

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos. 50-317/88-09
50-318/88-10

Docket Nos. 50-317
50-318

License Nos. DPR-53
DPR-69

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

Facility Name: Calvert Cliffs Nuclear Power Plant, Units 1&2

Inspection At: Lusby, Maryland

Inspection Dates: May 9-13, 1988

Inspector: William Oliveira 7/27/88
W. Oliveira, Reactor Engineer date

Approved by: N. J. Blumberg 7/27/88
N. J. Blumberg, Chief, Operational Programs date
Section, Operations Branch, DRS

Inspection Summary: Routine unannounced inspection on May 9-13, 1988 (Combined Report Nos. 50-317/88-09, 50-318/88-10)

Areas Inspected: Design Changes and Modifications Program and the Maintenance Program which included observation of work activities and Quality Assurance (QA) and Quality Control (QC) interface with these programs. Additionally the inspector reviewed the primary administrative procedures as well as the technical procedures and instructions to assess the implementation of the program for conformance to regulatory requirements.

Results: No violations or deviations were identified. The design change and maintenance programs were in conformance with the regulatory requirements and well supported by QA/QC and the Training Section. Additionally the licensee has taken positive actions to correct delays in processing field change requests and to have their design engineers spend more time in the field.

8808110258 880729
PDR ADDCK 05000317
Q PNU

DETAILS

1.0 Persons Contacted

- *J. Carroll, General Supervisor, Quality Assurance
- *R. Douglass, Manager, Quality Assurance and Services Department
- *J. Jerald, Supervisor, Maintenance Training
- J. Lemons, Manager, Nuclear Operations Department
- *J. Lippold, Manager, Nuclear Engineering Department
- N. Millis, General Supervisor, Radiation Safety
- *G. Pavis, Principle Engineer
- *K. Pickering, Supervisor, Quality Control Maintenance
- *P. Pieringer, Senior Engineer, Quality Assurance
- *K. Romney, Senior Engineer, Quality Assurance
- *L. Russell, Manager, Nuclear Maintenance Department
- *D. Shaw, Licensing Engineer
- *A. Thornton, General Supervisor, Plant and Project Engineering
- *R. Wenderlich, General Supervisor, Electrical and Controls
- W. Whitaker, General Supervisor, Mechanical

United States Nuclear Regulatory Commission

- *D. Trimble, Senior Resident Inspector

* Denotes those attending the exit meeting.

The inspector also contacted other administrative and technical personnel during the inspection.

2.0 Design Changes and Modifications Program (37702)

2.1 Scope

Six facility change requests (FCRs) were selected from the Unit 1 Outage Program, which was in progress during this inspection, to observe implementation of the licensee's program. These FCRs were reviewed to determine whether the licensee's program was in conformance with regulatory requirements. The activities were assessed against the primary administrative procedures, Calvert Cliffs Instructions (CCIs) 126, 200, and 700, and Quality Assurance Procedure (QAP) 15, as well as the technical requirements listed in Attachment I.

2.2 Facility Change Request (FCR) Package

Two principal elements of the FCRs are the Control Work Package (CWP) and the Repair and Replacement (R&R) Plan. They are detailed engineering documents that require signature approval of several

departments including Design, Performance, QC and System Engineering. The balance of the modification package includes Maintenance Orders, drawings/plans, supplements, weld authorization travel, design change notices, vendor information/data, and special instructions.

2.3 Findings:

2.3.1 Programmatic Concerns

During this inspection the inspector followed up on a previous 1988 SALP programmatic concern regarding delays by the Design Engineering Section in processing design requests and Design Engineering Section personnel not getting out into the plant. The inspector verified and found acceptable the actions taken by the Design Engineering Section (Design) Head to correct the SALP concerns. The corrective actions include:

- (1) Establishing the FCR workload for the balance of 1988.
- (2) Requiring that all design requests be approved by the General Supervisor of the requesting section.
- (3) Requiring design personnel to attend and participate in outage meetings and reviews.

