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50-348

F. L. CLAYTON, JR.
Senior Vice President

Alabama Power
the southern electric system

October 5, 1979

NRC IE Bulletin No. 79-14
Docket No. 50-348

Mr. James P. O'Reilly
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N. W.
Suite 3100
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

Alabama Power Company submits the enclosed additional information on the subject I.E. Bulletin as committed to in my letter to you dated September 4, 1979 for Farley Nuclear Plant Unit-1.

If you have any questions, please advise.

Yours very truly,

RBMcDonald

for F. L. Clayton, Jr.

FLCjr/TNE/mmb

Enclosure

cc: Mr. R. A. Thomas
Mr. G. F. Trowbridge
Office of I&E, Div. of Reactor
Operations Inspection
Washington, D. C.
Office of I&E, Div. of Construction Inspection
Washington, D. C. 20555
Mr. M. D. Hunt, I&E, Region II
Director of the Office of Inspection & Enforcement
Office of Nuclear Reactor Regulation
Washington, D. C. 20555

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Enclosure 1 - Response to IE Bulletin 79-14 (Unit 1)

As indicated in Alabama Power Company's response to the NRC dated September 4, 1979, Alabama Power Company developed, approved, and implemented on July 30, 1979 a program for inspection of elements affecting inputs to seismic analyses of scoped piping systems. Scoped piping systems include the following:

a) Seismic Category I; Safety-Related 2-1/2 inches and above.
b) Seismic Category I; Safety-Related under 2-1/2 inches which were dynamically analyzed by computer.

The systems or portions of systems involved in this verification include the following:

1. Component Cooling Water System
2. Service Water System
3. Sampling System
4. Chemical Volume and Control System
5. Residual Heat Removal System
6. Main Steam System
7. Containment Cooling System
8. Reactor Coolant System
9. Emergency Core Cooling System
10. Main Feedwater System
11. Emergency Diesel Generator with Fuel Oil System
12. Gaseous Waste System
13. Post Accident Containment Hydrogen Control System
14. Auxiliary Feedwater Syster
15. Containment Spray System
16. Condensate Storage Tank
17. Containment Isolation System
18. Main Steam Safety and Relief Valve Systems

The following inspection elements were used to verify that seismic analysis input information conformed to the actual configuration of safety-related systems. These elements have been verified for the scoped systems by the field inspection teams as required by IE Bulletin 79-14.

a) Piping Configuration

Piping segment length
Piping segment direction

b) Valve

Valve identification number
Location
Extended operators' orientation

c) Floor and Wall Penetration

Piping fixed at the penetration (and fixed direction)
Piping free to move
Grouted or sealed sleeve

d) Pipe Support

Support identification number
Location
Direction (restriction or load carrying direction)
Type (spring, snubber, rigid, structure frame)
(see page three (3) for pipe support configuration)

The field inspection of inaccessible and accessible areas of the scoped systems has been completed. The initial engineering review of inaccessible areas has identified no discrepancy which affects operability; however, those of a magnitude that would otherwise require additional analyses will be corrected prior to startup. Attachment 1 is a list of these discrepancies or inaccessible areas. No further action is required. A list of accessible discrepancies with indication if further analyses is required will be submitted after the initial engineering review of accessibles is completed about October 5, 1979.

Before Supplement 2 of IE Bulletin 79-14 was issued, Alabama Power Company as a part of its previously implemented IE 79-14 program, removed insulation in order to inspect twenty randomly selected lugs and/or stanchions to verify conformance to design. This is approximately 10% of the lugs and stanchions within the scoped systems. No discrepancies were found. Insulation will be removed from and inspection made of an additional randomly selected 10% of the lugs and/or stanchions on scoped systems during the second refueling outage. If no discrepancies are found, no further inspection in response to 79-14 will be scheduled.

Some inspection elements of three (3) inaccessible systems had to be inspected visually (instead of by direct measurement-this visual inspection was sufficient to ensure operability of affected inspection elements) for comparison to design drawings as indicated below:

a. The containment spray rings were inspected visually utilizing surveying techniques.

b. Portions of the RCS system inside the pressurizer shield wall inaccessible for direct measurement due to space limitations for physical access were inspected visually at close range.

c. Portions of the chemical and volume control system that are physically inaccessible because of their location in the pipe trenches were visually inspected at close range.

Note: For certain areas within these trenches (c. above) visual inspection was impossible without major destruction of plant walls. In these areas are portions of: the chemical and volume control system, the residual heat removal system, and the service water system. For these systems in these areas the hanger configuration, location and pipe geometry were judged to be correct based on the low discrepancy rate encountered throughout the program. It should be noted that during the program implemented to respond to IE Bulletin 79-02, analysis on the affected piping systems was performed assuming failure of all inaccessible bolted hangers in the trenches. As a result of this analysis,

hangers on the affected systems adjacent to the trenches were strengthened to be able to carry the higher loads resulting from such failures. In actuality few if any of these bolted hangers would be expected to fail. Based on the combination of few expected discrepancies for totally inaccessible areas and the adjacent accessible hangers being capable of withstanding higher than expected loads, no adverse safety consequence is anticipated from the inability to inspect these areas.

