

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

August 10, 1995

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

Serial No.	95-373
NAPS/JHL/MAE	R10
Docket Nos.	50-338
	50-339
License Nos.	NPF-4
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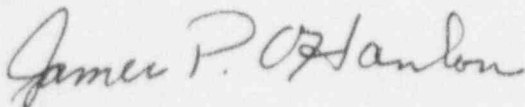
Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNITS 1 AND 2
INSPECTION REPORT NOS. 50-338/95-11 AND 50-339/95-11
REPLY TO A NOTICE OF VIOLATION

We have reviewed your letter of July 13, 1995, which referred to the inspection conducted at North Anna Power Station from May 21, 1995 to June 17, 1995, and the associated Notices of Violation which were reported in Inspection Report Nos. 50-338/95-11 and 50-339/95-11. We are concerned by the nature of the violations and have identified a potential adverse trend in the human performance area using our self assessment program. We have raised the level of management attention in this area and are developing an action plan to address this trend. Our reply to the Notices of Violation is attached.

If you have any further questions, please contact us.

Very truly yours,



James P. O'Hanlon
Senior Vice President - Nuclear

Attachment

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cc: U. S. Nuclear Regulatory Commission
Region II
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Mr. R. D. McWhorter
NRC Senior Resident Inspector
North Anna Power Station

REPLY TO A NOTICE OF VIOLATION
INSPECTION REPORT NOS. 50-338/95-11 AND 50-339/95-11

NRC COMMENT

During an NRC inspection conducted on May 21 through June 17, 1995, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 60 FR 34381, June 30, 1995, the violations are listed below:

- A. Unit's 1 and 2 Technical Specification 6.8.1 requires that written procedures be established, implemented and maintained including, by reference to Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, administrative procedures for authorities and responsibilities for safe operation and for equipment control of safety-related equipment and for surveillance and test activities of safety-related equipment.

This requirement is implemented, in part, by Virginia Power Administrative Procedure 1401, Conduct of Operations, revision 4, section 6.1.12.c.2, which requires that all shift team members be aware of station status at all times and that supervisory personnel monitor the performance of shift personnel who could affect station safety.

This requirement is also implemented, in part, by Virginia Power Surveillance Procedure 2-PT-138.1, HHSI Flow Balance, revision 3-P2, step 6.8, which requires personnel to measure the torque locking device set screws for safety-related high head safety injection throttle valves.

Contrary to the above, on June 6, 1995, an operator did not remember that the heater for the B train Safeguards Ventilation Filter System was de-energized, and a supervisor did not properly monitor performance of the operator placing the B train Safeguards Ventilation Filter System in service. As a result, from 8:00 a.m. to 11:48 a.m. the B train Safeguards Ventilation Filter System was placed in service to support spent fuel handling when its heater was de-energized.

Contrary to the above, on May 24, 1995, personnel failed to measure the torque of locking device set screws for safety-related high head safety injection throttle valves.

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

- B. 10 CFR 50, Appendix B, Criterion V, and the licensee's Quality Assurance Program (Updated Final Safety Analysis Report, Chapter 17, Quality Assurance, Section 17.2.5, Instructions, Procedures, and Drawings) collectively require that activities affecting quality shall be prescribed by documented procedures of a type appropriate to the circumstances and shall be accomplished in accordance with these procedures. These requirements are implemented, in part, by ASME Code Section XI, Article IWC-2500, which requires the volumetric examination of welds in pressure retaining components and Virginia Power Ultrasonic Examination Procedure NDE-UT-303, revision 2, which requires that the code specified volume of welds and adjacent base material be ultrasonically examined.

Contrary to the above, on May 25, 1995, a review of ultrasonic examination data revealed that activities affecting quality were not properly conducted in accordance with procedures in that five steam generator welds in Unit 1 and four steam generator welds in Unit 2 were not examined over their full volume.

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

REPLY TO NOTICE OF VIOLATION A

1. REASON FOR THE VIOLATION

The reason for the violation was 1) failure to follow the requirements of procedures VPAP-1401, Conduct of Operations and 2-PT-138.1, High Head Safety Injection Flow Balance and 2) inadequate communications.

