

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 79-06

Docket No. 50-317

License No. DPR-53

Priority: --

Category: C

Licensee: Baltimore Gas and Electric Company
Charles Center
P.O. Box 1475
Baltimore, Maryland 21203

Facility Name: Calvert Cliffs Nuclear Power Plant, Unit 1

Inspection at: Lusby, Maryland

Inspection conducted: May 1-4, 1979

Inspectors:

A. H. Johnson
A. H. Johnson, R2

7/27/79
date signed

R. A. Feil
R. A. Feil, R1

7/27/79
date signed

Approved by:

R. R. Keimig
R. R. Keimig, Chief Reactor Projects
Section No. 1 RO&NS Branch

7/27/79
date signed

Inspection Summary:

Inspection on May 1-4, 1979 (Report No. 50-317/79-06)

Areas Inspected: Routine, unannounced inspection by regional based inspectors of refueling activities, modifications, review of Quality Control records, procedures and tests. The inspection involved 56 hours on site by two inspectors.
Results: No items of noncompliance were identified.

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DETAILS

1. Persons Contacted

Licensee Employees

- *L. B. Russell, Chief Engineer
- *W. J. Lippold, Nuclear Engineer
- *T. Forgette, Quality Assurance
- C. L. Dunkerly, Shift Supervisor
- L. C. White, Shift Supervisor
- **A. Baith, Quality Assurance Specialist
- **M. Bowman, Supervisor, Operations Quality Assurance
- **W. Gibson, General Supervisor, Operations Quality Assurance
- D. Latham, Performance Engineer

NRC Personnel

- *D. F. Johnson, Project Inspector

Other licensee employees contacted included operators, technicians, security force members, and office personnel.

*Attended exit interview on May 4, 1979 at 10:00 a.m.

**Attended exit interview on May 4, 1979 at 8:00 a.m.

2. Exit Interview

The inspection scope and findings were summarized on May 4, 1979, with those persons indicated in Paragraph 1 above. At these meetings, the inspector discussed the areas inspected and summarized the inspection findings as discussed in this report. With regard to the unresolved item in Paragraph 6 below, the licensee committed to take appropriate corrective action prior to the next temporary change of refueling procedure FH-6.

3. Licensee Action on Previous Inspection Findings

Not inspected.

4. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. One unresolved item disclosed during the inspection is discussed in Paragraph 6 of this report.

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5. Refueling Activities

From review of fuel handling procedure FH-6, "Core Reloading Procedure," the inspector concluded that the requirements of Technical Specifications 3/4.9 were met at the beginning of core alterations and beginning of fuel movement. By review of completed sections of FP-6, the inspector concluded that the surveillances that were required during refueling operations and specified in Technical Specifications 3/4.9 were current during the period reviewed. Proper crew composition in accordance with Technical Specification 6.2-1 was confirmed on several occasions by direct observation and discussions with persons involved in fuel handling. Other limiting conditions for refueling operations such as communications, vessel water level, and refueling machine operability were also confirmed by direct observation.

Within the areas inspected, no items of noncompliance or deviations were identified.

6. Findings

The inspector noted that temporary changes were being made to FH-6, "Core Reloading" with Combustion Engineering (C-E) Engineers signing as one of the two required members of the plant management staff. Further review by the inspector revealed that on April 27, 1979, a letter entitled "Temporary Nuclear Fuel Management Organization for Supporting Core Refueling and Startup Testing, U-1 Refueling" was initiated by the Plant Nuclear Engineer, giving approval for specific C-E engineers the authority to initiate on-the-spot changes to FH (Fuel Handling) procedures and PST (Startup Testing) procedures in accordance with CCI-500 and CCI-101.

Further review by the inspector revealed that CCI-500 and CCI-101 requires, in part, that a change to a fuel handling procedure which was reviewed by POSRC, shall be approved by two members of the Plant Management Staff, at least one of whom holds a Senior Reactor Operator's license on the unit affected. Whenever such changes would alter a step in which a QC hold was inserted, the concurrence of the SQCS shall be obtained. This will be indicated in writing and may be signed by either the SQCS or his representative. All changes shall be documented and subsequently reviewed by the POSRC and the Chief Engineer within 14 days of implementation. Plant Management Staff is defined as EPD personnel permanently assigned to Calvert Cliffs from the supervisory level of foreman/Senior Control Room Operator through the Chief Engineer. In addition, it includes those non-supervisory engineers assigned to the various group heads and authorized by that group head to approve changes. The inspector verified that the CE engineer was removed

from the approval chain and replaced by the shift supervisor. All further changes will be in accordance with the above administrative controls.

This item will remain unresolved pending further review by NRC Region I (317/79-06-01).

7. Facility Modifications

Some modifications to the facility were reviewed by the inspector during the present refueling outage. The modifications selected for review did not require prior commission review and approval pursuant to 10 CFR 50.59. The following modifications were reviewed.

a. Steam Generator Feed Pump Control Circuit

Oscillations in the steam generator feed pump control circuit to the feedwater regulating system were attributed to the first stage pressure signal from the steam generator feed pump turbine speed control. The signal was removed and the results indicated that there was very little effect on the steam generator level control during either a fast or slow transient. However, some positive effects have been seen during normal steady state operation. The positive effects were primarily due to the removal of the noise or pulsations coming from the pressure transmitter.

b. Control Element Drive Backup Power Supplies

Failures in the 15 volt Coil Power Programmer power supplies have caused drops in the Control Element Assemblies during operation and testing. Control Power Programmer redundant logic power supply circuits were installed with the existing 15 volt DC power supply and provide redundant logic power for all 57 tripping Control Element Drive Mechanism programmers. Power supply indicating status was also provided.

c. Power Supply Source Change

Power to various feedwater and condensate control devices was lost on failure of the normal 500 kV power supply from Unit 2. A change in the power supply source was made to preclude the tripping of Unit 1 on loss of normal power supply from Unit 2. The affected controls were the Steam Generator Feed Pump speed governors, the hotwell makeup and dump valves and components of the Condensate Booster Pumps minimum flow control loop.

d. Steam Generator Feedwater Distribution Ring

The steam generator feedwater ring was modified by adding elbows to the top of the ring to minimize waterhammer. Feedwater entering the steam generator was distributed via a feedwater distributor ring having bottom apertures which directed the flow into the downcomer. The modification consisted of installing 36 90°-elbows on the top of distribution ring and welding plugs in the 72 discharge nozzles on the bottom of the distribution ring. The elbows will act as a stand pipe and retain liquid, thereby reducing the possibility that waterhammer will be caused by feedwater injection into the distribution ring.

The inspector reviewed the available records for the modifications including installation procedures, facility change requests, maintenance requests, Plant Operations Safety Review Committee meeting minutes and safety evaluations. A minor discrepancy in a safety evaluation was found in that a FSAR reference was omitted. The licensee is taking corrective action to ensure that changes to the FSAR will be made. No other anomalies were found in the records.

No items of noncompliance were identified.