



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

Central File

May 10, 1988

The Honorable Paul S. Sarbanes
United States Senate
Washington, D.C. 20510

Dear Senator Sarbanes:

By letter dated April 11, 1988, you requested information about pipe erosion/corrosion problems at the Calvert Cliffs and other nuclear power stations. The request was in response to concerns expressed in an April 2, 1988 letter from your constituent, Dr. Michael S. Glaser.

On December 9, 1986, Unit 2 at the Surry Power Station experienced a catastrophic failure of a main feedwater pipe that resulted in fatal injuries to four workers. The failure occurred in a nonradioactive portion of the facility and there was no release of radiation. The NRC immediately dispatched an investigation team, who determined that the feedwater pipe had been reduced in thickness because of erosion/corrosion. On December 16, 1986 the NRC issued an information notice to all nuclear power plant licensees, describing the event so it could be reviewed for applicability to their facilities. Subsequently, extensive investigations at Surry revealed that erosion/corrosion had also occurred in other piping systems and locations. Repairs were made by replacing the piping. During the investigation, the NRC issued supplemental information notices to all nuclear power plant licensees on February 13, 1987 and March 18, 1987. These notices provided the information developed through the investigation so that power station operators could determine if it was applicable to their facilities.

During the Surry investigation, the NRC met with industry groups and received preliminary information from other utilities that indicated erosion/corrosion existed at other plants. On July 9, 1987 the NRC issued a bulletin requiring all power plants to provide information on erosion/corrosion at their facilities. The resulting information confirmed that erosion/corrosion was being detected at many plants where investigations were being conducted to determine if the conditions found at Surry were present.

Coincident with the NRC actions, industry representatives formed a group to formulate uniform criteria for the inspection and repair of piping for erosion/corrosion. By June 1987, preliminary inspection criteria were formulated by the industry and approved by the NRC. By early 1988 inspections were completed at 55 of 113 plants. Inspections are in progress or scheduled for the remaining 58 plants, to be completed by October 1988.

By letter dated September 9, 1987, Baltimore Gas and Electric, the licensee for Calvert Cliffs, submitted a response to the bulletin indicating that erosion/corrosion has been detected. A formal inspection and repair program for erosion/corrosion had been established at Calvert Cliffs Unit 1 and 2 in 1984. After the failure at Surry Unit 2, the Calvert Cliffs program was

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
expanded to include inspections of additional piping. These inspections at Calvert Cliffs are procedurally scheduled as a part of routine maintenance; the most recent inspection was conducted in March 1988 at Unit 2. The licensee has a program that ensures that when an inspection at Calvert Cliffs shows that erosion/corrosion is present, the piping is replaced or repaired where necessary to ensure that it continues to meet design standards. The inspection program at Calvert Cliffs is consistent with the NRC approved criteria.

The NRC is independently conducting reviews of the inspections at a number of plants to determine if implementation of the industry-developed program is adequately addressing the erosion/corrosion issue. These inspections will be completed by October 1988. By December 1988 the NRC will determine if the industry programs are sufficient and will implement new requirements if necessary.

We trust that this letter fully responds to your constituent's concerns.

Sincerely,

Original Signed By:
James M. Taylor

 Victor Stello, Jr.
Executive Director
for Operations

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