

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9205050292 DOC. DATE: 92/04/28 NOTARIZED: NO DOCKET #
 FACIL: 50-335 St. Lucie Plant, Unit 1, Florida Power & Light Co. 05000335
 50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co. 05000389
 AUTH. NAME AUTHOR AFFILIATION
 BOHLKE, W.H. Florida Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION
 Document Control Branch (Document Control Desk)

SUBJECT: Submits rept concerning 3 inch Monel 400 socket weld tee fittings.

DISTRIBUTION CODE: IE19D COPIES RECEIVED: LTR (ENCL /) SIZE: *cf*
 TITLE: Part 21 Rept (50 DKT)

NOTES:

	RECIPIENT ID CODE/NAME	COPIES	L	T	R	ENCL	RECIPIENT ID CODE/NAME	COPIES	L	T	R	ENCL
	PD2-2 LA	1				0	PD2-2 PD	1				1
	NORRIS, J	1				1						
INTERNAL:	AEOD/DSP/ROAB	1				1	NRR/DOEA/OGCB11	2				2
	NRR/DRIS/RVIB9D	1				1	<u>REG FILE</u> 01	1				1
	RES/DSIR/EIB	1				1	RGN1	1				1
	RGN2	1				1	RGN3	1				1
	RGN4	1				1	RGN5	1				1
	SECY VANDERMEL	1				1						
EXTERNAL:	INPO RECORD CTR	1				1	NRC PDR	1				1
	NSIC SILVER, E	1				1						

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,
 ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION
 LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTR 18 ENCL 17

JAL

R
I
D
S
/
A
D
D
S



FPL

P.O. Box 14000, Juno Beach, FL 33408-0420

APR 28 1992

L-92-119
10 CFR 21

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

Re: St. Lucie Units 1 & 2
Docket Nos. 50-335 & 50-389
10 CFR 21 - Reporting of Defects and Noncompliance

In accordance with 10 CFR 21.21 (c)(3)(ii), Florida Power & Light Company (FPL) submits the attached report concerning three (3) inch Monel 400 socket weld tee fittings. The attached represents St. Lucie Plant's final report on this issue.

Should you need additional information concerning the plant-specific nature of this report, please contact us. The firm (see attached) that supplied the tee fittings to FPL is continuing its root cause evaluation. Any other questions concerning this evaluation should be directed to the firm at the address provided in the attached report.

Very truly yours,

W.H. Bohlke
Vice President
Nuclear Engineering and Licensing

WHB/MSD/vmg
Attachment

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

9205050292 920428
PDR ADCK 05000335
PDR

an FPL Group company

IE19
11

1952 1953

10CFR21 - REPORTING OF DEFECTS AND NONCOMPLIANCE

I. NAME AND ADDRESS OF INDIVIDUALS INFORMING NRC

W. H. Bohlke, Vice President Nuclear Engineering and
Licensing
Florida Power & Light Company (FPL)
P.O. Box 14000
Juno Beach, FL 33408

II. NAME OF FACILITY/ACTIVITY/BASIC COMPONENT

St. Lucie Units 1 & 2 Docket Nos. 50-335 & 50-389
3" Monel 400 Socket Weld Tee Fittings, ASME SB564
Heat Code MA, Heat Number 52623
FPL Purchase Order Number 90932-92836

III. NAME OF FIRM SUPPLYING COMPONENT

Tioga Pipe Supply Company, Inc.
2450 Wheatsheaf Lane
P.O. Box 5997
Philadelphia, PA 19137

IV. NATURE OF DEFECT/SAFETY HAZARD

A. DEFECT: Crack-like indications were found in a 3" Monel 400 tee fitting during fabrication of a replacement spool section for Intake Cooling Water (ICW) piping for St. Lucie Unit 1. On January 30, 1992, the FPL Nuclear Division Metallurgical Laboratory concluded that the material of the forged tee did not meet mechanical requirements of the ASME SB564 specification to which the material was certified, nor did it compare to the results reported on the Certified Material Test Report (CMTR) provided by the supplier. Actual test results on the tee indicate that the tensile strength and elongation did not meet ASME Section II, Part B material specification SB564 requirements.

