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OFFICE OF SECRETARY

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of

Public Service Electric  
and Gas Company

(Hope Creek Generating Station)

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Docket No. 50-354 OL

INTERVENOR'S SUPPLEMENTAL RESPONSE TO  
APPLICANTS' PRELIMINARY AND FIRST SETS  
OF INTERROGATORIES AND REQUESTS FOR  
PRODUCTION OF DOCUMENTS

Pursuant to the rules of practice of the Nuclear Regulatory Commission ("NRC"), 10 C.F.R. Section 2.740(b) and (e) and the Orders of the Atomic Safety and Licensing Board of December 21, 1983 and December 24, 1984, Intervenor, the Public Advocate of the State of New Jersey ("the Public Advocate"), hereby supplements his responses to the Applicants' Preliminary Set of Initial Interrogatories and Applicants' First Set of Interrogatories.

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## APPLICANTS PRELIMINARY SET OF INITIAL INTERROGATORIES

1. State whether you intend to present any expert witnesses on the subject matter at issue in Contentions 1 through 4. If so, identify each such expert witness and further state (a) his professional qualifications; (b) the subject matter on which the expert is expected to testify; (c) the substance of the facts and opinions to which the expert is expected to testify; (d) the grounds for each opinion; (e) the expert's business and residential addresses. Identify by court, agency, or other body, each proceeding in which such individual rendered testimony on this (these) subject(s).

The Public Advocate's expert witnesses for each of the three admitted contentions have been previously identified, and their professional qualifications are attached. The opinions of these experts, which will be the subject of their pre-filed direct testimony, is still being developed following receipt of applicants' responses to the Public Advocate's interrogatories and requests for production of documents.

2. State whether you intend to present any fact witnesses on the subject matter at issue in Contentions 1 through 4. If so, identify each such fact witness and further state (a) his business and residential addresses; (b) the subject matter on which the witness is expected to testify; (c) the substance of the factual testimony which the witness is expected to offer.

No supplemental response.

3. Identify by title, author, publisher and date of issuance or publication, all documents that you rely upon as a basis for your contentions or that you intend to use (by way of reference or evidentiary proffer) in presenting your direct case on Contentions 1 through 4 and all documents to which you intend to refer in conducting cross-examination of other witnesses who may testify in connection with any such contentions.

The Public Advocate presently intends to rely on or use the following additional documents in presenting his direct case on Contention 1:

- a) NUREG 0313, 0313 rev. 1 and 0313 rev. 2 (expected)
- b) NUREG 1061, volumes 1, 2 (expected), 3, 4 (expected) and 5 (expected)
- c) Electric Power Research Institute, Proceedings: Second Seminar on Countermeasures for Pipe Cracking in BWRs, Sept. 1984 (EPRI NP-3684-SR)
  - Volume 1: Problem Resolution
  - Volume 2: Remedy Development
  - Volume 3: Remedy Application

- d) Study of In-Service Inspection Practice for BWR Piping Welds, Reinhart, E.R. (1977)
- e) Ultrasonic Pattern Recognition Study of IGSCC, Rose, J.L., Singh, G.P. (1978)
- f) Studies on AISI Type 304 Stainless Steel Piping Weldments for Use in BWR Application, Giannuzzi, A.J. (1978)
- g) Measurements of the Thickness of Liquid Film by Means of Capacitance Method (Interim Report) Leskovar, B. (1979)
- h) Seminar on Countermeasures for Pipe Cracking in BWRs - EPRI (1980) Vol. 1-4
- i) Measurement of Residual Stresses in Type 304 Stainless Steel Piping Butt Weldments, Argonne National Labs (1980)
- j) Explosive Metalworking of Type 304 Austenitic Stainless Steel Pipes, Lalwaney, N.S. (1980)
- k) Water Quality in Boiling Water Reactors, Radiological and Chemical Technology, Inc. (1980)
- l) Cost-Effectiveness of Countermeasures to IGSCC in BWR piping, Failure Analysis Associates (1981)
- m) Influence of Cyclic Load and Environmental Effects on Stress Corrosion Cracking of Sensitized Stainless Steel, Battelle Labs (1981)
- n) Utilization of Real-Time X-Radiography for In-Service Inspection of Nuclear Reactor Piping: Feasibility Investigation, Patricelli, F., Baltgalvis, J. (1978)
- o) Instability Predictions for Circumferentially Cracked Type 304 Stainless Steel Pipes Under Dynamic Loading, Batelle Labs (1982) Volumes 1-2
- p) IGSCC Surveillance System Feasibility, Amdata Systems, Inc. (1982)
- q) The Growth and Stability of Stress Corrosion Cracks in Large-Diameter BWE Piping (GE) (1982) Volumes 1-2
- r) The Effects of Aqueous Impurities on IGSCC of Sensitized Type 304 Stainless Steel (GE) (1983)
- s) Induction Heating Stress Improvement (GE) (1983)
- t) Electrochemical Potential Measurements in a Boiling Water Reactor (GE) (1983)

