



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

December 15, 2005

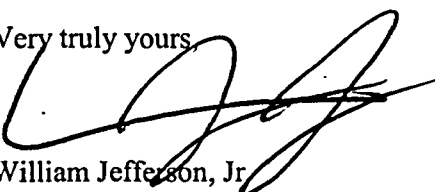
L-2005-245
10 CFR § 50.73

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

Re: St. Lucie Unit 1
Docket No. 50-335
Reportable Event: 2005-005-00
Date of Event: October 16, 2005
Multiple MSSV As-Found Setpoints Outside Technical Specification Limits

The attached Licensee Event Report 2005-005 is being submitted pursuant to the requirements of 10 CFR § 50.73 to provide notification of the subject event.

Very truly yours,



William Jefferson, Jr.
Vice President
St. Lucie Nuclear Plant

WJ/KWF

Attachment

IE22

LICENSEE EVENT REPORT (LER)

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

1. FACILITY NAME St. Lucie Unit 1	2. DOCKET NUMBER 05000335	3. PAGE Page 1 of 4
---	-------------------------------------	-------------------------------

4. TITLE
Multiple MSSV As-Found Setpoints Outside Technical Specification Limits

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
10	16	2005	2005	- 005	- 00	12	15	2005	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE 1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)									
	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
10. POWER LEVEL 68	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(iii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER							
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A							

12. LICENSEE CONTACT FOR THIS LER

NAME Kenneth W. Frehafer, Licensing Engineer	TELEPHONE NUMBER (include Area Code) (772) 467 - 7748
--	---

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X	SB	RV	C710	NO	-	-	-	-	-

14. SUPPLEMENTAL REPORT EXPECTED				15. EXPECTED SUBMISSION DATE		
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO		MONTH	DAY	YEAR

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

On October 16, 2005, 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. Three main steam safety valves, V8207, V8210, and V8212, lifted outside the Technical Specification limits of +1 percent to -3 percent.

The cause of the high as-found settings for V8210 and V8212 was setpoint drift, and either setpoint drift or micro-galling for V8207. V8210 and V8212 were adjusted, and V8207 was overhauled and reinstalled during the refueling outage.

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

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

1. FACILITY NAME	2. DOCKET NUMBER	6. LER NUMBER			3. PAGE
St. Lucie Unit 1	05000335	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	Page 2 of 4
		2005	- 005	- 00	

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

Description of the Event

On October 16, 2005, 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) [EII:SB:RV] setpoints. The valves are tested in-situ with an assist device. Three main steam safety valves, V8207, V8210, and V8212, lifted outside the Technical Specification limits of +1 percent to -3 percent. The as-found settings of V8207, V8210, and V8212 were 1013.9, 1043.9, and 1054.6 psig, respectively. These test results were above the Technical Specification acceptance criteria of 955.3 to 995.3 psig (V8207) and 994.1 to 1035.7 psig (V8210 and V8212) but within the 3 percent ASME threshold.

Confirmatory lift tests were performed for valves V8210 and V8212, and those valves were adjusted, successfully retested, and returned to service. No confirmatory lift test was performed for valve V8207 because it was removed for offsite overhaul at Wyle Labs.

Cause of the Event

The ANSI/ASME OM-1987, Part 1, code requires cause determination and corrective actions for any safety or relief valve that exceeds its nameplate set pressure by 3 percent or greater. Based on the as-found testing results, none of the valves exceeded this requirement. Thus, formal cause investigations as required by the ASME code are not required for V8207, V8210, and V8212.

Most safety valve setpoint failures are detected by testing. Out-of-tolerance lifting pressures may initially be attributed to "setpoint drift." Setpoint drift is the result of many variables and occurs gradually over time after the original equipment calibration. However, a failure to lift at the correct setpoint is not always due to setpoint drift. Corrosion bonding and micro galling of the seats have been common industry problems. In some causes, a second test (confirmatory lift) may be utilized to identify potential causes. If the valves confirmation lift is at or near the required setpoint, then the valve may have experienced corrosion bonding or micro galling. V8210 and V8212 were confirmatory lifted with the results being consistent with the as-found data and the valves were adjusted to achieve the required setpoint. Repeatability of the adjusted setpoints was confirmed by testing. This behavior indicates that setpoint drift is the most likely cause for these test failures. A confirmatory test was not performed on V8207 since it was being overhauled in accordance with the preventive maintenance (PM) program. Therefore, its high out of specification lift test may be attributed to micro galling of the seats or setpoint drift.