	TENSILE (psi)	YIELD (psi)	ELONGATION
ASME SB564	70,000 Min.	25,000 Min.	35% Min.
CMTR	84,000	37,600	43%
Tee	44,900	31,500	9%



The data suggest to FPL that the forging process may have been conducted improperly. However, Tioga Pipe Supply Company is continuing its root cause evaluation.

- B. SAFETY HAZARD: Five (5) of the tees were to be installed, as part of prefabricated spool replacement, in the safety-related Quality Group C ICW Pump Lube Water System. A postulated non-ductile failure of the tees combined with failure of a redundant ICW train, under accident conditions, could have resulted in loss of the ultimate heat sink. As described in VI below, no tees of this heat were installed in either unit.
- C. VENDOR FINDINGS: The six (6) tees (heat code MA) returned to the material supplier (Tioga Pipe Supply Company) and the one (1) as-forged solid were subjected to non-destructive testing (NDE) and destructive testing (tension test) with the following results:
1. Liquid penetrant testing:
 - a. One (1) specimen contained no relevant indications.
 - b. Six (6) specimens contained relevant indications.
 2. Tensile testing:
 - a. Three (3) specimens met ASME SB564 (UNS04400) mechanical requirements.
 - b. Four (4) specimens did not meet ASME SB564 (UNS04400) mechanical requirements.

	TENSILE (psi)	YIELD (psi)	ELONGATION
ASME SB564	70,000 Min.	25,000 Min.	35% Min.
S/N 1	78,841	55,072	*27.4%
S/N 2	74,175	38,447	39.6%
S/N 3	72,786	34,669	*33.2%
S/N 4	73,226	34,770	36.6%
S/N 5	*65,932	37,074	*19.6%
S/N 6	*66,192	33,267	*24.0%
S/N 7	73,367	29,359	47.2%

* Does not meet specification requirements

VENDOR CONCLUSION: Material in this heat lot has been confirmed by Tioga Pipe Supply Company to be defective. Tioga Pipe Supply Company will continue its root cause investigation.

V. DATE OF DISCOVERY OF DEFECT

The defect was discovered on January 30, 1992 when the FPL Nuclear Division Metallurgical Laboratory concluded that the material was not in accordance with the material specification referenced in IV (A) above.

VI. NUMBER AND LOCATION OF COMPONENTS

- A. No 3" Monel 400 socket weld tees of this heat are installed in safety-related systems at either St. Lucie Units 1 or 2.
- B. Seven tees were received on FPL Purchase Order 90932-92836. One tee was used in the fabrication described in IV (A) above. The six additional tees of this heat were returned to the material supplier.

VII. CORRECTIVE ACTION

- A. Fabrication was suspended and metallurgical examinations were conducted. Six additional tees of the same heat were returned by FPL to the material supplier. Corrective action is complete.
- B. A review of installed Monel fittings was performed by Engineering and Maintenance. FPL Welding, NDE and testing programs require completed welds to receive a liquid penetrant inspection after completion and leak testing prior to service. The installed Monel fittings meet these criteria. Therefore these installations are acceptable.
- C. 1" and greater Monel fittings in St. Lucie Plant stores were placed on hold pending satisfactory external PT examination prior to use.
- D. The material supplier (Tioga Pipe Supply Company) has completed testing of the 6 returned tee's (heat code MA) and 1 as-forged solid. Material in this heat lot has been confirmed by Tioga Pipe Supply Company to be defective. The material supplier is continuing his root cause analysis to determine if any further actions are required.
- E. Until the root cause investigation and preventative action have been completed by the material supplier, the FPL procurement process has been modified to specify that 1" and greater Monel fittings will receive an external PT examination by the supplier prior to shipment.

VIII. OTHER INFORMATION

FPL reported this information on the INPO NUCLEAR NETWORK on April 1, 1992.