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R. E. DENTON
GENERAL MANAGER
CALVERT CLIFFS

December 18, 1990

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit No. 2; Docket No. 50-318
Penetration Fire Barrier Special Report
Technical Specification 3.7.12

- REFERENCES:
- (a) Letter from R. E. Denton (BG&E) to Document Control Desk (NRC), dated March 13, 1990 (transmitted original Special Report)
 - (b) Letter from R. E. Denton (BG&E) to Document Control Desk (NRC), dated March 12, 1990, LER 317/90-06 Revision 0

Gentlemen:

Per Technical Specification 3.7.12 ACTION Requirement a, we hereby submit a revised Special Report concerning an inoperable fire barrier penetration, specifically four missing fire dampers in the battery room supply and exhaust ventilation system. This revision extends the estimated completion date from December 31, 1990 to the conclusion of the Unit 1 Refueling Outage at the end of Cycle 10.

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

Very truly yours,

RED/CRS/bjd

Attachment

cc: D. A. Brune, Esquire
J. E. Silberg, Esquire
R. A. Capra, NRC
D. G. McDonald, Jr., NRC
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ATTACHMENT (I)

PENETRATION FIRE BARRIER SPECIAL REPORT

BACKGROUND:

On February 9, 1990 while performing an inspection of Technical Specification fire barrier ventilation penetrations, it was discovered that four fire dampers had not been installed. These four dampers should have been installed in the Battery Room supply and exhaust ventilation ducts where they penetrate the barrier between the Unit 1 Cable Spreading Room and Cable Chase 1B, and the barrier between Cable Chases 1A and 1B. Upon discovery, the Shift Supervisor was immediately notified and Technical Specification 3.7.12 ACTION Requirement a was entered for an inoperable barrier.

The inspection of the ventilation duct penetrations through Technical Specification fire barriers was part of a corrective action instituted after concerns were noted with other fire dampers at Calvert Cliffs. These concerns are addressed in LERs 318/89-009, 318/89-010, 317/89-011, and 317/90-006.

The incident was determined to be reportable under 10 CFR 50.73(a)(2)(i)(B), and was the subject of LER 317/90-006. A Special Report per the Technical Specification 3.7.12 ACTION Requirement a was submitted to the Commission by letter dated March 13, 1990. This document is a revision to the original Special Report to provide a new estimated completion date for the installation of the missing dampers. The revised completion schedule is now at the conclusion of the Unit 1 refueling outage at the end of Cycle 10 (currently scheduled for Spring, 1992).

EFFECTS ON UNIT OPERATIONS:

Upon discovery of the inoperable fire barrier penetrations, appropriate steps were taken to satisfy the requirements of ACTION Requirement a of Technical Specification 3.7.12.

While the activities specified by the ACTION requirements of the Technical Specifications mitigate the effects of the missing fire damper, there are a number of other features that also mitigate the effects of a fire on the current configuration. These features are as follows:

- The battery room ventilation system does not have any register openings in any of the three rooms affected. Thus there is no path for heat and smoke propagation between these rooms short of complete failure of the duct work on both sides of a barrier.
- Both Cable Chase 1A and Cable Chase 1B have automatic sprinkler systems. The sprinkler systems will control a fire before the fire can threaten the integrity of the duct and the barrier.
- The Cable Spreading Room is protected by an automatic total flooding Halon system. The Halon system performance is not affected by the missing dampers because there are no openings between the duct and the Cable Spreading Room. The Halon system acceptance test was performed without the dampers. In fact, even when the dampers are installed, they will not be tied to the Halon system discharge in any way. The Halon system will prevent a fire from threatening the integrity of the barrier and the duct.
- Both Cable Chases and the Cable Spreading Room are provided with smoke detection systems. Smoke detection will provide an early warning of a fire condition. The early notification afforded by the smoke detection will permit manual fire fighting activities to commence while the fire is still in an incipient stage.

ATTACHMENT (1)

PENETRATION FIRE BARRIER SPECIAL REPORT

- The combustible loading in the three rooms consist almost exclusively of cable insulation. The cable insulation was chosen for its fire retardant properties.
- Duct work has the capability of providing some level of fire resistance. This fire resistance capability is recognized such that fire dampers are typically not required where ducts penetrate barriers which have a required fire resistance rating of one hour or less. While the calculated combustible loading exceeds one hour in each of the three rooms, with the detection, suppression and fire resistive cable insulation, it is unlikely that a fire of the magnitude of a one hour test fire would occur.

Based on the mitigating features described above, the fire protection capabilities of the plant is not significantly compromised by the extension of the estimated completion date

REVISED SCHEDULE:

The estimated completion date for the installation of the four missing fire dampers has been changed from December 31, 1990 to the conclusion of the Unit 1 Refueling Outage at the end of Cycle 10, which is currently scheduled for Spring, 1992. The basis for the change in the estimated completion date is two-fold. First, the work location for the installation of the new dampers is directly over sensitive equipment in the Cable Spreading Room. Accidental contact with this equipment could result in a Reactor Trip. (There has been an incident where this equipment was bumped and the unit tripped. A partial height wall with a locked door was subsequently provided.) Considering the need for scaffolding and the constricted work space it was determined that this modification must be performed during an outage in order to eliminate the potential for a Reactor Trip.

The second factor is the complexity of the design and installation. The design must consider the removal and reinstallation of a considerable length of duct as well as numerous obstructions. Additionally the dampers must be purchased as qualified for use in Safety Related duct work, which extends the time needed to obtain the duct. The expected duration of the installation activity requires an outage the duration of a refueling outage to complete the modifications. Facilities Change Request 90-019 has been initiated and is currently in the design phase.

CONCLUSION:

The extension of the estimated completion date of the installation of the fire dampers to the conclusion the Unit 1 Refueling Outage at the end of Cycle 10, does not create an undue fire protection risk. There are numerous features which mitigate the effects of the missing dampers as discussed above. In addition, the risk of an accidental reactor trip caused by the modification work does not justify the installation of the dampers while the Unit is operating. The ACTION requirements of Technical Specification 3.7.12 will remain in effect until the modification is complete.