VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

W. L. STEWART
VICE PRESIDENT
NUCLEAR OPERATIONS

November 24, 1982

Mr. James P. O'Reilly
Regional Administrator
Region II
U. S. Nuclear Regulatory Commission
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Serial No. 626
NO/RMT:acm
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

Dear Mr. O'Reilly:

We have reviewed your letter of October 21, 1982 in reference to the inspection conducted at North Anna Power Station between September 20 and September 24, 1982 and reported in IE Inspection Report Nos. 50-338/82-37 and 50-339/82-37. Our responses to the specific infractions are attached.

We disagree with the Severity Level IV Violation level for both NRC Comments A and B for the following reasons. The A comment states that, a 0.6F increase over a one hour period would lead to underestimating RCS leakage by 0.2 GPM. This would be only 20% of that limit. This underestimation of RCS leakage is considered to be of minor safety and environmental significance. As such, it would constitute a Severity Level V Violation. The small hole in one fuel rod of assembly NO3 is not abnormal for Westinghouse fuel. The grid strap that was torn on assembly NO7 did not affect the fuel clad integrity. In both instances, the NRC Resident Inspector was notified. By determining that these events were not reportable and not submitting a Special Report, we believe that these should be Severity Level V Violations.

We have determined that no proprietary information is contained in the reports. Accordingly, the Virginia Electric and Power Company has no objection to these inspection reports being made a matter of public disclosure. The information contained in the attached pages is true and accurate to the best of my knowledge and belief.

Very truly yours,

W. L. Stewart

W. L. Stewart

Attachment

cc: Mr. Robert A. Clark, Chief
Operating Reactors Branch No. 3
Division of Licensing

RESPONSE TO NOTICE OF VIOLATION
INSPECTION REPORT NOS. 50-338/82-37 and 50-339/82-37

NRC COMMENT:

Technical Specification 6.8.1.c requires procedures for the performance of surveillance tests.

Contrary to the above, procedure 1-PT-52.2 and 2-PT-52.2 were inadequate in that the common provision for equating a change in reactor coolant system inventory with a change in reactor coolant system temperature was appropriate only to the no-load operating temperature condition. Consequently, the reactor coolant system leakage rate could have been significantly underestimated at full power.

This is a Severity Level IV Violation (Supplement I).

RESPONSE:

(1) ADMISSION OR DENIAL OF THE ALLEGED VIOLATION:

The Notice of Violation is correct as stated.

(2) REASONS FOR VIOLATION:

This infraction appears to have been caused by an inadequate engineering error analysis of leak rate methods established when 1-PT-52.2 and 2-PT-52.2 were written. It appears that the incorrect assumption that differences between charges in reactor coolant inventory per degree Fahrenheit at full power T_{avg} and no-load T_{avg} were not significant was made. The original calculations could not be located for a review of the assumptions made.

(3) CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND THE RESULTS ACHIEVED:

Periodic tests 1-PT-52.2 and 2-PT-52.2 have been revised to provide the correct change in reactor coolant inventory per degree Fahrenheit at all operating T_{avg} values.

(4) CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS:

In addition to the corrective actions already taken, a complete review of reactor coolant leak rate methods used in 1-PT-52.2 and 2-PT-52.2 is being conducted. Allowed leak rate time intervals, temperature variations, and instrument accuracies will also be reviewed. Additionally, changes to 1-PT-52.2 and 2-PT-52.2 may be made based on the review results.

(5) THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

Full compliance has been achieved.

RESPONSE TO NOTICE OF VIOLATION
INSPECTION REPORT NOS. 50-338/82-37 AND 50-339/82-37

NRC COMMENT:

Technical Specification 6.9.1.8.C requires a prompt notification and a written report of abnormal degradation of fuel cladding.

Contrary to the above, fuel cladding failure observed during the 1982 refueling outage was not reported.

This is a Severity Level IV Violation (Supplement I).

RESPONSE:

(1) ADMISSION OR DENIAL OF THE ALLEGED VIOLATION:

The Notice of Violation is not correct as stated.

(2) REASONS FOR VIOLATION:

Prior to the reload of the cycle 2 core, with a combination of fresh fuel assemblies and partially used fuel from cycle 1, two fuel assemblies were rejected for reuse due to damage to the grid strap on one assembly (N07) and an observed cladding hole on the other assembly (N03). Neither of these defects constitute abnormal fuel cladding degradation in the connotation of T.S. 6.9.1.8.C for the following reasons.

a. The grid strap damage did not affect the fuel cladding integrity. The grid strap damage was typical of assembly to assembly corner interaction that has been experienced previously with Westinghouse fuel and is not considered abnormal.

b. The fuel cladding failure in question was the result of a known defect mechanism (clad hydriding) on one rod in one assembly. One rod out of 41,448 fuel rods exhibiting a hydride failure is a very random event that should not be considered abnormal. As indicated in the North Anna FSAR and WCAP 8183, Rev. 11, small levels of failures in Westinghouse fuel have been experienced in the past and are not considered abnormal. These references indicate that hydriding failure is a mechanism that is well understood and,therefore, not an abnormal degradation of fuel cladding. The cycle 1 core performance report (VEP-FRD-48) showed that the primary coolant activity, specifically dose equivalent iodine-131 average concentration, was substantially below the 1.0 micro-CI/GM limit, in fact, less than 3% of the T. S. limit, indicating that the small hole was not indicative of a larger problem.

RESPONSE TO NOTICE OF VIOLATION
INSPECTION REPORT NOS. 50-338/82-37 AND 50-339/82-37

(3) CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND THE RESULTS ACHIEVED:

No corrective actions are necessary.

(4) CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS:

Not applicable.

(5) THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

Not applicable.