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**CALVERT CLIFFS NUCLEAR POWER PLANT DEPARTMENT**
CALVERT CLIFFS NUCLEAR POWER PLANT
LUSBY, MARYAND 20657

March 15, 1990

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Docket No. 50-317
License No. DPR 53

Dear Sirs:

The attached LER 90-07, Revision 0, is being sent to you as required under 10 CFR 50.73 guidelines.

Should you have any questions regarding this report, we would be pleased to discuss them with you.

Very truly yours,

R. E. Denton
Manager

RED:DWM:sdw

cc: William T. Russell
Director, Office of Management Information
and Program Control
Messrs: G. C. Creel
C. H. Cruse
J. R. Lemons
L. B. Russell
R. P. Heibel



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NRC Form 366 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

# LICENSEE EVENT REPORT (LER)

| FACILITY NAME (1) | DOCKET NUMBER (2) | PAGE (3) |
|---|---|---|
| Calvert Cliffs, Unit 1 | 0 5 0 0 0 3 1 7 | 1 OF 0 4 |

TITLE (4) Failure to Test Supervised Circuits Supervision Due to Omission of Circuits from the Surveillance Procedure

| EVENT DATE (5) | | | LER NUMBER (6) | | | | | REPORT DATE (7) | | | OTHER FACILITIES INVOLVED (8) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MONTH | DAY | YEAR | YEAR | | SEQUENTIAL NUMBER | | REVISION NUMBER | MONTH | DAY | YEAR | FACILITY NAMES | DOCKET NUMBER(S) |
| | | | | | | | | | | | Calvert Cliffs, Unit 2 | 0 5 0 0 0 3 1 8 |
| 0 2 | 1 6 | 9 0 | 9 0 | – | 0 0 7 | – | 0 0 | 0 3 | 1 5 | 9 0 | | 0 5 0 0 0 |

| OPERATING MODE (9) | | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11) | | | | | |
|---|---|---|---|---|---|---|---|
| 5 | | 20.402(b) | | 20.405(c) | | 50.73(a)(2)(iv) | 73.71(b) |
| POWER LEVEL (10) | | 20.405(a)(1)(i) | | 50.36(c)(1) | | 50.73(a)(2)(v) | 73.71(c) |
| 0 0 0 | | 20.405(a)(1)(ii) | | 50.36(c)(2) | | 50.73(a)(2)(vii) | OTHER (Specify in Abstract below and in Text, NRC Form 366A) |
| | | 20.405(a)(1)(iii) | X | 50.73(a)(2)(i) | | 50.73(a)(2)(viii)(A) | |
| | | 20.405(a)(1)(iv) | | 50.73(a)(2)(ii) | | 50.73(a)(2)(viii)(B) | |
| | | 20.405(a)(1)(v) | | 50.73(a)(2)(iii) | | 50.73(a)(2)(x) | |

LICENSEE CONTACT FOR THIS LER (12)

| NAME | TELEPHONE NUMBER |
|---|---|
| | AREA CODE |
| D. W. Muth, Licensing Engineer | 3 0 1 — 2 6 0 – 3 5 9 2 |

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPRDS | | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPRDS | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| SUPPLEMENTAL REPORT EXPECTED (14) | | EXPECTED SUBMISSION DATE (15) | MONTH | DAY | YEAR |
|---|---|---|---|---|---|
| YES (If yes, complete EXPECTED SUBMISSION DATE) | X NO | | | | |

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)


On February 16, 1990, during a review of Surveillance Test Procedures (STPs), a reviewer found that supervised circuits associated with fire detection instruments (EIIS IC-28) located in the Reactor Coolant Pump (RCP) (EIIS AB-P) Bays had not been included in STP M-496-0, "Supervisory Test of Smoke and Flame Detection Circuits."

The cause of this condition was personnel error in failing to include the circuits in the STP governing the supervised test. This was caused by inadequate procedural controls. Inadequate reviews of the STP were a contributing cause of this condition.

STP M-496-0 is being revised to include the missing circuits.

The revised Calvert Cliffs Instruction (CCI) 104, "Surveillance Test Program," now includes more strict review guidelines to ensure STP compliance with Technical Specifications. CCI-143, "Calvert Cliffs Administrative Control of License Amendments," now requires the Licensing Department to review the actual procedure changes implementing new or revised Technical Specifications.

This item was discovered during a review conducted as a part of our ongoing Procedure Upgrade Project. We have instituted a Performance Improvement Plant item requiring the review of STPs for technical adequacy relative to the Technical Specifications. The goal of these reviews is to assure that STPs are consistent with Technical Specification requirements.

I. DISCUSSION

On February 16, 1990, during a review of Surveillance Test Procedures (STPs), a reviewer found that supervised circuits associated with fire detection instruments (EIIS IC-28) located in the Reactor Coolant Pump (RCP) (EIIS AB-P) Bays had not been included in STP M-496-0, "Supervisory Test of Smoke and Flame Detection Circuits". This Technical Specification required test involves lifting a lead in the supervised circuit and verifying that the resulting open circuit actuates the appropriate trouble alarm on its associated Fire Indicating Unit in the Control Room.

