

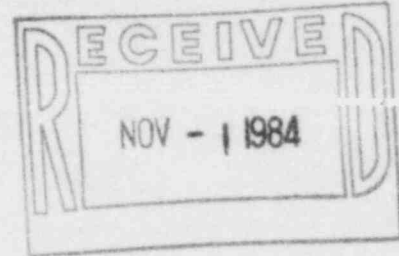
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October 31, 1984

W3P84-2961
Q-3-A35.07.78
3-A1.01.04

Mr. John T. Collins
Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011



Dear Mr. Collins:

Subject: Waterford 3 SES
Docket No. 50-382
SIGNIFICANT CONSTRUCTION DEFICIENCY NO. 78
"American Bridge Structural Steel Deficiencies"
Final Report

Reference: LP&L letter W3P84-2647 dated September 21, 1984

The referenced letter states that the final report on SCD-78 was scheduled for submittal by October 30. In accordance with 10CFR50.55(e)(3), enclosed are two copies of the LP&L final report on SCD-78 with the Justification for Interim Operation.

Very truly yours,

K.W. Cook
Nuclear Support & Licensing Manager

KWC:GEW:sms

Enclosure

cc: NRC, Director, Office of I&E (15 copies)
NRC, Director, Office of Management
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FINAL REPORT OF
SIGNIFICANT CONSTRUCTION DEFICIENCY NO. 78 R2
"AMERICAN BRIDGE STRUCTURAL STEEL DEFICIENCIES"

INTRODUCTION

This report, submitted pursuant to 10CFR50.55(e), describes a quality assurance breakdown within the American Bridge (AB) Inc. program for erection of safety-related structural steel. Deficiencies were identified in the areas of welding, bolted connections and documentation thereof. This report was combined with SCD 73 on 6/15/83 and was initially submitted as a Final Report on 5/15/84 (W3K84-1180). Subsequently, NRC CAT audit identified that documentation was missing concerning reinspection of framing adjacent to the steam generators. Apparently, the scope of work performed by AB had not been totally identified by LP&L for reinspection. On May 29, 1984, the NRC was notified SCD No. 78 was reopened.

This subject also appeared as Concern No. 12 entitled "Main Steamline Framing Restraints Over Steam Generators" in the NRC letter to LP&L of June 13, 1984. Additional items were added based on review of Information Requests (IR's) associated with the evaluation of generic implications of Concern No. 14 in the same letter, entitled "JA Jones Speed Letters and EIR's".

To the best of our knowledge it has not been reported pursuant to 10CFR21.

DESCRIPTION OF PROBLEM

Ebasco record review and surveillance inspection of the bolting and welding performed by American Bridge revealed insufficient documentation existed to cover the work performed. Structural Steel affected was in the Reactor Containment Building (RCB), the Reactor Auxiliary Building (RAB), the Fuel Handling Building (FHB), and the Common Foundation Structure (CFS) of the Waterford SES Unit 3. The deficiencies in American Bridge documentation indicated a breakdown of the Quality program sufficient to require a complete reinspection of bolted connections and designated welded connections completed by American Bridge in the RCB, RAB, FHB, and CFS. The purpose of the reinspection was to identify those bolted connections requiring rework and to provide information and data to verify the adequacy of the welded connections and to determine the repair of those welded connections found to be deficient.

SAFETY IMPLICATIONS

Some of the documentation missing was for bolted and welded connections of structural steel supporting or tying into safety related systems. If left uncorrected, failure of those connections could have resulted in possible degradation of those safety systems.

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CORRECTIVE ACTION

On May 26, 1983, NCR-W3-6263 was issued to consolidate most of the nonconformance reports written as a result of the documentation review. This nonconformance report established the Corrective Action plan for reinspection of the structural steel connections installed by American Bridge. Two procedures were issued which established the criteria for performing and documenting the reinspection. One procedure was applicable to bolted connections. The second procedure was applicable to welded connections.

The remaining nonconformance reports issued during the documentation review addressed deficiencies that were not covered under the reinspection procedures or addressed areas where more than one contractor was involved in the installation. Examples of these nonconforming conditions are expansion anchor torque, welder qualifications, and control of welding electrodes.

Upon completion of the reinspection, evaluation, and rework, the documentation was reviewed and a Final Report issued to the NRC on May 15, 1984.

As a result of the discovery of the omission of the Steam Generator Framing, Nonconformance Report No. 7736 was issued to control this deficiency. The plan of corrective action required action in three areas.

First, Quality Control was to perform a 100% reinspection of connections in the Steam Generator Framing. These inspections were to be performed and documented in accordance with procedures developed under the corrective action committed to in SCD No. 78.

Second, Construction Engineering was to review the scope of the American Bridge work. This scoping was to be compared to the reinspections performed under SCD No. 78 to assure no other American Bridge work had been omitted from the re-scoping of SCD No. 78.

Third, a review of existing documentation was performed by Quality Assurance. This review determined whether connections had been completed by American Bridge, Ebasco Force Account, or Tompkins-Beckwith.

This reinspection is complete. Approximately one hundred seventy (170) Deficiency Reports (DR) were generated to document deficiencies or concerns noted in the reinspection. Deficiencies generally consisted of lack of material identification, loose bolts, incorrect bolting material, slotted holes, and oversize holes. The disposition of these Discrepancy Reports required the replacement of approximately seven hundred fifty (750) bolts.

The scoping of American Bridge work is complete. A review of the reinspections performed under SCD No. 78 showed reinspections had been completed in accordance with the corrective action stated in SCD No. 78 with the exception of the Steam Generator Framing.

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Discussions were held to determine the cause of the omission of the Steam Generator Framing from the reinspections under SCD No. 78. It was found that QAIRG had noted deficiencies in their documentation review of the installation documentation for the Steam Generator Framing. At the time of initiation of SCD No. 78, Ebasco Force Account and Tompkins-Beckwith were working on this steel in the course of normal construction activities. It was decided not to review documentation for the framing until after these contractors had completed their work. Reinspection under SCD No. 78 was not possible at that time due to large amount of work in this area. No tracking document was issued to assure review of the installation documents in order to determine those American Bridge connections not reworked by Ebasco or Tompkins-Beckwith. For this reason, SCD No. 78 was closed without reinspecting the Steam Generator Framing.

To preclude the omission of items within the scope of SCDs, a joint effort in scoping of SCDs is now being performed by Quality Assurance, ESSE, Construction, and Construction Engineering when a deficiency is determined significant. This scoping will be documented and included in the SCD Documentation Packages.

Review of American Bridge Information Requests under NRC Concern No. 14 indicated that American Bridge had performed rework to shop fabricated structural components to facilitate erection and fitup. They have also installed anchor plates.

In each case where performance of work by American Bridge was indicated a reinspection was performed, nonconforming items were evaluated and corrective action initiated. Not all corrective action has been completed and the open work items are being tracked under the LP&L program via CIWA's.

This report is submitted as the Final Report.

JUSTIFICATION FOR INTERIM OPERATION

As described under Corrective Action the scope of SCD-078 has been expanded since it was first issued to encompass related CAT audit findings and issues raised by the NRC in Concerns No. 12 and No. 14. The small amount of corrective action remaining is scheduled to be completed by 11/1/84. All work in the Reactor Containment Building will support this schedule. The items remaining in the Balance of Plant will be completed by 11/1/84 or shortly thereafter not exceeding initial criticality.

This rework is not considered a constraint to fuel load for the reason that even in the highly unlikely event of failure of bolts and welds on safety-related systems and the subsequent failure of those systems, the lack of fission products prior to Mode 2, provides assurance that the health and safety of the public will not be adversely affected.