



Department of Energy
Washington, D.C. 20545

Docket No. 50-537
HQ:S:83:255

JUN 20 1983

Dr. J. Nelson Grace, Director
CRBR Program Office
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Dr. Grace:

CLINCH RIVER BREEDER REACTOR PLANT (CRBRP) USE OF MECHANICAL COUPLERS AS
A REBAR SPLICE SYSTEM.

The purpose of this letter is to inform the Nuclear Regulatory Commission (NRC) of the CRBRP project's planned optional use of mechanical couplers for reinforcing bar splice systems in the Nuclear Island Mat and in other areas of the Nuclear Island.

The CRBRP project has recently conducted an assessment that indicates a substantial cost saving could be realized by the use of mechanical coupler systems. The project currently intends to utilize a competitive bidding process for the acquisition of splicing systems for #11 and #18 reinforcing bar.

The mechanical splice systems would be utilized in accordance with the ASME Code Section III, Division 2, 1980 Edition, Summer 1980 Addenda, the ACI-349-80 Code and Regulatory Guide 1.136 with the exceptions as shown in the enclosure. In addition, a quality assurance program will be established to assure that the applicable code requirements are met.

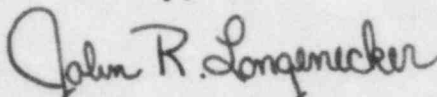
In previous discussions with the NRC staff, it was indicated that performance test reports were required per the codes. The project intends to provide a compilation of the needed information for the mechanical taper threaded coupler system that we plan to use. The information will cover performance test results for #11 and #18 reinforcing bar and the standard and positioned couplers for the system. An outline of the quality assurance plan, to assure code requirements are being satisfied, and a code comparison between ASME Code Section II, Division 2, 1980 Edition, Summer 1980 Addenda and the ACI-349-80 Code will also be provided after it is completed. Similar information will be provided for other splice systems prior to their use.

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If you have questions, please contact Mr. Al Meller (FTS 626-6355) or Mr. P. R. Washer (FTS 626-6179) of the Project Office Oak Ridge staff. Your cooperation is appreciated.

Sincerely,

A handwritten signature in dark ink, reading "John R. Longenecker". The signature is written in a cursive style with a large initial "J".

John R. Longenecker
Director, Office of Breeder
Demonstration Projects
Office of Nuclear Energy

Enclosure

cc: Service List
Standard Distribution
Licensing Distribution

Enclosure

In conformance to Regulatory Guide 1.136, the following exceptions are taken with justifications:

Exception is taken to the requirement for production splice testing of rebar mechanical cadweld splices where the rebar is curved with a radius of less than sixty feet, and where rebar is attached to the steel bottom liner plate. In these areas production splice testing is not feasible. In lieu of production splice testing in these areas, the Project will require that a sister splice be made by the same crew, at the same time, in the same location and in the same configuration as the production splice. This sister splice will be tested to verify tensile strength. Test frequency of sister splices, where substituted for production splice test samples in the above listed areas, shall be based on the schedule in CC-4333.5.3(a) 2(b) of the ASME Code, Section III, Division 2, 1980 Edition, Summer 1980 Addenda. This test frequency for cadweld splices shall be:

- (1) one sister splice for the first 10 production splices;
- (2) four sister splices for the next 90 production splices;
- (3) three sister splices for each subsequent unit of 100 production splices.

Exception is also taken to the requirement for production splice testing of mechanical taper threaded coupler splices. The test shall be made using sister splices and the test frequency shall be based on the schedule in CC-4333.5.3 (b) of the ASME Code, Section III, Division 2, 1980 Edition, Summer 1980 Addenda. This test frequency for mechanical taper threaded coupler splices shall be:

1. one of the first 10 splices
2. one of the next 90 splices
3. two of the next and subsequent units of 100 splices