

LICENSEE EVENT REPORT (LER)

|  |                                      |                      |
|--|--------------------------------------|----------------------|
| FACILITY NAME (1)<br>St. Lucie, Unit 2 | DOCKET NUMBER (2)<br>0 5 0 0 0 3 8 9 | PAGE (3)<br>1 OF 0 3 |
|--|--------------------------------------|----------------------|

TITLE (4)  
Reactor Trip Initiated by Inadvertent Manual Turbine 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) |
| 0              | 1   | 1    | 8              | 6                 | 8               | 6               | 0   | 0    | N/A                           |  |  | 0 5 0 0 0        |
|                |     |      |                |                   |                 |                 |     |      |                               |  |  | 0 5 0 0 0        |

OPERATING MODE (9) 1

POWER LEVEL (10) 99

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §. (Check one or more of the following) (11)

|                   |                                     |                      |  |
|-------------------|-------------------------------------|----------------------|--|
| 20.402(e)         | <input checked="" type="checkbox"/> | 50.73(a)(2)(iv)      | 73.71(b)   |
| 20.405(a)(1)(i)   | <input type="checkbox"/>            | 50.73(a)(2)(v)       | 73.71(c)   |
| 20.405(a)(1)(ii)  | <input type="checkbox"/>            | 50.73(a)(2)(vi)      | OTHER (Specify in Abstract below and in Text, NRC Form 366A) |
| 20.405(a)(1)(iii) | <input type="checkbox"/>            | 50.73(a)(2)(vii)     |  |
| 20.405(a)(1)(iv)  | <input type="checkbox"/>            | 50.73(a)(2)(viii)(A) |  |
| 20.405(a)(1)(v)   | <input type="checkbox"/>            | 50.73(a)(2)(viii)(B) |  |
|                   | <input type="checkbox"/>            | 50.73(a)(2)(ix)      |  |

LICENSEE CONTACT FOR THIS LER (12)

|   |   |
|---|---|
| NAME<br>R. L. Kulovich, Shift Technical Advisor | TELEPHONE NUMBER<br>AREA CODE 3 0 5 4 6 5 - 3 5 5 0 |
|---|---|

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

| CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPROS | CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPROS |     |
|-------|--------|-----------|---------------|---------------------|-------|--------|-----------|---------------|---------------------|-----|
| X     | B      | A         | I             | S                   | V     | L      | 2         | Q             | 0                   | Yes |
|       |        |           |               |                     |       |        |           |               |                     |     |

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15)

|       |     |      |
|-------|-----|------|
| MONTH | DAY | YEAR |
|       |     |      |

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

**EVENT:**  
A reactor trip was initiated by an inadvertent manual turbine trip (TA) during turbine overspeed testing. The manual turbine trip was the result of a cognitive personnel error by a utility licensed operator. During the reactor trip response, all equipment functioned as designed but later, while maintaining the plant in hot standby, an auxiliary feedwater control valve motor operator failed.

**CORRECTIVE ACTIONS AND ROOT CAUSES:**  
The manual turbine trip was inadvertently inserted by a utility licensed operator while performing the weekly turbine overspeed surveillance. The operator was distracted and actuated the turbine TRIP lever versus the TEST lever. The operator was counselled concerning his inattention to detail and the turbine trip level was painted RED to distinguish it from the TEST lever.

The auxiliary feedwater control valve motor operator failed due to an open motor winding. The motor operator was replaced and the auxiliary feedwater control valve was tested satisfactory prior to returning the unit to power.

