



May 17, 1979

LOCAL PDM

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
 )  
VIRGINIA ELECTRIC AND POWER COMPANY ) Doc. Nos. 50-338SP  
 ) 50-339SP  
 )  
 ) Proposed Amendment to  
 ) Operating License NPF-4  
(North Anna Power Station, )  
Units 1 and 2) )

VEPCO'S INTERROGATORIES TO THE POTOMAC ALLIANCE

In accordance with the Commission's regulations, particularly 10 CFR § 2.740b, Virginia Electric and Power Company (Vepco) addresses the following interrogatories to intervenor Potomac Alliance (the Alliance). Written answers to these interrogatories, under oath or affirmation, must be served within 14 days in accordance with 10 CFR § 2.740b(b). These interrogatories are the Alliance's continuing obligation to the extent required by 10 CFR § 2.740(e).

1. The Alliance's first contention, as stated in the ASLB's Order of April 21, 1979, is "Radioactive Emission," which has been consolidated with a similar contention of the Citizens' Energy Forum, Inc.:

(a) Intervenor contends that VEPCO has neglected to address the additional liquid and

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gaseous radioactive emissions which will result from the increased fuel storage and the effects thereof. In CEF's opinion, applicant's analyses of radiation released, and of possible releases, in the event of those accidents considered in Section 9.1 through 9.4 of the application, are superficial and insubstantial in the Summary of the Proposed Modifications.

(b) Intervenor contends that the Applicant has failed to analyze adequately the liquid and gaseous radioactive emissions that will result from the proposed increase in fuel storage capacity, and has failed to demonstrate that significant adverse environmental effects will not result from such emissions.

a. What facts does the Alliance contend that Vepco must supply to make the analysis of liquid and gaseous radioactive emissions adequate?

b. Specify the radioactive materials that will cause the "adverse environmental effects" that the Alliance is concerned about.

c. Describe the pathway to the environment that the Alliance envisions for each of the liquid and gaseous radioactive emissions.

d. Does the Alliance contend that the liquid or gaseous radioactive emissions will not comply with NRC regulations? If so, specify which regulations will be violated and which emissions will not comply.

e. What "significant adverse environmental effects" does the Alliance think will occur?

f. What evidence do you know of that supports your answers to 1a-e above?

2. The Alliance's "Missile Accidents" contention is the following:

Intervenor contends that the proposed modification of the spent fuel pool will increase the consequences of an accident involving missiles, and that the Applicant has not demonstrated that the pool, as modified, will withstand such accidents within the limits set forth in NRC Regulations.

a. How will the proposed modification increase the "consequences" of a missile accident? What evidence do you have that the consequences will be increased?

b. Precisely what limits in the NRC regulations does the Alliance suggest may not be met by the North Anna 1 and 2 spent fuel storage pool? What evidence do you have that those regulations will not be met?

3. The Alliance's next contention is entitled "Materials Integrity":

Intervenor contends that increasing the inventory of radioactive materials in the spent fuel pool will increase the corrosion of, the stress upon, and resultant problems concerning the components and contents of the pool. The Applicant has not adequately addressed such potential problems with respect to:

(a) the fuel cladding, as a result of exposure to decay heat and increased radiation levels during extended periods of pool storage; and

(b) the racks and pool liner, as a result of exposure to higher levels of radiation during pool storage.

a. How will "increasing the inventory of radioactive materials" increase corrosion? That is, what effects of storing additional spent fuel (temperature, radiation, or whatever) does the Alliance contend will affect corrosion, and how will they affect it? What evidence of the effects do you have?

b. How will storing additional spent fuel in the fuel pool increase the "stress" upon the components and contents of the pool? What evidence do you have to show that there will be additional stress?

c. What "resultant problems" does CEF refer to? List all of them. What evidence is there that such problems may arise?

d. Precisely what "components" and what "contents" of the fuel pool is the Alliance talking about?

e. If the fuel pool cooling system will be adequate to maintain the temperature of the pool below 140°F and 170°F, why does the Alliance think that exposure to decay heat will increase the corrosion, stress and problems with respect to the fuel cladding?

f. What effects does the Alliance suppose that "increased radiation levels" will have on the fuel cladding?

g. Explain precisely how the proposed modification will result in "extended periods of fuel storage."

h. How will exposure to "higher levels of radiation" affect the racks? The pool liner?

4. The next Alliance contention is entitled "Occupational Exposure":

Intervenor contends that the Applicant has not demonstrated that it will prevent the increased occupational radiation levels which will result from the spent fuel pool modification from leading to occupational doses in excess of those permitted under NRC Regulations.

a. In what respects does the Alliance find sections 5.5.4 and 9.5 of Vepco's "Summary of Proposed Modifications" inadequate?

b. What must Vepco do to demonstrate that occupational doses will not exceed NRC Regulations? Precisely which regulations does the Alliance suggest may be violated?

c. Does the Alliance believe that the increased occupational dose that may result from the Alliance's participation in this proceeding (that is, the dose from replacing the low-density racks once spent fuel has been stored in them) is justifiable?

