

600 North 18th Street  
Post Office Box 2641  
Birmingham, Alabama 35291  
Telephone 205 323-5341

F. L. CLAYTON, JR.  
Senior Vice President

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Alabama Power  
the southern electric system

July 1, 1980

Docket No.: 50-348  
50-364

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

Gentlemen:

I.E. BULLETIN 80-08

Attached you will find Alabama Power Company's response to I.E. Bulletin 80-08 for Farley Nuclear Plant Units 1 and 2.

Yours very truly,

  
F. L. Clayton, Jr.

CLB:de

Attachment

cc: Mr. R. A. Thomas  
Mr. G. F. Trowbridge  
Mr. W. H. Bradford

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RESPONSE TO IE BULLETIN 80-08  
FARLEY NUCLEAR PLANT UNITS 1 & 2

Requested Action

1. Determine if your facility contains the flued head design for penetration connections, or other designs with containment boundary butt weld(s) between the penetration sleeve and process piping as illustrated in Figure NE 1120-1, Winter 1975 Addenda to the 1974 and later editions of the ASME B&PV Code.

Response:

Both Units of Farley Nuclear Plant contain flued head and welded head design containment boundary butt welds between penetration sleeves and process piping.

Requested Action

2. If an affirmative answer is reached for Item 1, determine the following:
  - a. Applicability of the ASME code including year and addenda and/or Regulatory Guide 1.19,
  - b. Type of nondestructive examinations performed during construction,
  - c. Type of weld joint (including pipe material and size) and whether or not backing bars were used,
  - d. Results of construction nondestructive examinations, i.e., if repairs were required, this should be identified including extent of repairs and description of defects encountered during repair, if known.

Response:

- a. The applicable code for both Farley Units 1 and 2 is the 1971 ASME Code, Summer 1971 addenda. The facility also meets the requirements of Regulatory Guide 1.19.
- b. All containment boundary butt welds between penetration sleeves and process piping in Unit 1 were radiographed. In Unit 2 (under construction) all penetration butt welds completed have been or will be radiographed. Upon completion, the remaining penetration butt welds in Unit 2 will be radiographed.

c. The containment boundary butt welds between penetration sleeves and process piping in both Units 1 and 2 consist of stainless steel to carbon steel and carbon steel to carbon steel welds in different applications. Pipe sizes range from 3/4 inches to 48 inches in diameter and penetrations range in size from 3 inches to 54 inches in diameter. Backing bars are not used for these welds.

d. Unit 1 (operational):

Of the 78 containment boundary butt welds between penetration sleeves and process piping in Farley Unit 1, radiography revealed seventeen (17) welds which required repairs. Those welds are tabulated below along with other known pertinent information:

| <u>Weld Identification</u> | <u>Indication</u>           | <u>Approximate Extent of Indication Subsequently Repaired</u> |
|----------------------------|-----------------------------|---|
| Q-1-T52-1607<br>FW-1       | Slag inclusion and porosity | 1/2" x 3/4"   |
|                            | Porosity                    | 5/8" x 1/4"   |
|                            | Slag line                   | 1-1/2" long   |
| Q-1-T52-1608<br>FW-2       | Incomplete fusion           | 3/16" long  |
|                            | Porosity                    | 3/8" x 1/4"   |
| Q-1-T52-1611<br>FW-5       | Slag inclusion              | 1/4" long   |
|                            | Slag inclusion and porosity | 3/4" x 1-3/4"   |
| Q-1-T52-1611<br>FW-5R1     | Slag inclusion and porosity | 3/4" x 1-3/4"   |
|                            | Incomplete fusion           | 1/8" x 3/4"   |
|                            |                             | 1/4" x 1/2"   |
| Q-1-T52-1611<br>FW-5R2     | Incomplete fusion           | 1/8" x 3/4"   |
|                            |                             | 1/4" x 1/2"   |
| Q-1-T52-1611<br>FW-5R3     | Incomplete fusion           | 1/8" x 3/4"   |
| Q-1-T52-1615<br>FW-9       | Incomplete fusion           | 360°  |
| Q-1-T52-1624<br>FW-18      | Porosity                    | 1/2" x 1/4"   |
|                            | Porosity                    | 1/4" x 1"   |
|                            |                             | 3/8" x 1/2"   |
|                            |                             | 3/4" x 3/4"   |

| <u>Weld Identification</u> | <u>Indication</u>               | <u>Approximate Extent<br/>of Indication<br/>Subsequently Repaired</u> |
|----------------------------|---------------------------------|---|
| Q-1-T52-1627<br>FW-21      | Porosity                        | 1/2" x 1/4"<br>3/8" x 1/8"  |
| Q-1-T52-1630<br>FW-24      | Slag inclusion                  | 3/4" long   |
| Q-1-T52-1632<br>FW-26      | Slag line                       | 1/2" long   |
| Q-1-T52-1633<br>FW-27      | Porosity                        | 1/4" x 1/4"<br>1" x 1-1/4"<br>1/4" x 1/4"                             |
| Q-1-T52-1646<br>FW-40      | Incomplete<br>fusion            | 1/4" long   |
| Q-1-T52-1676<br>FW-70      | Incomplete<br>fusion            | 15/16" long   |
|                            | Incomplete<br>fusion            | 3/8" x 3/16"  |
|                            | Slag line                       | 3/4" long   |
| Q-1-N11-EG-180<br>FW-8     | Slag line                       | 1-1/2" x 1/4"   |
| Q-1-N21-EG-186<br>FW-2     | Incomplete<br>fusion            | 4" long   |
|                            | Incomplete<br>fusion            | 5" long   |
|                            | Incomplete<br>fusion            | 12" long  |
|                            | Incomplete<br>fusion            | 12" long  |
|                            | Incomplete<br>fusion            | 8" long   |
| Q-1-N21-EG-187<br>FW-8     | Slag inclusion                  | 1/2" long   |
| Q-1-G24-E3819<br>FW-3F     | Incomplete<br>fusion            | 1/2" long<br>2-1/2" long  |
| Q-1-E11-EG-519<br>FW-8     | Incomplete<br>fusion            | 8-3/4" long   |
|                            | Incomplete<br>fusion            | 3" long   |
| Q-1-E11-EG-41<br>FW-5      | Slag line and<br>slag inclusion | 1-3/4" x 4-1/2"   |

Unit 2 (under construction):

A total of 60 containment boundary butt welds between penetration sleeves and process piping have been completed and radiographed in Farley Unit 2 at the time of preparation of this response. Of that total, radiography revealed five welds which required repairs extensive enough to require the addition of filler metal. Those welds are tabulated below along with other known pertinent information:

| <u>Weld Identification</u> | <u>Indication</u>              | <u>Approximate Extent of Indication Subsequently Repaired</u> |
|----------------------------|--------------------------------|---|
| Q-2-N11-1EG2-2<br>FW-15    | Porosity and slag inclusion    | 5/8"  |
| Q-2-P16-EG2-310<br>FW-18   | Slag line                      | 1-3/8"  |
| Q-2-E21-EG2-415<br>FW-14   | Slag line                      | 3/8"  |
| Q-2-T52-E7500<br>FW-17     | Porosity                       | 1-1/2"  |
| FW-18                      | Porosity and incomplete fusion | 5/16"   |

Requested Action

3. For those facilities committed during construction to perform volumetric examination of such penetrations through SAR commitments which have not performed radiography, justify not performing radiography or submit plans and schedules for performing radiographic examinations."

Response:

Radiography is performed as stated in the response to 2.b., above.