



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

PDR

December 21, 1978

Mrs. June Allen, President
North Anna Environmental Coalition
412 Owens Drive
Huntsville, Alabama 35801

Dear Mrs. Allen:

Mr. Case's letter to you dated April 11, 1978, responded to some of the issues you raised in your letter to him dated January 24, 1978, your reference: Leaking and Silt-Clogging. This letter addresses these issues as well as those you raised in your letter to Mr. Case dated July 31, 1978.

With respect to your January letter and Mr. Case's April letter, the source of the silt reported to have clogged the screens of the pumps which remove groundwater infiltration from beneath the containment of Unit No. 1 has been identified by VEPCO. A letter from C. M. Stallings, VEPCO, to Mr. Case dated July 3, 1978 transmitted the results of their study and indicates that the silt portion of the material found in the pump sumps came from near the surface of the ground rather than from the foundation rock. We have no basis to disagree with VEPCO's conclusion and consider this item closed. VEPCO's report is available in the public docket room for the North Anna plant and is entitled "Report on Containment Submat Drainage Pump Clogging, North Anna Unit 1, Virginia Electric and Power Company."

Also with respect to your January letter and Mr. Case's April letter, the underdrain system is apparently performing satisfactorily. Members of my staff observed groundwater flow from the outlets of the drains in the drainage gallery on April 13, 1978. According to a letter from S. C. Brown, Jr., VEPCO, to H. R. Denton dated September 8, 1978, the flow rate from the drains reached a peak of 3.63 gallons per minute in the early summer of 1978; consistent with expected seasonal variations in groundwater flow rates. Again, we have no basis to suspect that the underdrains will not continue to perform satisfactorily and be properly inspected and maintained by VEPCO personnel.

7901020282

50-338 P

50-339 A

Your July 31 letter asks a number of questions in addition to those discussed above. Some of your questions appear to be unrelated to the radiological safety of the North Anna plant, and we, therefore, do not possess the basic data necessary to answer these questions. Based on information available to me and referenced in the responses, my answers to your questions, arranged in the same order as you presented them in your July 31, 1978 letter, follow:

Question 1

Settlement measurements in the containment building were started about May of 1976. I do not know the actual amount of settlement at this time. VEPCO will report the values if the settlement reaches 75 percent of the values given in Technical Specification 3/4.7.12. Any proposed changes to this specification will be reviewed and approved by my staff before they are implemented.

Question 2

The source of the silt discussed in the second paragraph of this letter is described in detail in VEPCO's letter to Mr. Case dated July 3, 1978.

Question 3

According to VEPCO's report to Mr. Case dated July 3, 1978, the source of the silt is not from the "joints and fractures in the bedrock".

Question 4

As in Question 1, I do not know the actual amount of settlement. VEPCO will report the values in accord with Technical Specification 3/4.7.12.

Question 5

I do not know if VEPCO has been shimmed the turbine generator. I am satisfied, however, that the provisions of Technical Specification 3/4.7.1, paragraph 3/4.7.1.7 assure a low risk of turbine source damage to the plant radiological safety system.

Question 6

As in Questions 1 and 4, I do not know the actual amount of settlement to date. VEPCO will report the values in accord with Technical Specification 3/4.7.12.

Question 7

As in Questions 1, 4 and 6, I do not know the actual amount of settlement to date. VEPCO will report the values in accord with Technical Specification 3/4.7.12.

Question 8

The latest settlement data available to me for the fuel building is contained in a letter to H. R. Denton, NRC from Sam C. Brown, VEPCO, dated August 11, 1978. These data indicated that little, if any, settlement of this building has occurred in the past two years.

Question 9

Because the fuel building is included in the settlement monitoring system for the plant, and because an allowable differential settlement value has been established, as stated in Technical Specification 3/4.7.12, I do not anticipate any additional risk to public health and safety caused by the additional weight of fuel to be stored in the fuel building. Again, if the weight of the fuel causes settlement to reach 75 percent of the specified allowable for the fuel building, VEPCO is to make an evaluation of the situation and report it.

Question 10

Your question Number 10 can best be answered by referring to settlement data contained in a letter to J. P. O'Reilly, NRC, from C. M. Stallings, VEPCO, dated May 31, 1978 and in a letter to H. R. Denton, NRC, from S. C. Brown, VEPCO, dated September 8, 1978. These letters indicate that the average pumphouse settlement from December, 1975 to October, 1976 (10 months), was about 0.025 feet. From October, 1976 to

Question 10 - (Continued)

September, 1977 (11 months), the period when drains were installed and the reservoir filled three times and emptied twice, the pumphouse settlement increased from about 0.025 to 0.105 feet. Of the 0.08 feet of additional pumphouse settlement that occurred during this 11 month period, about one third can be attributed to time effects, one third due to the influence of drains and one third due to reservoir fillings. From September, 1977 to August, 1978 (11 months), the average pumphouse settlement increased about 0.022 feet.

Question 11

According to Technical Specification 3/4.7.12, if the average settlement of the pumphouse exceeds 0.15 feet since December of 1975, the plant will be shut down. As can be seen from the figures given in my response to your Question 10, the pumphouse settlement is approaching the specified limits. VEPCO has requested an increase in the allowable settlement value for the pumphouse; this request is being evaluated by my staff.

Question 12

We are not attempting to validate predictions of pumphouse settlement as a basis for allowable settlement values. Rather, we are examining the consequences of increased pumphouse settlement values on the safety functions of service water system components.

Question 13

I would avoid an interpretation of the pattern of average settlement from April 25 to May 15, 1978 because the time period is very short and because the change in settlement (0.006 feet) is too small to be significant considering the required sensitivity of the measuring system. According to a letter from S. C. Brown, VEPCO, to H. R. Denton, NRC, dated September 8, 1978 measured settlement has increased somewhat between May 15 and August 3, 1978.

Mrs. June Allen

Question 14

I view possible remedial actions to include reworking or replacing the expansion joints, adding expansion joints to pipes between the pumphouse and reservoir spray system, and mud jacking the north side of the pumphouse. Underpinning of the pumphouse foundation is another alternative remedial action.

Question 15

Expansion joints are commonly employed in the piping systems of fossil fuel and petrochemical plants and the technology associated with the use of expansion joints is well known. The use of such joints is familiar to my reviewers and we have reviewed the expansion joint utilized at North Anna. Thus, I do not feel that their use at North Anna constitutes "an unreviewed safety question."

I hope this response provides the information you seek.

Sincerely,

Original Signed By
R. C. DeYoung

Richard C. DeYoung, Director
Division of Site Safety and
Environmental Analysis
Office of Nuclear Reactor Regulation

Distribution

Docket File (50-338/339)
NRR Rdg
GB Rdg
DSE Rdg
HDenton
ECase
RDeYoung
DMuller
RBoyd
RDenise
RMattson
VStello
RBoznak
JStepp

CHofmayer
DCrutchfield
ACardone
ADromerick
DSwanson
PDR
Local PDR
MJambor
MGroff (NRR 2077)
OParr
LHeller

*Want to CEHED on 12/11/78
Returned to RDY on 12/21/78
In view of lack of any info
in Substantive sections of records?
to see w/o DS - recommend
not change - Plog
revised object
re: memo to
R. C. DeYoung
12-21*

*See previous yellow for concurrences

OFFICE	DSE:ST:GB*	DSE:ST:GB*	NPM	DSE: <i>[Signature]</i>	OFID
SURNAME	LHeller	RDenise	ADromerick	RDeYoung	DSwanson
DATE	12/18/78	12/11/78	12/ /78	12/21/78	12/19/78