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

Subject: Catawba Nuclear Station, Units 1 and 2
Docket Nos. 50-413 and 50-414
LER 413/98-017

Attached is Licensee Event Report 413/98-017 concerning **Missed Technical Specification Surveillance Requirement on Standby Shutdown System Instrumentation Due to an Inadequate Change Management Process**.

This event is considered to be of no significance with respect to the health and safety of the public.

Sincerely,

Gary R. Peterson

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Attachment

IE22

xc (with attachment):

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NRC FORM 366
U.S. NUCLEAR REGULATORY COMMISSION
(4-95)

# LICENSEE EVENT REPORT (LER)



| FACILITY NAME (1) | DOCKET NUMBER (2) | PAGE (3) |
|---|---|---|
| Catawba Nuclear Station Unit 1 | 05000413 | 1 of 6 |

TITLE (4)
Missed Technical Specification Surveillance Requirement on Standby Shutdown System Instrumentation Due to an Inadequate Change Management Process

| 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 NAME | DOCKET NUMBER(S) |
| 10 | 15 | 1998 | 1998 | - | 017 | - | 00 | 11 | 11 | 1998 | Catawba Unit 2 | 05000414 |

| OPERATING MODE (9) | 1 | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (Check one or more of the following) (11) | | | |
|---|---|---|---|---|---|
| POWER LEVEL (10) | 100 | 20.402(b) | 20.405(c) | 50.73(a)(2)(iv) | 73.71(b) |
| | | 20.405(a)(1)(I) | 50.36(c)(1) | 50.73(a)(2)(v) | 73.71(c) |
| | | 20.405(a)(1)(ii) | 50.36(c)(2) | 50.73(a)(2)(vii) | OTHER (Specify in |
| | | 20.405(a)(1)(iii) | X 50.73(a)(2)(i) | 50.73(a)(2)(viii)(A) | Abstract below and |
| | | 20.405(a)(1)(iv) | 50.73(a)(2)(ii) | 50.73(a)(2)(viii)(B) | in Text, NRC Form |
| | | 20.405(a)(1)(v) | 50.73(a)(2)(iii) | 50.73(a)(2)(x) | 366A) |

LICENSEE CONTACT FOR THIS LER (12)

| NAME | TELEPHONE NUMBER |
|---|---|
| | AREA CODE |
| L.J. Rudy, Regulatory Compliance | (803) 831-3084 |

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

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

| 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 October 15, 1998, with Unit 1 in Mode 1 at 100% power and Unit 2 in Mode 4 during the End-of-Cycle 9 Refueling Outage, it was discovered that the Standby Shutdown System incore thermocouple reference junction box resistance temperature detector for each unit was not being calibrated as required by Technical Specification Surveillance Requirement 4.7.13.6. These devices are required for operability of the Catawba Standby Shutdown System and are subject to an 18-month channel calibration required by Technical Specifications.

The root cause of this event was determined to be an inadequate change management process during implementation of the modification to install the Inadequate Core Cooling Monitors at Catawba. The reference to calibration of these devices was deleted from the governing work orders at that time.

Corrective actions included calibrating the affected resistance temperature detectors, modifying the procedure for their calibration, and initiating steps to create new model work orders for their calibration.

BACKGROUND

The Catawba Standby Shutdown System (SSS) [no EIIS system code] provides an alternate and independent means to achieve and maintain a hot standby condition for one or both units following certain postulated beyond design basis fire, security, or blackout related events. The SSS has the capability to maintain hot standby in both units for a period of three days without damage control measures. The majority of SSS equipment is housed in a dedicated Standby Shutdown Facility, which includes a control and instrumentation complex, and emergency AC and DC power sources. The SSS is designed in accordance with accepted fire protection and security requirements. The SSS is not nuclear safety related; consequently, it does not perform a support function in mitigating the consequences of Design Basis Events. During normal plant operation, the SSS is in a standby mode and does not perform any function.

Technical Specification (TS) 3/4.7.13 governs the SSS. The SSS is required to be operable in Modes 1, 2, and 3. Action a of TS 3/4.7.13 states (this action is applicable to both units):

"With the Standby Shutdown System inoperable, restore the inoperable equipment to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours."

Action c states that the provisions of Specifications 3.0.3 and 3.0.4 are not applicable; this allows the unit(s) to change modes with the SSS inoperable.

TS Surveillance Requirement (SR) 4.7.13.6 states:

"Each Standby Shutdown System instrumentation device shall be demonstrated OPERABLE by performance of a CHANNEL CHECK at least once per 31 days and a CHANNEL CALIBRATION at least once per 18 months."

Catawba presently has a TS Interpretation for the SSS that defines which equipment is required for SSS operability. This interpretation states that SSS device RTD #3, which is a resistance temperature detector [EIIS: DET] associated with the incore thermocouple [EIIS: THC] reference junction box [EIIS: JBX], is a required device for SSS operability. The function of RTD #3 is to provide an indication that the reference temperature applied to all incore thermocouple junctions in the box is constant. During SSS

operation, indicator connectors provided on the SSS control panel are manually connected to the appropriate thermocouples.

