UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF

PHILADELPHIA ELECTRIC CO

(Limerick Generating Station Units 1 and 2)

RELATED CORRESPONDENCE

Dockets Nos. 50-352 and 50-353.

INTERVENOR LEWIS'S THIRD AND FINAL SET OF INTERROGATORIES TO THE NRC STAFF AND LICENSEE.

In compliance with the M and O of May 16 , 1983, Intervenor Lewis submits his third and final set of interrogatories to the NRC staff and the Licensee. The reason that this set is being filed on the very last day is that "new" information on BWRs was recently issued from the NRC. I have subsequently awaited and requested clarification of the "new " information . Such clarification could possibly have eliminated at least one of the following interrogatories. I waited as long as I could without loosing my right to question.

The previous "definitions and instructions" used in Intervenor's Second Round of Interrogatories will also apply to the following set of interrogatories.

I have appreciated the NRC staff and the Licensee's efforts to completely and accurately answer the Intervenor's interrogatories which were not drafted to exacting legal standards and hope that they will continue their cooperation. The answers to date appear truthful, pointed and complete as possible. I hope that the Staff and Licensee will submit any further information concerning my previous interrogatories as it becomes available.

1. For the NRC Staff:
In the "NRC Response to the first set of interrogatories on contention I-62" , the staff states,"the basic conditions under which BWRs operate make it much less likely for BWRs than for PWRs that the simultaneous rapid cooling and high pressure necessary to create a PTS will occur."

The response leaves open the question,"Are there any set of conditions wherein a BWR can experiance the simultaneous rapid cooling and high pressure necessary to create a significant PTS?"
Further, can a BWR experience a cooling (rapid or not) which will produce significance stresses at temperatures close to RTndt in any temperature -pressure boundary?
Please answer above two questions regarding any set of conditions that can produce a PTS in a BWR.

Also refer to NRC Memorandum UNANALYZED REACTOR VESSEL THERMAL STRESS DURING COOLDOWN from Eisenhut for Commissioners dated April 12, 1983. Discuss whether this type of stratification could occur in a PWR and its effect upon thermal stresses. Include in your discussion any staff concerns on the operability of safety relief valves which could complicate the thermal picture. Also discuss how natural circulation can fail or be reduced.

Document request related to above interrogatory. Please provide GE NEDE 24988 P, "Analysis of Generic BWR Safety Relief Valve Operability Test Results." I do not know the date nor availability as I have only read a short synopsis.

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For the Licensee: Please answer the two questions in Interrogatory 1. You need not refer to the NRC or the GE document in in anwer. Please refer to subscript a of your answer to Interrogatory No. , 2 AT page 3 your Discovery 8 June 13, 1983.

2. Documents request: To the Licensee: In discovery 8 ,you refer to several documents given out as previously provided as Discovery 2 ,Enclosure 3, Item1. and 2,3,1; and 2,3,5. Can you give the date and title of the cover letter. I can not find them. Please check if they were sent to me. I may not be checking back far enough.

3. To both the Licensee and staff:Recently the NRC releases an order concerning the ongoing IGSCC in BWRs. I have attempted to get further information on this without success. Therefore , I am submitting the following interrogatory on the relationship of IGSCC to PTS in BWRs.
Are any structures which receive neutron irradiation subject to IGSCC? Discuss the feedwater nozzle and piping as mentioned on page 5.3-7 of the LGS FSAR ,Para. 5.3.1.5.3.
a. Has all "new" information on unresolved safety issues been factored into the PTS problem as the information has become available?
b. Have all synergistic or cumulative effects from other USI been factored into the PTSproblem and its consideration by the Licensee and NRC staff? Give specific examples. Discuss USI of "cold overpressurization"in your answer.
c. Are there any other concerns not covered in the USI which can or do have an effect on the consideration of PTS been considered adequately at LGS? Discuss measurement of neutron flux (PECo Boyer to Eisenhut , April 15,1983, Page 4, last paragraph) and difficulties of ultrasonic testing (NRC Schwencer to PECo Bauer , June 3,1983, MEB enclosure Page 250-8 Paragraph 250.4 and 250.3 .A.)

4. To the NRC staff: In the NRC Staff Response to Intervenor Lewis's First Ste
Set of Interrogatories in PTS Contention (I-62.), the staff states,"For BWRs /4 plants including Limerick , the location of fluid systems injection does not result in direct impingement on the vessel wall." Page 3.

What does fluid system impinge directly upon? Are any of these structures able to fail in a PTS situation or during a transient? Are any of these structures made of amaterial which will change RTndt with neutron flux?
Also provide a drawing of a jet pump and a description of its function and material of construction.

5. To the staff : Document request: Please provide GE NEDO 10029, An Anadytical study of Brittle Fracture of GE BWR Vessels subject to a Design Basis Accident."
a. How were assumptions in above study selected and how were they determined to be "conservative."
b. Define "conservative."

6. To licensee: See LGS FSAR Figure 4.3-29.
Is the shroud shown in Figure 4.3-29 continuous? Are there areas where the vessel wall is not shrouded from the core? Specify all such areas. Specify neutron flux for unshrouded areas.

7. To the licensee and staff; In my Interrogatory 6 of my first set of Interrogatories I was looking for an yes or no answer. Please provide an yes or no answer to the following repeat interrogatory.

Have any "test coupons" of affected materials been irradiated and tested from BWRs of design similar to Limerick?

a. To the staff:Reference E-7 has not yet been published. I therefore cannot make a document request. Hopefully you can provide some information nonetheless. Please provide the number of Charpy test whcih were used to determine the Guthrie trend curve, standard deviation, and 2 sigma upper bound.
If possible , provide the statistical value of "confidence " for the above data. Provide the reference from which the statistical values were developed.

I am mailing this set of interrogatories out to the entire Docket 50-352 and 50-353 LGS units 1 and 2 today , August 1,1983 , by first class mail , myself.

Respectfully submitted,

Marvin I. Lewis 8/1/83

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