2.2.3 Facility Change Requests (FCRs) Activities

The inspector reviewed several FCR activities and determined that they were prepared and performed in accordance with regulatory requirements and approved procedures and by trained and qualified personnel. The activities reviewed include:

(1) Design Change For Control Room Panel IC06

FCR 87-0111 was prepared in response to Regulatory Guide (RG) 1.97 for Control Room Panel IC06. Design change of the panel was discussed with the Control Technician Work Leader followed by a walkdown verification of the new wiring change in the panel. The new wiring was installed in accordance with the latest applicable drawings and Maintenance Order.

(2) Replacement of Steam Generator Bottom Blowdown Line Elbows

Steam generator (SG) No. 12 Bottom Blowdown line elbows had been ultrasonically tested (UT) and each

elbow's wall thickness was found marginal due to corrosion. The elbows were being replaced in accordance with FCRs 87-0002 and 83-1085. During system walkdown, no deficiencies were observed.

(3) Redesign of the Exhaust System Dampers

Redesign of the Penetration Room Exhaust System No. 11 and 12 dampers were completed in accordance with FCR 85-1036. During the walkdown of the FCR with the Modification Supervisor, the inspector observed corrective maintenance and retest for one of the dampers being effectively initiated by the supervisor and the systems engineer. Also observed was the thorough QC coverage of maintenance repair work.

(4) Automatic Ground Detection System

A new Automatic Ground Detection System was being installed in accordance with FCR 86-0223. The donut shape detector will provide increased capability to detect grounds from several power lines. In addition to the detector, a design change was made to provide a better means of supplying temporary power to the DC bus in the panel. The inspector observed the Outage Team perform in a professional manner especially in ensuring that the FCR is correctly implemented.

(5) Diverse Scram system (ATWS)

The Diverse Scram System was installed in accordance with FCR 85-1052. During the walkdown with the electrical modification supervisor, the inspector observed excellent teamwork between the licensee and contractor electricians. Also, there was thorough QC coverage of the work

2.4 Training Records

The training records of personnel performing modifications were current, filed and stored in accordance with the Regulatory Guide 1.88 for QA records.

2.5 Conclusion

The Design Change and Modification Program is implemented in accordance with the regulatory requirements and the industry guides and standards as well as the primary administrative procedures. Additionally management has taken the following steps to correct the problems identified in the 1988 SALP regarding the Design Changes and Modifications Program effort:

- (1) A commitment to a realistic workload with the existing trained and qualified design engineers.
- (2) An administrative control of requests for design services.
- (3) A means for the design staff to be out in the plant.

No violations were identified.

3.0 Maintenance Program Implementation (62700)

3.1 Scope

The inspector reviewed maintenance activities some of which are related to the facility change requests (FCRs) addressed in paragraph 2.0. The maintenance activities were assessed against Calvert Cliffs Instructions (CCIs) 104, 126, 200, 610, 700, and QAPs 14 and 15, as well as the technical requirements listed in Attachment I.

3.2 Findings

3.2.1 Maintenance Orders And Requests

Modification electricians were observed preparing for and performing work in accordance with maintenance order (MO) 208-082-621A. The MO was part of the FCR 86-0223 package regarding the installation of the Automatic Ground Detection System discussed in paragraph 2.2. Being a first of its kind, there was continuous coverage by the modification supervisor, Operations personnel, QC and Engineering.

3.2.2 Surveillance Tests

Control technicians were observed performing a surveillance test in accordance with STP-M-280A for a loop calibration check of the hydrogen analyzer O-AE-6519. During the calibration check a technician from the procedures group was noting any changes to the surveillance procedure and another technician was receiving on-the-job training (OJT).

3.2.3 Interface With The Training Program

Formal training for electricians was initiated by the Nuclear Maintenance Department in January 1987. Examples of Maintenance and Training interface are:

- (1) The inspector noted that an Electric Modification supervisor is working closely with training by reviewing the courses being developed, and that technicians are receiving specific training by vendor representatives.

- (2) During the outage the Control Room computer microscope had been removed and sent to the Training Center where technicians received training by the vendor representative.
- (3) Training records of personnel interviewed and observed were reviewed and found to be current, accessible, complete, properly filed and stored.

3.3 Conclusion

Based on the interviews and documentation reviewed, implementation of the Maintenance Program is effective and well documented. The staff including supervision is adequate, trained and qualified, and supported by qualified contractor personnel.

