

**Mailing Address**

Alabama Power Company  
600 North 18th Street  
Post Office Box 2641  
Birmingham, Alabama 35291  
Telephone 205 783-6081

F. L. Clayton, Jr.  
Senior Vice President  
Flintridge Building



Alabama Power  
the southern electric system

March 19, 1984

Docket No. 50-348

Director, Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Mr. S. A. Varga

Joseph M. Farley Nuclear Plant - Unit 1  
Hydrostatic Testing Relief Request

Gentlemen:

During recent ultrasonic examinations of the feedwater reducers, cracks were found in some of the weld areas. Alabama Power Company has elected to replace the reducers. As discussed with the NRC Staff, this replacement may not constitute the final resolution to the Farley feedwater nozzle cracking concern but does provide an acceptable solution which can be implemented in the current refueling time frame. The materials and the procedures used in this replacement were qualified in accordance with Section XI of the ASME Code. The Code specifies a hydrostatic test which poses a hardship on Alabama Power Company and could lengthen the current refueling outage. Alabama Power Company is, therefore, requesting relief from hydrostatically testing these reducers. This request has been discussed with members of the Materials Engineering Branch. It is Alabama Power Company's understanding that the NRC Staff concurs with the bases of this request.

Radiographic and visual examinations of the Steam Generator Feedwater System at Farley Nuclear Plant Unit 1 were completed on July 12, 1979 in accordance with the requirements of IE Bulletin 79-13. All welds and pipe to nozzle areas were found to be acceptable and no unacceptable indications were found. This completed the activities required by IE Bulletin 79-13. During the current Unit 1 Fifth Refueling Outage, Alabama Power Company inspected the steam generator feedwater nozzles by ultrasonic examination and discovered cracking in the reducer (16" x 14") heat affected zone of the nozzle to reducer weld areas. This examination, which is included in the Farley Nuclear Plant ASME Section XI Inservice Inspection (ISI) Program, was not required to be performed during the current refueling outage but was performed on the basis of good engineering practice.

8403230134 340319  
PDR ADDCK 05000348  
PDR

Approved w/check \$4,000  
11/ 903076

Alabama Power Company is replacing the feedwater nozzle reducers for all three steam generators utilizing materials which meet the requirements of the ASME Section XI Code. These materials will be welded utilizing procedures qualified to the Code, heat treated per the Code and be nondestructively examined per the Code. In accordance with the provisions of the ASME Code, a hydrostatic test of the replacement reducers is required at 1.25 times design pressure prior to placing the feedwater system into operation. The conduct of this hydrostatic test poses a hardship and is unnecessary at this time for the reasons described below.

The three steam generator feedwater systems are scheduled for hydrostatic testing during one of the next two refueling outages as part of the previously established Inservice Inspection (ISI) program. Plans and procedures are not in place at this time to conduct these tests during the current refueling outage and a delay in return to power would most likely result from an attempt to conduct these tests without adequate pre-planning. In addition, the ASME Code would not consider two of the three steam generator hydrostatic tests as meeting the code scheduler requirements, thereby precipitating additional subsequent hydrostatic testing. Multiple hydrostatic testing needlessly challenges the integrity of piping, equipment and valves. In addition, it is noted that the Westinghouse Steam Generator Technical Manual allows for only five such tests during the life of the steam generator. To date, two tests have been performed.

The hydrostatic tests, when performed, would only detect the presence of leakage in the feedwater lines and would provide no indication of improper weld repair. Alabama Power Company, in lieu of the design pressure hydrostatic test, will perform a visual examination at service pressure and will perform an ultrasonic examination and a radiograph of the weld regions prior to return to power. These radiographic and ultrasonic examinations are more predictive of future failure than a hydrostatic test and will provide adequate assurance of system integrity. Alabama Power Company will volumetrically examine these weld regions at the next refueling outage.

After return to power from the current outage, Alabama Power Company will make a determination of the final resolution to the concern of feedwater nozzle cracking. A final resolution may include use of thermal sleeves, preheating of auxiliary feedwater or the use of a separate auxiliary feedwater nozzle on each steam generator. Alabama Power Company will apprise the NRC of its determination of the final resolution prior to the next refueling outage for Unit 1 (scheduled to commence in April 1985).

Mr. S. A. Varga  
U. S. Nuclear Regulatory Commission

March 19, 1984  
Page 3

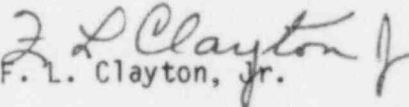
In accordance with 10CFR50.55a(g)(6)(i), Alabama Power Company hereby requests that relief be granted from certain requirements of the 1974 Edition through the Summer 1975 Addenda of the ASME Code, Section XI, Articles IWA-5000 and IWD-4210. A summary of the proposed relief request, existing examination requirements, bases for the relief request and proposed alternative examinations is attached.

Alabama Power Company's Plant Operations Review Committee has reviewed the proposed relief request. It is requested that this relief be granted by March 26, 1984 to preclude extension of the current refueling outage critical path. While the detailed planning for the hydrostatic test has not been completed, it is currently estimated that the outage duration will be extended approximately two days.

This relief request is designated as Class III in accordance with 10CFR170.22 requirements. Enclosed is a check for \$4000.00 to cover the total amount of fees required.

If you have any questions, please advise.

Yours very truly

  
F. L. Clayton, Jr.

FLCJr/JAR:drs-D29

Attachment

cc: Mr. R. A. Thomas  
Mr. J. P. O'Reilly  
Mr. E. A. Reeves  
Mr. W. H. Bradford

Attachment

COMPONENT

CODE CLASS: 2

Steam Generator Feedwater Lines

EXAMINATION REQUIREMENT:

IWA-4210 requires that a pressure test be performed in accordance with IWA-5000 following repairs made by welding on the pressure retaining boundary components.

BASIS FOR RELIEF:

Repairs are in progress to three feedwater lines on Farley Unit 1 during the current refueling outage.

Hydrostatic pressure testing of the feedwater lines would include the steam generators since the new welds cannot be isolated from the generator secondary side. There are only five hydrostatic test cycles allowed by steam generator design. Two test cycles were conducted as part of initial plant startup leaving three remaining test cycles for the remaining life of the plant. Alabama Power Company does not believe a post repair hydrostatic pressure test is necessary to confirm the integrity of the new welds. Therefore, relief is requested from this requirement.

ALTERNATIVE EXAMINATION:

As an alternative, a visual examination will be performed at operating pressure for the new feedwater system welds.

In addition, extensive non-destructive examinations will be conducted on each new weld including radiographic examinations on the root pass and intermediate welds and ASME Code radiographic examination and ultrasonic (new baseline) examination of each completed new weld.

It is our position that the above examinations are sufficient to demonstrate the integrity of the new feedwater system welds.