With respect to pipe support configuration, the as built drawings were used in the walkdown. As required by the IE Bulletin 79-14, the walkdown results are to be compared to the specific hanger configuration used to generate inputs to the seismic analysis. As reported in LER 79-021/01T-4, there were design control inadequacies during plant construction for certain hanger configuration changes for which existing engineering calculations were not sufficient to readily determine the impact of such changes on the seismic analysis inputs. In order to provide verification and documentation of the adequacy of these hangers for seismic design inputs, the following actions have been taken:

1. All hangers (both bolted and welded embedments) on ASME Section III Class 1 piping systems have been reanalyzed and will be modified as necessary prior to plant startup. This satisfies 79-14 requirements for verification of seismic inputs for Class 1 piping systems.

2. All bolted hangers within the scope of 79-02 have been reanalyzed and will be modified as necessary prior to plant startup.

3. The reanalysis of other hangers on Class 2 and Class 3 piping systems within the 79-14 scope has been initiated to be completed prior to the next refueling outage. Based on the number of modifications required in 1 and 2 above, there is a 99% confidence that greater than 95% of these hangers will be found to have no deficiency.

With respect to the action in 3 above, the hangers will be reanalyzed in accordance with the following order of priorities: containment, auxiliary building, outside buildings and areas. If the reanalysis of any hanger indicates that the hanger does not meet the design requirements, but by further evaluation it is determined that its failure would not affect piping system operability, corrective action will be scheduled for completion prior to the end of the second refueling outage. If the piping system operability is affected, the following actions will be taken:

1. The NRC-Region II will be notified within 24 hours of such determination.
2. The action statements of the applicable Farley Technical Specifications will be invoked.

In addition, Alabama Power will provide to the NRC-Region II quarterly reports concerning the status and findings of the hanger reanalyses.

Operating plant design control procedures now in effect provide assurance for preclusion of future hanger design problems such as those discussed above and in LER-79-021/01T-4. These are described in Attachment II.

Attachment I

Corrected 79-14 Inaccessible Discrepancies

	ISOMETRIC NO.	SYSTEM	HANGER NO./ACTION REQUIRED
1.	375	CVCS	Remove Temporary Hanger (3"-ECB-1)
2.	1352	SIS	Install Hanger SS4621 (3/4"-CCA-26)
3.	659	SIS	Install Hanger SS2001 (2"-CCB-21)
4.	3587	CVCS	Install Hanger SS4264 (3/4"-GCB-23)
5.	3588	CVCS	Remove Hanger SS4264 (3/4"-GCB-23)
6.	1818	SGBD	Move Hanger SS2698 (2"-CBB-6)
7.	252	SW	Remove Temporary Hanger (6"-HBD-20)
8.	726	CVCS	Remove Hanger SS5638 (3/4"-GCB-23)
9.	1192	SIS	Remove Clamp (2"-CCA-30) from Hanger SS4766
10.	947	SIS	Add Pipe (3/4"-CCA-30) from Hanger SS4137
11.	490	CVCS	Add Anchor (2"-CCB-19)
12.	1430	SIS	Add Shims to Hanger SS2014 (2"-CCA-9)

Attachment II
Alabama Power Company
Design Control Procedures

All modifications to safety related items are subject to approved design control measures. Design control measures include design change verification, design review, and a safety evaluation review. These controls assure that design changes meet the specified design inputs, the necessary provisions are included to address the original request, and an evaluation as to whether an unreviewed safety question exists. Safety evaluations are reviewed by the Plant Operations Review Committee (PORC). Any design change which is in variance with the technical specification as incorporated in the Operating License or which constitutes an unreviewed safety question as determined by the PORC review is reviewed by the Nuclear Operations Review Board (NORB) and approved by the Senior Vice President for Power Supply. After NORB review and approval by the Senior Vice President for Power Supply, the design change with its safety analysis is submitted to the NRC for review and/or approval. Design changes which constitute a variance with the technical specifications or an unreviewed safety question are not implemented until after NRC approval has been obtained.

After implementation of design changes, the designer is notified and the appropriate design drawings are subsequently revised. Organizations that develop design modifications of piping systems, including their supports are committed to ANSI N45.2.11, "Quality Assurance Requirements for Design of Nuclear Power Plants." This commitment requires that loads such as seismic, thermal, and dynamic be considered in preparation of design changes. Alabama Power Company audits the design organizations to ensure compliance with ANSI N45.2.11.