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(TEMPORARY FORM)

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FROM: Carolina Power & Light Company Raleigh, N. C. 27602 E. E. Utley			DATE OF DOC 1-17-74	DATE REC'D 1-23-74	LTR X	MEMO	RPT	OTHER
TO: J. F. O'Leary			ORIG 3 signed	CC	OTHER	SENT AEC PDR <u>X</u> SENT LOCAL PDR <u>X</u>		
CLASS	UNCLASS XXX	PROP INFO	INPUT	NO CYS REC'D 40		DOCKET NO: 50-261		

DESCRIPTION:

Ltr re their rpt 50-261/73-70, furnishing addl info regarding the incident involving primary to secondary leakage in steam generator "C"... w/atchmt.....

ENCLOSURES:

**DO NOT REMOVE**

**ACKNOWLEDGED**

PLANT NAME: H. B. Robinson Unit #2

FOR ACTION/INFORMATION 1-23-74 GC

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INTERNAL DISTRIBUTION

<u>REG FILE</u> ✓AEC PDR ✓OGC, ROOM P-506A ✓MUNTZING/STAFF ✓CASE GIAMBUSSO BOYD MOORE (L)(BWR) DEYOUNG(L)(PWR) ✓SKOVHOLT (L) P. COLLINS DENISE <u>REG OPR</u> ✓FILE & REGION(3) ✓MORRIS ✓STEELE	<u>TECH REVIEW</u> ✓HENDRIE ✓SCHROEDER ✓MACCARY ✓KNIGHT ✓PAWLICKI ✓SHAO ✓STELLO ✓HOUSTON ✓NOVAK ✓ROSS ✓IPPOLITO ✓TEDESCO ✓LONG ✓LAINAS ✓BENAROYA ✓VOLLMER	DENTON GRIMES GAMMILL KASTNER BALLARD SPANGLER  <u>ENVIRO</u> MULLER DICKER KNIGHTON YOUNGBLOOD REGAN PROJECT LDR  HARLESS	<u>LIC ASST</u> DIGGS (L) GEARIN (L) GOULBOURNE (L) LEE (L) MAIGRET (L) SERVICE (L) SHEPPARD (E) SMITH (L) ✓TEETS (L) WADE (E) WILLIAMS (E) WILSON (L)	<u>A/T IND</u> BRAITMAN SALTZMAN B. HURT  <u>PLANS</u> MCDONALD DUBE w/Input  <u>INFO</u> C. MILES ✓B. KING (RO)
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EXTERNAL DISTRIBUTION

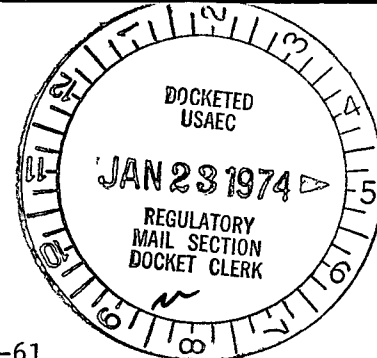
✓1 - LOCAL PDR Hartville, S. C.	(1)(2)(10)-NATIONAL LAB'S	1-PDR-SAN/LA/NY
✓1 - DTIE(ABERNATHY)	1-ASLBP(E/W Bldg, Rm 529)	1-GERALD LELLOUCHE
✓1 - NSIC(BUCHANAN)	1-W. PENNINGTON, Rm E-201 GT	BROOKHAVEN NAT. LAB
1 - ASLB(YORE/SAYRE/ WOODARD/"H" ST.	1-CONSULTANT'S	1-AGMED(Ruth Gussman)
✓16 - CYS ACRS <del>XXXXXX</del> SENT TO LIC. ASST.	NEWMARK/BLUME/AGBABIAN	RM-B-127, GT.
1-23-74 TEETS	1-GERALD ULRIKSON...ORNL	1-RD..MULLER..F-309 GT

