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Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

April 29, 1994

Mr. William T. Russell, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attn: Document Control Desk

Subject: Dresden Nuclear Power Station Units 2 and 3
Supplemental Response to Generic Letter (GL) 89-13,
"Service Water System Problems Affecting Safety
Related Equipment, " dated July 18, 1989
NRC Docket Nos. 50-237 and 50-249

References: (a) M. Richter letter to U.S. NRC, dated January 29, 1990.

(b) D. Taylor letter to U.S. NRC, dated May 21, 1991.

Mr. Russell:

In the Reference (a) and (b) letters, Commonwealth Edison (CECo) provided our initial and a supplemental response, respectively, to GL 89-13. GL 89-13 was issued by the NRC following concerns raised toward nuclear station service water systems. The Generic Letter requested licensees to take actions which would ensure that their service water systems were in compliance with, and would be maintained in compliance with 10 CFR Part 50, Appendix A, General Design Criteria 44, 45, 46, and Appendix B, Section XI. Additionally, the Generic Letter required licensees to provide a response that would confirm that the licensee had established programs to implement the recommended actions of the Generic Letter, or that equally effective actions had been pursued.

The purpose of this letter is to provide an updated response to GL 89-13 for Dresden Station. Certain items discussed in Reference (b) are superseded by this letter. The attachment specifies those items and includes the current status.

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To the best of my knowledge and belief, the statements contained herein are true and correct. In some respects, these statements are not based on my personal knowledge, but obtained information furnished by other Commonwealth Edison employees, contractor employees, and consultants. Such information has been reviewed in accordance with Company practice, and I believe it to be reliable.

If there are any questions this matter, please contact this office.

Sincerely,

Peter L. Piet
Nuclear Licensing Administrator

Attachment

cc: J. B. Martin - Regional Administrator - RIII
J. F. Stang - Project Manager - NRR
M. N. Leach - Senior Resident Inspector - Dresden
Office of Nuclear Facility Safety - IDNS

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ATTACHMENT

REFERENCE: CECO RESPONSE TO GL 89-13, dated May 21, 1991

GL 89-13, Item 1:

Implement and maintain an ongoing program of surveillance and control techniques to significantly reduce the incidence of flow blockage as a result of biofouling.

Original CECo Response:

Control Technique B: Continuous Chlorination

A modification is underway to install an oxidant feed system which will continuously inject a biocide into the service water distribution header, located inside the crib house, when the potential for macroscopic biofouling, Asiatic Clam infestation, is the greatest. The biocide will be used intermittently as necessary the remainder of the year to control microbiological fouling and microbiologically influenced corrosion. To ensure that the proper water chemistry is being maintained, a chlorine monitor will be used to provide a continuous measurement of the total residual chlorine in the service water. For other open cooling water systems, a biocide will be injected manually into their intake bay while they are operated. The effectiveness of this biocide addition program will be evaluated to determine if any changes are necessary after heat exchanger test and or inspection results are available.

Supplemental CECo Response:

The biocide injection system and residual chlorine monitoring equipment mentioned in CECo's initial response are associated with the 2/3 Service Water System. This is a non-safety related system and falls outside the scope of GL 89-13. A periodic grab sampling program has been implemented to monitor residual chlorine in the Service Water System. The continuous residual chlorine monitors originally installed were retired in place due to various mechanical problems. The program described above for the 2/3 Service Water System is in place and is governed by Dresden Chemistry Procedure (DCP) 2103-06.

The safety-related Service Water Systems are referred to in the original Dresden response as "Other Open Cooling Water Systems". Dresden originally committed to manually inject a biocide into the intake bay system while the systems are operated. On several occasions, the station was unable to inject a biocide during operation of the systems due to procedural adherence deficiencies, and delayed maintenance actions to repair injection equipment. The failure to meet this commitment is being addressed through our Integrated Reporting Process (IRP) and associated Problem Identification Forms.

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Supplemental CECo Response (cont.):

The control programs for the safety related systems will be modified as follows:

A. Containment Cooling Service Water (CCSW) (also feeds safety related Control Room 'B' Air Handling Unit)

A biocide will be injected into the CCSW Pump Intake during normally scheduled operability surveillance. Sampling will be performed periodically at the discharge of the system (LPCI Heat Exchanger) to verify the residual biocide concentrations. Based on heat exchanger test and inspection results governed by Dresden Administrative Procedure (DAP) 14-07, "Service Water System Performance Verification", the effectiveness of the program will be determined. The program will be modified as necessary. The biocide program described above for the CCSW System is presently in place and is governed by DCP 2103-06 and the associated Operating Surveillance Procedures. The program effectiveness review will be added to DAP 14-07.

During unscheduled surveillance, and periods when the biocide injection system is inoperable (eg. system maintenance outages), the station will not perform biocide injections. The program effectiveness review discussed above will determine any impact on system performance during those periods when biocide injection was not performed.

B. Diesel Generator Cooling Water (DGCW)

A biocide will be injected into the discharge of the DGCW Pumps during normally scheduled operability surveillance. Sampling will be performed periodically at the discharge of the system to verify the residual biocide concentrations. Based on heat exchanger test and inspection results governed by Dresden Administrative Procedure (DAP) 14-07, "Service Water System Performance Verification", the effectiveness of the program will be determined. The program will be modified as necessary. The biocide program described above for the DGCW System is in place and is governed by Dresden Chemistry Procedure DCP 2103-05 and the associated Operating Surveillance Procedures. The program effectiveness review will be added to DAP 14-07.

During unscheduled surveillance, and periods when the biocide injection system is inoperable (eg. system maintenance outages), the station will not perform biocide injections. The program effectiveness review discussed above will determine any impact on system performance during those periods when biocide injection was not performed.

Supplemental CECo Response (cont.):

Discussion

Past flow and differential pressure data for the Safety-Related service water systems indicate acceptable fouling rates in these systems with or without biocide injections being performed. Heat exchanger inspections indicate that the majority of flow blockage occurs as a result of macrofouling. The predominant macrofouling agents are mud and relic (i.e. dead) clam and zebra mussel shells. Since these are not living organisms, the biocide treatment program has very little effect on these species. The main goal of the biocide program is to prevent microbiological fouling, slime buildup and microbiologically influenced corrosion in the safety related service water systems so that they may perform their required functions.