

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

W. L. STEWART
VICE PRESIDENT
NUCLEAR OPERATIONS

June 29, 1987

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Serial No. 87-336
NO/RCB:vlh
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

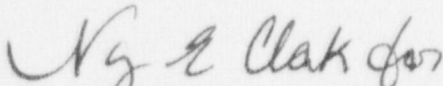
Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNITS 1 AND 2
NRC INSPECTION REPORT NO. 50-338/87-14 AND 50-339/87-14

We have reviewed your letter of June 2, 1987 which referred to the inspection conducted at North Anna May 11-15, 1987 and identified a violation of NRC requirements. Our response to the Notice of Violation is attached.

We have no objection to this inspection report being made a matter of public record. If you have any further questions, please contact us.

Very truly yours,


W. L. Stewart

Attachment

cc: U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N. W.
Suite 2900
Atlanta, Georgia 30323

Mr. J. L. Caldwell
NRC Senior Resident Inspector
North Anna Power Station

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ATTACHMENT

Response to Notice of Violation Reported During NRC Inspection Conducted
May 11-15, 1987

Inspection Report No. 50-338/87-14 and 50-339/87-14

NRC Comment:

During the Nuclear Regulatory Commission (NRC) inspection conducted on May 11-15, 1987, a violation of NRC requirements was identified. The violation involved failure to maintain radiation exposure records in accordance with instructions contained on Form NRC-5. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1986), the violation is listed below:

10 CFR 20.401 requires that each licensee maintain records showing the radiation exposures of all individuals for whom personnel monitoring is required and that such records shall be kept on Form NRC-5 or equivalent in accordance with the instructions contained in that Form.

Form NRC-5, Item 5, requires that unless the lenses of the eyes are protected with eye shields having a tissue equivalent density thickness of at least 700 milligrams per square centimeter, dose recorded as whole body dose shall include the dose delivered through a tissue equivalent absorber having a density thickness of 300 milligrams per square centimeter.

Contrary to the above, prior to May 15, 1987, radiation exposure records were not kept in accordance with the instructions contained in Form NRC-5 in that the lenses of the eyes were not shielded by at least 700 milligrams per square centimeter of material but the recorded whole body doses included only dose delivered through a tissue equivalent absorber having a density thickness of 1000 milligrams per square centimeter rather than 300 milligrams per square centimeter as required.

This is a Severity Level IV violation (Supplement IV).

Response:

1. Admission or denial of the alleged violation:

The violation is correct as stated.

2. Reason for violation:

The violation was a result of a design deficiency in the thermoluminescent dosimeter (TLD) badge which did not contain a 300 mg/cm² filter. Surveys, special studies and calculations indicated no significant beta exposure reached the lens of the eye under the assumed worst case exposure condition (which is in the primary side of the steam generators). Consequently, a nominal lens-of-the-eye dose was not added to the worker's NRC Form-5 record.

3. Corrective steps which have been taken and the results achieved:

In response to Unresolved Item 86-07-02, addressed in NRC Inspection Report No. 50-338/86-07 and 50-339/86-07 dated August 8, 1986, which addressed whole body dose to the lens of the eye, both theoretical calculations and experimental measurements were performed to determine potential exposure to the lens of the eye. The calculations indicated the unshielded eye could receive a small percentage of the recorded skin dose. The calculations were confirmed by direct measurements with modified TLDs using the steam generator as the source term. The direct measurements formed the basis of a lens-of-the-eye correction factor. By applying a correction factor to the personnel dosimeter algorithm, a lens-of-the-eye dose was derived and is now being recorded in accordance with NRC Form-5 instructions.

4. Corrective steps which will be taken to avoid further violations:

A steam generator will be surveyed during each of the next two refueling outages, provided a generator is opened for maintenance or testing. Based on these surveys, the lens-of-the-eye correction factor will be modified as necessary to assure that lens-of-the-eye doses are properly assigned.

5. The date when full compliance will be achieved:

Full compliance has been achieved.