

CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9703280001 DOC. DATE: 97/03/18 NOTARIZED: NO DOCKET #
 FACIL: 50-335 St. Lucie Plant, Unit 1, Florida Power & Light Co. 05000335
 AUTH. NAME AUTHOR AFFILIATION
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 STALLS, J.A. Florida Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 97-001-00: on 970221, identified deficiencies in Post Accident Sampling Systems (PASS). Caused by failure of personnel to specify drawing update requirements. Added PASS to list of Maint Rule systems. W/970318 ltr.

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

March 18, 1997

L-97-74
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: 97-001
Date of Event: February 21, 1997
Operation Prohibited By Technical Specifications due to
Deficiencies in the Program for Post Accident Sampling

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

Very truly yours,

J. A. Stall
Vice President
St. Lucie Plant

JAS/EJB

Attachment

cc: Regional Administrator, USNRC Region II
Senior Resident Inspector, USNRC, St. Lucie Plant

9703280001 970318
PDR ADOCK 05000335
S PDR

FE221





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: 60.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-8 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20685-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3160-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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TITLE (4)
Operation Prohibited By Technical Specifications due to Deficiencies in the Program for Post Accident Sampling

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
02	21	97	97	001	00	03	18	97	St. Lucie Unit 2	05000389
									FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
POWER LEVEL (10)	100	20.2201(b)	20.2203(a)(2)(v)	X	50.73(a)(2)(i)	50.73(a)(2)(vii)				
		20.2203(a)(1)	20.2203(a)(3)(i)		50.73(a)(2)(iii)	50.73(a)(2)(x)				
		20.2203(a)(2)(i)	20.2203(a)(3)(ii)		50.73(a)(2)(iii)	73.71				
		20.2203(a)(2)(ii)	20.2203(a)(4)		50.73(a)(2)(iv)	OTHER				
		20.2203(a)(2)(iii)	50.36(a)(1)		50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A				
		20.2203(a)(2)(iv)	50.36(a)(2)		50.73(a)(2)(vii)					

LICENSEE CONTACT FOR THIS LER (12)	
NAME	TELEPHONE NUMBER (Include Area Code)
E. Benken, Licensing Engineer	(561) 467 - 7156

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS
X	IP	LI	I 130	N						

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)		
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) (16)

On February 21, 1997, St. Lucie Units 1 and 2 were operating at 100 percent reactor power. A review of the Units' Post Accident Sampling Systems (PASS) identified several deficiencies associated with those systems which, in the aggregate, represented a failure to satisfy the administrative requirements delineated in the plant Technical Specifications. The deficiencies involved design configuration control, post maintenance testing (PMT), and periodic maintenance. Additionally, the Unit 2 PASS was temporarily inoperable without aggressive corrective actions being pursued to return the system to operable status.

The cause of the PASS design control deficiencies was a failure of plant personnel to consistently specify drawing update requirements in plant change packages. Maintenance program inadequacies and the inoperability of the Unit 2 PASS were caused by the lack of clearly defined accountability for the PASS and insufficient reviews of the maintenance requirements related to the system.

Corrective Actions Include: 1) PASS was included as a Maintenance Rule system and a system engineer was assigned responsibility. 2) The Unit 2 PASS was returned to service and work controls associated with PASS are being improved to prioritize system maintenance. 3) A detailed system walkdown was performed to identify configuration discrepancies. 4) PMT requirements are being assessed to ensure adequacy. 5) Data base and labeling improvements are being made to facilitate future PASS maintenance. 6) Technical Manuals, UFSAR requirements and drawings are being reviewed to determine PASS preventive maintenance requirements. 7) Engineering process improvements are in place to enhance configuration control.



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

DESCRIPTION OF EVENT

On February 21, 1997, St. Lucie Units 1 and 2 were operating at 100 percent reactor power. NRC inspection activities which were conducted during the period from February 5, 1997 to February 21, 1997, along with inspections by FPL personnel, identified deficiencies associated with the Unit 1 and Unit 2 Post Accident Sampling Systems (PASS) (EIS:IP). The items identified were related to design configuration control of PASS at St. Lucie Units 1 and 2, and inadequacies in program requirements for maintenance of sampling and analysis equipment at St. Lucie Unit 2. A summary of the deficiencies which were identified is given below.