5. The Alliance's next contention is called "Alternatives":

Intervenor contends that neither the Applicant nor the Staff has adequately considered alternatives to the proposed action. The alternatives which should be considered are:

(a) the construction of a new spent fuel pool onsite;

(b) the physical expansion of the existing spent fuel pool;

(c) the use of the spent fuel pool at North Anna Units 3 and 4, (including the completion of construction of such pool, if necessary) for storage of spent fuel from Units 1 and 2.

a. Explain why the Alliance thinks that the construction of a new spent fuel pool onsite would be preferable to the proposed modification. List every respect in which a new fuel pool would be superior, in the Alliance's opinion.

b. Explain why the physical expansion of the existing spent fuel pool would be preferable to the proposed modification. Describe how the expansion should be done (that is, which walls should be removed and so forth).

c. Explain why the use of the North Anna 3 and 4 spent fuel pool would be preferable to the proposed modification. Would the Alliance concede that, if this alternative were chosen, it would be desirable to install high-density racks in the Unit 3 and 4 pool?

6. The Alliance has proposed a new "Service Water Cooling System" contention:

The intervenor contends that the service water cooling system for the facility will be inadequate to support the component cooling system for the spent fuel pool if the proposed modification of the pool is permitted.

a. Does the Alliance deny that the fuel pool cooling system is adequate to maintain the fuel pool water at

or below 140°F (normal condition) and 170°F (abnormal condition) with one pump and two heat exchangers operating, as stated in Vepco's amended "Summary of Proposed Modifications to the Spent Fuel Storage Pool Associated with Increasing Storage Capacity," which was served on the Alliance May 11 along with Vepco's motion for summary disposition? If so, what evidence does the Alliance have that the system will not be able to maintain the 140°F and 170°F temperatures?

b. Does the Alliance contend that the capability of keeping the temperature below 140°F and 170°F is inadequate? If so, explain what evidence there is that such capability is inadequate. Specifically, with precisely what NRC regulation or regulations does a cooling system capable of maintaining the 140°F and 170°F temperatures fail to comply?

c. Give the operating characteristics and design criteria of a fuel pool cooling system that the Alliance would regard as "adequate."

7. For each of the contentions listed above, state what witnesses the Alliance proposes to have give testimony at the public evidentiary hearing, if one is held. List the witnesses' names, addresses, professional qualifications, and relevant publications. Summarize the substance of their expected testimony.

8. For each of the contentions and each of the interrogatories above, list what documents the Alliance

proposes to offer into evidence at the public evidentiary hearing, if one is held. Provide a complete citation to each document, including its author, title, date, identification number if any (e.g., NUREG-0404), publisher, and sponsoring government agency. State where a copy of the document may be found, if it is not generally available to the public.

9. State the name of the person or persons who prepared or substantially contributed to the answer to each of these interrogatories.

10. To the extent you have not already done so, for each of your contentions specify what information would remedy the defects the Alliance sees in Vepco's "Summary of Proposed Modifications."

11. If you refer to any documents in your answers to the above interrogatories, please cite those documents in full, giving the author, title, identification number if any, publisher, sponsoring government agency, and page number.

12. Supply a copy of the Alliance's responses to "NRC Staff Interrogatories to, and Request for the Production of Documents From, Intervenor Potomac Alliance," dated May 8, 1979.

VIRGINIA ELECTRIC AND POWER COMPANY

/s/ James N. Christman  
James N. Christman



Of Counsel

Michael W. Maupin  
James N. Christman  
James M. Rinaca  
Hunton & Williams  
P. O. Box 1535  
Richmond, Virginia 23212

DATED: May 17, 1979

CERTIFICATE OF SERVICE

I hereby certify that I have this day served Vepco's Interrogatories to the Potomac Alliance upon each of the persons named below by first-class mail, postage prepaid:

Secretary  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

ATTENTION: Chief, Docketing & Service Section

Valentine B. Deale, Esquire  
1001 Connecticut Avenue, N.W.  
Washington, D.C. 20036

Dr. Quentin J. Stober  
Fisheries Research Institute  
University of Washington  
Seattle, Washington 98195

Mr. Ernest E. Hill  
Lawrence Livermore Laboratory  
University of California  
Livermore, California 94550

Citizens' Energy Forum, Inc.  
P. O. Box 138  
McLean, Virginia 22101

James B. Dougherty, Esquire  
307 Eleventh Street, N.W.  
Washington, D.C. 20002

Gloria M. Gilman, Esquire  
1508 28th Street, N.W.  
Washington, D.C. 20007

Steven C. Goldberg, Esquire  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Anthony J. Gambardella, Esquire  
Office of the Attorney General  
Suite 308  
11 South Twelfth Street  
Richmond, Virginia 23219

Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Atomic Safety and Licensing Appeal Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

BY: /s/ James N. Christman  
James N. Christman, Counsel  
for Virginia Electric  
and Power Company

DATED: May 17, 1979