

APPENDIX A

Chicago Bridge & Iron Company
Docket No. 99900784/82-01

NOTICE OF NONCONFORMANCE

Based on the results of an NRC inspection conducted on July 26-30, 1982, it appears that certain of your activities were not conducted in accordance with NRC requirements as indicated below:

Criterion V of Appendix B to 10 CFR Part 50 states: "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

Nonconformances with these requirements are as follows:

- A. Section 14.0 of the Nuclear Quality Assurance Manual, Issue No. 8, paragraph 14.6.4.1, subparagraph A.3, states in part, "Repairs shall be controlled and documented as follows: a. For those listed on the Nonconformance Control List - by use of the Repair Traveler or Repair Checklist as applicable."

Contrary to the above, repairs (weld buildups) were performed on Nonconformance Control List Items 20, 21, and 22 (Contract No. 82105, Assembly Nos. 609-11-1-2, 609-18-2 and 609-4-2) without control and documentation by use of a Repair Checklist.

- B. Section 14.0 of the Nuclear Quality Assurance Manual, Issue No. 8, paragraph 14.6.3.5 states in part, "Under 'Disposition Complete,' the Nuclear QA Coordinator shall sign off when the action necessary to resolve the nonconformity has been completed"

Contrary to the above, completion of disposition had not been signed off by the Nuclear QA Coordinator on the Nonconformance Control List for Job No. 82105B, NCCL8.6.2, for Items Nos. 6, 7, 8, 9, 10, and 13, although all the actions necessary to resolve the nonconformity had been completed.

- C. Paragraph 8.2.3.9 in Section 8.0 of the Nuclear Quality Assurance Manual, Issue 8, states in part, "Only welds identified on the Daily Weld Material Distribution Log may be welded with the material drawn. Welds may be added to the log by a Welding QA Supervisor or the storage attendant if the welder's assignment is changed and the material in his possession is acceptable for use on the new assignment"

8209080426 820819
PDR GA999 EMVCHIB
99900784 PDR

Contrary to the above, a weld (Area K) was observed being performed on Contract No. 82105 (Comanche Peak), Pipe Restraint Assembly 1007-A, which had not been either originally identified on, or added to, the Daily Weld Material Distribution Log by a Welding QA Supervisor or storage attendant.

- D. Paragraph 8.6.5 in Section 8.0 of the Nuclear Quality Assurance Manual, Issue 8, states in part, "On work controlled by the Shop Check List System, the Welding QA Supervisor shall complete a Preheat-Interpass Monitoring Log . . . for each Shop Check List . . . The log shall be maintained until preheat is completed on all items covered by the check list"

Paragraph 12.3 in General Welding Procedure Specification GWPS-SMAW (WPS 800), Revision No. 10, states in part, "Joints requiring preheat and/or interpass temperature control will be checked before welding of the joints is started to ascertain that the minimum preheat and/or interpass temperature has been reached"

Contrary to the above:

1. The Preheat-Interpass Monitoring Log for Contract No. 82105, Pipe Restraint Assembly 801-A, was not maintained with respect to checking of required preheat for performance of a weld repair made after final assembly postweld heat treatment.
2. Welding was commenced after torch preheating of Area K of Contract No. 82105, Pipe Restraint Assembly 1007-A, without checking to ascertain that the required minimum 250^o F preheat temperature had been reached.

- E. Paragraph 8.5.2 in Section 8.0 of the Nuclear Quality Assurance Manual, Issue 8, states in part, "Welding QA Supervisors shall . . . 8.5.2.6 Maintain surveillance over the welders throughout welding operations to assure that:
A. The proper welding procedure is being followed"

Contrary to the above, surveillance over welders was not maintained throughout welding operations on Contract No. 82105, Pipe Restraint Assembly 1007-A, to assure that the proper welding procedure was being followed, as evidenced by the observation of the use of flux core arc welding for Area B, in addition to the shielded metal arc welding process permitted by the applicable Shop Checklist.

- F. Paragraph 10.2.2 in Section 10.0 of the Nuclear Quality Assurance Manual, Issue 8, states in part with respect to postweld heat treatment (PWHT), ". . . Shop QA may designate PWHT for dimensional purposes on process control documents, provided the Welding Procedure Specification(s) allow PWHT." Paragraph 10.2.3 states in part, "Shop QA shall . . . Incorporate heat treating requirements on process control documents by reference to applicable procedures"

Contrary to the above, PWHT was performed for dimensional purposes on Contract No. 82105, Pipe Restraint Assemblies 806-A, 807-A, and 860-A, without either designating PWHT or incorporating heat treating requirements on the process control documents (Shop Checklists).

- G. Paragraph 8.4.2 in Section 8.0 of the Nuclear Quality Assurance Manual, Issue 8, states in part with respect to welder performance qualifications, "A copy of the qualification form shall be maintained in the welder's file and qualification information shall be recorded on a master sheet listing qualifications of all welders in the shop"

Contrary to the above, the following examples were identified during review of welder performance qualification records, of both failure to record and incorrect recording of qualification information on the welder qualification master sheet:

1. A January 3, 1978, 2G (horizontal) position shielded metal arc welder performance qualification had been entered on the master sheet as a 3G (vertical) position performance qualification.
 2. An October 21, 1981, stud welder performance qualification had not been entered on the master sheet; and for the same individual a May 6, 1982, stud weld performance qualification had been entered on the master sheet as being performed on May 6, 1981.
 3. An October 14, 1981, gas metal arc welder performance qualification had not been entered on the master sheet.
- H. Paragraph 3.3 in Procedure GR-100N, Revision 0, "General Repair Procedure For Materials and/or Weld Metal After Final PWHT," states, "Perform and record a dimensional inspection of surface area to be repaired and note depth of repairs."

Contrary to the above, no records were available which would indicate a dimensional inspection (including measurement of repair depth) had been performed on a surface that was repaired after final PWHT on Contract No. 82105, Pipe Restraint Assembly 801-A.

- I. Paragraph QW-201.1 in Section IX of the ASME Code states in part, "The welding procedure specification (WPS) shall cover details which are important to the production of sound welds. This shall include . . . variables described for each welding process as either essential or nonessential (see QW-252 through QW-281)." Paragraph QW-201.2 states in part, ". . . A change in any essential variable shall require requalification, to be recorded in another PQR"

Contrary to the above, WPS DS88-F3/82105 permitted a change in an essential variable (QW-403.9) for the gas metal arc welding process from that qualified by the supporting Procedure Qualification Record (PQR), and for which requalification had not been performed; i.e., the WPS permitted welding of thickness up to 2 inches without PWHT, but was qualified by the existing PQR for only up to 1.1 inch as a result of the WPS not restricting bead thickness to 1/2 inch maximum.