Operations personnel did not conduct a review of equipment status or recognize the responsibility to direct a ventilation alignment to ensure equipment was properly operated as required by VPAP-1401, Conduct of Operations. Specifically, on June 4, 1995, the heater (1-HV-E-35B) for charcoal filter 1-HV-FL-3B failed to satisfy surveillance testing requirements. As a result, the charcoal filter bank was placed in the 7 day action statement of Technical Specification 3.7.8.1. On June 6, 1995, the fuel building ventilation system exhaust was diverted to the charcoal filter system as required by Technical Specification 3.9.12 to allow work in the spent fuel pit. The licensed operator performing the ventilation alignment was performing the activity per operations shift orders. The licensed operator did not recall from shift turnover that 1-HV-FL-3B was in the Technical Specification action statement. In addition, the licensed operator did not perform a review of equipment status prior to performing the ventilation alignment. Also, there was inadequate communications between the licensed operator performing the ventilation alignment and the Unit 1 and 2 senior reactor operators (SROs). As a result, the Unit 1 and 2 SROs did not adequately direct the evolution to ensure equipment was properly operated.

During the performance of periodic test 2-PT-138.1, High Head Safety Injection Flow Balance, inadequate communications occurred when a non-licensed operator in the field received communication from engineering test personnel that the safety injection flows were adequate and to tighten the set screws for the safety injection throttle valve locking devices. The non-licensed operator then secured the set screws as required by using a wrench. Subsequently, following completion of the evolution, the non-licensed operator signed off the procedure steps on the original procedure without reading the entire step in context with the evolution he had performed, and did not realize that the step required specific torque values. Rather, the non-licensed operator intended to convey by his sign off of the procedure that the set screws were tightened in accordance with the test engineers' instructions.

2. CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

The following corrective actions were completed as a result of the fuel building charcoal filter event:

1-HV-FL-3B was removed from service upon discovering that the charcoal filter was in the Technical Specification Action Statement because of an inoperable heater. 1-HV-FL-3A was then placed in service.

An evaluation was performed to determine the effect of operating the fuel building ventilation system through 1-HV-FL-3B during fuel movement in the spent fuel pit. 1-HV-FL-3B was determined to be operable during the time the heater was not in service since the relative humidity of the fuel building was determined to be low (54% to 60%).

An event report for the fuel building charcoal filter event was sent to operations personnel to emphasize use of Operations Standard "Shift Communications".

The licensed operators involved in the event received appropriate discipline and were coached on the importance of following procedures.

The following corrective actions were completed as a result of the inadequate tightening of the set screws for the safety injection throttle valve locking devices:

A technical evaluation was performed, and it was concluded that the set screws on the safety injection throttle valve locking devices were adequately secured and the safety injection system was operable.

The non-licensed operator (and his supervisor) involved in the event were coached on the importance of correctly completing and following procedures.

Engineering personnel involved in the event were coached on the importance of providing clear and thorough communications during testing.

3. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

PT-138.1, High Head Safety Injection Flow Balance, will be revised prior to its next performance to clarify that a torque wrench is required for tightening the safety injection throttle valve locking device set screws. In addition, the proper torque range will be supplied in steps requiring the valves to be locked.

4. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance has been achieved.

REPLY TO NOTICE OF VIOLATION B

1. REASON FOR THE VIOLATION

The Unit 1 violation was caused by isometric drawings that contained incorrect notations on weld thicknesses. As a result, personnel incorrectly set up the calibration for performing various ultrasonic weld examinations based on incorrect notes on these drawings.

