating station.

5. Provide copies of any and all written letters, notes, forms, reports, memoranda, agreements, minutes, resolutions, applications, analyses, contracts, policies, plans or any other writing relating to the use of IGSCC-resistant materials at the Hope Creek generating station.

6. Provide copies of any and all written letters, notes, forms, reports, memoranda, agreements, minutes, resolutions, applications, analyses, contracts, policies, plans or any other writing relating to the replacement of existing piping of the Hope Creek generating station with IGSCC-resistant materials.

7. Provide copies of any and all written letters, notes, forms, reports, memoranda, agreements, minutes, resolutions, applications, analyses, contracts, policies, plans or any other writing relating to the projected and actual cost of IGSCC and IGSCC-related problems at the Hope Creek generating station including but not limited to piping replacement, replacement power, IGSCC countermeasures, and IGSCC mitigation.

8. Provide copies of any and all written letters, notes, forms, reports, memoranda, agreements, minutes, resolutions, applications, analyses, contracts, policies, plans or any other writing relating to the training and qualification of employees to inspect piping and welds for pipe cracks at the Hope Creek generating station.

9. Provide copies of any and all written letters, notes, forms, reports, memoranda, agreements, minutes, resolutions, applications, analyses, contracts, policies, plans or any other writing relating to the use of hydrogen water chemistry as a countermeasure to IGSCC.

10. Provide copies of all correspondence between P.S.E.& G. and the NRC relating to the subject of IGSCC at the Hope Creek generating station.

11 Provide copies of all internal studies, recommendations, contingency plans or other writings relating to the repair of type 304 piping at the Hope Creek generating station.

12. Provide copies of all in-service inspection reports relating to the measures taken to mitigate IGSCC at the Hope Creek generating station.

13. Provide copies of all schematic isometric piping drawings for all stainless steel piping systems exposed to primary reactor coolant at the Hope Creek generating station. Indicate on these drawings the locations of all piping system welds, the serial numbers or other weld identification numbers used by P.S.E.& G. or its contractors, and whether the weld is a field weld or a shop weld.

14. Provide copies of all BWR type 304 stainless steel piping system studies performed by or through the Electric Power Research Institute for any utility owner's group with which P.S.E.& G. is associated.

III. MANAGEMENT COMPETENCE: INTERROGATORIES

1. Identify and describe all steps P.S.E.&G. has taken or plans to take to meet the "character" requirement of Section 182(a) of the Atomic Energy Act, 42 U.S.C. §2232(a), to operate the Hope Creek generating station.

2. Identify and describe all steps P.S.E.&G. has taken or plans to take to ensure its "technical qualification" within the meaning of 10 C.F.R. Part 50, Sec. 50.56 and 50.57(a)(4), to operate the Hope Creek generating station.

3. Identify and describe what P.S.E.&G. has learned regarding its management practices from the failures and problems experienced at the Salem generating station.

4. Identify and describe all of the management-related causes of the failures and problems experienced at the Salem generating station.

5. Identify and describe each of the changes in management structure, practice, staffing, philosophy or training suggested by any and all consultants retained by P.S.E.&G. related to P.S.E.&G.'s Nuclear Department or the operation of the Salem or Hope Creek generating stations.

6. Identify and describe each of the changes in P.S.E.&G. management structure, practice, staffing, philosophy or training suggested by the NRC or its staff.

7. Identify each instance in which P.S.E.&G. has been fined or cited for any deficiency by the NRC. For each such instance, identify (a) the reason for the NRC's action; (b) P.S.E.&G.'s response to the notice of violation involved; (c) P.S.E.&G.'s response to the proposed fine; and (d) any and all corrective measures undertaken by P.S.E.&G. in response to the NRC's action.

8. State the reasons why P.S.E.&G. found it necessary or appropriate to reorganize its Nuclear Department in 1984; identify and describe each of the changes in the structure and staffing of the Nuclear Department that resulted from this reorganization; and for each such change, identify and describe in full the specific reason therefor.

9. Identify how P.S.E.&G. will ensure that the management and staff of the Hope Creek generating station will be aware of and learn from the experiences of the management and staff of the Salem generating station. Identify all documents that in any way discuss this issue.

10. Identify and describe all changes to the FSAR that resulted from the Director's Order of May 6, 1983, as referred to in Applicants' Answer To Proposed Contentions of the Public Advocate of the State of New Jersey at 23 n. 48.