# Regulatory Docket File

## CP&L

Carolina Power & Light Company

January 17, 1974

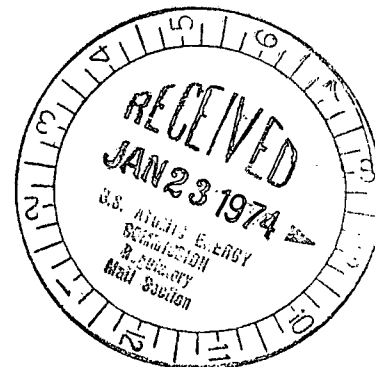


File: NG-3514

Serial: NG-74-61

Mr. John F. O'Leary  
Directorate of Licensing  
Office of Regulation  
U. S. Atomic Energy Commission  
Washington, D. C. 20545

50 - 261



Dear Mr. O'Leary:

H. B. ROBINSON UNIT NO. 2  
LICENSE DPR-23  
NOVEMBER 22, 1973 STEAM GENERATOR OUTAGE

The plant incident involving primary to secondary leakage in steam generator "C" has been duly reported within the specified 24 hour and 10 day time frames via report number 50-261/73-70. This correspondence provides a brief summary of events that transpired following the incident.

On November 22, 1973, H. B. Robinson Unit No. 2 was placed in cold shutdown to initiate repairs to steam generator "C." By Saturday, November 24, the temperature and coolant levels were low enough to allow the removal of the primary manway covers on steam generator "C." The defective tube was then identified visually by the observation of leakage from the secondary to the primary side on the hot leg (inlet) side of the steam generator.

Eddy current manual hand probing of the leaking tube and some 14 tubes adjacent to it was initiated on the afternoon of November 24. The leak was verified to be in the tube located at row 43, column 33. The failure was determined to exist approximately six inches above the uppermost tube support in the U-bend area. No other tubes inspected in the area showed signs of significant wall thinning.

Equipment to facilitate automatic remote eddy current testing was placed in operation November 26. With this equipment in use some 200 tubes adjacent to the failed tube, 140 tubes in the center of tube bundle, and 70 tubes in a peripheral region above the manway were inspected. All the tubes were examined completely around the U-bend. No other tube problems were identified. See enclosed sketch for areas inspected.

An attempt was made to visually examine the leaking tube at the point of failure. This, of course, required access to the secondary side. However, temperatures inside the steam generator secondary side made it impossible to descend further than the feedwater ring. After several hours of attempting to gain access to the area, the effort was aborted and rescheduled for refueling when conditions will be more suitable for entry.

Mr. John F. O'Leary

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January 17, 1974

The leaking tube was explosively plugged on November 29 at approximately 1800. Manway and access plate cover replacement was begun later that evening and completed early on the morning of November 30. At approximately 0930 on November 30 a secondary side hydrostatic test of 800 psig was performed and a visual inspection on the primary side of steam generator "C" was made. No leakage around the plug or in any of the other tubes was detected. Plant heatup then proceeded and a 1710 psid differential pressure was imposed across the steam generator tubes. No leakage was observed. The unit was accordingly placed back in service on December 3.

Due to the fact that the area in which this tube had failed had not been previously inspected, the validity of previous tests remains intact. There was also no indication of deterioration of tubes that had been previously inspected. This indicates that the failure of tubes immediately above the tube sheet has been effectively arrested. The most recent failure is of a different nature and is the first such failure we have detected.

During initial plant construction three tubes on the periphery of steam generator "C" tube bundle were found to have received arc strikes during fabrication. These tubes were accordingly plugged at that time. It is surmised that this recent failure may be the result of an arc strike on the subject tube which went undetected during construction. Such an arc strike would have caused an area of thin wall and high stress which could have developed into a tube failure. See enclosed sketch for location of tubes that were plugged during construction.

Present plans call for an extensive inspection of steam generator tubes during the April 1974 refueling outage. This inspection is intended to reverify the integrity of tube sections immediately above the tube sheet and will further explore the possibility of failures in the U-bend region. A program is being formulated to remove the U-bend section of the failed tube for further analysis and definition of the nature of the failure. This work is also scheduled for the upcoming outage. It is our intent to gain as much information as necessary to reassure the integrity of the steam generator and to identify any further corrective and/or preventive steps that need to be taken.

