



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
631 PARK AVENUE  
KING OF PRUSSIA, PENNSYLVANIA 19406

In Response

Docket No. 50-443

JUL 16 1981

MEMORANDUM FOR: Robert L. Baer, Chief, Reactor Engineering Branch, IE  
FROM: Thomas T. Martin, Chief, Engineering Inspection Branch  
SUBJECT: SEABROOK UNIT 1 IE UNRESOLVED ITEM NO. 80-12-01 MULTIPLE  
CADWELD SPLICES IN CONTAINMENT PRIMARY SHIELD WALL

This memorandum confirms a telephone conversation between E. Gallagher and A. A. Varela relative to the enclosed technical evaluation in answer to Seabrook unresolved item number 80-12-01.

United Engineers and Constructors (UE&C), the AE on the Seabrook project, has responded to a licensee request to answer Region I concerns regarding potential excess strain accumulation across more than two cadweld rebar splices on a single number 18 rebar where engineering drawings call for only one splice. In IE Report No. 50-443/80-12, paragraph 2 (enclosed) the inspector expressed his concern that due to over conservatism in AE requirements on cadweld splice end void measurements, a high reject rate resulted in multiple replacement splices. IE Report No. 81-02, paragraph 3 (enclosed) identifies that UE&C has established new cadweld end void measurement standards in close agreement with ERICO. However, at that time, UE&C had not provided to the NRC inspector information as to identification and location of existing multiple splices on the same bar in the containment primary shield wall.

We are now in possession of as built drawings showing locations in the containment building primary shield wall where more than two cadwelds replaced successive rejects within a full bar development length. We have reviewed these drawings and found that multiple replacement splices occur at 80 locations. In this number of individual bars, there appears to exist the "worst case" as described on page 2 of the enclosed technical evaluation submitted by UE&C in response to IE unresolved item number 80-12-01 (UE&C memorandum of March 26, 1981).

Since this technical evaluation is based on a design analysis that assumes certain values of additional deformation (slip), it is the opinion of the Region I staff that this represents a modification to the facility design.

We have recommended that for the structural integrity test, an area representing the "worst case" be subjected to crack pattern mapping per Regulatory Guide 1.18. The licensee has refused to make such a commitment based on the enclosed UE&C evaluation. The licensee emphasizes that no code (ASME III, Division II) requirement has been violated.

CONTACT: A. A. Varela  
8-488-1267

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We recommend that this matter be reviewed by your staff and, if they concur with our concern, it be forwarded to NRR for their consideration of the need to impose additional structural integrity test requirements.

*for Lowell E. Lipp*  
Thomas T. Martin, Chief  
Engineering Inspection Branch

Enclosures: As stated

cc w/encl:  
G. Arndt, Office of Standards