11. Identify each instance in which NRC staff met with P.S.E.&G. personnel after February 25, 1983, to discuss issues related to management, including but not limited to P.S.E.&G. administration, quality assurance, personnel matters, staffing levels, training, philosophy of management, staff or management experience, management failures or human error. For each such instance, identify:

(a) the date of the meeting;

(b) the individuals in attendance;

(c) whether a transcript, recording, notes, memos, or minutes exist from the meeting;

(d) the subject matter of the discussion;

(e) all documents or other writings discussed;

(f) all documents or other writings produced as a result;

(h) the NRC's concerns or recommendations in their discussions;

(i) P.S.E.&G.'s response in these discussions to the NRC's concerns or recommendations;

(j) any modifications or change in management practices or procedures implemented as a result of the discussions;

(k) any concerns or recommendations of the NRC not acted upon by P.S.E.&G.; and

(l) the reasons P.S.E.&G. did not act upon any of the recommendations or concerns listed in 11(k)

12. Identify all documents or other writings in your possession regarding or relating to:

(a) management or staff turnover in the Nuclear Department;

(b) management or staff turnover at the Salem generating station;

(c) management or staff turnover at the Hope Creek generating station;

(d) management or staff turnover at the Engineering and Construction Department;

(e) problems in liaison or coordination with Bechtel and other Hope Creek contractors and sub-contractors;

(f) allegations or reports of records falsification at either the Hope Creek or Salem generating station;

(g) allegations or reports of drug or alcohol use at either the Hope Creek or Salem generating station;

(h) management or staff absenteeism at either the Hope Creek or Salem generating station;

(i) allegations or reports of management inadequacy, ineffectiveness or incompetence at either the Hope Creek or Salem generating station;

(j) allegations or reports of inadequate, inaccurate, improper or poor planning by the Nuclear Department;

(k) allegations regarding the substandard performance of the Engineering and Construction Department.

13. Identify and describe all procedures and methods instituted by P.S.E.&G. to monitor and evaluate the performance of its managerial employees in the Nuclear Department.

14. Identify each person whom you expect to call as an expert witness with respect to contention 2 relating to management competence. For each such person, state the subject matter on which he or she is expected to testify, the substance of the facts and opinions to which he or she is expected to testify, and a summary of the grounds for

each such opinion. Also describe the educational and professional qualifications of each such person, the publications, if any, of the person, and identify any previous proceeding in which that person has testified.

15. State what programs, policies or other mechanisms have been established to ensure commitment by upper level corporate management to take all steps necessary to ensure the safe and efficient operation of its nuclear power plants.

16. Identify all individuals and departments within P.S.E.&G. and all individuals and organizations outside PSE&G that have evaluated in writing P.S.E.&G.'s Nuclear Department or its management of either the Salem or Hope Creek generating stations.

17. Identify and describe all corrective action or changes implemented by P.S.E.&G. in response to the following suggestions made by the Management Analysis Company (MAC) at page ii of its June 24, 1983 "Management Assessment and Action Plan for Improvement of Salem Stations 1 and 2 Operations" (MAC I report):

-- Clarification of jurisdictional scopes and individual role responsibilities to enhance site management's capability to manage and to improve accountability throughout the Nuclear Department.

-- Development and implementation of an effective transition management process.

-- Timely staffing of open supervisory and support positions required to perform the work of the Nuclear Department effectively.

-- Consolidation of the safety review process and an improved system for commitment tracking.

-- Development and implementation of a more comprehensive configuration management program, including improved design change process, document control and records management.

-- Coordination of management systems, procedures and interdepartmental communications to enhance the capacity of all organizations to provide comprehensive technical and administrative support to Operations.

-- Clarification of program priorities and the coordination of interdepartmental procedures and communications to improve the effectiveness of the quality programs.

-- Organizational and systems improvements for more effective planning and coordination of maintenance and plant betterment activities.

18. Identify all staff and management positions in the Nuclear Department that are open or unfilled as of the date you answer these interrogatories.

19. Describe how the "excessive demands placed upon the Vice President - Nuclear" identified at page 3-2 of the MAC I report has been corrected or mitigated.

20. Describe how the problems resulting from the "geographical distance between Corporate and the Nuclear Department" identified at page 3-2 of the MAC I report have been corrected or mitigated.

21. Identify and describe all corrective actions or steps taken to implement the suggestions and recommendations contained in the "Assessment of the Public Service Electric & Gas Company Operations Quality Assurance Program for Salem Generating Stations Units 1 and 2" prepared by Management Analysis Company and dated July 27, 1983 (MAC II report).

22. Identify which division or office within P.S.E.&G. is "specifically responsible for verification of status and completion of all commitment items" as stated at page 2-4 of the MAC II report. Identify the organizational document or manual that establishes this responsibility.

