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SOUTHERN COMPANY

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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Joseph M. Farley Nuclear Plant – Unit 1
Maintenance/Refueling Outage 1R23
Steam Generator Tube Inspection Report

Ladies and Gentlemen:

In accordance with the requirements of Joseph M. Farley Nuclear Plant Technical Specification 5.6.10, Southern Nuclear Operating Company submits the enclosed report of the steam generator tube inspections performed during the Unit 1 twenty-third maintenance/refueling outage (1R23).

This letter contains no NRC commitments. If you have any questions, please contact Mr. Jack Stringfellow at (205) 992-7037.

Sincerely,

M. J. Ajluni
Nuclear Licensing Director

MJA/TWS/lac

Enclosure: 1R23 Steam Generator Tube Inspection Report

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. L. M. Stinson, Vice President – Farley
Ms. P. M. Marino, Vice President – Engineering
RTYPE: CFA04.054

U. S. Nuclear Regulatory Commission
Mr. V. M. McCree, Regional Administrator
Mr. R. E. Martin, NRR Project Manager – Farley
Mr. E. L. Crowe, Senior Resident Inspector – Farley
Mr. P. Boyle, NRR Project Manager

Joseph M. Farley Nuclear Plant - Unit 1

Enclosure

1R23 Steam Generator Tube Inspection Report

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Joseph M. Farley Nuclear Plant – Unit 1
1R23 Steam Generator Tube Inspection Report

A. The Scope of Inspections Performed on Each Steam Generator (SG):

The scope for Farley Unit 1 refueling outage 1R23 involved the inspections listed below:

1. Bobbin exams (3 SGs)
   - 50% Bobbin full length examination in each SG of tubes not inspected in 1R20, except for rows 1 and 2 which are inspected from the tube-end to the top TSP from both the hot leg (HL) and cold leg (CL).
   - 50% straight lengths of rows 1 and 2 on HL
   - 100% of row 1 through row 3 CL straight length.
2. + Point rotating pancake coil (RPC) (3 SGs)
   - 20% hot leg tubesheet exams (+/- 3 inch at top of tubesheet)
   - 50% row 1 and row 2 U-bend
   - 100% dents and dings >2 volts
   - Special interest points (I code, PLP, and loose parts identified by secondary side inspections)

B. Active Degradation Mechanisms Found:

Anti-vibration bar (AVB) wear was the only degradation mechanism found in 1R23. One tube, R38 C59, in SG 1C exhibited AVB wear. Historical review of the data showed deposit like signals in the 1R20 outage. The largest wear signal is 16% TW.

C. Nondestructive Examination Techniques Utilized for Each Degradation Mechanism:

Bobbin coil was used for detection and sizing of AVB wear. In addition, the entire u-bend 7C to 7H was inspected with +Point RPC for information.

D. Location, Orientation (if linear) and Measured sizes (if available) of Service Induced Indication:

Farley 1R23 AVB Indications					
SG ID	Row	Col	Volts	Per	Locn
C	38	59	0.14	8	AV1
C	38	59	0.32	15	AV2
C	38	59	0.35	16	AV3
C	38	59	0.35	16	AV4
C	38	59	0.18	10	AV5
C	38	59	0.15	-	AV6

Where: Col = column, Per = percent, Locn = location

E. Number of Tubes Plugged During the Inspection Outage:

No tubes were plugged during 1R23.

F. Total Number or Percentage of Tubes Plugged to Date:

No tubes have been plugged in SG 1A, 1B, and 1C to date.

G. The Results of Condition Monitoring, Including the Results of Tube Pulls and In-Situ Testing:

Condition monitoring assessment is conducted each outage during which the SG tubes are inspected or plugged to confirm the performance criteria are being met. Based on the inspection data, AVB wear was the only degradation mechanism observed in the 1R23 outage. Since no indication challenged the condition monitoring criteria, no in-situ testing was required to be performed. There was no primary to secondary leakage prior to the end of the inspection interval. No tube damage was attributed to the foreign objects identified from 1R23 top of tubesheet visual inspections. Therefore, condition monitoring was satisfied for the previous operating period of 3 operating cycles.