VIRGINIA ELECTRIC AND POWER COMPANY
Surry Power Station
P. O. Box 315
Surry, Virginia 23883

September 14, 1989

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

Serial No.: 89-039
Docket Nos.: 50-280
50-281
License Nos.: DPR-32
DPR-37

Gentlemen:

Pursuant to Surry Power Station Technical Specifications, Virginia Electric and Power Company hereby submits the following Special Report for Units 1 and 2.

REPORT NUMBER

89-036-00

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be reviewed by Safety Evaluation and Control.

Very truly yours,

M. R. Kansler
Station Manager

Enclosure

cc: Regional Administrator
Suite 2900
101 Marietta Street, NW
Atlanta, Georgia 30323



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POW 28-06-01

NRC FORM 366 (6-89) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

# LICENSEE EVENT REPORT (LER)

| FACILITY NAME (1) | DOCKET NUMBER (2) | PAGE (3) |
|---|---|---|
| Surry Power Station, Units 1 and 2 | 0 5 0 0 0 2 8 0 | 1 OF 0 4 |

TITLE (4) Reactor Protection Permissive Circuit P-10 Suspected of Not Being Tested Per T.S. Surveillance Requirements

| 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) |
| | | | | | | | | | | 0 5 0 0 0 |
| 0 8 | 1 5 | 8 9 | 8 9 | — 0 3 6 | — 0 0 | | | | | 0 5 0 0 0 |

| OPERATING MODE (9) | N | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11) | | | |
|---|---|---|---|---|---|
| POWER LEVEL (10) | 1 0 0 | 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) | X OTHER (Specify in Abstract below and in Text, NRC Form 366A) |
| | | 20.405(a)(1)(iii) | 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) | Special Report |

LICENSEE CONTACT FOR THIS LER (12)

| NAME | TELEPHONE NUMBER |
|---|---|
| M. R. Kansler, Station Manager | AREA CODE 8 0 4 — 3 5 7 - 3 1 8 4 |

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

| CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPRDS | | CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | 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 August 15, 1989 with Unit 1 at 100% power and Unit 2 at cold shutdown (CSD), an ongoing systematic review of Technical Specification (T.S) surveillance requirements identified that the testing of the Reactor Protection System (RPS) P-10 permissive circuit may not have been performed prior to each reactor startup as specified. The reactor protection features associated with this permissive were declared inoperable and a six hour clock to hot shutdown was entered. A four hour notification per 10CFR50.72 was made to the Nuclear Regulatory Commission. A Justification for Continued Operation was written and approved and the six hour clock was exited. An existing procedure was deviated and performed to verify the P-10 circuit was fully operable. Subsequent examination of the existing testing procedures determined that the surveillance test was adequately performed. However, the procedures are being revised to enhance documentation of the required testing.

## 1.0 Description of the Event

On August 15, 1989 with Unit 1 at 100% power and Unit 2 at cold shutdown (CSD), an ongoing, systematic review of the Technical Specification (T.S.) surveillance requirements identified that the testing of the Reactor Protection System (RPS) (EIIS-JC) P-10 permissive circuit (EIIS-EIL) may not have been performed prior to each reactor startup as specified. Technical Specification 4.1.A.2 requires testing of this permissive circuit prior to each reactor startup unless performed during the preceding 92 days.

The P-10 permissive is actuated when two out of four Power Range Nuclear Instruments (PRNI) (EIIS-IG) are greater than 10% reactor power. The P-10 permissive allows manual blocking of the PRNI low setpoint high flux trip and the Intermediate Range (IR) NI high flux trip and control rod (EIIS-JD) stop. The permissive clears and the above protection features are automatically reinstated when three out of four PRNIs decrease below 10% reactor power.

Currently, Periodic Test (PT) 8.2 is implemented prior to criticality to satisfy the T.S. surveillance requirements associated with the reactor protection logics. Included in this test is a verification of the P-7 permissive circuit. This permissive is actuated and automatically defeats the at power reactor trips when three out of four PRNI are less than 10% power in coincidence with two out of two turbine power indications less than 10%. The same relay contacts used for the three out of four PRNI logic matrix in the P-7 circuit are also used in the P-10 circuit. The test procedure verifies actuation of the P-7 relays (EIIS-RLY), but did not specifically verify actuation of the P-10 relays when the P-7 logic is satisfied. Consequently, it appeared that continuity from the three out of four logic matrix to the P-10 relays was not being verified and therefore the T.S. surveillance requirement for P-10 was not being satisfied. With this potential deficiency in the required testing, automatic reinstatement of the PR low setpoint high flux trip and the IR high flux trip could not be assured. A four hour notification per 10CFR50.72 was made to the Nuclear Regulatory

Commission on August 15 stating that the above protection features were considered inoperable due to this testing deficiency.

Further examination of PT-8.2 subsequent to the NRC notification revealed that the P-10 relays were verified to be energized as part of the initial conditions for performing the test. Consequently, the continuity between the PRNI logic matrix and the P-10 relays was being demonstrated and the T.S. surveillance requirements for P-10 were being satisfied.

2.0 Safety Consequences and Implications

Since the required testing was being performed, there are no safety implications.

3.0 Cause

The procedure did not explicitly require verification of P-10. Inadequate review of the existing test procedures following the initial suspicion of the deficiency resulted in premature initiation of a four hour report and unnecessary preparation of a JCO.

4.0 Immediate Corrective Action(s)

The P-10 permissive circuit and its associated protective functions were declared inoperable, and at 1320 hours a six hour clock to hot shutdown was entered in accordance with the provisions of Technical Specification 3.0.1. A Justification for Continued Operation (JCO) was then developed for Unit 1 operation. Because P-10 is required to function for blocking and reinstating low power level trips and Unit 1 was at 100% power, P-10 was not required. The JCO also provided compensatory actions to manually trip the reactor before decreasing power below 10%. The JCO was approved and the six hour clock was exited at 1533 hours. However, exiting a Technical Specification Limiting Condition of Operation (LCO) was inappropriate. The JCO would have been an acceptable basis for obtaining discretionary enforcement action to allow continued operation in lieu of putting the plant through a shutdown transient.

5.0 Additional Corrective Action(s)

Periodic Test 8.1, used to test the reactor protection system logics with the unit at power, was deviated to perform continuity and resistance checks from the PRNI logic matrix to the P-10 relays. This testing was successfully completed at 1241 hours on August 16, 1989, and the P-10 permissive protection functions were declared operable. Follow-up notification to the NRC was made on successful testing at 1628 hours on August 16, 1989.

After further review, the existing Unit 1 and Unit 2 PT-8.2 procedures were determined to adequately test the circuit. However, they are being enhanced to clearly document the testing of the P-10 permissive circuit. The Unit 2 procedure enhancements have been completed, and the Unit 1 procedure is being revised. Verification of the P-10 relay actuation will now be performed simultaneously with the logic testing for the P-7 circuit. The Unit 2 test will be performed prior to startup.

6.0 Action(s) Taken to Prevent Recurrence

The systematic review of the surveillance requirements outlined in T.S. Section 4.1 is continuing. This review will determine if existing testing procedures accurately reflect the surveillance requirements. Appropriate enhancements and/or additions to the testing procedures will be made following this review. On August 16, 1989, SNSOC reviewed the utilization of JCOs when a unit is governed by a Technical Specification LCO. Technical Specification LCOs will only be exited when equipment is demonstrated to be operable, the operational condition required by the LCO is achieved, or an appropriate JCO is prepared and discretionary enforcement approved by the Nuclear Regulatory Commission.

7.0 Similar Events

None.

8.0 Manufacturer/Model Number(s)

N/A