

Southern Nuclear Operating Company
Post Office Box 1295
Birmingham, Alabama 35201
Telephone (205) 868-5131



Southern Nuclear Operating Company

the southern electric system

Dave Morey
Vice President
Farley Project

April 22, 1996

Docket No: 50-364

10 CFR 50.90

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

Joseph M. Farley Nuclear Plant Unit 2
Request to Revise Technical Specification for
Steam Generator F*

Ladies and Gentlemen:

In accordance with the provisions of 10 CFR 50.90, Southern Nuclear Operating Company (SNC) hereby proposes changes to the Farley Nuclear Plant (FNP) Unit 2 Technical Specifications (TS). The proposed changes reflect implementation of a new F* criterion based on maintaining existing safety margins for steam generator tube structural integrity concurrent with allowance for NDE eddy current uncertainty.

SNC requests that this revision be approved by October 1, 1996 in order for the change to be implemented during the FNP Unit 2 11th refueling outage in the Fall of this year. SNC has determined that the proposed license amendment will not significantly increase the amount of any effluent that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. SNC will implement the proposed license amendment within 30 days of NRC issuance.

Enclosure 1 provides the introduction, description and safety basis for the proposed changes. Enclosure 2 details the bases for SNC's determination that the proposed changes do not involve a significant hazards consideration. Enclosure 3 provides page change instructions and revised TS and TS Bases pages for incorporating the proposed changes. The technical specification pages are based on approval of the alternate repair criteria for outside diameter stress corrosion cracking at tube support plate intersections. Enclosure 4 provides the corresponding marked-up existing TS and TS Bases pages.

240101

9604240354 960422
PDR ADOCK 05000364
P PDR

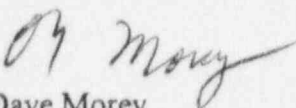
ADD 11

In accordance with the requirements of 10 CFR 50.91, the designated State official will be sent a copy of this letter and all applicable enclosures.

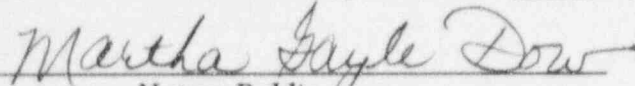
The information provided herein is true to the best of my knowledge and belief. If you have any questions, please advise.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY


Dave Morey

Sworn to and subscribed before me this 22nd day of April, 1996.


Notary Public

My Commission Expires: November 1, 1997

MJA\clt:fstar.doc

Enclosures:

1. Safety Assessment
2. 10 CFR 50.92 Evaluation Assessment
3. Page Change Instructions and Revised TS Pages
4. TS Bases Changes

cc: Mr. S. D. Ebnetter, Region II Administrator
Mr. B. L. Siegel, NRR Senior Project Manager
Mr. T. M. Ross, FNP Sr. Resident Inspector
Dr. Donald E. Williamson, State Department of Public Health

ENCLOSURE 1

**Joseph M. Farley Nuclear Plant
Steam Generator F*
Technical Specification Changes**

Safety Assessment

Enclosure 1

Joseph M. Farley Nuclear Plant Steam Generator F* Technical Specification Changes

Safety Assessment

Introduction

By letter dated May 4, 1987, Alabama Power Company submitted a request for changes to the Joseph M. Farley Nuclear Plant, Unit 2, (FNP 2) Technical Specification (TS) 3/4.4.6, Steam Generators, surveillance and reporting requirements for testing tubes in the tubesheet region.

This amendment, which was approved by the NRC, would allow operation with tube degradation in excess of the plugging or repair limits when the degradation is located below the F* distance from the top of the tubesheet or the bottom of the roll expansion, whichever is lower. The F* distance is defined as the length of continuous undegraded tube expansion in the tubesheet such that tube pullout would not occur during normal or postulated accident loading conditions. The bases for this change is described in Westinghouse Electric Corporation Report WCAP 11306, Revision 2, "Tubesheet Region Plugging Criterion for the Alabama Power Company Farley Nuclear Station Unit 2 Steam generators," revised April 1987.