23. State whether the P.S.E.&G. Quality Assurance Department (QAD) makes regularly scheduled audits to assure that the verification program described above is working effectively. If so, identify the frequency of such audits and provide the dates and results of the audits since February 25, 1983.

24. State whether a "formal trend analysis program" has been established as recommended at page 2-7 of the MAC II report. If so, describe this program.

25. Describe all steps taken to implement the recommendations and suggestions contained in "A Review of Public Service Electric & Gas Company Corrective Action Program Related to Reactor Trip Breaker Failures at Salem Generating Station, Unit 1" dated May 27, 1983 and submitted by Basic Energy Technology Associates, Inc. (BETA).

26. State whether P.S.E.&G. has established a Nuclear Oversight Committee (NOC). If so, describe how the concerns raised in the May 27, 1983 BETA report at p. 12-13 have been resolved. If not, describe how the proposed objectives of the NOC have been otherwise accomplished.

27. Describe how P.S.E.&G. senior nuclear management has developed a "better capability to determine how well their new organizational plan is functioning, particularly at the lower levels" as recommended by BETA at page 14 of its May 27, 1983 report.

28. State whether P.S.E.&G. has "review[ed] existing pre-start test requirements to determine if additional testing of safety related components or systems is desirable," as recommended by BETA at page 15 of its May 27, 1983 report. If so, describe what changes have been implemented as a result of such a review.

29. Describe what efforts have been undertaken by P.S.E.&G. to reduce the number of unplanned reactor trips at the Salem generating station Units 1 and 2, as recommended by BETA at page 16 of its May 27, 1983 report.

30. Describe all steps taken to "integrate more fully the nuclear engineering organization into plant operations" as recommended at p. 18 of the BETA report of May 27, 1983.

31. List and describe all short and long term items in the P.S.E.& G. Corrective Action Plan. For each item: (1) describe specifically all steps taken pursuant thereto; (2) describe any steps remaining to be taken; and (3) state the expected or actual completion date.

32. Identify and describe and and all steps that have been taken or will be taken by P.S.E.&G. to ensure that its management displays "the expected aggressive effort to self evaluate and redirect efforts to correct internally identified problems" found to be lacking by the NRC staff at page 37 of the Salem Restart SER. Identify all documents relating to any such steps.

33. Identify and describe any and all steps that have been or will be taken by P.S.E.&G. to remedy the "poor communication among the various departments [that] has hindered the development of a sensitivity within the [Salem] station staff to identify and resolve problems that are outside their direct sphere of influence," as noted by the NRC staff at page 38 of the Salem Restart SER. Identify all documents relating to any such steps.

34. Identify and describe any and all steps that have been or will be taken by P.S.E.&G. to remedy the "parochialism" that the NRC staff found, at page 38 of the Salem Restart SER to be the result of the isolation of support groups, and in particluar, of maintenance and engineering, from one another. Identify all documents relating to any such steps.

35. Identify and describe any and all steps that have been or will be taken by P.S.E.&G. to remedy the "problem . . . of high level station management and first line station supervision failing to adequately assess the performance of their subordinates, especially with respect to adherence to procedures," as noted by the NRC staff at page 38 of the Salem Restart SER. Identify all documents relating to any such steps.

36. Identify and describe any and all steps that have been or will be taken by P.S.E.&G. to remedy the problem identified by the NRC staff at page 38 of the Salem Restart SER that "first line supervisors appear to refrain from raising issues outside of their defined scope of responsibility . . ." Identify all documents relating to any such steps.

37. Identify and describe any and all steps that have or will be taken by P.S.E.&G. to remedy the problems that suggested to the NRC staff that there had been "a major breakdown in management and quality assurance program implementation at the Salem Nuclear Generating Station." Salem Restart SER at 38. Identify all documents relating to any such steps.

38. Identify and describe all steps taken by P.S.E.&G. to correct or remedy the "lack of resolve on the part of [P.S.E.&G.] managers and supervisors in enforcing adherence to procedures" perceived by the NRC staff identified by the NRC at page 39 of the Salem Restart SER as one of the principal causes of the February 22 and 25, 1983 events at Salem Unit 1. Identify all documents relating to any such steps.

39. Identify and describe all steps taken by P.S.E.&G. to improve "the safety perspective displayed by the corporate management" identified by the NRC staff at page 39 of the Salem Restart SER as one of the principal causes for the February 22 and 25, 1983 events at Salem Unit 1. Identify all documents relating to any such steps.

40. Identify and describe all steps taken by P.S.E.&G. to become "proactive" rather than "reactive" in its approach to the kinds of problems resulting in the February 22 and 25, 1983 events at Salem Unit 1, as suggested by Region I Administrator Thomas Murley at a meeting with P.S.E.&G. officials on April 10, 1984. Identify all documents relating to any such steps.

