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Alabama Power

the southern electric system

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July 9, 1979

Docket Nos. 50-348 and 50-364
NRC IE Bulletin No. 78-12, 12A
and 12B

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

Dear Mr. O'Reilly:

In response to IE Bulletin 78-12, 12A and 12B "Atypical Weld Material in Reactor Pressure Vessel Welds", Alabama Power Company submits the following response for Plant Farley-Units 1 and 2.

Item 1: Conduct a records research of all primary reactor pressure vessel weldments (excluding partial penetration welds) and submit the following information:

- (a) The principal vessel manufacturer. If other manufacturers were used, identify those companies and the weldments completed by those firms.

The principal vessel manufacturer was Combustion Engineering. No other manufacturer was utilized.

- (b) & (c) The type, form, identifying heat and lot numbers, and manufacturer of welding materials.

This information is in Section V of the Combustion Engineering generic response to the NRC. Both wire/flux combination and 8018 electrode information are presented.

- (d) The specified properties of the weld materials and the completed weldments.

Section VI of the Combustion Engineering generic report describes the acceptance criteria established for weld material and completed weldments.

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Item 2: Describe the procedures utilized during fabrication to verify conformance to the specifications.

- (a) Describe the type, number, and dates of tests performed on welding materials to satisfy the material conformance testing requirements.

Combustion Engineering utilizes several types of tests and reports to insure the acceptability of welding materials and their conformance to applicable specifications as described below:

1. Vendor Mill Test Reports - Combustion Engineering has reported each shipment of bare wire and shielded metal arc electrodes is accompanied by a vendor mill test report from the manufacturer of the material that identifies the degree to which the material conforms to the applicable purchase specifications.
2. Wire Alloy Verification Tests - Combustion Engineering has a quality program that requires that each end of each coil of welding wire be tested for selected chemical elements to assure that the material is homogeneous and conforms to the purchase specification. Additionally, C-E specifies that only one heat of wire and one weld splice may be used in any one coil of wire.
3. Weld Deposit Test Plates - After receiving welding wire and flux material from the vendor, C-E also prepares a weld test plate which may then be utilized during shop fabrication. This test plate is analyzed chemically and mechanically to assure compliance to all required codes and specifications in the as-deposited condition. This test is considered the most significant indication of material acceptability. Shielded metal arc electrodes are also tested in this manner. The tables in Section V identify the number and dates of tests performed on weld deposit test plates.

Item 2b: Describe the type, number and dates of other tests such as procedure qualification, welder performance tests, or in-process checks.

Combustion Engineering has reported that it does not maintain a record of the specific lots of shielded metal electrode or combinations of heat or submerged arc wire and lot of flux which are used for procedure qualification of welder performance test. This is in accordance with the ASME Code. The Code requires only that materials with similar properties be used for this type of testing. Therefore, only accepted materials are used for procedure qualification test results and welder performance test results. These tests are not to justify the acceptability of specific heats or lots of material. However, all procedures and all welders/welding operators used in reactor vessel fabrication have been qualified to the applicable requirements of the Codes and customer specifications.

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Combustion Engineering has also reported no in-process testing or production welds is performed to verify material acceptability.

Item 2c: Describe the parameters of each test and provide the results obtained.

Section V of the Combustion Engineering generic report provides summary tables of the results of the tests performed on weld deposit test plates for combinations of submerged arc wire and lot of flux, and for lots of shielded metal electrodes.

The acceptance criteria for these tests are described in Section VI. Unless otherwise noted, the results of the test met the applicable acceptance criteria.

In the C-E generic test report, representative test results are presented in Section VIII (submerged arc wire/flux) and Section IX (8018 shielded Metal Arc Electrodes). At least one report for each heat of submerged arc wire is provided. For shielded metal arc electrodes, a test report is provided for every tenth lot.

Item 3: Identify materials that did not meet procurement specifications and their disposition.

In the Combustion Engineering generic report, the tables in Section V include a column entitled "Refer to Attached Non-Conformance Report." An entry in this column indicates that a non-conformance was identified and dispositioned. Details of the nature of the non-conformance and its disposition are included in Section VII. All non-conformances were found to be properly dispositioned.

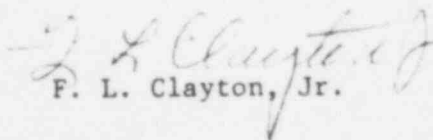
Item 4: Provide information on the availability of archive weld materials which might be used for verification purposes.

Westinghouse surveillance weldment data is contained in WCAP-8956 dated August, 1977. Since Combustion Engineering does not maintain an inventory of archive materials for the welds represented in the generic report, Westinghouse has inventoried archive surveillance weldment material which could be used for verification purposes. This material consists of full thickness weldments of:

Weld Wire Heat Number BOLA (MMA Welding Process)
Flux Lot Number --

Note: Combustion Engineering Generic Report for IE Bulletin 78-12 and 12A was submitted to the NRC on June 8, 1979.

Yours very truly,


F. L. Clayton, Jr.

FLCJr/KAP:bhj

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Mr. James P. O'Reilly

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