This LER involved a failure to perform TS SR 4.7.13.6 for RTD #3; therefore, it is being reported under 10 CFR 50.73 (a)(2)(i)(B) (any operation or condition prohibited by the plant's Technical Specifications).

EVENT DESCRIPTION

10/12/98
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Unit 1 was in Mode 1 at 100% power and Unit 2 was in the End-of-Cycle 9 Refueling Outage. Implementation work was in progress for the conversion to the Catawba Improved Technical Specifications (ITS). Catawba personnel discovered that no model work orders (electronic pre-defined tasks set up to govern periodic maintenance) existed for calibration of incore thermocouple reference junction box RTD #3. Problem Investigation Process (PIP) 0-C98-3984 was written.

10/15/98
1150 Engineering completed an operability evaluation concerning the missed surveillance on the junction box RTD. As a result, the SSS was declared inoperable for Unit 1 and the 7-day action statement was entered. (Since Unit 2 was in the End-of-Cycle 9 Refueling Outage, the SSS was not required to be operable for Unit 2.)

1630 Work Requests 98047786 and 98047789 were issued for calibrating the Unit 1 and 2 junction box RTDs, respectively.

10/17/98
0904 Unit 2 entered Mode 3 and the 7-day action statement for the SSS.

10/19/98
2010 The Unit 1 junction box RTD calibration was completed.

10/20/98
1718 The SSS was declared operable for Unit 1.

1719 The Unit 2 junction box RTD calibration was completed.

10/21/98
0451 The SSS was declared operable for Unit 2.

CONCLUSION

This event occurred because there were no model work orders in place to ensure that the junction box RTDs were periodically calibrated. A review of the Catawba Work Management System (WMS) and microfiche records of completed work orders indicated that the junction box RTD on each unit was last included in the work order in 1986 and was removed from the work order in the late 1986 time frame. This was the time period that the modification was implemented at Catawba to install the Inadequate Core Cooling Monitors. The reference to the procedure for calibrating junction box RTD #3 was inadvertently deleted from the work orders at this time. It was deleted in conjunction with the deletion of other RTDs associated with implementation of the modification. Hence, the junction box RTD was last calibrated in 1986 for each unit. The root cause of the inadvertent deletion of the junction box RTDs from the work orders was determined to be an inadequate change management process when implementing the modification for the Inadequate Core Cooling Monitors.

Missed surveillances have been previously determined to be a recurring problem at Catawba. During the previous 24 months there have been 18 other reportable events involving missed or inadequate surveillances. Many of these events involved work that was done more than 24 months ago. These LERs are:

LER 413/96-009, LER 414/96-006, LER 413/96-010, LER 413/96-013,
LER 413/97-004, LER 414/97-004, LER 413/97-005, LER 413/97-006,
LER 413/97-012, LER 413/98-003, LER 413/98-004, LER 413/98-005,
LER 413/98-006, LER 413/98-007, LER 414/98-003, LER 413/98-009,
LER 413/98-014, LER 413/98-015

A commitment has already been made to address the issue of missed surveillances at Catawba. A team has been formed to evaluate the procedures that implement surveillance requirements for the ITS to ensure that the implementing procedures actually perform what the surveillances require.

There are no EPIX reportable equipment failures associated with this event.

CORRECTIVE ACTIONS

Immediate

1. The SSS was declared inoperable upon Engineering's completion of the operability evaluation concerning the missed surveillance on the junction box RTD.

Subsequent

1. Work requests were generated for calibration of the Unit 1 and 2 junction box RTDs.

2. The junction box RTDs were calibrated and the SSS was declared operable.

3. Procedure IP/0/B/3230/003, "Calibration for ENA System Reference Junction Box and Deviation Loop," was revised to require calibration of the junction box RTDs.

4. Engineering submitted a request to Work Control for the creation of new WMS model work orders for calibration of the junction box RTDs.

Planned

1. The ITS surveillance review team is continuing its review to assure that ITS surveillances will be properly implemented.

SAFETY ANALYSIS

Although the junction box RTDs had not been calibrated since 1986, they would nevertheless have performed their design function had plant operation from the SSS been required. The Unit 1 and 2 junction box RTDs required slight adjustment, as they were out of tolerance by approximately 1.5 degrees F. This slight out of tolerance condition would not have adversely affected safe plant operation from the SSS, had it been required. No automatic control functions are performed using these RTDs. The operators utilize the appropriate incore thermocouples during SSS operation to trend core temperature. The slight out of tolerance condition of the RTDs would have been indiscernable to operators reading the SSS gauges. It would not have invalidated any incore thermocouple readings in the event that SSS operation were required. Therefore, it would not have affected any

decisions the operators would have been required to make regarding plant protective actions. Finally, operator actions are based on tables of pressure versus temperature which have built-in conservatisms which would easily bound the found out of tolerance condition. Therefore, the health and safety of the public were not affected by this event.