41. Identify and describe all ways in which P.S.E.&G.'s top corporate leaders have increased their involvement with the daily operation of P.S.E.&G.'s nuclear plants, as stated by Harold Sonn on April 10, 1984. Identify all documents relating to any such steps.

42. Identify and list each of the approximately thirty outside groups that have assessed P.S.E.&G.'s nuclear operations, as stated by P.S.E.&G. officials on April 10, 1984. Summarize the conclusions and recommendations of each such assessment.

43. Identify and describe all steps taken by P.S.E.&G. to become more aggressive in solving its own problems before being pushed by the NRC, as suggested by Region I Administrator Thomas Murley on April 10, 1984. Identify all documents relating to any such steps.

44. Identify the oversight committee formed in October 1938 to advise P.S.E.&G. List each of the dates this committee has met and provide copies of the summaries or minutes of these meetings.

45. Identify the dates of each observation of an operating BWR or PWR which took place pursuant to your structured PWR/BWR observation program referred to at p. 13-10 of the SER. For each such observation, identify the names of all personnel participating in the observation and the license for which they were being trained, the name and location of the reactor observed, the specific systems and procedures observed, and whether the reactor observed was a BWR or PWR.

46. Describe in detail how you will meet the requirements of Generic Letter 84-10 in response to the concerns of the NRC staff as indicated at p. 13-11 of the SER.

47. Identify and describe all specific TSSP and other training courses for each Hope Creek management and staff position identified in the FSAR, as suggested by the NRC staff at p. 13-17 of the SER.

48. List and identify each and every person who provided information for use in "An Overview of PSE&G Technical Qualifications and Management Capability in Support of the Operation of Hope Creek Generating Station" dated July 1984 (Management Overview Report).

49. List and identify each and every person who in any way participated in the drafting, editing or review of the Management Overview Report.

50. Describe all procedures that will be used to "coordinate on a routine basis concerning 'lessons learned' and to address operating problems from a shared experience data base for all three units" as referred to at p. 2-1 of the Management Overview Report. Also identify all personnel that will participate in such procedures.

IV. MANAGEMENT COMPETENCE: REQUEST FOR DOCUMENTS

1. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing relating to the technical qualification of applicants to operate Hope Creek within the meaning of 10 C.F.R. Part 50, Sec. 50.56 and 50.57(a)(4).

2. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing by either the NRC, including its Boards, officers and staff, or P.S.E.&G. in applicants' possession or control referring to or identifying the actions or inactions of management that caused, contributed to or aggravated the ATWS event at Salem Unit-I on February 22 and 25, 1983.

3. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing by the NRC, including its Boards, officers and staff, or P.S.E.&G. in applicants' possession or control relating to the management aspects or portions of the Corrective Action Program proposed by P.S.E.&G. in response to the failures of the reactor protection system at Salem Unit I on February 22 and 25, 1983 (Corrective Action Plan).

4. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing by any and all consultants relating to P.S.E.&G. management of the Salem or Hope Creek generating stations.

5. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing relating to the implementation of the Corrective Action Plan.

6. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing explaining to management or other personnel of P.S.E.&G. what policies, procedures, plans or other measures should be undertaken at the Hope Creek generating station to prevent the occurrence of any of the problems identified prior to, during or after the ATWS at Salem generating station on February 22, and 25, 1983.

7. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing relating to the principles or philosophy of management at the Salem or Hope Creek generating stations.

8. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing relating to management training for any and all personnel involved in either the Salem generating station or the Hope Creek generating station.

9. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing relating to the proposed management and staff organization for the operation of the Hope Creek generating station.

10. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing relating to the establishment, operation and recent reorganization of P.S.E.&G.'s Nuclear Department identified in the SEC at p.

11. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing by or to the other owners of the Salem generating station relating to the failures of the reactor protection systems at Salem Unit I on February 22 and 25, 1983.

12. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing by or to the owners of the Salem generating station relating to P.S.E.&G.'s management or operation of the Salem generating station.

13. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing relating to P.S.E.&G.'s "character" to operate Hope Creek within the meaning of Section 182(a) of the Atomic Energy Act, 42 U.S.C. §2232(a).

14. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing relating to the Salem or Hope Creek generating stations, from, by or to the P.S.E.&G. Nuclear Safety Advisory Board.

15. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing relating to Hope Creek from, by or to the Public Service Startup Group (PSSUG).

16. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing relating to Hope Creek from by or to the Preoperational Test Review Committee (PORC).

17. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing relating to Hope Creek from, by or to the Station Operations Review Committee (SORC).

18. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing by any and all consultants relating to P.S.E.&G.'s nuclear operations, nuclear quality assurance, nuclear safety review, and nuclear program.

19. Provide copies of any and all reports, notes, memos, letters, minutes or any other writing pertaining to meetings between P.S.E.&G. employees and NRC staff relating to to the management of the Salem generating stations or the rectification of the failures of the reactor protection systems at Salem Unit I.

20. Provide a copy of the letter dated October 3, 1984 from R. Mittl to A. Schwencer relating to P.S.E.&G.'s organizational structure.

21. Provide copies of Systematic Analysis of License Performance (SALP) reports relating to either the Salem generating station or the Hope Creek generating station.

22. Provide copies of all Institute of Nuclear Power Operators (INPO) reports relating to either the Salem generating station or the Hope Creek generating station.

23. Provide a copy of P.S.E.&G.'s 1980 "Corporate Structure" Report to the NRC and any other reports, studies, letters or other writings submitted or prepared in response to the Three Mile Island Review Action Plan Request, NUREG, 0737 "Clarification of TMI Action Plan Requirements", Enclosure 2 ("Applicants for Operating License"), Item I.B.1.2. ("Evaluation of Organization and Management").

24. Provide copies of all minutes, notes, reports, and any other writings relating to meetings of the P.S.E.&G. Safety Review Board.

25. Provide copies of all written reports, memos, letters, analyses or other writings relating to the evaluation or assessment of the job performance of the following employees:

(a) vice-president - nuclear

(b) assistant vice-president - nuclear operations support

(c) general manager - nuclear engineering

(d) manager - nuclear licensing and reliability

(e) personnel affairs manager - nuclear

(f) assistant vice-president - nuclear operations

(g) general manager - Hope Creek operations

(h) general manager - Salem 182 operations

(i) general manager - nuclear services

(j) manager - outage services

(k) general manager - nuclear safety review

(l) general manager - nuclear quality assurance

(m) Hope Creek station general manager

(n) Hope Creek assistant general manager

(o) Hope Creek station operations manager

(p) all Hope Creek senior nuclear shift supervisors

(q) all Hope Creek nuclear shift supervisors

(r) all Hope Creek nuclear control operators

(s) all Hope Creek equipment operators

(t) Hope Creek technical manager

(u) Hope Creek maintenance manager

(v) Hope Creek radiation protection engineer

(w) Hope Creek startup manager

26. Provide copies of all written reports, memos, letters, summaries, documents or other writing related to the organizational structure of applicant provided to the NRC staff during meetings with the applicant on July 23, 24 and 25, 1984.

27. Provide a copy of H. R. Denton's letter of March 28, 1980, to all power reactor applicants and licenses.

28. Provide copies of all notes, memos, reports, proposals, evaluations, letters, minutes, agreements, policies, plans, documents, and other writing related to P.S.E.&G.'s Technical Supervisory Skills Program (TSSP).

29. Provide copies of all monthly reports by the P.S.E.&G. Nuclear Department since 1980.

30. Provide a copy of the Nuclear Limited Salem Nuclear Mutual Generating Station, Original Report, November 23 and 24, 1982, and cover letter dated December 24, 1984.

32. Provide a copy of the Nuclear Mutual Limited Periodic Inspection Report, Salem Generating Station, dated November 23 and 24, 1982.

32. Provide a copy of the Nuclear Mutual Limited Salem Nuclear Generating Station Periodic Report, dated November 23 and 24, 1982, and cover letter dated December 23, 1982.

33. Provide copies of all P.S.E.&G. Nuclear Training Center Annual Reports.

34. Provide copies of all Number 2 Salem Outage Field Questionnaires.

35. Provide copies of the 1981, 1982, 1983 and 1984 P.S.E.&G. Form 10-K, Annual Report to the Securities and Exchange Commission and Annual Report to Stockholders.

36. Provide a copy of the P.S.E.&G. Nuclear Information Management Phase II Task Force Report -- Management Summary.

37. Provide copies of all monthly reports by the P.S.E.&G. Safety Review Group.

38. Provide copies of the letters from Basic Energy Technology Associates, Inc. (BETA) to P.S.E.&G. dated April 14 and 26, 1983.

39. Provide copies of all reports filed pursuant to Administrative Procedure Number 6 (incident report system) relating to the February 22 and 25, 1983, events at Salem Unit One Generating Station.

40. Provide copies of all Event Narrative Reports.

41. Provide copies of all Licensee Event Reports.

42. Provide copies of any and all written documentation prepared for or submitted to the NRC in anticipation of or for discussion at the November 20, 1984 meeting between PSE&G and the NRC staff to discuss the Hope Creek training program.

