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VICE PRESIDENT
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November 20, 1989

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Response to NRC Region I Combined Inspection Report Nos.
50-317/89-18 and 50-318/89-19

- REFERENCES:
- (a) Letter from J. T. Wiggins (NRC) to G. C. Creel (BG&E), dated October 26, 1989, same subject
 - (b) Letter from L. B. Russell (BG&E) to Document Control Desk (NRC), dated October 27, 1989, LER 89-012, Revision 1, Switchgear Room Halon System Inoperable Due to Lack of Procedure for Disabling Master Solenoids Resulting in Conditions Prohibited by Technical Specifications
 - (c) Letter from L. B. Russell (BG&E) to Document Control Desk (NRC), dated October 30, 1989, Halon Systems Special Report, Technical Specification 3.7.11.3a
 - (d) Letter from L. B. Russell (BG&E) to Document Control Desk (NRC), dated August 28, 1989, LER 89-013, Missing Steps in Surveillance Test Procedure

Gentlemen:

This transmits our response to Appendix A of Reference (a), which cites two violations of NRC requirements. The first violation pertains to the partial disabling of the Halon System for the switchgear rooms without maintaining the required fire watch. The second violation pertains to the failure to properly test the spent fuel pool exhaust fans. Enclosures (1) and (2) provide our responses to these violations.

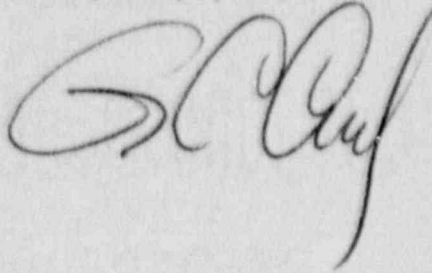
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Should you have any further questions regarding this matter, we will be pleased to discuss them with you.

Very truly yours,

A handwritten signature in cursive script, appearing to read "G. C. [unclear]".

GCC/GLB/bjd

Enclosures

cc: D. A. Brune, Esquire
J. E. Silberg, Esquire
R. A. Capra, NRC
S. A. McNeil, NRC
W. T. Russell, NRC
J. E. Beall, NRC
T. Magette, DNR

ENCLOSURE (1)

REPLY TO NRC INSPECTION REPORT 50-317/89-18; 50-318/89-19 VIOLATION A

VIOLATION A

"Technical Specification 3.7.11.3, requires that an hourly fire watch, with backup fire suppression equipment, be established within one hour of the Halon System becoming inoperable.

Contrary to the above, between June 29, 1989 and July 20, 1989, the Halon System was disabled and therefore not operable and the required hourly fire watch was not established."

Description and Cause of the Event

On July 20, 1989, with Unit 1 in Cold Shutdown, a Fire and Safety Technician (FAST) discovered a disconnected master solenoid to the Switchgear Room Halon System. This solenoid actuates the discharge of Halon from three of nine Halon cylinders to the 27-foot and 45-foot elevation Switchgear Rooms. The solenoid was inspected for damage and returned to its normal position. Upon satisfactory completion of a functional test, the Halon System was declared OPERABLE on July 20, 1989.

Further investigation into the event showed that the master solenoid was last documented to be taken out-of-service on June 29, 1989. At that time, the Halon System was disabled to prevent inadvertent actuation during a maintenance activity being performed in the 27-foot elevation Switchgear Room.

It has been determined that the FAST who disabled the Halon System on June 29, 1989, inadvertently left one master solenoid disconnected. The root cause of the event was determined to be personnel error resulting from the lack of an approved, written instruction for this task. This task was incorrectly considered to be within the skills normally possessed by a qualified FAST and, therefore, a procedure was unnecessary. Lack of adequate management oversight may have contributed to this misconception. Also contributing to the event was inadequate procedure for implementing the Fire Protection Program with regards to temporary modifications and Safety Tagging. Additional detail regarding this event is provided by References (b) and (c).

Corrective Steps Taken and Results Achieved

Upon discovery of the disconnected master solenoid on July 20, 1989, the Halon System was declared INOPERABLE and an hourly fire watch was established in accordance with Technical Specification 3.7.11.3. After inspecting the solenoid for any noticeable damage, the solenoid was reconnected to its Halon bank. Although remaining inoperable per Technical Specification 3.7.11.3, the Halon System was returned to a functional status. The solenoid then satisfactorily passed a functional test and was declared OPERABLE later that same day.

ENCLOSURE (1)

**REPLY TO NRC INSPECTION REPORT
50-317/89-18; 50-318/89-19
VIOLATION A**

Corrective Steps Which Will Be Taken to Avoid Further Violations

The following short-term corrective actions were taken on July 22, 1989:

Safety and Fire Protection Unit personnel were instructed that work performed in accordance with Calvert Cliffs Instruction (CCI) 133, "Calvert Cliffs Fire Protection Plan" requires independent verification.

The Manager-Calvert Cliffs Nuclear Power Plant issued a memo to ensure that the control and tagging of impaired fire protection equipment meet the requirements of CCI-112, "Safety Tagging" as well as CCI-133.

The following long-term corrective actions have been taken as a result of this event:

CCI-133 has been revised to require the use of CCI-117, "Temporary Modification Control," when making temporary modifications to fire detection and suppression systems. CCI-117 requires independent verification to ensure work is performed satisfactorily. CCI-133 has also been revised to discontinue the use of fire system impairment tags for tagouts and, instead, requires the use of CCI-112. The purpose of Safety Tagging is to ensure the safety of personnel and to prevent adverse effects on operating equipment. Fire system impairment tags were never intended for this purpose and the use of these tags was in conflict with CCI-112.

