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ELECTRIC

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February 25, 1992

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit No. 1; Docket No. 50-317
Request for Temporary Relief from ASME Boiler & Pressure Vessel Code Section XI Requirement IAW-5250

Gentlemen:

Baltimore Gas and Electric Company requests temporary relief from ASME Boiler & Pressure Vessel Code Section XI (1983 Edition) requirement IAW-5250, as allowed by 10 CFR 50.55a(a)(3). We specifically request permission to delay the repair of the weld between the discharge piping from the No. 11 saltwater pump and the half-coupling for a pressure tap until its currently scheduled repair during the next Unit 1 refueling outage (spring 1992) and to accept the as-is condition of the piping for use in the event that performance of either of the other saltwater pumps (Nos. 12 or 13) is degraded. Compliance with the requirement for repair prior to use would result in hardship without a compensatory quality or safety improvement.

I. **Component for Which Relief is Requested**

Temporary relief is requested for the weld between the discharge piping for the No. 11 saltwater pump and the half-coupling for a pressure tap. A small leak has been discovered in the area of the weld. The saltwater system provides the cooling medium for the component cooling and service water heat exchangers, and ECCS pump room air coolers. The component cooling and service water systems are designed to remove heat from various auxiliary systems. The ECCS pump room air coolers provide additional cooling to the ECCS pump rooms during ECCS pump operation. The saltwater piping in this area is a Class 3 component under the requirements of Section XI and Regulatory Guide 1.26.

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## II. Code Requirements for Which Relief is Requested

ASME Boiler & Pressure Vessel Code Section XI (1983 edition), requirement IAW-5250, states:

"(a) The source of leakages detected during the conduct of a system pressure test shall be located and evaluated by the Owner for corrective measures as follows:

. . . (2) repairs or replacements of components shall be performed in accordance with IAW-4000 or IAW-7000, respectively."

## III. Proposed Alternative

No. 11 saltwater pump is currently isolated. It our is intention to leave it isolated until Unit 1's spring outage unless the capability of No. 12 or 13 saltwater pump degrades. In the event that either No. 12 or 13 pump unexpectedly degrades, we intend to unisolate No. 11 pump in order to maintain a fully capable second train of saltwater cooling. We intend to retain No. 11 pump in this standby configuration, available to be restored on short notice. This standby capability provides a safety benefit which would be unavailable for the duration of No. 11 pump's repair if it were repaired now. Considering the duration and extent of such a repair and the low likelihood of No. 11 pump's required use during the short period until the outage, we consider deferring the repair to be the appropriate course of action from a safety perspective.

When the No. 11 saltwater pump is declared operable and is in service we propose to perform periodic visual examinations to ensure that the leakage from the half-coupling weld has not significantly increased. This provides appropriate safety assurance until Unit 1's next scheduled refueling outage (spring 1992), at which time a code repair will be made.

## IV. Supporting Information

### A. Sequence of Events

During a pre-outage system walkdown on February 10, 1992, evidence of seepage from the Unit 1 No. 11 saltwater pump discharge was found. This evidence consisted of a brown stain and wetness in the area of the weld for a pressure tap half-coupling. No active leakage (drops or stream of water) was observed. The area continued to be observed periodically for the next several days. On February 12, 1992, an ultrasonic examination of the weld area was performed. The piping in the area of the weld was found to exceed the required minimum wall thickness. The following day, our metallurgical specialists examined the weld visually and determined that a leak did, in fact, exist. An Issue Report was written, and on February 14, 1992, No. 11 saltwater pump was isolated. Technical Specification Action Statement 3.4.10, "Structural Integrity of ASME Code Class 1, 2 and 3 Components," was entered.

An initial operability assessment for the No. 11 saltwater pump discharge piping was performed by evaluating the leakage from the saltwater system if the half-coupling should shear off. The evaluation showed that there is adequate margin in the capacity of the saltwater system so that the postulated leak would not affect the ability of the saltwater system to perform its safety function.

Based on this evaluation, an initial determination was made that the No. 11 saltwater pump was able to perform its safety function. Therefore, the system is determined to be operable. However, because of the identified leakage in the weld, we remained in the Technical Specification Action Statement 3.4.10, "Structural Integrity of ASME Code Class 1, 2 and 3 Components." This Action Statement does not restrict continued power operation; however, it does require that the affected component have its structural integrity restored or be isolated. The pump is currently isolated. If we need to unisolate the pump and operate it, daily visual examinations will be performed instead of restoring the discharge pipe weld to full structural integrity.

B. Analysis

The piping around the leaking weld was examined ultrasonically. The pipe wall thickness at each examination location was found to be significantly greater than the minimum allowable wall thickness. No stress analyses were performed because we have no means to accurately quantify the size of the leakage path. Subsequent analyses were performed assuming a complete failure of the weld.

C. Safety Significance

The operability of the saltwater system ensures that sufficient cooling capacity is available for continued operation of equipment during normal and accident conditions. To ensure that the system's function was addressed, a total failure of the half-coupling weld was assumed and the subsequent leakage was calculated. At the design pressure for the system, the maximum leakage from the failed half-coupling was evaluated to be approximately 250 gpm. Currently, a 900 gpm capacity margin exists for the No. 11 saltwater pump. Assuming the maximum leakage, the margin would be reduced to approximately 740 gpm. Therefore, adequate capacity still exists for the No. 11 saltwater system to perform its safety function. Additionally, the intake structure has been analyzed for a flooding rate of 447 gpm. Because the postulated flooding rate from the failed half-coupling is less than the allowed flooding rate, the failure of the half-coupling has no safety impact on the intake structure. Additionally, due to the location of the failed half-coupling, it was determined that spray from this leak would not affect any Motor Control Centers or vital components.

D. Code Requirement Performance Impact

The repair of the weld on the saltwater pipe requires that the affected section of pipe be drained and opened. To drain the pipe and gain access to the weld requires that the expansion joint at the saltwater pump discharge be removed. Additionally, at least one of the sluice gates on the intake structure must be closed and the intake cavity must be drained. This requires a power reduction on Unit 1 because of the loss of at least one circulating water pump during the repair. We estimate that the replacement of the half-coupling could be accomplished within seven days.

During modes 1 through 4, two independent saltwater loops must be operable. Number 11 saltwater pump could be fully isolated and drained to repair the saltwater pipe and replace the half-coupling while Unit 1 is operating at reduced power as long as the other two saltwater pumps remain operable. If one of the other saltwater pumps becomes inoperable while we were repairing No. 11 saltwater pump discharge piping, Unit 1 could be forced into an unscheduled shutdown.

This section of pipe is scheduled to be examined and repaired during the next Unit 1 refueling outage. That outage is scheduled to begin on March 20, 1992. To perform a repair which will require a power reduction and has the potential to force Unit 1 into an unscheduled shutdown, so close to a scheduled outage, is a hardship without a compensating increase in the level of quality and safety.

V. Compensatory Actions

We will perform periodic visual examinations to verify that the leakage from the half-coupling weld has not significantly increased. These examinations will only be performed when the No. 11 saltwater pump is declared operable and is in service.

VI. Implementation Schedule

A. Visual examination to monitor leakage from the weld -- Daily

B. Repair or replacement -- Next scheduled Unit 1 refueling outage (spring 1992)

SAFETY COMMITTEE REVIEW

The proposed relief request has been reviewed by our Plant Operations and Safety Review Committee and they concluded that compliance with IAW-5250 would result in a hardship without a compensatory improvement in quality or safety.

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

Very truly yours,

for
G. C. Creel
Vice President - Nuclear Energy

GCC/PSF/psf/dlm

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