

**Virginia Electric and Power Company  
Surry Power Station  
5570 Hog Island Road  
Surry, Virginia 23883**

January 18, 2003

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D. C. 20555-0001

Serial No.: 03-064  
SPS: CGL  
Docket No.: 50-281  
License No.: DPR-37

Dear Sirs:

Pursuant to 10CFR50.73, Virginia Electric and Power Company hereby submits the following Licensee Event Report applicable to Surry Power Station Unit 2.

Report No. 50-281/2002-004-00

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

Very truly yours,



Richard H. Blount, Site Vice President  
Surry Power Station

Enclosure

Commitments contained in this letter:

1. Procedure revisions have been initiated, and completion of the revisions is being tracked in the Corrective Action System.
2. The individuals involved will be coached, and the expectation to perform thorough and proper reviews will be reaffirmed.

IE22

cc: United States Nuclear Regulatory Commission  
Region II

Sam Nunn Atlanta Federal Center  
61 Forsyth Street, SW, Suite 23 T85  
Atlanta, Georgia 30303-8931

Mr. R. A. Musser  
NRC Senior Resident Inspector  
Surry Power Station

**LICENSEE EVENT REPORT (LER)**

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory information collection request 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U S Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

|  |   |                           |
|--|---|---------------------------|
| FACILITY NAME (1)<br><b>SURRY POWER STATION , Unit 2</b> | DOCKET NUMBER (2)<br><b>05000 - 281</b> | PAGE (3)<br><b>1 of 4</b> |
|--|---|---------------------------|

TITLE (4)  
**Turbine Trip Fuses Removed Resulting in Condition Prohibited by Tech Specs**

| 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                 | DOCUMENT NUMBER |
| 11             | 23  | 2002 | 2002           | -- 004 --         | 00              | 1               | 18  | 2003 | FACILITY NAME                 | 05000-          |
|                |     |      |                |                   |                 |                 |     |      | FACILITY NAME                 | 05000-          |

|                                |  |                     |                     |   |  |  |  |  |  |  |  |
|--------------------------------|--|---------------------|---------------------|---|--|--|--|--|--|--|--|
| OPERATING MODE (9)<br><b>N</b> | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11) |                     |                     |   |  |  |  |  |  |  |  |
| POWER LEVEL (10)<br><b>000</b> | 20.2201(b)   | 20.2203(a)(3)(ii)   | 50.73(a)(2)(ii)(B)  | 50.73(a)(2)(ix)(A)                            |  |  |  |  |  |  |  |
|                                | 20.2201(d)   | 20.2203(a)(4)       | 50.73(a)(2)(iii)    | 50.73(a)(2)(x)                                |  |  |  |  |  |  |  |
|                                | 20.2203(a)(1)  | 50.36(c)(1)(i)(A)   | 50.73(a)(2)(iv)(A)  | 73.71(a)(4)                                   |  |  |  |  |  |  |  |
|                                | 20.2203(a)(2)(i)   | 50.36(c)(1)(ii)(A)  | 50.73(a)(2)(v)(A)   | 73.71(a)(5)                                   |  |  |  |  |  |  |  |
|                                | 20.2203(a)(2)(ii)  | 50.36(c)(2)         | 50.73(a)(2)(v)(B)   | OTHER   |  |  |  |  |  |  |  |
|                                | 20.2203(a)(2)(iii)   | 50.46(a)(3)(ii)     | 50.73(a)(2)(v)(C)   | Specify in Abstract below or in NRC Form 366A |  |  |  |  |  |  |  |
|                                | 20.2203(a)(2)(iv)  | 50.73(a)(2)(i)(A)   | 50.73(a)(2)(v)(D)   |   |  |  |  |  |  |  |  |
|                                | 20.2203(a)(2)(v)   | X 50.73(a)(2)(i)(B) | 50.73(a)(2)(vii)    |   |  |  |  |  |  |  |  |
|                                | 20.2203(a)(2)(v)   | 50.73(a)(2)(i)(C)   | 50.73(a)(2)(vii)(A) |   |  |  |  |  |  |  |  |
|                                | 20.2203(a)(3)(i)   | 50.73(a)(2)(ii)(A)  | 50.73(a)(2)(vii)(B) |   |  |  |  |  |  |  |  |

LICENSEE CONTACT FOR THIS LER (12)

|   |   |
|---|---|
| NAME<br><b>Richard H. Blount, Site Vice President</b> | TELEPHONE NUMBER (Include Area Code)<br><b>(757) 365-2000</b> |
|---|---|

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

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPK | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPK |
|-------|--------|-----------|--------------|-------------------|-------|--------|-----------|--------------|-------------------|
| A     | --     | --        | --           | --                |       |        |           |              |                   |

|   |   |    |  |                               |       |     |      |
|---|---|----|--|-------------------------------|-------|-----|------|
| 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 15 single-spaced typewritten lines) (16)

At 1815 hours on November 23, 2002 with Unit 2 at Hot Shutdown conditions, post-maintenance testing (PMT) was initiated on main steam stop valves #1 and #3 following valve limit switch adjustments. As part of the PMT, turbine trip fuses in the turbine solenoid trip circuit and the backup turbine solenoid trip circuit were removed. With these fuses removed, Trains A and B of the turbine trip logic were defeated. This condition, which is prohibited by Technical Specifications (TSs), is being reported in accordance with 10CFR50.73(a)(2)(i)(B). It has been determined that this condition resulted from a human error. The preparation of a 1997 procedure revision and its supporting safety evaluation considered the requirements of TS Table 3.7-1, but overlooked the requirements of TS Table 3.7-3.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

|   |                                  |                |                              |                       |                    |
|---|----------------------------------|----------------|------------------------------|-----------------------|--------------------|
| FACILITY NAME (1)<br><b>SURRY POWER STATION</b><br>Surry Power Station Unit 2 | DOCKET<br>05000 - 281<br>05000 - | LER NUMBER (6) |                              |                       | PAGE (3)<br>2 of 4 |
|   |                                  | YEAR<br>2002   | SEQUENTIAL NUMBER<br>--004-- | REVISION NUMBER<br>00 |                    |

