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VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION
P. O. BOX 402
MINERAL, VIRGINIA 23117

10 CFR 50.73

April 2, 1992

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

Serial No. N-92-10
NAPS:WCH
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

Dear Sirs:

The Virginia Electric and Power Company hereby submits the following Licensee Event Report applicable to North Anna Units 1 and 2.

Report No. 50-338,339/92-007-00

This Report has been reviewed by the Station Nuclear Safety and Operating Committee and will be forwarded to the Corporate Management Safety Review Committee for its review.

Very Truly Yours,

G. E. Kane
Station Manager

Enclosure:

cc: U.S. Nuclear Regulatory Commission
101 Marietta Street, N.W.
Suite 2900
Atlanta, Georgia 30323

Mr. M. S. Lesser
NRC Senior Resident Inspector
North Anna Power Station



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

# LICENSEE EVENT REPORT (LER)

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1): North Anna Power Station Units 1 and 2

DOCKET NUMBER (2): 05000338 — PAGE (3): 1 OF 04

TITLE (4): MISSED SURVEILLANCES ON RCP BUS UV/UF TESTING AND SI INPUT TO REACTOR TRIP

| 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) |
| 03 | 06 | 92 | 92 | 007 | 00 | 04 | 02 | 92 | North Anna Unit 2 | 05000339 |
| | | | | | | | | | | DOCKET NUMBER(S) 05000 |

| 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) | 095 | 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 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 |
|---|---|
| G. E. Kane, Station Manager | AREA CODE 703 889-2101 |

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-spaced typewritten lines) (16)

On March 6, 1992, with Unit 1 in Mode 1 and Unit 2 in Mode 6, an evaluation of surveillance requirements determined that the Unit 2 Reactor Coolant Pump (RCP) bus monthly undervoltage and underfrequency (UV/UF) channel functional tests were not performed in accordance with Technical Specification (TS) Table 4.3-1, Items 16 and 17. Upon further evaluation, documentation could not be located which ensured the Unit 1 "A" Station Service bus UF circuit was fully tested during 18 month channel calibration testing (Item 16). As a corrective action, further TS surveillance reviews were performed, and it was found that tests of the Safety Injection (SI) input to Reactor Trip for both units were not performed monthly (Item 19). These events are reportable pursuant to 10CFR50.73 (a)(2)(i)(B).

The cause of these events was personnel errors resulting in failure to develop appropriate procedures to satisfy TS surveillance requirements.

These events posed no significant safety implications because subsequent testing of the Unit 1 UV/UF channels and previous bi-monthly testing of the SI input to Reactor Trip circuitry demonstrated that all circuitry was capable of performing its intended function. Testing will be performed on Unit 2 prior to startup. In addition, a review of the operating history for both units revealed that the RCP bus UV/UF protection circuitry has not been challenged. Therefore, the health and safety of the general public was not affected at any time due to these events.

1.0 Description of the Event

On March 6, 1992, during a Unit 2 refueling outage with Unit 1 operating at 95% power, an evaluation of station service bus surveillance requirements determined that the Unit 2 Reactor Coolant Pump (RCP) (EIIS AB-P) power supply bus monthly undervoltage and underfrequency (UV/UF) protection channel (EIIS JC-CHA) functional tests were not being performed in accordance with Technical Specification (TS) 4.3.1.1.1 Table 4.3-1 Items 16 and 17. Upon further evaluation, documentation could not be located which ensured the Unit 1 "A" Station Service bus UV reactor trip circuit was fully tested during 18 month frequency channel calibration testing as required by Item 16. As a corrective action, further TS surveillance reviews were performed, and it was found that channel functional tests of the Safety Injection input to Reactor Trip for both units was not being performed monthly in accordance with Item 19. These events are reportable pursuant to 10CFR50.73 (a)(2)(i)(B).

The North Anna Units 1 and 2 TS Surveillance 4.3.1.1.1 requires that each reactor trip system instrumentation channel be demonstrated operable by the performance of periodic tests at frequencies shown in Table 4.3-1. The Unit 2 Table 4.3-1 requires that RCP bus UV/UF protection channel functional tests be performed on a monthly frequency while in Mode 1. Unit 1 does not have a monthly UV/UF functional test TS requirement. The Surveillance Test/Technical Specification Cross-Reference Document currently states that the Unit 2 monthly surveillance requirements of Table 4.3-1 Items 16 and 17 are performed by PT-36.1A and PT-36.1B. These procedures actually perform an automatic trip logic test, which includes a portion of the UV/UF circuitry, on a "staggered test basis" (once every two months) to satisfy the requirements of Item 22 of Table 4.3-1. Since a monthly channel functional test has not been performed, the surveillance requirement has not been satisfied for Items 16 and 17. An "information only" Action was entered on Unit 2 to ensure the testing will be completed before restart.