Yours very truly,



E. E. Utley  
Vice-President  
Bulk Power Supply

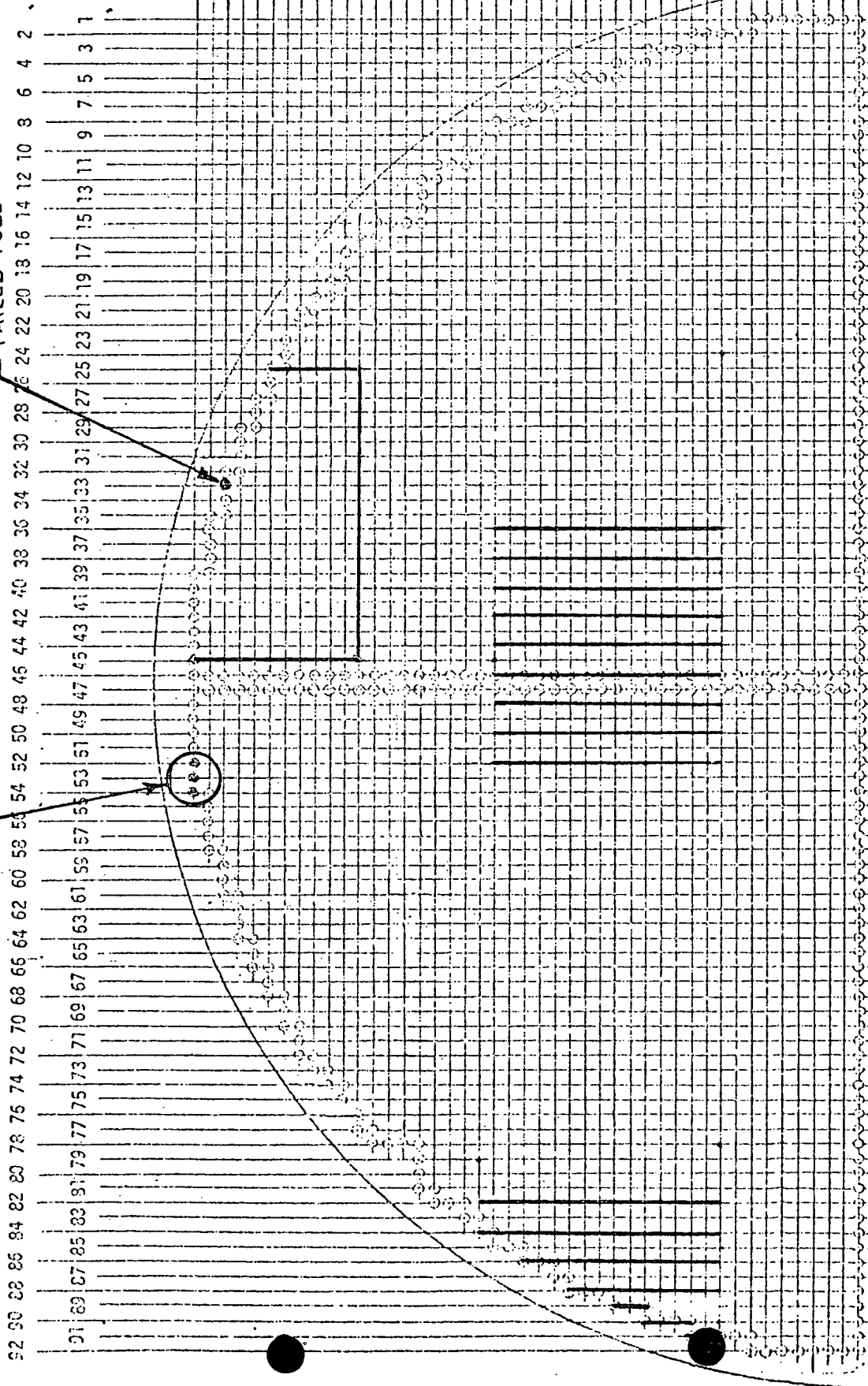
DBW:mvp  
Enclosure

cc: Messrs. N. B. Bessac  
B. J. Furr  
B. Howell  
D. V. Menscer  
N. C. Moseley  
D. B. Waters

TUBES WITH ARC STRIKES + WERE  
PLUGGED DURING CONSTRUCTION

COLUMNS

FAILED TUBE



NOZZLE

SG-C

ROWS

TUBES INSPECTED NOV. 1973