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10CFR50.54

May 31, 1988

Docket Nos. 50-348
50-364

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

Gentlemen:

Joseph M. Farley Nuclear Plant - Units 1 & 2
Response to NRC Generic Letter 88-05

NRC Generic Letter 88-05, "Boric Acid Corrosion Of Carbon Steel Reactor Pressure Boundary Components In PWR Plants," requests that Alabama Power Company provide assurances that a program has been implemented. The program is to consist of systematic measures to ensure that boric acid corrosion does not lead to degradation of the assurance that the reactor coolant pressure boundary will have an extremely low probability of abnormal leakage, rapidly propagating failure, or gross rupture. This program should include the following:

(1) A determination of the principal locations where leaks that are smaller than the allowable technical specification limit can cause degradation of the primary pressure boundary by boric acid corrosion. Particular consideration should be given to identifying those locations where conditions exist that could cause high concentrations of boric acid on pressure boundary surfaces.

(2) Procedures for locating small coolant leaks (i.e., leakage rates at less than technical specification limits). It is important to establish the potential path of the leaking coolant and the reactor pressure boundary components it is likely to contact. This information is important in determining the interaction between the leaking coolant and reactor coolant pressure boundary materials.

(3) Methods for conducting examinations and performing engineering evaluations to establish the impact on the reactor coolant pressure boundary when leakage is located. This should include procedures to promptly gather the necessary information for an engineering evaluation before the removal of evidence of leakage, such as boric acid crystal buildup.

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(4) Corrective actions to prevent recurrences of this type of corrosion. This should include any modifications to be introduced in the present design or operating procedures of the plant that (a) reduce the probability of primary coolant leaks at the locations where they may cause corrosion damage and (b) entail the use of suitable corrosion resistant materials or the application of protective coatings/claddings.

Alabama Power Company has a program to identify, evaluate and correct leaks in systems containing boric acid. This program consists of, as appropriate, inspections, evaluations, repairs, reviewing industry experiences and corrective actions.

A boric acid leak anywhere in the containment could cause degradation of the Reactor Coolant System pressure boundary if the leakage was allowed to accumulate on carbon steel components. In general, areas subject to leakage include:

Welds

- Reactor Vessel head penetration canopy seal welds
- Full penetration welds on Class 1 and 2 components (where leaks could cause degradation to carbon steel)
- Pressurizer heater penetrations

Mechanical Connections

- Manway covers (Steam Generators and Pressurizer)
- Reactor Coolant Pump main flange
- Reactor Coolant Pump seal housing
- Reactor Vessel flange
- Reactor Vessel conoseal bolting
- Valve body-to-bonnet connections
- Valve packing
- Flanged connections
- Resistance Temperature Detectors

The Inservice Inspection Program (ISI) of Class 1 and 2 components includes volumetric, visual and/or surface examinations of welds and bolting. This examination requires the identification and description of any leakage or evidence of leakage (boric acid crystal buildup) in the inspected portions of the systems.

Containment is inspected for leakage at the beginning of each refueling outage. This inspection is performed at approximately normal operating temperature and pressure. A listing of potential leak sites is used as a guide in the inspection. Any leakage or evidence of leakage is documented and repairs are performed. The effects of the leakage are investigated but not documented unless the investigation determines that there has been degradation.

At the end of each refueling outage, an inspection is again performed at approximately normal operating temperature and pressure to identify any leakage. If any leakage is found, it is repaired or the effects are investigated. This investigation is documented if degradation is projected.

If during the course of operation, personnel enter the containment for any reason, they are instructed to report any leakage or evidence of leakage that they may note. If any is reported it is evaluated.

During operation, leakage is monitored as required by the technical specifications. Existing procedures allow for the identification of leakage at rates less than the technical specification requirements. Results are evaluated and, where abnormal leakage is suspected, investigations are performed to identify potential sources.

Some of the elements of the above program are not currently prescribed by procedural guidance. However, procedures will be developed and/or modified to:

- Require the above described inspections to be performed and documented;

- Require the leakage path to be determined and documented;

- Provide guidelines for conducting examinations and evaluations to establish the effects of boric acid leakage on the reactor coolant system pressure boundary;

- Ensure that information necessary for the evaluation is gathered prior to removal of the evidence of leakage, i.e., removal of the boric acid buildup;

- Include determination of whether design changes or modifications are necessary to mitigate recurrence.

These procedure modifications will be implemented by October 31, 1988.

If you have any questions, please advise.

Respectfully submitted,

ALABAMA POWER COMPANY

W. B. Bairston for
R. P. McDonald

RPM/CDP:pln-8

cc: Mr. L. B. Long
Dr. J. N. Grace
Mr. E. A. Reeves
Mr. W. H. Bradford

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 31st DAY OF May, 1988

Notary Public

My Commission Expires: 9-11-88