



January 18, 2002

L-2002-020
10 CFR § 50.73

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

Re: St. Lucie Unit 2
Docket No. 50-389
Reportable Event: 2001-003-00
Date of Event: November 20, 2001
Steam Generator Tube That Exceeded
Plugging Criteria Remained In-Service

The attached Licensee Event Report 2001-003 is being submitted pursuant to the requirements of 10 CFR § 50.73 to provide notification of the subject event.

Very truly yours,

A handwritten signature in black ink, appearing to be 'D. Jernigan', written over the text 'Very truly yours,'.

Donald E. Jernigan
Vice President
St. Lucie Nuclear Plant

DEJ/KWF

Attachment

IE 22

FACILITY NAME (1) St. Lucie Unit 2	DOCKET NUMBER (2) 05000389	PAGE (3) Page 1 of 3
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TITLE (4)
Steam Generator Tube That Exceeded Plugging Criteria Remained In-Service

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
11	20	2001	2001	003	00	01	18	2002	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9) 6	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)									
POWER LEVEL (10) 000	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)(vi)	50.73(a)(2)(i)(C)	50.73(a)(2)(viii)(A)							
20.2203(a)(3)(i)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(B)								

LICENSEE CONTACT FOR THIS LER (12)

NAME: Kenneth W. Frehafer TELEPHONE NUMBER (include Area Code): (561) 467 - 7748

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)

YES (If yes, complete EXPECTED SUBMISSION DATE). X NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On November 20, 2001, St. Lucie Unit 2 was in Mode 6, shutdown for the SL2-13 refueling outage. During steam generator (SG) eddy current testing, FPL determined that an error was made during the previous refueling SG eddy current testing that allowed a defect in a steam generator tube (Row 118 Column 64) to remain in service during Cycle 12 operation.

This event was caused by personnel error and a failure to follow procedures. Corrective actions included plugging of the subject tube, with any process enhancements to be made once the root cause determination is completed. In situ pressure testing during the SL2-13 outage demonstrated that the defective tube met the structural integrity and accident induced leakage performance criteria of NEI 97-06, "Steam Generator Program Guidelines." Therefore, there was no impact to the health and safety of the public.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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

Description of the Event

On November 20, 2001, St. Lucie Unit 2 was in Mode 6, shutdown for the SL2-13 refueling outage. During steam generator (SG) eddy current testing, FPL determined that an error was made during the previous refueling SG eddy current testing. During the previous April 2000 SG inspection, an indication was identified by bobbin coil testing at the second hot leg tube support in the 2B SG (Row 118 Column 64). Subsequently, FPL performed a diagnostic inspection with a rotating Plus Point probe. No defect was detected and the tube remained inservice. During the November 2001 steam generator inspection, FPL again performed a Plus Point diagnostic test after the same indication was reported during bobbin coil testing, and this time the rotating probe confirmed the presence of a defect in this tube. FPL determined upon review of the history that the diagnostic examination performed during the Spring 2000 outage was performed in the wrong tube, and that the defect in Row 118 Column 64 was allowed to remain in service during Cycle 12 operation.

An in-situ pressure test was satisfactorily performed on the tube, and the subject tube was plugged.

Cause of the Event

This event was caused by personnel error and a failure to follow procedure. Steam generator data acquisition is performed under contract by Westinghouse personnel. Westinghouse reviewed the inspection information from the 2000 inspection and determined that the error was introduced when position verification steps were improperly performed or missed during the process. The eddy current acquisition procedure requires that a position verification of the robot be performed both before and after a diagnostic examination. In this case, review of the data revealed that the pre-examination position verification was performed, but the results were incorrect. Additionally, the procedurally required post-examination position verification was not performed. Westinghouse performed a position verification compliance review of the eddy current data acquired during the Fall 2001 refueling outage. The result showed that all SG tubes required to be tested were tested as planned. Any additional corrective actions will be as specified once the root cause determination is complete.

Analysis of the Event

This event is reportable under 10 CFR 50.73(a)(2)(i)(B) as any operation or condition prohibited by the Technical Specifications. Technical Specification 3.4.5 states that each steam generator shall be operable. The applicable ACTION statement states that with one or more steam generators inoperable restore the inoperable generator(s) to operable status prior to increasing T_{avg} above 200°F. Technical Specification Surveillance 4.4.5.0 states that each steam generator shall be demonstrated operable by performance of required augmented inservice inspection program. Contrary to Technical Specifications, St. Lucie Unit 2 exceeded 200°F without establishing the operability of the steam generators by surveillance requirements. Although the in-situ pressure test performed during the Fall 2001 outage concluded that the degraded SG tube was capable of performing its safety function, this event was not solely due to a late surveillance (i.e., the previous surveillance was inadequately performed).

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

Analysis of Safety Significance

The subject SG tube (Row 118 Column 64) was in-situ pressure tested to demonstrate that the structural integrity and accident induced leakage performance criteria of NEI 97-06 (Steam Generator Program Guidelines) were maintained. The tube passed in-situ pressure testing without any leakage or burst. This effectively demonstrated that the 2B SG was capable of performing its intended safety function during Cycle 12 operation.

Westinghouse performed a detailed review of the entire inspection effort for the SL2-13 outage to ensure that no position verification steps were missed. Any tubes potentially affected by deviations from the position verification process were thoroughly investigated by reviewing the position tracking logs and the analysis records, as appropriate. No additional encode problems were identified.

Based on the satisfactory in-situ pressure testing, performance of 100 percent eddy current testing during the SL2-13 outage, and subsequent process verification, FPL concludes that this event had no impact on the health and safety of the public.

Corrective Actions

1. The November 2001 inspection and tube plugging was completed under WO# 31002187 Task A (S/G 2A) and Task B (S/G 2B).
2. Any additional corrective actions will be as specified by the ongoing root cause determination. The ongoing root cause evaluation will provide a detailed review of all barriers in place to avoid encode errors, and identify where the breakdown(s) occurred. In addition, the evaluation will address why the corrective actions put in place after the missed encode issue identified under LER 50-389/1998-008-00 did not prevent recurrence of this problem.

Additional Information

Failed Components Identified

None

Similar Events

LER 50-389/1998-008-00, "Missed Technical Specification Steam Generator U Tube Inspection."