Fire and Safety personnel have received training on the revised requirements of CCI-133 and on CCI-117.

Operating Instruction 20, "Fire Protection System (Common)," has been revised to include instructions for disabling and restoring the Halon System master solenoids.

Surveillance Test Procedure, STP-M-291-0, "Halon System Valve Position Verification" has been revised to verify placement of the master solenoids on a monthly basis.

Identification tags have been installed on the master solenoids.

Warning signs have been placed near Halon cylinder banks which state, "FIRE SUPPRESSION SYSTEM DO NOT DISTURB WITHOUT PERMISSION, CALL FIRE PROTECTION UNIT: X-4755/4931."

The following additional long-term corrective actions will be taken as a result of this event:

A Quality Assurance (QA) Surveillance will be conducted to: (1) evaluate if CCI-112 and 117 are applicable to any other plant activities not currently being covered by these CCI's and (2) determine if plant personnel (from a sample selected from cognizant disciplines) have an adequate working knowledge of CCI's 112, 117, and 133.

ENCLOSURE (1)

REPLY TO NRC INSPECTION REPORT
50-317/89-18; 50-318/89-19
VIOLATION A

Date When Full Compliance Was Achieved

As discussed above, the Halon System was declared OPERABLE after satisfactory completion of a functional test on July 20, 1989. A Special Report (Reference (c)), in accordance with Technical Specification 3.7.11.3a, was submitted on November 1, 1989. Performance of the QA Surveillance is scheduled to be completed by December 15, 1989. All other corrective actions have been completed.

ENCLOSURE (2)

**REPLY TO NRC INSPECTION REPORT
50-317/89-18; 50-318/89-19
VIOLATION B**

VIOLATION B

"Technical Specification Requirement 4.9.12.1, specifies in part, that the spent fuel pool ventilation system shall be demonstrated operable by verifying that each exhaust fan operates for at least 15 minutes at least once per 31 days.

Contrary to the above, as of July 31, 1989, the surveillance test requirements for the spent fuel ventilation system exhaust fans could not be verified to have ever been performed."

Description and Cause of the Event

The lack of Surveillance Test Procedure steps for testing the spent fuel pool ventilation exhaust fans was discovered by the Surveillance Test Program Manager on July 31, 1989. The Program Manager found the discrepancy while conducting a detailed review of Surveillance Test Procedures. The intent of this review was to ensure Technical Specification Surveillance requirements are being addressed.

Technical Specification 4.9.12.1 requires testing of the spent fuel pool ventilation exhaust fans and filters. The filters are tested in accordance with Surveillance Test Procedure STP-0-7-1. A review of the procedure's history was conducted to determine why the fans were not included in the test. The procedure was revised in 1978 to include steps to test the filters; however, steps to test each fan were inadvertently omitted. No records are available to determine the basis for the change or why the acceptance criteria were revised.

Due to the lack of change records, we are unable to determine a clear root cause for this event. We can assume that the lack of sufficient resources and poor management expectations for conducting procedure revisions and reviews at that time contributed to the event. The event was primarily caused by cognitive personnel error. The personnel who revised the procedure and performed subsequent reviews failed to recognize the need for specifically testing each fan to meet the intent of the surveillance.

Although the fans were not tested on a monthly basis by an existing procedure, each fan was run for 15 minutes during the performance of a quarterly Preventive Maintenance Procedure. Additionally, at least one fan was normally in service. Operators periodically swapped the in-service fans. Additional detail regarding this event is provided by Reference (d).

Corrective Steps Taken and Results Achieved

After discovering the error, the Surveillance Test Program Manager immediately notified the Shift Supervisor. The in-service fan, which had been running for greater than 15 minutes, was stopped and the other fan was placed in-service for at least 15 minutes.

ENCLOSURE (2)

**REPLY TO NRC INSPECTION REPORT
50-317/89-18; 50-318/89-19
VIOLATION B**

Subsequently, the steps for testing the spent fuel pool ventilation system charcoal filters have been removed from STP-0-7-1. A new surveillance procedure has been issued to test both the fans and the filters. The procedure was satisfactorily performed on August 22, 1989, within the required surveillance time interval of 31 days (31 days from the discovery date).

Corrective Steps Which Will Be Taken To Avoid Further Violations

The Technical Specification Surveillance Test Procedure review task is still in progress. The purpose of this review is to assure a test procedure or steps in a test procedure exists for each Technical Specification Surveillance requirement.

The review process for Surveillance Test Procedures has also been changed. All reviews are now conducted for technical and functional accuracy using detailed procedures. These detailed reviews should verify that the appropriate requirements are being met.

QA audits of the implementation of technical specification surveillance requirements have also been improved. Audits will be more technically oriented and will use a new expanded checklist.

Date When Full Compliance Was Achieved

On the day of the event, July 31, 1989, #11 Spent Fuel Pool Ventilation Exhaust fan was in-service. After being notified, the Shift Supervisor directed operators to remove #11 fan from service and to place #12 in-service. The #12 fan was verified to be in operation for at least 15 minutes. The new surveillance procedure, created to test the fans and filters, was performed successfully within 31 days on August 22, 1989. The Technical Specification Surveillance Test Procedure review task is scheduled to be completed by January 1, 1990.