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DESCRIPTION:
Ltr re their rpt 50-261/73-70, furnishing add1 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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1-GERALD LELLOUCHE BROOKHAVEN NAT. LAB
1-AGMED(Ruth Gussman) RM-B-127, GT.
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.

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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.

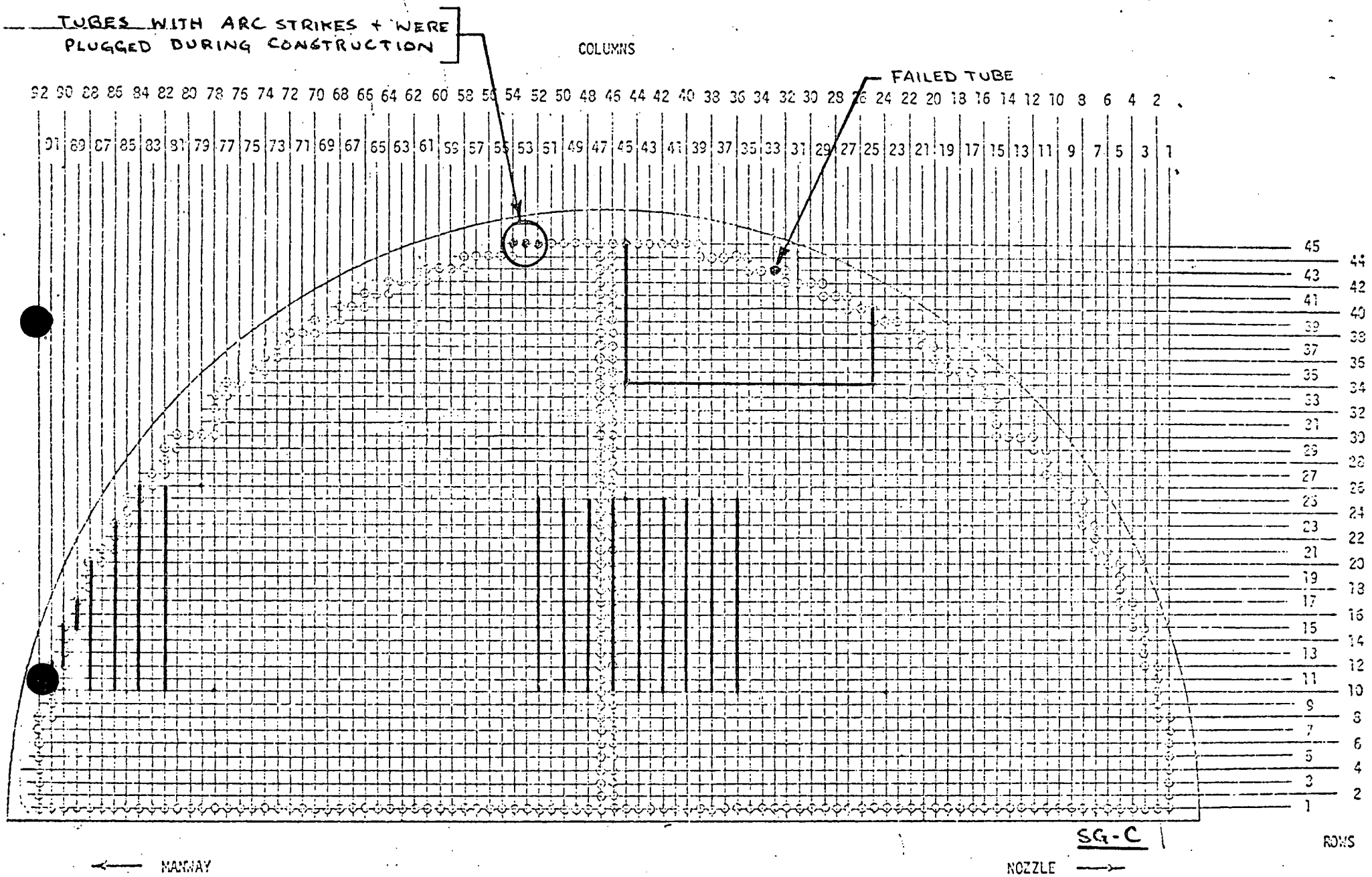
Present plans call for an extensive inspection of steam generator tubes during the April 1974 refueling outage. This inspection is intended to reverify the integrity of tube sections immediately above the tube sheet and will further explore the possibility of failures in the U-bend region. A program 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 INSPECTED NOV. 1973