At St. Lucie Unit 1, a review of engineering documents, procedures and valve lineups associated with the PASS identified that a Plant Change/Modification (PCM), completed in 1992, did not properly identify that engineering drawing 8770-9520, Revision 0, required revision as a part of the PCM. This resulted in the drawing not depicting a valve which was installed in the system. Additional design control discrepancies were found which included an error on the PASS panel mimic display and a failure to update vendor technical manual drawing information. These items were identified as a result of the review performed by the NRC and FPL personnel.

At St. Lucie Unit 2, a similar review of the PASS was conducted which identified that engineering drawing 2998-G-078, Sheet 152, Revision 4, was not in agreement with the as-built configuration of the PASS. Additionally, it was determined that component calibration frequencies described in the Unit 2 Updated Final Safety Analysis Report (UFSAR), Table 9.3-10d, for a PASS panel alarm (EIS:IP:ALM) and a pressure instrument (PIA 503) (EIS:IP:PI) had not been performed as described in the UFSAR table. Post maintenance test (PMT) requirements associated with PASS were also reviewed which identified that system functional testing was not specifically required to verify proper system operation following calibration of PASS instrumentation.

On November 26, 1996, FPL Chemistry personnel, performing a periodic functional test, determined that the Unit 2 PASS was out of service due to inoperable level indication, and a work request was submitted for repair. The required repairs were not implemented expeditiously, and the system remained out of service until February 22, 1997.

St. Lucie Unit 1 PASS remained available for all required sampling functions during the above period, and the identified design control discrepancies on the Unit 1 PASS did not preclude operation or availability of that system. The Unit 2 PASS was returned to operable status on February 22, 1997, following maintenance to the system and the satisfactory completion of functional testing.

The deficiencies identified for the Unit 1 and Unit 2 Post Accident Sampling Systems and the failure to maintain the availability of the Unit 2 PASS to obtain and analyze samples represent a failure to satisfy the program requirements as stated in the St. Lucie Unit 1 and Unit 2 Technical Specification Administrative Controls.

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CAUSE OF THE EVENT

There were several causal factors contributing to the program deficiencies associated with the Unit 1 and Unit 2 Post-accident Sampling Systems. These are discussed below.

PASS flow diagram and mimic display errors resulted from the failure of FPL personnel to consistently specify the requirement for drawing updates in Plant Change/Modification (PCM) packages. On Unit 2, a flowpath error discovered during initial system construction was corrected on the local panel mimic; however, the information was not provided to design engineers for incorporation into the flow drawing. Additionally, vendor technical manuals for the PASS were not always identified as requiring an update when modifications were implemented. The above omissions resulted in discrepancies between actual system configuration, controlled documents, and mimic displays.

At St. Lucie Unit 2, the PASS was determined to be inoperable from November 26, 1996, to February 22, 1997, and several inadequacies were identified in the PASS preventive maintenance and post maintenance testing programs for both St. Lucie Units. The causes of these deficiencies were:

1. Specific accountability for the Post-accident Sampling Systems was not clearly defined and maintaining PASS availability was not adequately prioritized from a work control standpoint since the system is not safety related. As a result, equipment problems were not always corrected in an expeditious manner.
2. Preventive maintenance inadequacies resulted from an insufficient review of UFSAR and vendor technical manual requirements during PM development. A review of PASS maintenance during this event identified that not all UFSAR described preventive maintenance checks had been performed for the Unit 2 PASS.
3. Post maintenance test requirements associated with PASS instrument calibration were insufficiently specified in Plant Work Orders and therefore did not ensure that operability checks were consistently performed following maintenance to verify proper system operation.

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 (TS)." St. Lucie Unit 1 and Unit 2 Technical Specifications 6.8.4.e, require for Post-accident Sampling, "A program which will ensure the capability to obtain and analyze reactor coolant, radioactive iodines, and particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions. The program shall include the following:

- (i) Training of personnel,
- (ii) Procedures for sampling and analysis, and
- (iii) Provisions for maintenance of sampling and analysis equipment."