43. Provide copies of any and all written documentation prepared or submitted to the NRC to resolve the training issues raised by the NRC staff at the November 20, 1984, meeting between PSE&G and the NRC staff.

44. Provide copies of any and all documentation or any other writings related to your requalification training program to be conducted for licensed reactor operators and senior reactor operators, as referred to on p. 13-12 of the SER.

45. Provide copies of any and all documentation or any other writings related to your training program for replacement personnel as referred to on p. 13-12 of the SER.

46. Provide copies of any and all written letters, notes, reports, memoranda, agreements, minutes, resolutions, applications, analyses, policies, plans, contracts or any other writing relating to site-specific training for licensed personnel at Hope Creek.

47. Provide copies of any and all written letters, notes, reports, memoranda, analyses, plans or any other writings related to the "in depth analysis of the role(s) of the Vice President -- Nuclear" referred to at p. 2-4 of the Management Overview Report.

48. Provide copies of all documents relating to the QA audit plan or program to verify the "front end work by Bechtel QC" referred to at p. 15 of the NRC Senior Resident Inspector's Report covering the period August 6, 1984 through September 16, 1984.

49. Provide copies of any and all documents relating to the Notice of Violation issued by the NRC Senior Resident Inspector as a result of his inspection covering the period August 6, 1984 through September 16, 1984.

50. Provide copies of any and all letters, notes, memoranda, minutes, analyses, plans, documents, or any other writing that relates in any way the defects or failures identified as causing the February 22 and 25, 1983, events at Salem Unit I to the operation of the Hope Creek generating station.

V. ENVIRONMENTAL QUALIFICATION: INTERROGATORIES

1. List and identify all safety-related electrical and mechanical equipment, components and subcomponents that you intend to include in your environmental qualification program. For each such item of safety-related electrical and mechanical equipment, component or subcomponent, list and identify any and all documentation establishing its qualification, and identify whether it has been or will be qualified in accordance with the criteria and guidelines delineated in IEEE-323-1971, IEEE-323-1974, NUREG 0588 category II or NUREG 0588 category I. Also identify whether qualification for each such item of equipment has been established by test, analysis, a combination of test and analysis or by other specified methods.

2. List and describe all testing, analysis or review that has been done on safety-related equipment at the Hope Creek generating station in response to each of the following:

   (a) the 1983 Sandia National Laboratories report of a number of anomalies in its testing program;

   (b) the August 31, 1983 and October 6, 1983 Board Notifications (83-128 and 83-128A) transmitting a summary of a staff investigation into Franklin Research Center tests on ASCO solenoid valves;

   (c) The NRC Information Notices of September 24, 1981 and December 21, 1982 (IN 81-29 and 82-52) revealing that Viton Elastomer Seals in NP 8300 series Solenoid Valves broke down when exposed to gamma radiation exposures in excess of 20 megarads;

(d) the NRC Information Notice of October 28, 1983 (IN 83-72) revealing that during tests simulating LOCA conditions at Sandia National Laboratories, Barksdale pressure switches experienced "blown" seals that allowed water to accumulate in the switch housing, resulting in the equipment exhibiting electrical shorts across the microswitches;

(e) the NRC Information Notice of October 28, 1983 (IN 83-72) revealing that during LOCA simulation tests at Sandia, Static-O-Ring pressure switches failed at 2 to 5 minutes into the LOCA transient;

(f) NRC Information Notice 83-72, revealing that during environmental qualification testing, an ITT-Barton suppressed zero model 763 transmitter demonstrated a negative shift in output during initial exposure to operating pressure;

(g) the NRC Information Notice of October 28, 1983 (IN 83-72) revealing that under performance tests by ITT on ITT-Barton electronic transmitters Models M-763 and M-764, ITT detected a leakage current path through the shafts of the zero and span potentiometers to the mounting bracket, resulting in non-repeatability at 320°F;

(h) the NRC Information Notice of October 28, 1983 (IN 83-72) revealing that Bechtel had found numerous defects in Limitorque valve operators at Midland;

(i) the NRC Information Notice of October 28, 1983 (IN 83-72) revealing that Anaconda flexible conduits, which provide protection for cables, failed environmental qualification testing by Wyle Laboratories.

3. If testing, analysis or review was not performed on safety-related equipment at the Hope Creek generating station in response to the items listed in 2(a)-(i), state the reasons with respect to each item why testing, analysis or review was not performed.

3. List and describe any and all testing, review or analysis that has been performed on safety-related equipment at the Hope Creek generating station to establish that such equipment is qualified to withstand such fire conditions as high humidity, burning, corrosive gases and smoke. Identify all safety-related equipment <u>not</u> so tested.