No violations were identified.

4.0 QA/QC Interface With Design Change and Modification Program and the Maintenance Program (35701)

4.1 QA Interface

Seven QA Audits and a Joint Utility Management Audit were reviewed by the inspector (see Attachment I). The audits and surveillance were thorough; and, though they included some performance based attributes, they were primarily compliance oriented audits based on a review of procedures and completed records. QA is taking action to increase the emphasis on more performance base auditing by watching more work in progress. Responses to the audits are timely, complete and verified by the QA auditors.

4.2 QC Interface

QC activity during the outage was evident by the continuous and thorough QC coverage for FCR 85-1052, Diverse Scram System and FCR 86-0223, Automatic Ground Detection System. The QC inspectors were observed interfacing well with Operating, Engineering and Maintenance personnel. Also a QC inspector was observed satisfactorily performing dye penetrant test (PT) of a fillet weld.

4.3 Conclusion

Based on the interviews and the records reviewed, the QA and QC are trained and qualified and well versed with the requirements as well as the administrative procedures.

No violations were identified.

5.0 Management Meetings

Licensee management was informed of the scope and purpose of the inspection at the entrance meeting conducted on May 9, 1988. The findings of

the inspection were discussed with licensee representatives during the course of the inspection and presented to licensee management at the May 13, 1988 exit interview (see paragraph 1 for attendees).

At no time during the inspection was written material provided to the licensee by the inspector. The licensee did not indicate that proprietary information was involved within the scope of this inspection.

ATTACHMENT I

DOCUMENTS REVIEWED

2.0 Design Changes And Modifications Program

Regulatory Guides (RGs)

RG 1.88 Collection Storage and Maintenance of Nuclear Power Plants QA Records, Rev. 2 October, 1976 (Paragraph 2.4)

RC 1.97 Instrumentation for Light-Water-Cooled Nuclear Power Plants to Access Plant Conditions During and Following an Accident, Rev 1 August, 1977 (Paragraph 2.2.3.(1))

Procedures (Paragraph 2.1)

Calvert Cliffs Instructions (CCIs) 126-G, Administrative Control of Facility Request

CCI 200-J, Nuclear Maintenance System

CCI 700-A, Control Work Package Preparation and Use

Quality Assurance Procedure (QAP) 14 Plant Maintenance

QAP 15, Changes, Tests, and Experiments

Facility Change Requests (FCRs)

83-1085, Change to CrMo Material for Fittings and Piping (Paragraph 2.3.3 (2))

85-1036, Gravity Dampers for Penetration Fans (Paragraph 2.3.3 (3))

85-1052, Diverse Scram System (Paragraphs 2.2.3(5) and 4.2)

86-0223, Automatic Ground Detecting System (Paragraphs 2.3.3 (4) and 3.2.1)

87-0002, Steam Generator Bottom Blowdown Lines (Paragraph 2.3.3 (2))

87-0111, RG 1.97 Change to Control Room Panel 1C06 (Paragraph 2.3.3 (1))

3.0 Maintenance Program Implementation

Procedures

Calvert Cliffs Instructions (CCIs) 104-H, Surveillance Test Program (Paragraph 3.1)

CCI 126-G, Administrative Control of Facility Request (Paragraph 3.1)

CCI 200-J, Nuclear Maintenance System (Paragraph 3.1)

CCI 610-D, Personal Training Records (Paragraph 3.1)

CCI 700-A, Control Work Package Preparation and Use (Paragraph 3.1)

Quality Assurance Procedure (QAP) 14 Plant Maintenance (Paragraph 3.1)

QAP 15, Changes, Tests and Experiments (Paragraph 3.1)

Surveillance Procedure STP-M-280A Loop Calibration Check of Hydrogen Analyzer (Paragraph 3.2.2)

4.0 QA/QC Interface With Design Change And Modification Program And The
Maintenance Program

QA Interface Paragraph 4.1)

QA Reports No.s 86-02, 87-12, 26,27 and 44, 88-14 and 16;

1988 Joint Utility Management Audit

QC Interface (4.2)

FCR85-1052 and FLR86-0223