- u) IGSCC Surveillance System, Amdata Systems (1984)
- v) Twenty-Six Inch Pipe NDE Instrument Surveillance Test, Battelle Labs (1983)
- w) Weld Residual Stress Redistribution Near Growing Cracks, Science Applications, Inc. (1983)
- x) Last Pass Heat Sink Welding Process Development, Boston Edison Co. (1984)
- y) All documents provided by applicants in response to the Public Advocate's discovery requests
- z) All documents contained in the NRC docket

The Public Advocate presently intends to rely on or use the following additional documents in presenting his direct case on Contention II:

- a) All documents provided by applicants in response to the Public Advocate's discovery requests
- b) All documents contained in the NRC docket
- c) All documents issued concerning the accident at Three Mile Island including the Rogovin Report, the President's Commission Report and NRC documents developed in response to this.

The Public Advocate presently intends to rely on or use the following additional documents in presenting his direct case on Contention III:

- a) All documents provided by applicants in response to the Public Advocate's discovery requests
- b) All responses by applicants to NRC staff questions relating to environmental qualification
- c) All documents contained in the NRC docket

## APPLICANTS' FIRST SET OF INTERROGATORIES

### I. Contention 1

1. Specify all applicable NRC regulations, general design criteria, guidelines or other regulatory requirements, or portions thereof, pertaining to the phenomenon of intergranular stress corrosion cracking ("IGSCC") which intervenor asserts are applicable to the recirculation piping installed at Hope Creek.

- a) NUREG 1061 Volumes 1, 2 (expected), 3, 4 (expected), and 5 (expected)
- b) NUREG 0313, 0313 rev. 1 and 0313 rev. 2 (expected)
- c) R.G. 1.31
- d) R.G. 1.36-1.39
- e) R.G. 1.44-1.45
- f) NUREG 0800 - Standard Review Plan (Applicable Sections including Chapters 3 and 5)

2. Specify each section of the Hope Creek Final Safety Analysis Report ("FSAR"), including Applicant's response to Staff questions, which intervenor asserts is relevant to the consideration of the phenomenon of IGSCC in recirculation piping and specify, to the extent applicable, any failure to meet the regulatory requirements set forth in response to Interrogatory 1 above.

- a) 1.8.1.45
- b) 3.2.2
- c) 3.4.3.2
- d) 4.4.3.1.b
- e) 4.4.3.2
- f) 5.2.5.1

Applicants' failure to meet the regulatory requirements set forth in response to Interrogatory 1 of Applicants' First Set of Interrogatories will be addressed in the testimony of the Public Advocate's expert witness. See supplemental response to Interrogatory 1 of Applicants' Preliminary Set of Initial Interrogatories.



3. State the basis upon which intervenor relies for its assertion that Type 304 austenitic stainless steel piping in the reactor coolant pressure boundary of boiling water reactors is "highly" susceptible to stress corrosion cracking.

- a) NUREG 0313, 0313 rev. 1 and 0313 rev. 2 (expected)
- b) NUREG 1061 Volume 1, 2 (expected), 3, 4 (expected) and 5 (expected)

4. Specify and describe in detail in what way the Applicants have failed to demonstrate that they can prevent and mitigate IGSCC in accordance with 10 C.F.R. Part 50, Appendix A, Criterion 30, in the recirculation piping installed at Hope Creek.