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

**1.0 DESCRIPTION OF THE EVENT**

At 1815 hours on November 23, 2002 with Unit 2 at Hot Shutdown conditions, post-maintenance testing (PMT) was initiated on main steam stop valves #1 and #3 following valve limit switch adjustments. As part of the PMT, fuses FUDC-5 and FUDC-6 in the turbine solenoid trip circuit, as well as fuses FUDC2-1, and FUDC2-2 in the backup turbine solenoid trip circuit, were removed. With these fuses removed, Trains A and B of the turbine trip logic were defeated.

Technical Specification (TS) Table 3.7-1 Functional Unit 11 requires Turbine Trip instrumentation to be operable above the P-7 permissive (10% power); since the plant was at Hot Shutdown conditions, this requirement was not applicable. However, TS Table 3.7-3 Functional Unit 3.b requires a minimum of two operable channels of automatic actuation logic and actuation relay for Turbine Trip and Feedwater Isolation. Associated TS Table 3.7-3 Operator Action 22 permits one less than the minimum channels to be inoperable for 24 hours or be in at least Hot Shutdown within the next six hours and reduce Reactor Coolant System (RCS) temperature and pressure to less than 350 degrees F and 450 psig within the following 12 hours. With the plant conditions above 350 degrees F and 450 psig and with both trains of the turbine trip logic defeated, a condition prohibited by TSs existed and is being reported in accordance with 10CFR50.73(a)(2)(i)(B).

**2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS**

A required initial condition of the procedure being used to perform the PMT on main steam stop valves #1 and #3 is to verify that the main steam trip valves and trip valve bypass valves are closed. Therefore, steam flow to the turbine was isolated; however, with the turbine trip fuses removed, Trains A and B of the turbine trip logic were defeated. The feedwater isolation portion of the circuit was not affected by the fuses being removed and remained operable.

The primary functions of the Turbine Trip and Feedwater Isolation required by TS Table 3.7-3 are to prevent excessive flow of feedwater into the steam generators and excessive RCS cooldown, as well as to prevent carryover of water into the steam lines and turbine. With Feedwater Isolation operable, feedwater flow to the SGs would have been isolated if required. With the main steam trip valves and trip valve bypass valves closed, isolation of the flow path to the turbine had been accomplished, effectively fulfilling the required function of the Turbine Trip.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

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|   |                                  | YEAR<br>2002   | SEQUENTIAL NUMBER<br>--004-- | REVISION NUMBER<br>00 |                    |

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

Since the functions of the Turbine Trip and Feedwater Isolation signals were either effectively completed or could have been achieved if required, there were no significant safety consequences or implications associated with this event.

**3.0 CAUSE**

The history of the procedure used to perform the PMT on the main steam stop valves was researched. A 1997 procedure revision added steps to remove the fuses for the turbine trip solenoids to latch the turbine in order to permit valve testing with the plant shut down. A restriction to be below 10% power (P7 permissive) was identified as a limiting condition of the supporting safety evaluation. This restriction of less than 10% power (from TS Table 3.7-1) was included as an initial condition in the procedure revision. However, it is now recognized that a human error resulted in TS Table 3.7-3 being overlooked and not being considered in the preparation of the 1997 procedure revision and its supporting safety evaluation, both of which were prepared by licensee personnel. Thus, the 1997 procedure revision allowed a condition to exist that was not consistent with the requirements of TS Table 3.7-3 Functional Unit 3.b.

**4.0 IMMEDIATE CORRECTIVE ACTION(S)**

During this evolution, a review of the procedure for the PMT was conducted by the on-shift Assistant Shift Supervisor, and it was determined that both trains of Turbine Trip were defeated while the fuses were removed. A Plant Issue/Deviation documenting the circumstances was issued.

**5.0 ADDITIONAL CORRECTIVE ACTIONS**

An action associated with the Plant Issue/Deviation requested further review by the Operations Department to determine required actions. This review concluded that procedural changes are required to correct the oversight that occurred in the 1997 time frame. Procedure revisions have been initiated, and completion of the revisions is being tracked in the Corrective Action System.

**6.0 ACTIONS TO PREVENT RECURRENCE**

The individuals involved will be coached, and the expectation to perform thorough and proper reviews will be reaffirmed.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

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|   |                                  | YEAR<br>2002   | SEQUENTIAL NUMBER<br>-004- | REVISION NUMBER<br>00 |                    |

NARRATIVE (If more space is required, use additional copies of NRC Form 366A) (17)

**7.0 SIMILAR EVENTS**

1. LER 1/2-1998-003-00, titled No Procedural Guidance for Maintaining EDG Minimum Fuel Supply During LOOP, documented that the circumstances resulted from an oversight in the development of the original plant operating and emergency procedures.
2. LER 1-1999-001-00, titled Auxiliary Feedwater Pipe Support Missed Surveillance Due to Personnel Error, documented that the circumstances resulted from two supports being inadvertently omitted from the ISI inspection drawings.

**8.0 MANUFACTURER/MODEL NUMBER**

Not applicable.

**9.0 ADDITIONAL INFORMATION**

Unit 1 was operating at 100% power at the time of this event.