5. State whether any safety-related equipment at the Hope Creek generating station contains or relies on Viton parts. If so, identify each and every such item of safety-related equipment.

6. List and identify all information relating to Environmental Qualification or the Equipment Qualification Program for Hope Creek that has yet to be submitted to the NRC staff but which you intend to submit in the future, as referred to by the NRC staff at page 3-50 of the Hope Creek SER. For each such item, identify the earliest date by which you estimate the information will be so submitted.

7. List and identify all documentation upon which you relied in determining which particular pieces of electrical and mechanical equipment and which electrical and mechanical systems would be included in the Hope Creek generating station's environment qualification program.

8. List and identify all category 1 and 2 equipment items in Regulatory Guide 1.97, Revision 2 at the Hope Creek generating station, and all equipment to be installed at the Hope Creek generating station in response to those Regulatory Guide items. Also identify the environmental qualification status of all such equipment items, and list each of the Regulatory Guide 1.97 equipment that you do <u>not</u> intend to install.

9. State whether you will seek to environmentally qualify any equipment after the fuel load. If so, identify each equipment item to be thus qualified and provide copies of all justifications for interim qualification (J10) that has or will be submitted to the NRC. If justifications have not yet been submitted, state the estimated date of such submissions.

10. State whether any of the safety-related electrical or mechanical equipment to be used in the Hope Creek generating station has ever experienced a failure under normal or harsh operating conditions at any plant. If so, identify each such item or items of equipment and describe in detail the nature of the failure.

11. With respect to any equipment identified in response to Interrogatory No. 10, state the steps that have been taken or will be taken to prevent such a failure at Hope Creek and the dates or estimated dates of such steps. If applicable, state the reasons why no such steps have been taken regarding any of the equipment identified in response to Interrogatory No. 10.

12. Identify the dates of each and every audit by P.S.E.&G., or any other auditor of the Hope Creek environmental qualification program. For each, also identify the personnel that took part in the audit, the portion or portions of the program audited, and any and all deficiencies observed or noted.

13. Describe the "audit of the environmental design and accident analysis" referred to on page V-1 of the Hope Creek "Environmental Qualfication Summary Report" (HCEQ report). Identify who completed this audit and the date or dates it was undertaken. Also identify each and every person that has "independently verified" that the correct conditions and calculations were utilized, as stated on page V-1 of the HCEQ Report.

14. Identify each and every site visit to vendors or subcontractors "to review the in-house QA/QC program and evaluate the objective evidence of the vendor's ability to meet his QA/QC commitments" referred to at p. V-1 of the HCEQ report. For each such site visit, also identify the date of the visit, the vendor or subcontractor visited, the personnel that participated in the visit, and any reports, evaluations, memoranda or other documents prepared after the site visit.

15. Identify each and every site visit to "testing laboratories used to perform EQ analysis and/or testing" referred to at p. V-1 of the HCEQ report. For each such site visit, also identify the date of the visit, the laboratory visited, the personnel that participated in the visit, and any reports, evaluations, memoranda or other documents prepared after the visit.

16. Identify all personnel that participated in the "verification of proper procedures and practices for the shipment, storage and mounting of safety related equipment" referred to at p. V-2 of the HCEQ report. For each such personnel, identify the dates of their participation and what each person did as part of the verification process described above.

17. Identify the date or dates of the audit of the EQ file referred to at p. V-2 of the HCEQ report. Also identify the personnel that participated in that audit, any deficiencies noted, and any reports, memoranda or other documents relating to the audit.

18. Identify the date or dates of the audits "to ensure proper review and signoff of vendor qualification plans, test procedures and analysis documentation" referred to at p. V-2 of the HCEQ report. Also identify the personnel that participated in each such audit or audits and any reports, documents or memoranda relating to the audits.

19. Identify the date or dates of the audits "of plant surveillance and maintenance program procedures" referred to at p. V-2 of the HCEQ report. Also identify the personnel that participated in each such audit and any reports, documents or memoranda relating to the audits.

20. State whether a "documented process for QA identified deficiency resolution" as referred to at p. V-6 of the HCEQ report has been established. If so, describe all QA identified deficiencies which are part of this process and identify those that have not been resolved. If not, provide the estimated date when it will be established.

21. Identify the date or dates on which the "program to procure qualified spare parts and/or replacement equipment from approved vendors" as referred to on p. V-2 of the HCEQ report was verified. Also, identify all personnel who participated in this verification and any reports, documents or memoranda relating to the verification process. If not yet verified, provide the estimated date when this program will be verified.

