CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9603040329 DOC.DATE: 96/02/27 NOTARIZED: NO DOCKET #
FACIL:50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251
AUTH.NAME AUTHOR AFFILIATION
HOVEYR.J. Florida Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
Document Control Branch (Document Control Desk)

SUBJECT: Provides response to request for addl info re GL 95-03, "Circumferential Cracking of SG Tubes."

DISTRIBUTION CODE: A001D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 4
TITLE: OR Submittal: General Distribution

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD2-1 LA	1	1	PD2-1 PD	1	1
	CROTEAU,R	1	1			
INTERNAL:	FILE CENTER 01	1	1	NRR/DE/EMCB	1	1
	NRR/DRCH/HICB	1	1	NRR/DSSA/SPLB	1	1
	NRR/DSSA/SRXB	1	1	NUDOCS-ABSTRACT	1	1
	OGC/HDS3	1	0			
EXTERNAL:	NOAC	1	1	NRC PDR	1	1

NOTE TO ALL "RIDS" RECIPIENTS:
PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM OWFN 5D-5(EXT. 415-2083) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 12 ENCL 11

MAY

CATEGORY 1 DOCUMENT

FPL

FEB 27 1996

L-96-038

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

Gentlemen:

Re: Turkey Point Unit 4
Docket No. 50-251
Generic Letter 95-03 - Circumferential
Cracking of Steam Generator Tubes

By letter L-95-303, dated January 16, 1996, Florida Power and Light Company (FPL) informed you of a change in plans with respect to inspection of the Turkey Point Unit 4 steam generators during the Cycle 16 refueling outage currently scheduled to start in March 1996. The purpose of this letter is to provide in the attachment additional information as requested by members of the NRC staff.

Should there be any questions, please contact us.

Very truly yours,

D.E. Jernigan for
Robert J. Hovey
Vice President
Turkey Point Plant

Attachment

cc: S. D. Ebneter, Regional Administrator, Region II, USNRC
T. P. Johnson, Senior Resident Inspector, USNRC, Turkey Point Plant

9603040329 960227
PDR ADOCK 05000251
P PDR

040111

A001

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION GENERIC LETTER 95-03, CIRCUMFERENTIAL CRACKING OF STEAM GENERATOR TUBES

NRC QUESTION 1

Does Turkey Point have an established administrative leak rate limit at which time the plant will be shutdown?

FPL RESPONSE

Turkey Point Plant Procedure 3/4-ONOP-067, Radioactive Effluent Release, addresses a steam generator tube leak. This procedure requires plant shutdown upon exceeding any Technical Specification limit. Upon experiencing any steam generator tube leakage, management notification is required in step 7 of this procedure. Any steam generator tube leakage is considered by Turkey Point management to be a serious challenge to the safe operation of the plant. This procedure will be revised to provide clarification and additional guidance for plant shutdown based on primary to secondary leak rates. The procedure revision will be completed by April 30, 1996.

NRC QUESTION 2

Is AVB wear the only degradation observed at Turkey Point? If not, what other degradation mechanisms have been observed (e.g., loose parts wear, unknown, etc.)

FPL RESPONSE

While no tubes have been plugged due to U-bend anti-vibration bar (AVB) wear at Turkey Point Unit 4, AVB wear is the only inservice related degradation observed. FPL has plugged two tubes since start up with the replacement Model 44F steam generators at Turkey Point Unit 4. One tube was plugged in the 4A steam generator in 1988 when a hose clamp was caught inside the tube, and attempts to remove it were unsuccessful. Based on retrieval efforts, it was determined that the clamp was lodged within the hot leg tubesheet region. Turkey Point has since reviewed and improved access control and tool accountability procedures.

Another steam generator tube located in row 8, column 81, was plugged in steam generator 4B in 1991 due to a restriction located approximately two inches below the secondary face of the

hot leg tubesheet. A 1/2" probe wand was passed through the restricted area. Eddy current testing (ECT) inspection of the region, however, was not possible. A Welch-Allyn probe inspection showed that no foreign object was present in the tube, and that minor irregularities were present in the tube inside surface dimension. Prior inspection data shows this tube passed a standard size probe (.720") during pre-service inspection, and the maximum size passed in 1988 (the first 100% inservice inspection) was a .650" probe. No other tubes in the Unit 4 steam generators have been affected by restrictions at the top of the tubesheet.

One other tube located in steam generator row 41, column 51, was plugged in steam generator 3A during preservice inspections due to manufacturing damage near the secondary face of the cold leg tubesheet. Manufacturing anomalies are common in the Turkey Point steam generators with up to 341 support intersections and 300 tube expansion transitions affected in each hot leg. Therefore, FPL believes the restriction in the Unit 4B steam generator row 8, column 81 is a manufacturing related issue which has not affected any other tubes inservice at Unit 3 or 4.

FPL has conducted extensive steam generator inspections which have exceeded Technical Specification requirements in each of the past 3 refueling outages at Turkey Point Unit 4. These inspections included (1) full length bobbin coil inspection of all active tubes and (2) sampling of manufacturing anomalies which affect a limited number of tubes in each steam generator with motorized rotating pancake coil (MRPC) techniques. Manufacturing anomalies include minor denting at support intersections and minor overexpansion of the tube expansion transition at the top of the tubesheet. The basis for MRPC sampling of steam generator tubes with manufacturing anomalies is that the anomalous conditions make the affected locations more susceptible to intergranular attack/stress corrosion cracking (IGA/SCC). All AVB locations are reviewed for potential damage at every inspection. The extent of sampling in the past three inspections is provided in our letter L-95-303.

NRC QUESTION 3

In Table 3, it appears that several indications were not reported when the Cycle 14 inspections were performed (possibly due to changes in data analysis guidelines). Clarify what these changes were? What other diagnostics were performed (i.e., were these tubes examined a few times, with RPC, UT, etc. to determine why these indications were not reported).

FPL RESPONSE

Prior to the availability of an EPRI qualified technique, FPL utilized the 400/100 khz "differential mix" for detection and sizing of AVB wear. However, FPL analysis guidelines were updated in 1991 to incorporate the EPRI qualified technique which utilizes the 400/100 khz "absolute mix" for improved detection and sizing. This technique was qualified by EPRI, with a >80% probability of detection at a 90% confidence level and a root mean square sizing error of 4.6%. When certain prior indications were not detected during the Cycle 14 inspections, a historical review was completed to disposition the issue. The historical review shows that the detection and sizing technique used during prior inspections is subject to erroneous reporting of low level AVB wear (i.e., approximately 20% or less through wall). This explains why certain AVB wear indications were reported in prior inspections but not in the Cycle 14 inspection.

FPL has conducted MRPC inspections on a limited number of AVB wear indications at Turkey Point Unit 3 or 4 during prior inspections. These inspections confirmed that mechanical wear was present at the AVB locations in question. No MRPC inspections have been completed for AVB wear in recent inspections.