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April 3, 1985

U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Attn: Mr. Edward C. Wenzinger, Chief
Reactor Projects Branch No. 3
Division of Project and Resident Programs
Region 1
631 Park Avenue
King of Prussia, PA 19406

Reference: Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
Inspection Report 85-02

Gentlemen:

In response to your letter of March 7, 1985, and in accordance with 10 CFR 2.201, the attached reply addresses the Notice of Violation which was included with the referenced report.

If you have any questions concerning this response, please contact my office.

Very truly yours,

J. P. Carey
J. P. Carey
Vice President, Nuclear

Attachment

cc: Mr. W. M. Troskoski, Resident Inspector
U.S. Nuclear Regulatory Commission
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DUQUESNE LIGHT COMPANY
Beaver Valley Power Station
Unit No. 1

Reply to Notice of Violation
Inspection 85-02
Letter dated March 7, 1985

VIOLATION A (Severity Level IV; Supplement I)

Description of Violation (85-02-02)

Technical Specification 6.8.1 requires the establishment and implementation of procedures covering surveillance and test activities of safety related equipment.

Technical Specification Limiting Conditions for Operation 3.1.2.7 (Modes 5 and 6) and 3.1.2.8 (Modes 1 thru 4) specify minimum volume and boron concentration requirements for the boric acid storage system.

10 CFR 50, Appendix A, General Design Criteria, requires that structures, systems and components important to safety such as the reactivity control systems, shall be designed, fabricated, erected and tested to quality standards commensurate with the importance of the safety functions to be performed. These structures, systems and components are required to withstand the effects of natural phenomena such as earthquakes and are to be designed to assure an extremely high probability of accomplishing their safety functions in the event of anticipated operational occurrences such as a loss of offsite power.

The BVPS Unit 1 Quality Assurance Program defines quality assurance Category 1 as plant equipment vital to a safe shutdown of the plant, or necessary to mitigate the consequences to the public of a potential accident. Appendix B, Category 1 Structures, Systems and Components, Revision 3, lists the boric acid tank CH-Tk-1A and 1B but excludes the boric acid tank BR-TK-7.

Contrary to the above, as of January 27, 1985, OST 1.7.8, Boric Acid Storage Tank and RWST Level and Temperature Verification, allowed the use of boric acid hold tank BR-TK-7, a non-seismic structure and associated delivery pumping system of BR-P-11A and 11B which are not powered from a Class 1E emergency power source, to be used to meet the minimum volume requirements of the boric acid storage system.

Corrective Action Taken

A review of the past 5 years of data from OST 1.7.8 was conducted to determine past compliance with Technical Specification Limiting Conditions for Operation 3.1.2.7 and 3.1.2.8. This review showed that the Technical Specification requirement for the inventory was met without relying on the volume in BR-TK-7. Therefore, we have been in compliance with the requirements of Technical Specifications 3.1.2.7 and 3.1.2.8 during this period.

Actions Taken to Prevent Recurrence

Operating Manual Change Notice (85-50) has been implemented to eliminate the potential for using the BR-TK-7 inventory for Technical Specification compliance.

A review of other safety related systems' tanks that have specific volumetric requirements addressed in the Technical Specifications was conducted by the NSOS. This review included the following:

- Refueling Water Storage Tank
- Chemical Addition Tank
- Primary Plant Demineralized Water Storage Tank
- Boric Acid Tanks
- Boron Injection Tank
- SIS Accumulators
- Diesel Generator Fuel Oil Tanks
- Diesel Fire Pump Fuel Oil Tank

This review concluded, with the exception of the Boric Acid Tanks, that there were no other system configurations within these tank subsystems that had the potential to provide a similar procedural problem.

Date on Which Full Compliance Will be Achieved

Full compliance has been achieved at this time.

VIOLATION B (Severity Level IV; Supplement I)

Description of Violation (85-02-01)

Technical Specification 4.0.5 requires that components which are classified as ASME Code Class 1, be tested to the criteria of Section XI of the ASME Boiler and Pressure Vessel Code and Addenda. Subsection IWV-3420 of the Code requires that when check valves are leak tested at pressure differentials lower than the function pressure differential, then the observed leakage must be adjusted to the function maximum pressure differential value by calculation appropriate to the ratio between the test and function pressure differential assuming leakage to be directly proportional to the pressure differential to the one-half power. IWV-3420 further requires that valve seat leakage should be determined during pressure testing by measuring leakage through a downstream telltale connection or by measuring feed rate required to maintain pressure.

Contrary to the above, valve leak rate tests performed during the Fourth Refueling Outage were performed incorrectly as follows:

1. RCS pressure isolation valve leak tests in accordance with OST 1.11.16 were performed using pressures lower than the function maximum pressure differential without adjustment of the observed leakage.
2. Accumulator check valve tests in accordance with OST 1.11.4 were performed without measuring leakage through a downstream telltale connection or by measuring feed rate required to maintain pressure.

Corrective Action Taken

1. In order to comply with Subsection IWV-3420 of the Code, an Operating Manual Deficiency Report (OMDR) was written to revise OST 1.11.16 to include the correction factor needed to adjust the results to function maximum pressure differential. In addition, the results of previous runs of OST 1.11.16 were adjusted to the function maximum pressure differential and then compared with the Acceptance Criteria. These results were within the Acceptance Criteria range.
2. Subsection IWV-3420 of the Code states that valve seat leakage may be determined by measuring leakage through a downstream telltale connection or by measuring feed rate required to maintain pressure. OST 1.11.4 determines the valve seat leakage of the Accumulator check valves by measuring leakage flow through the 3/4 inch "Accumulator Test Line" with a 0-5 gpm flow meter. This arrangement allows any leakage to be measured. An OMDR was also written for OST 1.11.4, to require the trapped pressure to be bled off before measuring the leakage flow, to require the RCS and Accumulator pressures to be recorded and to re-emphasize the zero gpm Acceptance Criteria.

Action Taken to Prevent Recurrence

The methods of leak testing the Category A valves in the IST Program will be reviewed to ensure that they are according to the code, Subsection IWV-3420.

Date on Which Full Compliance Will Be Achieved

Changes to OST 1.11.6 and 1.11.4 will be reviewed and needed revisions will be completed by June 30, 1985.

The review of the leak test methods for Category A valves and any subsequent revisions to the tests or the IST Program will be completed by October 1, 1985.

Incorporation of the above procedure changes will be completed prior to the next expected performance in the Fifth Refueling Outage.