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."

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 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.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

1. FACILITY NAME	2. DOCKET NUMBER	6. LER NUMBER			3. PAGE
St. Lucie Unit 1	05000335	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	Page 3 of 4
		2005	- 005	- 00	

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

The valves failing the TS limits for set-pressure are the Bank 1 valve V8207 (Header B) for which the upper bound TS lift setpoint is 1000 psia + 1 percent, and Bank 2 valves V8210 and V8212 (Header A), for which the upper bound TS lift setpoint is 1040 psia + 1 percent. A review of the design basis accident analyses determined that deviations in the lift setpoints of these valves could potentially affect the analysis of events listed below. Since the valves that failed the surveillance criteria lifted outside the upper set-pressure specified in the Technical Specifications, the affected safety analyses were evaluated for the potential adverse impact.

Steam Generator Tube Rupture

The analysis of this event conservatively assumes the opening of atmospheric dump valves (ADVs) and thus MSSVs do not get actuated. The MSSV setpressures have no adverse impact on the SGTR event consequences.

Loss of Electric Load (LOEL)

For LOEL, the averaging of valve setpressures for small deviations of Bank 1 valves is acceptable, as long as this setpressure is well below the overpressurization limit. The analysis of this event assumed the Bank 1 valves to open at 1010 psia. The average setpressure of Bank 1 valves for this evaluation is 1010.5 psia, which is just above the opening pressure in the analysis. For Bank 2 valves, the analysis of this event assumed the valves to begin opening at 1050.4 psia. The average setpressure of Bank 2 valves is 1051.9 psia, which is just above the opening pressure in the analysis. The small change in the valve opening pressures is expected to have a minimal impact on the analysis results as compared to the available margin to the peak pressure criteria. The analysis of this event has used conservative steam generator tube plugging to maximize the over-pressurization. The current analysis results show a peak RCS pressure of 2714 psia (criterion of 2750 psia) and a peak secondary pressure of 1074 psia (criterion of 1100 psia). It is concluded that the UFSAR analysis remains bounding for the as-found setpressures of the MSSVs.

CEA Withdrawal

This event is bounded by the Loss of Load event from overpressurization considerations. The variations in the MSSV setpoints will not affect the relative overpressurization standing of these events. This event would continue to remain bounded by the Loss of Load for the identified as-found MSSV setpoints.

Small Break LOCA

The analysis of record for SBLOCA supports MSSV setpoint tolerance of +3 percent. The analysis of record thus would remain bounding for the as-found setpressures of MSSVs.

Asymmetric Steam Generator Transient

This event is bounded by the Loss of Load event from overpressurization considerations. The variations in the MSSV setpoints will not affect the relative overpressurization standing of these events. This event would continue to remain bounded by the Loss of Load for the identified as-found MSSV setpoints.

It is thus concluded that no safety analysis limits would have been violated for any of the UFSAR analyzed events.

The Unit 1 MSSVs are currently overhauled every 54 months. The Unit 2 MSSVs are currently overhauled every 72 months. The frequency difference is due to internal

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

1. FACILITY NAME	2. DOCKET NUMBER	6. LER NUMBER			3. PAGE
St. Lucie Unit 1	05000335	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	Page 4 of 4
		2005	- 005	- 00	

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

material differences and valve performance. These PM frequencies have been effective in maintaining the valve performance within the ASME required acceptance criteria. Therefore, this event had no adverse effects on the health and safety of the public.

Corrective Actions

1. Valves V8210 and V8212 were adjusted and retested per work order 34014127-01. COMPLETE
2. Valve V8207 was overhauled, recertified, and returned to service per work order 34014918-01.

Other Information

Similar Events

LER 50-335/2002-001-00, "As-Found Cycle 17 Main Steam Safety Valve Setpoints Outside Technical Specification Limits," documents multiple relief valve test failures during the SL1-18 refueling outage.

Failed Components

None