Technical Specification 4.3.3.7.2 requires that NFPA Code 72D Class B supervised circuits associated with the alarms of specified fire detection instruments be demonstrated operable at least once per six months. Technical Specification Table 3.3-11 lists the fire detection instruments for which the supervised circuits shall be tested. The table includes the fire detectors located in the East and West RCP Bays.

Limiting Condition for Operation (LCO) 3.3.3.7 describes the actions to be taken in the event that one or more fire detection instruments are inoperable. The LCO requires that within one hour of inoperability, a fire watch patrol shall be established to inspect the area covered by the instruments at least once an hour. The LCO further requires that the instrument be restored to operable status within 14 days or a Special Report be submitted. The supervised circuits for the fire detectors located in the RCP Bays had never been tested in accordance with the Technical Specification and were therefore inoperable. This item is reportable under 10 CFR 50.73 (a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications.

Upon notification of this condition at 9:45 a.m. on February 16, 1990, the Shift Supervisor immediately commenced actions called for in LCO 3.3.3.7. The supervised circuits in question were successfully tested and the actions required by LCO 3.3.3.7 were ceased at 1:40 p.m. on the same day. Unit 1 was in Mode 5 and Unit 2 was defueled.

II. CAUSE OF CONDITION

The root cause of this condition was personnel error caused by inadequate procedural controls. The fire detection instruments in the RCP Bays were installed in 1981 along with several others in the Auxiliary Building. Plant records indicate that the procedure governing the test of the supervised circuits was revised to reflect the addition of these detectors. However, the personnel who made this revision failed to include the RCP Bay detectors in the procedure. The procedure governing facility changes lacked sufficient controls to ensure that all of the detectors were included in the STP.

A Facility Change Request (FCR) was processed in 1980 to add the new detectors to the Technical Specifications. At that time, there was no procedure governing Technical Specification changes. The FCR was closed out in 1984. Part of the FCR closure documentation was a form indicating that procedural implementation of the Technical Specification was adequate. The form referenced a Quality Assurance Audit of the implementation of Technical Specifications in procedures. This audit failed to identify the omission of the subject supervised circuits from the applicable procedure. A subsequent audit in 1988 also failed to detect this omission. These inadequate reviews of STP M-496-0 were a contributing cause of this condition.

## III. ANALYSIS

Technical Specification 4.3.3.7.1 requires that all fire detection circuits listed in Table 3.3-11 be functionally tested every two years. Past functional tests of the fire detectors in the RCP Bays have indicated that the detectors have been capable of performing as required. The last functional test of the fire detectors in the RCP Bays was performed on March 19, 1989 for Unit 1 and October 10, 1989 for Unit 2.

The supervisory test verifies that a broken circuit will result in a trouble alarm. The functional test verifies that the fire detector will perform its intended function. The fact that the detectors passed the functional test means the detectors were functional, even though the failure to perform the supervisory test means that they were administratively inoperable per the Technical Specifications.

There are no safety consequences associated with this condition.

## IV. CORRECTIVE ACTIONS

1) STP M-496-0 is being revised to include the missing circuits. A review of this and other related procedures found no other tests required by Technical Specifications 4.3.3.7.1 or 4.3.3.7.2 to be missing.

2) The revised Calvert Cliffs Instruction (CCI) 104, "Surveillance Test Program," requires that all new STPs and STPs undergoing biennial review receive a thorough review using strict guidelines designed to ensure that STPs comply with their associated Technical Specifications.

3) The revised CCI-101, "Calvert Cliffs Implementing Procedure Development and Control," requires that, for procedure steps included as a result of commitments, including Technical Specifications, the basis for inclusion of these steps (i.e. the specific Technical Specification) be identified. The capture of procedure bases will aid subsequent reviewers in verifying that Technical Specifications are being met.

4) Procedure CCI-143, "Calvert Cliffs Administrative Control of License Amendments," governs the process for revising Technical Specifications. The present revision of this procedure requires that the actual document change which implements a new or revised Technical Specification be reviewed by the responsible Licensing Engineer for adequacy. This shall be done within 30 days of Technical Specification approval. The procedure does not allow for a three year gap between the approval of the Technical Specification amendment and the review of the adequacy of its implementation.

5) This item was discovered during a review conducted as a part of our ongoing Procedure Upgrade Project. We have instituted a Performance Improvement Plan item requiring a review of STPs for technical adequacy relative to the Technical Specifications. The goal of this item is to assure that STPs are consistent with Technical Specification requirements.

V. ADDITIONAL INFORMATION

LERs 318/88-006, 317/89-001, 317/89-010, 317/89-013, 317/89-017, 318/89-022, 317/89-24 and 317/90-01 all involved similar problems with procedural implementation of Technical Specifications. LER 317/89-013 involved a surveillance requirement that had not been procedurally implemented and had not been discovered in subsequent reviews.