50-318

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 5, 1998

Mr. Charles H. Cruse
Vice President Nuclear Energy
Baltimore Gas and Electric Company
Calvert Cliffs Nuclear Power Plant
1650 Calvert Cliffs Parkway
Lusby, MD 20657

SUBJECT: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 2 - EVALUATION OF THE PRESSURIZER INSTRUMENT NOZZLE REPAIR (TAC NO. MA2456)

Dear Mr. Cruse:

By letter dated August 4, 1998, the Baltimore Gas and Electric Company (the licensee) submitted, for NRC review, its flaw tolerance evaluation for an assumed flaw in the inboard instrument weld of the pressurizer for Calvert Cliffs Nuclear Power Plant, Unit No. 2. During a walkdown while Unit 2 was in hot standby (Mode 3), the licensee detected leakage from the pressurizer upper level tap (instrument nozzle 2-LT-110-X). As a result, the licensee performed ultrasonic (UT) examination of the pressurizer vessel shell. The inspection results showed no defects in the vessel shell. However, no UT examination was performed on the weld of the pressurizer instrument nozzle. In the subsequent repair, the licensee welded the outboard portion of the nozzle to a weld pad on the outside of the pressurizer head to form a new pressure boundary for the coolant. No repair of the inboard instrument weld where the leakage was identified was performed. Instead, the licensee utilized the evaluation procedure and criteria in Appendix A of Section XI of the American Society of Engineers (ASME) Code to demonstrate that the assumed crack is acceptable without repair for the design life of the vessel which includes 500 heatups and cooldowns.

The NRC staff completed the review and concluded that the flaw tolerance evaluation meets the rules of the ASME Code. Since the predicted number of heatups and cooldowns needed to reach the allowable flaw depth is far greater than the number of design cycles, the staff concluded that the pressurizer of Calvert Cliffs Unit 2 should be able to operate with a flaw in the instrument weld. However, to ensure that the flaw does not grow to a critical size during the remaining life of the pressurizer, the staff has requested the licensee to provide an inspection plan for future outages. The licensee indicated in a letter dated August 25, 1998, that it will perform an inspection in the next outage and will make the results of the inspection available to the NRC. In addition, the licensee is committed to provide an action plan for inspection of the pressurizer instrument nozzle weld flaw by February 26, 1999. The staff will review all information at that time and determine whether the unit can be operated with a flaw in the instrument weld to the expiration of the license.

DFO11

Enclosed is the staff's safety evaluation. BGE followed the procedure and criteria in Appendix A of Section XI of the ASME Code in demonstrating that the pressurizer of Calvert Cliffs Unit 2 should be able to operate with a flaw in the instrument weld. The quality in preparing the submittal is very good. This completes the staff's effort for TAC No. MA2456.

Sincerely,

Alexander W. Dromerick

Alexander W. Dromerick, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-318

Enclosure: Safety Evaluation

cc/w encl: See next page

Enclosed is the staff's safety evaluation. BGE followed the procedure and criteria in Appendix A of Section XI of the ASME Code in demonstrating that the pressurizer of Calvert Cliffs Unit 2 should be able to operate with a flaw in the instrument weld. The quality in preparing the submittal is very good. This completes the staff's effort for TAC No. MA2456.

Sincerely,

Original Signed by:

Alexander W. Dromerick, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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Enclosed is the staff's safety evaluation. BGE followed the procedure and criteria in Appendix A of Section XI of the ASME Code in demonstrating that the pressurizer of Calvert Cliffs Unit 2 should be able to operate with a flaw in the instrument weld. The quality in preparing the submittal is very good. This completes the staff's effort for TAC No. MA2456.

Sincerely,

Original Signed by:

Alexander W. Dromerick, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
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