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DMB/DCD

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FILE 445

Mr. A.B. Davis
 Regional Administrator
 U.S. Nuclear Regulatory Commission
 Region III
 799 Roosevelt Road
 Glen Ellyn, IL 60137

Subject: Byron/Braidwood Kerotest Valve Replacement Program
 NRC Docket Nos. 50-454, 50-455, 50-456, 50-457

Reference: February 14, 1989 S.C. Hunsader letter to A.B. Davis

Dear Mr. Davis,

The reference I provided CECO's intention relative to the replacement of Kerotest valves at the Byron and Braidwood Stations. This letter was provided in response to conversations between T. J. Maiman and E.G. Greenman regarding Braidwood Station Reactor Coolant System (RCS) leakage.

In the letter, CECO recognized "...that the RCS leak rate at Braidwood Station, as well as at Byron Station, is at times higher than that for similar plants in Region III". Although there were various causes, "A major contributor has been the failure of certain Y-pattern packless metal diaphragm (PML) [Kerotest] valves ...". As a part of the program to reduce the leakage, a decision was made to replace or eliminate the currently installed Kerotest valves.

CECO has reevaluated the Kerotest Valve Replacement Program at Byron and Braidwood in light of recent operating conditions. As a result, the Kerotest Valve Replacement Program scope and schedule are being redefined. This letter provides details regarding the changes to the Program.

Changes will involve closure of some projects in the near future. All information which has been gathered or produced will be retained for future use.

Originally, the Kerotest Valve Replacement Program was developed to address the concerns over higher than normal leakage rates. During initial review, it was determined that there were 240 Kerotest valves in the RCS and approximately 430 more in other systems (per unit). Since failure of some non-RCS valves could cause detrimental operating consequences, the Program was designed to encompass any Kerotest valve in a sensitive application. To date, approximately 20 valves at each station have been replaced under this program. The replaced valves are associated with the seal injection filters and the safety injection accumulator fill lines.

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Since the occurrence of the original conversations between T.J. Maiman and E.G. Greenman, two significant operating changes have been noticed. These are:

- (1) The calculated unidentified leak rate (which was greater than 0.5 gpm at the time of the original conversations) was reduced by more than 50% following a maintenance outage specifically directed at identifying and correcting RCS leakage. Currently the unidentified leak rate remains well below the Technical Specification limits at all units.
- (2) The failure rate of Kerotest valves has decreased. In addition, further improvements may be possible with additional training on the design and operation of Kerotest valves. Appropriate training has been conducted at both stations.

In addition, the elimination of the RTD bypass manifolds is planned for future refueling outages. These modifications will eliminate numerous Kerotest valves.

As a result of these operating changes and planned modifications, it has become apparent that the original program scope was unnecessarily expansive, and the continuance of the program as originally envisioned will not be cost effective. The revised action plan for the remaining PMD valves is presented below.

The action plan includes five categories for future replacements of valves which have been identified as replacement candidates. These categories are:

- (1) Minor Change Request (MCR) engineered but valve not installed, and installation to continue on schedule.
- (2) MCR engineered but valve not installed, and installation to be put on hold pending failure of installed valve.
- (3) MCR identified but not engineered, and installation to be put on hold pending failure of installed valve. Note that engineering will not be started for these.
- (4) MCR awaiting Modification Committee review for critical applications where engineering will be done in the future, but installation will be put on hold pending failure of installed valve.
- (5) Valves which have not been scheduled for replacement will be evaluated on a case-by-case basis. Possible options include: perform engineering and install proactively, perform engineering and hold installation until there is evidence of impending failure, or monitor performance for a limited time before deciding on a course of action.


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The program will be revised as necessary in the future to accommodate new replacements. One revision already under consideration is like-for-like replacement (with Kerotest valves). This decision was made based upon new information which suggests that the valves may not be as failure-prone as was originally believed.

In summary, the Kerotest Valve Replacement Program is being revised based upon changing operating conditions. Much of the ongoing work will be stopped and projects closed out in a timely, organized fashion. All engineering information gathered or produced to date shall be retained for future reference should the need arise.

Please address any questions concerning this matter to this office

Sincerely,



T.W. Simpkin
Nuclear Licensing Administrator

cc: B. Clayton, RIII
T. Hsia, NRR
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