Unit 1 concerns were initially identified with the ultrasonic testing (UT) examination of the upper head to shell weld on "B" steam generator (SG) in September 1994. This problem, in part, dealt with a drawing used to set up the calibration block (VRA-21) for performing the examination. The referenced drawing specified the weld thickness to be 3.62 inches. The Level II NDE examiner set up the calibration block to this specified weld thickness. During the examination, it was noted that the back reflection from the opposite surface did not appear at the expected point on the screen. The examination was stopped since the instrument calibration did not reflect the actual material thickness. Subsequent thickness measurements determined that the weld thickness varied between 3.6 inches at the centerline and 4.0 inches at the toe on the upper head side of the joint. Material thickness on the upper head side of the joint was greater than 4.1 inches. The system was recalibrated and the examination was completed satisfactorily.

As a result of these concerns, the Unit 1 first and second inspection interval NDE reports were reviewed from 1976 for steam generator shell welds to verify that the proper coverage was obtained for all welds examined. Five additional sets of examination reports were identified which indicate that the UT test equipment was calibrated for a material thickness (3.75 inches) that may be less than the actual material thickness (<3.75 to 4.0 inches). The five sets of test results involve the Unit 1 upper head to shell circumferential seam welds on "A" and "C" SG and the Unit 1 main steam nozzle for "C" SG. This was documented in our letter dated December 20, 1994 (Serial No. 94-642).

The Unit 2 violation was caused by failure to follow procedures. Personnel incorrectly set up the calibration for performing various ultrasonic weld examinations.

As a result of Unit 1 concerns, previous Unit 2 examination results were reviewed. It was determined that an incomplete 60° UT examination of welds 5, 6 and 9 on Unit 2 "B" SG and weld 10 on Unit 2 "C" SG occurred during the 1982 time frame. The NDE Level II examiner performing the examinations improperly set the calibration to reflect a material thickness of 3.33 inches. The thickness of the shell is 3.62 inches or greater. Therefore, the calibration did not cover at least 0.29 inches of the area to be examined. This was a violation of the controlling ultrasonic test procedure. The calibration specified by the procedure would have resulted in a material thickness of 5.00 inches using calibration block VGB-21.

2. CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

Unit 1 drawings were revised in January 1995 and Unit 2 drawings were revised in November 1994 to note that 3.62 inches was the steam generator upper head to shell seam minimum material thickness.

The five additional sets of Unit 1 examination reports indicate that the UT test equipment may have been calibrated for a material thickness that may be less than the actual material thickness. It is estimated that in the worst case, assuming the material thickness was 4.0 inches, that approximately 99% of the area would have been examined assuming no additional interferences. Therefore, there are no adverse safety implications or operability problems. This was documented in our letter dated December 20, 1994 (Serial No. 94-642).

NDE Examination Procedure NDE-UT-303, Rev. 3, "Ultrasonic Examination Of Vessel Welds > 2" In Thickness", applicable to Unit 1 and NDE Examination Procedure NDE-UT-503, Rev. 2, "Ultrasonic Examination Of Vessel Welds > 2" In Thickness", applicable to Unit 2 were enhanced in February 1995 to require that, during the examination, the back surface reflection shall be observed to ensure that the calibrated sweep is adequate to encompass the component thickness.

A 60° UT examination of welds 6 and 9 on "B" SG and weld 10 on "C" SG was satisfactorily completed during the 1995 Unit 2 refueling outage. An examination of weld 5 on "B" SG was not required since the weld was replaced during the refueling / steam generator replacement outage.

A review of the ISI database was performed in 1995 to identify the examinations performed by the NDE Level II examiner responsible for the calibration error during the 1982 time frame. No additional examination deficiencies were noted.

3. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

A review of NDE examination reports from the first and second inspection interval identified five sets of examination reports where the UT test equipment was calibrated for a material thickness that may be less than the actual material thickness for the Unit 1 upper head to shell circumferential seam welds on "A" and "C" SG and the Unit 1 main steam nozzle for "C" SG. The material thickness for these areas will be determined during the 1996 Unit 1 refueling outage. Reexamination of these areas will be performed depending on the results of the material thicknesses.

4. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

The material thickness for the for the Unit 1 upper head to shell circumferential seam welds on "A" and "C" SG and the Unit 1 main steam nozzle for "C" SG will be determined during the 1996 Unit 1 refueling outage. Reexamination of these areas will be performed depending on the results of the material thicknesses.