This is the first LER of this type for Plant St. Lucie.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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|--|--|----------------|-------------------|-----------------|----------|-----|
| FACILITY NAME (1)<br><br>St. Lucie, Unit 2 | DOCKET NUMBER (2)<br><br>0 5 0 0 0 3 8 9 8 6 | LER NUMBER (8) |                   |                 | PAGE (3) |     |
|  |  | TRIP           | SEQUENTIAL NUMBER | REVISION NUMBER |          |     |
|  |  | - 0 0 2        | - 0 0             | 0 2             | OF       | 0 3 |

TEXT (If more space is required, use additional NRC Form 366A's) (17)

**EVENT:**

The event occurred at 0749 EST on January 11, 1986. The reactor was at 99 percent power. The weekly turbine overspeed trip mechanism test (TA) (OP 200030150) was in progress. This procedure requires operation of a lever labeled TEST, which is adjacent to the turbine manual TRIP lever. The utility licensed operator performing the test erroneously actuated the manual turbine TRIP lever versus the required TEST lever. The turbine trip actuated a reactor trip on loss-of-load as designed. All systems functioned as designed during the immediate post-trip stabilization. The Auxiliary Feedwater System (AFW) (BA) was actuated by the Auxiliary Feedwater Actuation Signal. All AFW components functioned as designed during the automatic actuation, but at 0900 AFW valve MV-09-9 (AFW pump A discharge to steam generator A) failed during manual control of the AFW system. The motor-operator for MV-09-9 (Limitorque Model SMB 0005 manufactured by Reliance Electric Co.) was replaced and tested satisfactory at 1310. The reactor was restarted at 1356 EST on January 11, 1986.

**CAUSES OF EVENTS:**

1. The manual turbine trip was a cognitive personnel error by a utility licensed operator.
2. The motor operator for valve MV-09-9 failed due to an open motor winding.

**ANALYSIS OF EVENT:**

This event was evaluated and determined to be of no consequence because all plant parameters remained within the bounds of the safety analysis design bases.

Concerning the Reactor Trip:

The initiator for the event was identical to the event analyzed in Section 15.2.1.2 of the St. Lucie Unit 2 Final Updated Safety Analysis Report (FUSAR). The actual plant response was more conservative than the FUSAR analysis because the reactor actually tripped on loss-of-load whereas the FUSAR analysis assumes the reactor trip on loss-of-load does not occur prior to the high reactor coolant system pressure trip.

Concerning the Auxiliary Feedwater Valve:

Valve MV-09-9 functioned properly during the AFAS automatic actuation of AFW. MV-09-9 failed during manual control after several open/closed cycles. The "C" AFW pump was available and was used as the alternate source of water for the A steam generator.

The health and safety of the public were not affected by these events.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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|--|--|----------------|-------------------|-----------------|----------|--------|
| FACILITY NAME (1)<br><br>St. Lucie, Unit 2 | DOCKET NUMBER (2)<br><br>0 5 0 0 0 3 8 9 | LER NUMBER (6) |                   |                 | PAGE (3) |        |
|  |  | YEAR           | SEQUENTIAL NUMBER | REVISION NUMBER |          |        |
|  |  | 8 6            | - 0 0 2           | - 0 0           | 0 3      | OF 0 3 |

TEXT (If more space is required, use additional NRC Form 385A's) (17)

**ROOT CAUSES AND CORRECTIVE ACTIONS:**

1. The motor operator for MV-09-9 was found to have an open winding. The motor was replaced and the valve tested satisfactory prior to returning the unit to power.
2. The root cause for the manual turbine trip and subsequent reactor trip was inattention to detail by a utility licensed operator. The similarity and the close location of the TEST and TRIP levers may have contributed to this error. The turbine TRIP lever has been painted RED to distinguish it from the TEST lever. The operator involved has been counselled concerning his actions. Additionally, the Training Department will evaluate this item to determine appropriate training requirements and methods.

This is the first LER of this type for Plant St. Lucie.



FEB 1 1986

L-85-52

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

Gentlemen:

Re: Reportable Event 86-2  
St. Lucie Unit 2  
Date of Event: January 11, 1986  
Reactor Trip Initiated by Inadvertent Manual Turbine Trip

The attached Licensee Event Report is being submitted pursuant to the requirements of 10 CFR to provide notification of the subject event.

Very truly yours,

A handwritten signature in dark ink, appearing to read "C.O. Woody", is written over the typed name.

C.O. Woody  
Group Vice President  
Nuclear Energy

COW/SAV:am

Attachment

cc: Dr. J. Nelson Grace, Region II, USNRC  
Harold F. Reis, Esquire  
File 933.1  
PNS-LI-86-38

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