Applicants' failure to demonstrate that they can prevent and mitigate IGSCC in recirculation piping installed at Hope Creek will be addressed in the testimony of the Public Advocate's expert witness. See supplemental response to Interrogatory 1 of Applicants' Preliminary Set of Initial Interrogatories.

5. Define "critical" as it is used in Contention 1.

See answer to Interrogatory I. 6 of Applicants' First Set of Interrogatories.

6. Specify what recirculation piping intervenor considers to be "critical."

No supplemental response.

7. Specify what critical recirculation piping has not been identified by Applicants as susceptible to IGSCC.

No supplemental response.

8. Specify the basis upon which intervenor relies for the assertion that connections to the decay heat removal system are critical piping.

See answer to Interrogatory I. 6 of Applicants' First Set of Interrogatories.

9. Specify the regulatory requirement and/or any other basis for intervenor's assertion that all recirculation piping susceptible to IGSCC must be replaced.

See answer and supplemental response to Interrogatory I. 1 of Applicants' First Set of Interrogatories.

10. Specify the conditions under which intervenor asserts replacement is feasible.

No supplemental response.

11. Specify all preventative measures intervenor asserts Applicants should take prior to start-up.

All recirculation piping susceptible to IGSCC must be replaced. See also supplemental responses to Interrogatories I. 1 and I. 2 of Applicants' First Set of Interrogatories.

12. Specify the preventive measures intervenor asserts should be taken prior to start-up for each designated "critical" component of recirculation piping but which have not yet been taken.

See answer to Interrogatory I. 11 and supplemental responses to Interrogatories I. 1 and I. 2 of Applicants' First Set of Interrogatories.

13. Specify the deficiencies intervenor alleges exist in the Applicants' system for identification of cracks in recirculation piping after start-up.

See supplemental responses to Interrogatories I. 1 and I. 2 of Applicants' First Set of Interrogatories.

14. Specify those inspection techniques, other than manual ultrasonic testing, which intervenor asserts Applicants should use to identify recirculation piping susceptible to IGSCC after start-up.

See supplemental response to Interrogatories I. 1 and I. 2 of Applicants' First Set of Interrogatories.

## II. Contention 2

1. Define "management implications" as used in this contention.

No supplemental response.

2. Specify each and every respect in which intervenor claims that PSE&G management in the administrative, procurement, maintenance and quality assurance programs for the Hope Creek Generating Station, as of this date, fails to meet all applicable regulatory requirements and license conditions imposed by the NRC.

The subject matter of this interrogatory will be addressed in the testimony of the Public Advocate's expert witnesses. See supplemental response to Interrogatory 1 of Applicants' Preliminary Set of Initial Interrogatories.

3. As to each alleged deficiency, specify the applicable NRC requirement and/or license condition and describe in detail:

- a. The applicable NRC regulatory requirement or license condition;
  - b. The precise management function(s) alleged to be deficient;
  - c. The names and/or job titles of the particular PSE&G management officials with responsibilities for preventing or eliminating the deficiencies alleged;
  - d. The acts or omissions performed by such individuals, identified by name or title, upon which intervenor relies in asserting that management deficiencies exist, including the date(s) of occurrence;
  - e. The actions which should have been taken by such management officials identified above in order to prevent or eliminate the alleged management deficiencies.
  - f. All actions which intervenor contends must be taken with respect to PSE&G management prior to the issuance of an operating license for the Hope Creek Generating Station.
- a) The applicable NRC regulatory requirements or license conditions include:
    - Part 50, Appendix B
    - G.D.C. 1
    - 10 C.F.R. Section 50.34(b)
    - 10 C.F.R. Section 50.56



- 10 C.F.R. Section 50.57(a)(4)
- The NRC's Confirmatory Order of May 6, 1983
- 42 U.S.C. §2232(a)

The subject matter of the remainder of this Interrogatory will be addressed in the testimony of the Public Advocate's expert witnesses. See supplemental response to Interrogatory 1 of Applicants' Preliminary Set of Initial Interrogatories.