TS Table 4.3-1 for both units also requires RCP bus UV/UF channel calibrations during each refueling outage. The combination of "overlapping" tests which perform this surveillance were reviewed to determine if the procedures adequately provide verification of the entire circuit as required for a channel calibration. The overlapping test procedures did not require documentation that the UV alarm circuitry was operable as required by a channel calibration. Historical computer printouts from UV testing performed during the previous Unit 1 outage document that all station service bus alarm circuits functioned with the exception of the "1A" bus UV protection. Since documentation which ensures that the entire "1A" bus UV protection circuit had been tested could not be located, it was conservatively assumed that the surveillance had been missed, and TS 4.0.3 was entered.

Item 19 in TS Table 4.3-1 requires a monthly channel functional test of the Safety Injection (SI) input to Reactor Trip. This test has been incorrectly performed on a staggered test basis which tests each train every 62 days. Therefore, this surveillance has also been missed during previous

1.0 Description of the Event (continued)

operating cycles. Unit 1 did not enter TS 4.0.3 due to this event because 31 days had not elapsed since the last test. The Surveillance Test/Technical Specification Cross-Reference Document does not specify a monthly procedure for this surveillance requirement.

2.0 Significant Safety Consequences and Implications

These events posed no significant safety implications because subsequent testing of the Unit 1 UV/UF channels and previous staggered testing of the SI input to Reactor Trip circuitry demonstrated that all circuitry was capable of performing its intended function. Testing will be performed on Unit 2 prior to startup. In addition, a review of the operating history for both units revealed that the RCP bus UV/UF protection circuitry has not been challenged. Therefore, the health and safety of the general public was not affected at any time due to these events.

3.0 Cause of the Event

The cause of the events was personnel error resulting in failure to develop appropriate procedures to satisfy the surveillance requirements.

4.0 Immediate Corrective Actions

Due to the undocumented surveillance of the entire Unit 1 "A" RCP bus UV protection circuit, Unit 1 entered TS 4.0.3 which allows 24 hours for surveillance testing. A channel calibration procedure was written, and the test was completed satisfactorily within the 24 hour limit. Since Unit 2 was in a refueling outage, no immediate testing was required.

5.0 Additional Corrective Actions

Temporary changes to current channel calibration tests were developed and performed for all RCP bus UV/UF protection circuits on Unit 1 as a good practice.

An Engineer/SRO has performed an in-depth study of the North Anna TS Surveillances required by TS 3.3.1.1 and 3.3.2.1 for both units to verify that the existing procedures fully meet the requirements. Documents were reviewed to ensure continuity through entire instrumentation loops was tested as required by the appropriate surveillance requirement. The SI input to reactor trip missed surveillance was found during this review.

An additional review of other complex instrumentation/electrical surveillance requirements will be performed to verify TS surveillance requirements are fully met.

6.0 Actions to Prevent Recurrence

Functional test procedures for monthly RCP UV/UF protection circuitry of the Unit 2 RCP busses will be developed and performed prior to entering Mode 1 following the current refueling outage to completely satisfy the 18 month calibration requirement. An "information only" Action was entered on Unit 2 to ensure the testing will be completed before restart. These procedures will then be performed on a monthly frequency.

18 month RCP bus UV/UF protection channel calibration procedures for both units will be enhanced to permanently incorporate changes that verify the entire circuits are tested as required by a channel calibration.

The SI input to Reactor trip channel functional test procedures will be performed monthly as required by the TS.

A TS change package will be submitted to require the SI input to reactor trip surveillance on a bi-monthly frequency.

7.0 Similar Events

LER N1/2-90-009-02 described an event where full response time testing of the Source Range Neutron Flux Reactor Trip preamplifiers, the Power Range Neutron Detector isolation amplifiers and the Overtemperature Delta Temperature Reactor Trip lag and lead/lag cards was not performed due to incorrect TS interpretation.

LER N2-91-001-00 documents an event where a set of contacts and associated wiring on the control room bench board switch for the Train A power operated relief valve (PORV) over pressure control circuitry had not been tested as required by TS surveillance requirement 4.4.3.2.1.b. The cause of the event was the incorrect interpretation of TS 4.4.3.2.1.b. Previous interpretations did not require testing of the contacts and associated wiring for the PORV control circuitry.

7.0 Additional Information

None.