22. Identify each person whom you expect to call as an expert witness with respect to contention 3 relating to environmental qualification. For each such person, state the subject matter on which he or she is expected to testify, the substance of the facts and opinions to which he or she is expected to testify, and a summary of the grounds for each such opinion. Also describe the educational and professional qualifications of each such person, the publications, if any, of each such person, and identify any previous proceeding in which that person has testified.

VI. ENVIRONMENTAL QUALIFICATION: REQUEST FOR DOCUMENTS

1. Provide copies of all information related to environmental qualification prepared for or submitted to the NRC staff in response to the NRC staff's letter dated August 10, 1983.

2. Provide copies of any and all written notes, memoranda, minutes or any other writing relating to the meeting held with the NRC staff on November 29, 1983 to discuss the Equipment Qualification Program for Hope Creek.

3. Provide copies of all information relating to environmental qualification prepared for or submitted to the NRC staff in response to the November 21, 1984 letter from A. Schwencer to R. L. Mittl.

4. Provide copies of any and all written reports, memoranda, letters, notes, minutes or any other writing relating to audits of the Hope Creek environmental qualification program.

5. Provide copies of all listings of safety-related components furnished by Bechtel to PSE&G as referred to in ¶1 of p.VII-7 of the Hope Creek Environmental Qualification Summary Report dated August 2, 1984 (HCEQ report).

6. Provide copies of all written "review and comment" by PSE&G on these listings of safety-related equipment as referred to in ¶1 of p. VII-7 of the HCEQ report.

7. Provide copies of all lists of safety related components for both active and passive components as referred to in ¶12 of p. VII-7 of the HCEQ report.

8. Provide copies of all written workproduct by Bechtel justifying its determination as to "which locations at HCGS would be subjected to a harsh environment" and which locations would not be thus subjected in the event of a postulated DBA, as referred to in ¶3 of p. VII-7 of the HCEQ report.

9. Provide copies of all "appropriate justification" for exempting certain equipment from qualification as referred to in ¶5 of p. VII-8 of the HCEQ report.

10. Provide copies of any and all written reports, memoranda, agreements, minutes, resolutions, analyses, policies, plans, documents or any other writing relating to your determination regarding which electrical or mechanical equipment, components or subcomponents to environmentally qualify.

11. Provide copies of and and all written reports, memoranda, agreements, minutes, resolutions, analyses, policies, plans, documents or any other writing relating to your determination regarding which electrical or mechanical equipment, components or subcomponents need not be environmentally qualified.

JOSEPH H. RODRIGUEZ
Public Advocate
State of New Jersey

By: _____
RICHARD E. SHAPIRO

By: _____
SUSAN C. REMIS

By: _____
JOHN P. THURBER

Dated: December 13, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

'84 DEC 17 A11 :45

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

In the Matter of	)	
	)	
PUBLIC SERVICE ELECTRIC AND GAS CO., et al.	)	Docket No. 50-354-OL
	)	
	)	
(Hope Creek Generating Station)	)	
	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of "Intervenor's Second Set of Interrogatories and Request for Production of Documents to Applicants," dated December 13, 1984 in the above-captioned matter have been served upon the following by deposit in the United States mail on this 13th day of December, 1984:

Marshall E. Miller, Esq.
Chairman
Atomic Safety and
Licensing Board Panel
U.S. Nuclear Regulatory
Commission
Washington, DC 20555

Dr. Peter A. Morris
Atomic Safety and
Licensing Board Panel
U.S. Nuclear Regulatory
Commission
Washington, DC 20555

Dr. David R. Schink
Atomic Safety and
Licensing Board
U.S. Nuclear Regulatory
Commission
Washington, DC 20555

Atomic Safety and
Licensing Appeal Panel
U.S. Nuclear Regulatory
Commission
Washington, DC 20555

Docketing and Service
Section
Office of the Secretary
U.S. Nuclear Regulatory
Commission
Washington, DC 20555

Lee Scott Dewey, Esq.
Office of the Executive
Legal Director
U.S. Nuclear Regulatory
Commission
Washington, DC 20555

Richard Fryling, Jr., Esq.
Associate General Counsel
Public Service Electric &
Gas Company
P.O. Box 570 (T5E)
Newark, NJ 07101

Troy Conner, Jr., Esq.
Conner & Wetterhahn
1747 Pennsylvania Ave., NW
Suite 1050
Washington, DC 20006

Peter Hess, Esq.
Dept. of National Resources
and Environmental Control
Legal Office
89 Kings Highway
Dover, DE 19901

Mr. Ken Koschek
Planning Group
Department of Environmental
Protection
State of New Jersey
CN-402
Trenton, NJ 08625

RICHARD E. SHAPIRO

December 13, 1984