Florida Power & Light Company, 6501 South Ocean Drive, Jensen Beach, FL 34957

November 6, 2002

L-2002-217
10 CFR § 50.73

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

Re: St. Lucie Unit 1
Docket No. 50-335
Reportable Event: 2002-001-00
Date of Event: September 28, 2002
As-Found Cycle 17 Main Steam Safety Valve
Setpoints Outside Technical Specification Limits

The attached Licensee Event Report 2002-001 is being submitted pursuant to the requirements of 10 CFR § 50.73 to provide notification of the subject event.

Very truly yours,

Donald E. Jernigan
Vice President
St. Lucie Nuclear Plant

DEJ/KWF

Attachment

IE22

NRC FORM 366 (1-2001) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 6-30-2001

Estimated burden per response to comply with this mandatory information collection request 50 hrs Reported lessons learned are incorporated into the licensing process and fed back to industry Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U S Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503 If an 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

LICENSEE EVENT REPORT (LER)

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

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St. Lucie Unit 1	05000335	Page 1 of 4

TITLE (4)

As-Found Cycle 17 Main Steam Safety Valve Setpoints Outside Technical Specification Limits

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
9	28	2002	2002	- 001	- 00	11	6	2002	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	1
POWER LEVEL (10)	45

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	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	TELEPHONE NUMBER (Include Area Code)
Kenneth W. Frehafer, Licensing Engineer	(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
X	SB	RV	C710	NO	-	-	-	-	-

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)

On September 28, 2002, St. Lucie Unit 1 was in Mode 1 and holding at approximately 68 percent reactor power for Technical Specification testing of the main steam safety valves setpoints. Two main steam safety valves lifted outside the Technical Specification limits of +1 percent to -3 percent. Main steam safety valves V8203 and V8214 failed low by small deviations.

The cause of the low as-found setting was setpoint drift. V8203 and V8214 were overhauled and reinstalled during the refueling outage.

Operation of the facility with the as-found setting was within analytical bounds. Therefore, this event had no impact on the health and safety of the public.

Description of the Event

On September 28, 2002, St. Lucie Unit 1 was in Mode 1 and holding at approximately 68 percent reactor power for Technical Specification testing of the main steam safety valves (MSSVs) setpoints. Two MSSVs met their Technical Specification as-found set pressure requirements and two valves (V8203 and V8214) failed low by small deviations. Technical Specifications (TS) require the as-found set pressure to be within a tolerance of +1 percent and -3 percent of their set point of 1000 psia (lower bank) and 1040 psia (upper bank).

Valve	Serial Number	Train	Set Pressure (psig)	As-Found Lift Pressure (psig)	TS Lift Setting Limits (+1%, -3%) (psig)	Set Pressure Deviation (psi / % of setpoint)
V8203	N55128-00-0003	A	985.3	954.9	$\geq$ 955.3 and < 995.3	0.4 psi low / -3.0854%
V8206	N55128-00-0006	B	985.3	988.4	$\geq$ 955.3 and < 995.3	Passed / +0.0032%
V8209	N55128-00-0009	A	1025.3	1034.7	$\geq$ 994.1 and < 1035.7	Passed / +0.0092%
V8214	N55128-00-0014	B	1025.3	993.9	$\geq$ 994.1 and < 1035.7	0.2 psi low / -3.0625%

As the as-found lift pressures of two valves were outside of the TS tolerance limit (TS table 4.7-1), an evaluation is required to assess the potential impact on plant safety analysis and operation during cycle SL1-17.

Cause of the Event

Apparent cause of the deviation is setpoint drift. Since no valve exceeded a 3 percent positive tolerance of set pressure, a formal root cause is not required by ASME/ANSI OM-1987, Part 1. Per ASME/ANSI OM-1 1.3.3.1(e)(2) and Code Interpretation 92-8, a Class 1 pressure relief valve with an as-found setpoint outside the acceptance range of the setpoint on the minus side is not considered a failure.