4. If intervenor contends that PSE&G is not technically qualified to engage in the activities to be authorized by an operating license for the Hope Creek Generating Station within the meaning of 10 C.F.R. §50.57(a)(4), specify and discuss in detail:

- a. The particular aspect as to which PSE&G lacks technical qualifications;
- b. The extent to which intervenor's claim is based upon any portion of the record of the applicatoin and, if so, identifying the particular portion(s) thereof;
- c. All actions which must be taken by PSE&G in order to eliminate any alleged deficiencies in its technical qualifications asserted above.

The subject matter of this Interrogatory will be addressed in the testimony of the Public Advocate's expert witness. See supplemental response to Interrogatory 1 of Applicants' Preliminary Set of Initial Interrogatories.

5. To the extent that intervenor relies upon the reactor trip circuit breaker failure at the Salem Nuclear Generating Station, Unit 1, on February 22 and 25, 1983, including all investigative and enforcement actions undertaken by the NRC with respect to those events, specify and describe in detail:

- a. Each particular finding or statement by the NRC upon which intervenor relied to establish a "management implication" for Hope Creek;
- b. The regulatory requirement or standard to which such statement or finding specified above applies;
- c. All actions which intervenor contends PSE&G must take with respect to each such statement or finding specified above in order to eliminate the alleged "management implication."

No supplemental response.

### III. Contention 3

1. Specify all applicable NRC regulations, general design criteria, guidelines or other regulatory requirements, or portions thereof, pertaining to environmental qualification of safety-related electrical and mechanical equipment, components and subcomponents at the Hope Creek Generating Station.

- a) R.G. 1.97 rev. 3
- b) G.D.C. 1, 2 and 4

2. Specify each section of the Hope Creek FSAR, including Applicant's response to Staff questions, which intervenor asserts is relevant to the consideration of environmental qualification of safety-related electrical and mechanical equipment, components and subcomponents of the Hope Creek Generating Station.

- a) 1.10
- b) 3.2
- c) 3.9
- d) 3.10
- e) 3.11
- f) Chapter 6
- g) Chapter 7
- h) Volumes 19 and 20 (responses to NRC staff questions)

3. Specify the deficiencies intervenor asserts to exist in the Applicants' environmental qualification program outlined in the FSAR and amplified in answers to Staff questions.

The Public Advocate will provide a supplemental response to this Interrogatory following receipt of certain information from Applicants. See Order dated December 24, 1984 of the Atomic Safety and Licensing Board at 2 n.l.

4. Specify all safety-related electrical and mechanical equipment, components and subcomponents that intervenor alleges have not been or will not be environmentally qualified at the start of operation and/or throughout the operation of the plant.

See supplemental response to Interrogatory II. 2 of Applicants' First Set of Interrogatories.

5. Specify those regulatory requirements, or portions thereof, with which intervenor alleges Applicants do not comply.

The testimony by the Public Advocate's expert witnesses will identify those portions of regulatory requirements with which Applicants do not comply. See supplemental response to Interrogatory 1 of Applicants' Preliminary Set of Initial Interrogatories.

JOSEPH H. RODRIGUEZ  
Public Advocate  
State of New Jersey

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Dated: January 4, 1985

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD -7 A10:02

In the Matter of )

PUBLIC SERVICE ELECTRIC AND )  
GAS CO., et al. )

(Hope Creek Generating Station) )

Docket No. 50-354-OL

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
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CERTIFICATE OF SERVICE

I hereby certify that copies of "Intervenor's Supplemental Response to Applicants' Preliminary And First Sets Of Interrogatories And Requests For Production of Documents," dated January 4, 1985, in the above-captioned matter have been served upon the following by deposit in the United States mail on this 4th day of January, '85:

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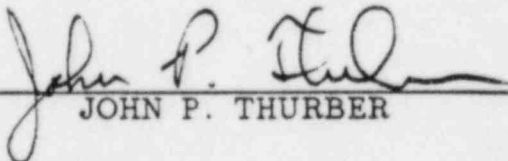
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January 4, 1985