B 8/16/78

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)
DISTRIBUTION FOR INCOMING MATERIAL 50-335

REC: OREILLY J P
NRC

ORG: SCHMIDT A D
FL PWR & LIGHT

DOCDATE: 08/08/78
DATE RCVD: 08/15/78

DOCTYPE: LETTER NOTARIZED: NO

COPIES RECEIVED
LTR 1 ENCL 1

SUBJECT:
UPDATE TO LICENSEE EVENT REPT 50-335/78-11 ON 04/15/78 CONCERNING REMOVAL OF THE UPPER GUIDE STRUCTURE AND THREE(3) OF THE 45 INCORE INSTRU THIMBLES REMAINED IN THE CORE.

PLANT NAME: ST LUCIE #1

REVIEWER INITIAL: XBT
DISTRIBUTOR INITIAL:

********** DISTRIBUTION OF THIS MATERIAL IS AS FOLLOWS **********

INCIDENT REPORTS
(DISTRIBUTION CODE A002)

FOR ACTION: ~~BR CHIEF~~ ORB#4 BC**W/4 ENCL

INTERNAL:
~~REG FILE~~**W/ENCL
I & E**W/2 ENCL
I & C SYSTEMS BR**W/ENCL
NOVAK/CHECK**W/ENCL
AD FOR ENG**W/ENCL
HANAUER**W/ENCL
AD FOR SYS & PROJ**W/ENCL
ENGINEERING BR**W/ENCL
KREGER/J. COLLINS**W/ENCL
K SEYFRIT/IE**W/ENCL
NRC PDR**W/ENCL
MIPC**W/3 ENCL
EMERGENCY PLAN BR**W/ENCL
EEB**W/ENCL
PLANT SYSTEMS BR**W/ENCL
AD FOR PLANT SYSTEMS**W/ENCL
REACTOR SAFETY BR**W/ENCL
VOLLMER/BUNCH**W/ENCL
POWER SYS BR**W/ENCL

EXTERNAL:
LPDR'S
FT PIERCE, FL**W/ENCL
TIC, LIZ CARTER**W/ENCL
NSIC**W/ENCL
ACRS CAT B**W/16 ENCL

DISTRIBUTION: LTR 45 ENCL 45
SIZE: 3P

CONTROL NBR: 782230311

A0 4/6D

********** THE END **********

REGULATORY DOCKET FILE COPY

FLORIDA POWER & LIGHT COMPANY

August 8, 1978

PRN-LI-78-215

Mr. James P. O'Reilly, Director, Region II
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
230 Peachtree Street, N. W., Suite 1217
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

REPORTABLE OCCURRENCE 335-78-11
ST. LUCIE UNIT 1
DATE OF OCCURRENCE: MARCH 26, 1978

INCORE INSTRUMENT THIMBLES
UPDATE REPORT NO. 1

The attached Licensee Event Report is being submitted to update our initial report of April 28, 1978.

Very truly yours,

for J R Benson
A. D. Schmidt
Vice President
Power Resources

MAS/cpc

Attachment

cc: Harold F. Reis, Esquire
Director, Office of Inspection and Enforcement (40)
Director, Office of Management Information and Program Control (3)

782230311

A002 S/1

LICENSEE EVENT REPORT

Initial Report
April 28, 1978

UPDATE #1

CONTROL BLOCK: [ ] (1–6)

(PLEASE PRINT ALL REQUIRED INFORMATION)

	LICENSEE NAME	LICENSE NUMBER	LICENSE TYPE	EVENT TYPE
01	FLSLS1	00-00000-00	4111 1	01
7–8	9–14	15–25	26–30	31–32

	CATEGORY	REPORT TYPE	REPORT SOURCE	DOCKET NUMBER	EVENT DATE	REPORT DATE
01 CONT		T	L	05 0-0335	04 15 78	08 08 78
7–8	57–58	59	60	61–68	69–74	75–80

EVENT DESCRIPTION

02 When the Upper Guide Structure (UGS) was removed (refueling shutdown), 3 (of 45) incore
03 instrument thimbles (or scabbards) remained in the core. All three showed evidence
04 that a clean separation (no loose pieces) had occurred before plant cooldown. Each
05 seperation was at the point of attachment to the UGS instrument plate. These thimbles
06 are not pressure boundaries; they act as "bushings" to support the incore detectors and

	SYSTEM CODE	CAUSE CODE	COMPONENT CODE	PRIME COMPONENT SUPPLIER	COMPONENT MANUFACTURER	VIOLATION
07	RA	B	XXXXXX	N	C490	N
7–8	9–10	11	12–17	43	44–47	48

CAUSE DESCRIPTION

08 An investigation to determine the cause of the broken thimbles was performed by the
09 vendor. Results of the investigation show that the thimbles fractured by fatigue
10 at a location where stresses were concentrated due to the deep thread at the end of the

	FACILITY STATUS	% POWER	OTHER STATUS	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION
11	H	000	N/A	A	N/A
7–8	9	10–12	13–44	45	46–80

	FORM OF ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY	LOCATION OF RELEASE
12	Z	Z	N/A	N/A
7–8	9	10	11–44	45–80

PERSONNEL EXPOSURES

	NUMBER	TYPE	DESCRIPTION
13	000	Z	N/A
7–8	9–11	12	13–80

PERSONNEL INJURIES

	NUMBER	DESCRIPTION
14	000	N/A
7–8	9–11	12–80

PROBABLE CONSEQUENCES

15 These thimbles are not a pressure boundary.

LOSS OR DAMAGE TO FACILITY

	TYPE	DESCRIPTION
16	Z	N/A
7–8	9	10–80

PUBLICITY

17 N/A

ADDITIONAL FACTORS

18 See Page 2 for continuation of Event and Cause Descriptions.

19

NAME: M. A. Schoppman PHONE: (305) 552-3802

GPO 881-667

Event Description (continued)

to prevent detector movement in the fuel assembly CEA guide tubes. Although evidence showed that the thimbles separated before the plant shutdown, there was no effect on plant operation because the associated detectors were still fully operable and the system is designed with a high degree of redundancy. The thimbles were repaired and returned to service. This is the first event of its type at St. Lucie. (335-78-11)

Cause Description (continued)

extension tube (mechanical stresses) and the fillet weld over the threaded portion (residual and mechanical stresses). The repair of the broken thimble has been conducted to assure resistance to this type of fatigue failure.

Although it is possible that one or more thimbles of the type that did break could break during future operation, the vendor does not have any information that this will occur. This identical design is used in one other vendor plant that has been in operation six months longer than St. Lucie 1 and has had no failures. The vendor has evaluated the mechanical implications of one or more thimbles breaking during operation and has determined that the thimble is completely entrapped in its guide path, so that even though broken it cannot migrate to another location and cause damage to fuel or other components.

Although the three thimbles appear to have been broken for a period of time prior to shutdown, all three in-core instruments in those positions were still functioning. Due to the redundance of the in-core instrument system, the loss of one or more instruments could be tolerated even if the broken ICI thimble caused the in-core instrument to fail. In addition, operation with failed in-core detectors is a reviewed issue addressed by technical specifications.