In this proposed amendment Southern Nuclear Operating Company proposes to revise the total F* distance to be based on the eddy current technology utilized in the inspection. This performance based approach will encourage and reward the use of improved technologies for steam generator NDE examinations.

Safety Analysis Discussion and Evaluation

The F* distance of 1.79 is derived from WCAP 11306, Revision 2, "Tubesheet Region Plugging Criterion for the Alabama Power Company Farley Nuclear Station Unit 2 Steam Generators," and is based on the determination of frictional forces necessary to prevent tube pullout during normal operation or faulted conditions which ever is more limiting, plus allowance for eddy current uncertainty. WCAP 11306, Revision 2 calculates a maximum distance of 1.54 inches to prevent tube pull out. A NDE eddy current uncertainty of 0.25 inches, based on eddy current bobbin technology, is added to determine a overall F* distance of 1.79 inches.

Enclosure 1
Safety Assessment

Since 1987, NDE eddy current technology has been evolving and improving. Use of rotating pancake coil (RPC) technologies have improved and enhanced steam generator tube flaw characterization. Present RPC technologies can support uncertainty measurement on the order of 0.1 inches with no reduction in the margins of safety to either structural integrity or leakage of steam generator tubes. SNC by this amendment proposes to change the definition of F* to take into account the appropriate eddy current uncertainty based on the technology used. This approach would prevent Technical Specifications from becoming the limiting factor in inspecting and testing steam generators as new and improving techniques for eddy current technologies are developed. The proposed change to technical specification 4.4.6.4.a.11 would be as follows:

F* Distance is the distance of the expanded portion of a tube which provides a sufficient length of undegraded tube expansion to resist pullout of the tube from the tubesheet. The F* distance is equal to 1.54 inches plus allowance for eddy current uncertainty measurement and is measured down from the top of the tubesheet or the bottom of the roll transition, whichever is lower in elevation.

Eddy current uncertainty will be determined using standard NDE techniques and proceduralized in appropriate inspection procedures or guidelines.

This performance based approach will encourage and reward the use of improved technologies for steam generator NDE examinations. No reduction in the margin of safety would result since the current margin associated with 1.54 inches would be retained. The safety margins required by draft regulatory guide 1.121 will continue to be met.

Enclosure 2
Joseph M. Farley Nuclear Plant
Steam Generator F*
Technical Specification Changes

10CFR 50.92 Evaluation

Enclosure 2
Joseph M. Farley Nuclear Plant
Steam Generator F*
Technical Specification Changes

10CFR 50.92 Evaluation

SNC has reviewed the requirements of 10CFR 50.92 as they relate to the proposed change and has made the following determination:

1. The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed change retains the existing margin in the F* distance used to meet regulatory guidance of draft Regulatory Guide 1.121 and only changes the amount of assumed NDE eddy current uncertainty based on the type of eddy current technology utilized in the inspection. Therefore, there is no significant increase in the probability or consequences of an accident previously evaluated.
2. The proposed change does not create the possibility of a new or different kind of accident from any previously evaluated. WCAP 11306, Revision 2, "Tubesheet Region Plugging Criterion for the Alabama Power Company Farley Nuclear Station Unit 2 Steam Generators," provides adequate basis for the F* distance proposed of 1.54 plus allowance for eddy current uncertainty measurement. Since the value of 1.54 inches was used in the analysis no new or different kind of accident from any accident previously evaluated will be created.
3. The proposed change does not involve a significant reduction in a margin of safety. Since the value of 1.54 inches already is used in the steam generator tube pull out analysis, there is no significant change to a margin of safety.

In conclusion, SNC has determined the proposed changes meet the requirements of 10 CFR 50.92 c) and do not involve a significant hazards consideration.