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ANALYSIS OF THE EVENT Continued

The deficiencies identified during inspection and review of the Unit 1 and Unit 2 Post-accident Sampling Systems, and the unavailability of the Unit 2 system, represent a failure to satisfy the above requirements and therefore a condition prohibited by TS.

The design control discrepancies identified for the Unit 1 and Unit 2 Post-accident Sampling Systems did not impact the operability of those systems. For St. Lucie Unit 1, the PASS continued to be operable for all required sampling functions.

For St. Lucie Unit 2, the PASS was declared out of service on November 26, 1996, as a result of inoperable level instrumentation required for obtaining a diluted reactor coolant sample following an accident. This sample is used to obtain post accident reactor coolant gross activity for core damage assessment and reactor coolant boron concentration. System loop calibrations for the level instrumentation had been performed on August, 26, 1996, however a full system operability check was not required, following completion of the calibrations. The ability to obtain an undiluted liquid sample of the reactor coolant using the PASS was not affected by the inoperable level instrumentation, and reactor coolant gross activity and boron could have been determined using an undiluted sample.

Following repair of the inoperable level indication on January 28, 1997, the Unit 2 PASS remained out of service pending calibration of an internal hydrogen analyzer used for measuring dissolved hydrogen in the reactor coolant post accident. The analyzer calibration was completed and the PASS was returned to operable status following satisfactory functional testing on February 22, 1997. The ability to obtain and measure hydrogen concentration from reactor coolant using the normal (non-accident) sampling system was not affected by the inoperability of the analyzer.

The Post-Accident Sampling Systems at St. Lucie Unit 1 and 2 provide a means to obtain and analyze pressurized and unpressurized, diluted and undiluted reactor coolant samples and containment building samples (Unit 2 only). The systems are designed to simplify the operational requirements for collecting post-accident reactor coolant chemistry and radiochemistry information while minimizing radiological exposure to plant personnel. The St. Lucie Unit 1 and 2 Post-accident Sampling Systems are not safety related and are not required for the safe shutdown of the plant. The operability of the Unit 1 PASS was not impacted by this event and backup methodologies were available on Unit 2 for obtaining necessary samples following an accident. The protection of the health and safety of the public was therefore not adversely affected by the event.

CORRECTIVE ACTIONS

1. The Post-Accident Sampling Systems at St Lucie Unit 1 and 2 were added to the list of Maintenance Rule systems and have been assigned indicators for trending the performance and maintenance of the systems. Additionally, a system engineer has been assigned the accountability to monitor PASS performance and system modifications, and to assist in improving overall reliability.



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CORRECTIVE ACTIONS Continued

2. Recent changes in engineering processes promote an enhanced emphasis on the comprehensive identification and verification of documents (i.e. drawings, UFSAR, vendor manuals, etc.) affected by plant modifications.
3. A Condition Report was issued to assess and improve the prioritization of work controls associated with the Unit 1 and Unit 2 PASS so that system availability is adequately maintained.
4. A detailed walkdown of each Unit's PASS was performed to identify existing design configuration discrepancies. The identified discrepancies will be corrected on applicable drawings, including vendor drawings, and mimic panels in the field.
5. Post maintenance testing requirements for the Unit 1 and Unit 2 PASS are being reviewed to ensure that adequate functional testing is performed following preventive and corrective maintenance.
6. Additional PASS components are being added to the Total Equipment Data Base (TEDB) and improvements in system labeling are being made to better facilitate maintenance processes.
7. A detailed review is being performed of the Vendor Technical Manuals, UFSAR requirements, and controlled drawings related to PASS to identify the preventive maintenance (PM) requirements for applicable components. Additional preventive maintenance requirements will be developed as necessary, based on this review.

ADDITIONAL INFORMATION

Failed Components Identified

Equipment: PASS Level Indicators
 Manufacturer: International Instruments
 Model: 9263X-00-D

Previous Similar Events

None