



May 17, 1979

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSIONBEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

VEPCO'S INTERROGATORIES TO CEF

In accordance with the Commission's regulations, particularly 10 CFR § 2.740b, the applicant, Virginia Electric and Power Company (Vepco), addresses the following written interrogatories to intervenor Citizens' Energy Forum, Inc. (CEF). 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 to be considered CEF's continuing obligation to the extent required by 10 CFR § 2.740(e).

1. CEF's contention on "Thermal Effects," as stated by the ASLB in its Order of April 21, 1979, is the following:

Intervenor contends that the possible consequences caused by the additional heat to be discharged as a result of the proposed modification have not been adequately addressed by the NRC staff and the Applicant. This contention embraces the rate of temperature rise in the spent

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fuel storage facility as a result of an accidental leak in the spent fuel pool. It further includes the affirmation that the spent fuel pool cooling system will be inadequate to prevent "hot spots" and possible boiling.

a. Precisely what consequences does CEF think will occur from the additional 6 Mbtu/hr of heat? Specify what organisms you think will be affected and what basis you have (that is, what evidence) for thinking the effects will be harmful. In light of the 13,713 MBtu/hr total heat discharged from the two units, including the 103.1 MBtu/hr heat load on the Service Water Reservoir under normal operation, what reason is there to think that a mere 6 MBtu/hr more will be harmful?

b. If it is your position that the additional heat will cause adverse effects on the atmosphere (for example, the temperature of or humidity in the air), specify the atmospheric effects and describe the mechanisms by which they will occur. What evidence do you have that these effects will occur?

c. How does CEF suggest that a crack in the pool liner might occur?

d. What "rate of temperature rise" does CEF deem unacceptable, and why? What assumptions does CEF propose that Vepco make (e.g., size of leak, length of time before corrective action is taken) in determining the rate of temperature rise? Why does CEF think the rate of temperature

rise is significant?

e. What information must Vepco supply in order to adequately address the consequences of the additional heat?

f. Given that the spent fuel pool cooling system has the capability of keeping the pool below 140° F and 170° F, why does CEF think hot spots and boiling might occur? Does CEF contend that the hydraulic analysis described in Section 6.6 of Vepco's "Summary of Proposed Modifications" is inaccurate or inadequate? If so, specify in what respects it is inaccurate or inadequate. If CEF contends that the description is insufficiently detailed, state what facts must be provided to make it acceptable to CEF.

2. The second contention is called "Radioactive Emission":

a. Intervenor contends that Vepco has neglected to address the additional liquid and 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. Describe each of the accidents that CEF thinks have been inadequately analyzed.

b. For each such accident, list what information needs to be supplied in order for the accident to be adequately addressed.

c. For normal operations, what additional information does CEF think necessary for an adequate discussion of liquid and gaseous radioactive emissions?

d. Does CEF contend that radioactive releases from the postulated accidents described in §§ 9.1 through 9.4 of the application will exceed the doses specified in 10 CFR Part 100 or the limits in other NRC regulations? Specify which regulations will be violated.

e. Specify what radioactive materials will cause the adverse environmental effects that the intervenors are concerned about. What are those effects? What evidence do you have that such effects will occur at North Anna?

f. Describe the pathway to the environment that the intervenors envision for each of the liquid and gaseous radioactive emissions.

g. Does the Alliance contend that liquid or gaseous radioactive emissions during normal operations will not comply with NRC regulations? If so, specify which regulations will be violated and which emissions will not comply. What evidence do you have that these emissions will not comply?

h. Given that the spent fuel pool rests on reinforced concrete and is surrounded by thick reinforced concrete walls, where does CEF suppose the pool water would go if there were a crack in the liner? Specify how a cracked liner might result in radioactive emissions, what radioactive materials would be involved, and how they might do harm. What evidence do you have to support your answer to this interrogatory?

i. If CEF believes that the leaking water might run from the channels behind the welds to the fuel building sump, what adverse effects does CEF suppose would result from such a leak? What evidence do you have that such effects will occur?

3. CEF's third contention is called "Corrosion":

Intervenor contends that there has been inadequate examination of the problems that may arise due to a potential incremental increase in the amount of corrosion upon the spent fuel assemblies and racks over the duration of storage of fuel in the pool, including their eventual removal from the pool. Such

problems include, but are not limited to, the ability of the spent fuel pool purification system to remove any potential incremental impurities.

a. Specify all of the ways in which CEF thinks that the additional storage capacity will worsen corrosion. Provide the bases (that is, the evidence) for thinking that each of these effects will worsen corrosion.

b. Identify the impurities that the contention mentions. State why CEF believes the purification system will not be adequate to handle these impurities. What evidence do you have that the purification system will be inadequate?

c. Specify how the proposed modification will make worse the "eventual removal from the pool" of the fuel assemblies. What evidence do you have to support your answer?

d. State all the "problems" that CEF thinks may arise. What evidence do you have that each of these problems may arise?

4. With respect to each of CEF's contentions and each of the interrogatories asked by Vepco above, list all of the documents CEF plans to present as evidence at the public evidentiary hearing, if one is held. Provide a complete citation to each such document, including the authors, title, date, identification number if any (e.g., NUREG-0404), publisher, sponsoring government agency, and where such

document may be found, if it is not generally available to the public.

5. With respect to each of CEF's contentions, what witnesses does CEF plan to present at the public evidentiary hearing, if one is held? List the full name of each such witness, his or her address, his or her professional qualifications, and his or her relevant published works. Summarize the substance of the testimony each such witness will give.

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

7. To the extent that you have not already done so in your answers to Interrogatories 1-6 above, specify for each of your contentions what information would remedy the defects you see in Vepco's "Summary of Proposed Modifications."

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

9. Serve a copy of CEF's answers to the "NRC Staff Interrogatories to, and Request for the Production of Documents from, Intervenor Citizens' Energy Forum," which the NRC Staff

served on CEF May 8, 1979, as required by 10 CFR § 2.740b(b).

VIRGINIA ELECTRIC AND POWER  
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DATED: May 17, 1979

CERTIFICATE OF SERVICE

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

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DATED: May 17, 1979