Procedure ADM-29.02, "ASME Code Testing of Pumps and Valves," generally requires additional testing for valves failing the negative tolerance criteria based upon system functional issues resulting from relief valve seat leakage and premature lift. Per ADM-29.02, additional testing of valves failing the negative tolerance acceptance criteria may be waived or altered based on an evaluation of the as-found test pressure, valve inspection, system requirements and historical records. The test expansion was waived based on the acceptable results of the other valve tests with respect to ASME criteria, the absence of recent problems with MSSV seat leakage and premature lift, and the insignificance of the small negative deviations. The small negative deviations have no practical significance and is not indicative of a generic trend or failure mode.

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 plant's Technical Specifications."

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

Analysis of Safety Significance

The MSSVs must open to provide overpressure protection for the steam generators and relief capacity to remove decay heat. Plant power level and Reactor Trip Setpoints were reduced to 66 percent to allow continued operation with two MSSVs out of service on each train. Since no more than one valve per train was out of service and the Reactor Trip Setpoints were properly adjusted, there were no operability concerns during the performance of the surveillance.

Four St. Lucie Unit 1 MSSVs were tested per Plant Procedure 1-MSP-08.07. Two MSSVs met their Technical Specification as-found set pressure requirements and two valves failed low by small deviations. The only FSAR analyzed events that could potentially be affected by the deviations in the MSSV setpoints are the loss of external load (LOEL) and the small break LOCA (SBLOCA).

The loss of external load event, including the case of inoperable MSSVs, relies on the MSSVs to release the system energy to prevent the primary and the secondary side pressures from exceeding the overpressurization criteria. The analysis of the event conservatively assumes the MSSVs begin to open at the TS allowed maximum lift pressure corresponding to a tolerance of +1 percent. Opening the valves at a pressure lower than that assumed in the safety analysis would be beneficial for this transient and the results would remain bounded by the FSAR results.

In the analysis of the small break LOCA event, it is assumed that the MSSVs begin to open at a lift pressure corresponding to a tolerance of +3 percent. The as-found set pressures therefore would not have any adverse impact on the small break LOCA analysis results, as presented in the FSAR.

Other FSAR events, including the steam generator tube rupture (SGTR) event, are not impacted by the variations in the MSSV lift pressure. The SGTR event analyzed in the FSAR conservatively assumes the opening of the atmospheric dump valves (ADVs) to release the steam from the ruptured steam generators. The identified MSSVs setpoint pressure deviations thus would not impact the FSAR conclusions for this event.

The opening of the MSSVs at pressures lower than the lift pressure corresponding to -1 percent tolerance is thus determined to have no adverse impact on the safety analysis, including deviations outside -3 percent. A much lower negative valve tolerance limit, though acceptable from safety analysis considerations, may have operational impact as the margin to operating pressure is reduced. There are no operational concerns related to the as-found lift-pressures, as these pressures have only minor deviations compared to the negative tolerance limit.

In summary, the MSSVs as-found set pressure values were outside the tolerance limits specified in the St. Lucie Unit 1 TS table 4.7-1. The degraded condition did not compromise plant safety. The evaluation performed using the as-found setpoints concludes that Cycle 17 operation has remained within the design basis of the plant for all analyzed FSAR events. No safety criteria would have been violated due to the identified condition of the MSSVs. The condition is considered to be neither outside the design basis of the plant nor an unanalyzed condition that significantly compromises plant safety. Therefore, this event had no adverse effects on the health and safety of the public.

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

Corrective Actions

1. V8203 has been removed, shipped offsite, reworked, re-certified, and reinstalled during the St. Lucie Unit 1 SL1-18 refueling outage via WO 31015590.
2. V8214 has been removed, shipped offsite, reworked, re-certified, and reinstalled during the St. Lucie Unit 1 SL1-18 refueling outage via WO 31015589.

Additional Information

Failed Components Identified

None

Similar Events

LER 50-335/1999-004-00, "Main Steam Safety Valves Surveillance Outside Technical Specification Requirements."

LER 50-389/2001-002-00, "As-Found Cycle 12 Main Steam Safety Valve Setpoints Outside Technical Specification Limits."