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June 30, 1997

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Reply to a Notice of Violation -- Inspection Report Nos. 50-317(318)/97-02

REFERENCE: (a) Letter from Mr. L. T. Doerflein (NRC) to Mr. C. H. Cruse (BGE), dated May 29, 1997, NRC Region I Integrated Inspection Report Nos. 50-317/97-02 and 50-318/97-02 and Notice of Violation

In response to Reference (a), Attachment (1) details our response to the violations in the subject Nuclear Regulatory Commission Inspection Report concerning corrective actions associated with our Motor-Operated Valve Program.

Should you have questions regarding this matter, we will be pleased to discuss them with you.

Very truly yours,

J B Russell

for
Charles H. Cruse
Vice President-Nuclear Energy

CHC/SJR/bjd

Attachment

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ATTACHMENT (1)

NOTICE OF VIOLATION 50-317/97-02-08 AND 50-318/97-02-08

FAILURE TO IMPLEMENT CORRECTIVE ACTIONS AS REQUIRED BY 10 CFR PART 50. APPENDIX B. CRITERION 16

Notice of Violation Nos. 50-317/97-02-08 and 50-318/97-02-08 describe a failure to implement corrective actions as required by 10 CFR Part 50, Appendix B, Criterion 16. The notice of violation states, in part:

> *10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," requires that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.*
>
> *Contrary to the above, in April 1996 after repairs to power operated relief valve block valve 1-MOV-403, corrective actions were not taken to fully evaluate the capability of this valve to function under design-basis conditions in its prior degraded state. Also, corrective actions were not taken then to fully evaluate the operability implications due to potential degraded conditions for the other power operated relief valve block valves (1-MOV-405 and 2-MOV-403 and 405).*

I. REASON FOR THE VIOLATION

Calvert Cliffs Nuclear Power Plant failed to meet the requirements of 10 CFR Part 50, Appendix B, Criterion 16 in that:

> We did not fully evaluate the operability impact of enlarging the wedge guide grooves of 1-MOV-403.
>
> We did not fully evaluate the impact of rubbing and interference found in 1-MOV-403 on its past operability or the operability of the other power-operated relief valve (PORV) block valves.

We determined the following reasons for the violation:

- The controlling procedure for the Motor-Operated Valve (MOV) Program did not require a full evaluation that compared MOV critical characteristics to either the "as-found" condition (i.e., an evaluation of the impact of rubbing and interference found in 1-MOV-403) or the "as-left" condition (i.e., an evaluation of the impact of the changes made to the valve's internal dimensions).

- The personnel involved in the event were not sufficiently knowledgeable to fully evaluate the impact that the "as-found" or the "as-left" condition of 1-MOV-403 could have on its operability or the operability of other PORV block valves.

Background

Near the end of the Unit 1 1994 Refueling Outage (RFO), the block valve (1-MOV-403) for PORV 1-ERV-402 was discovered to be leaking. The leak was not expected since the valve had just been overhauled. We determined the leak rate, approximately eight gallons per hour, did not affect the valve's operability. An issue report was generated to investigate the leak during the 1996 RFO.

The valve was disassembled and inspected during the 1996 RFO. Rubbing was found in the guide groove of the valve wedge. The rubbing was caused when the disk contacted a weld at the end of the valve's closing stroke. The contact caused the wedge to become cocked in the seat and resulted in the valve leaking.

Valve Operation and Test Equipment System (VOTES) testing at the start of the Unit 1 1996 RFO had shown an unexpected increase in disk pullout force. Since no unexpected increase in disk pull out force was seen in the other Unit 1 and 2 PORV block valves, the results of the VOTES tests supported our determination of the cause for the leak in 1-MOV-403.

To correct the leak, the 1-MOV-403 wedge was lapped, the wedge's guide grooves were enlarged, and excess base metal was removed. Enlarging the guide grooves and removing additional base metal were performed per the vendor technical manual. We failed to evaluate how changing the valve's internal dimensions would impact the valve's operability. The "as-left" VOTES test did show that the disk pullout force was within expected values.

The System Engineer evaluated the valve repair. However, the evaluation was not coordinated between the System Engineer and the Component Engineer. The System Engineer evaluated the "as-found" and "as-left" conditions of the valve. The System Engineer concluded the rubbing was limited to the seating portion of the stroke and did not affect the valve's ability to stroke shut. The Component Engineer was aware that the valve had been repaired but only evaluated the "as-found" and "as-left" VOTES test results. The VOTES test results for the Unit 1 and 2 PORV block valves did not indicate generic concerns. Neither the System Engineer nor the Component Engineer considered the full impact that machining the guide grooves might have on the valve's ability to function under design basis differential pressure conditions. A full evaluation would have considered the impact of changing the valve's internal dimensions.

During May 1997, a Performance Prediction Model (PPM) was run on 1-MOV-403 to verify the valve's satisfactory performance with its guide grooves enlarged. The PPM determined that the valve in its current configuration would operate under design requirements.

II. CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

Responsibility for the verifying satisfactory performance of MOVs has been assigned to the MOV Component Engineer.

From a review of maintenance orders of all the PORV block valves, we concluded:

A. The internal dimensions of no other PORV block valve had been changed; and

B. Internal inspections, VOTES tests, and Motor Power Monitor tests show that one other PORV block valve had rubbing or interference. Corrective maintenance was performed on that valve.

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

Training will be given to increase the knowledge level of selected site personnel on MOVs:

A. Additional representatives from Engineering will attend PPM training.

B. Overview training will be given to ensure affected organizations understand the effects of maintenance and modifications on the operability of MOVs.

The controlling procedure for the MOV Program will be revised to require the MOV Component Engineer to verify that performance of MOVs is satisfactory and require an evaluation when valve internal dimensions which impact the design basis are changed.

IV. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

The PPM training is currently scheduled to be completed by August 1997.

The overview training will be completed prior to the 1998 RFO.

The controlling procedure for the MOV Program procedure will be revised by December 15, 1997.