

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-298/85-03

License: DPR-46

Docket: 50-298

Licensee: Nebraska Public Power District (NPPD)
P. O. Box 499
Columbus, Nebraska 68601

Facility Name: Cooper Nuclear Station (CNS)

Inspection At: CNS Site, Nemaha County, Nebraska

Inspection Conducted: January 21-25, 1985

Inspector:

I. Barnes

I. Barnes, Reactor Inspector, Project Section A

2-14-85

Date

Approved:

J. P. Jaudon

J. P. Jaudon, Chief, Project Section A
Reactor Project Branch 1

2/15/85

Date

Inspection Summary

Inspection Conducted January 21-25, 1985 (Report 50-298/85-03)

Areas Inspected: Routine, unannounced inspection of welding and nondestructive examination activities associated with recirculation, core spray, and reactor water cleanup piping replacement. The inspection involved 37 inspector-hours onsite by one NRC inspector.

Results: Within the three areas inspected, no violations or deviations were identified.

8503040408 850226
PDR ADOCK 05000298
G PDR

DETAILS

1. Persons Contacted

NPPD

- *P. V. Thomason, Division Manager, Nuclear Operations
- *G. Horn, CNS Construction Manager
- V. L. Wolstenholm, CNS Quality Assurance (QA) Manager
- *G. E. Smith, CNS Senior QA Specialist
- *N. M. Pendleton, IGSCC QA/Quality Control (QC) Supervisor
- *C. R. Goings, Regulatory Compliance Specialist
- F. A. Lusch, Project Welding and QA Superintendent (Chicago Bridge & Iron)
- F. Schaaf, Technical Supervisor, Construction

NRC

- *D. L. DuBois, Senior Resident Inspection, Region IV, CNS

In addition to those listed, the NRC inspector held discussions with several other licensee employees.

*Denotes those present at the exit interview.

2. Licensee Action on Previous Inspection Findings

- a. (Closed) Unresolved Item (298/8422-03): Requirements for and approval of use of Tuck tape.

The NRC inspector reviewed Chicago Bridge & Iron (CB&I) Work Instruction WI-2, "Approved Process Materials-Drywell & ESP," Revision 1, and verified that Tuck No. 5220 tape was listed as an approved packaging material. It was additionally established during this review that the CB&I chemistry requirements for this tape were in conformance with the permissible halogen and sulfur contents (i.e., 0.1 percent maximum by weight) specified by ANSI N45.2.2-1972 and Regulatory Guide 1.38, Revision 2. Examination of vendor certification for onsite tape lot numbers confirmed that the reported chemistry was in compliance with CB&I WI-2 requirements.

This item is closed.

- b. (Open) Unresolved Item (298/8422-04): Potential vendor use of high stress stamps on replacement piping spools.

The NRC inspector examined masks that had been taken of manufacturer's identification markings and was unable to conclusively establish whether low stress stamps had been used. The majority of the character impressions did exhibit some degree of rounding, but it

was also noted that the digit "1" showed a profile which could potentially have been produced by use of a high stress stamp.

This item will remain open pending suitable action to assure that identification marking does not constitute a local "stress riser" condition.

- c. (Closed) Open Item (298/8422-05): Golden tint on recirculation spool pieces and thermal or etching discoloration on a cross piece.

The golden coloration of replacement spool pieces was addressed in NRC inspection Report 50-298/85-01. During this inspection, both recirculation loop cross pieces were visually examined with respect to the previously identified thermal or etching discoloration. No evidence was noted of blueing or other similar discoloration. Machining of weld preparations had been performed on the cross pieces since this previous inspection. Discussion with the reporting inspector subsequent to this inspection confirmed that the discoloration was primarily present in an area where metal removal would occur during weld preparation machining. It was, therefore, concluded that the observed surface condition had been eliminated by machining operations.

This item is closed.

- d. (Closed) Open Item (298/8422-06): Adequacy of materials used for covering replacement piping spools while in storage.

The NRC inspector reviewed vendor certification for the observed covering materials and ascertained that the material had been certified to comply with ANSI N45.2.2 and was reported to contain less than 5 parts per million total leachable halogens.

This item is closed.

- e. (Closed) Open Item (298/8422-07): Adequacy of material test data with respect to contract requirements.

The NRC inspector evaluated vendor certified test reports for spools RL-A-9B, RL-B-11-S-1, and RL-A-16, with respect to the material technical requirements contained in NPPD Contract 83-41 through Amendment 3, dated October 12, 1984. Spools RL-A-9B and RL-B-11-S-1, which contained bends, had been classified as ASME Material Specification SA-403 fittings. This specification (1983 Edition, Section IIA of the ASME Code) does not require performance of flattening, bend, or hydrostatic tests. The applicable starting material specification for these spools (i.e., ASME Material Specification SA-312 pipe) does contain flattening and hydrostatic test requirements. The fitting specification only requires, however, that the steel used for producing fittings conforms to the starting material specification with respect to melting process used,

composition, and capability to meet the tensile property requirements. Spool RL-A-16 consisted of a SA-403 elbow welded to a straight length of SA-312 pipe. The NRC inspector verified that the SA-312 portion of the assembly had been appropriately hydrostatically tested and a sample subjected to a flattening test.

This item is closed.

3. Recirculation Core Spray and Reactor Water Cleanup Piping Replacement

The purpose of this inspection was to ascertain whether or not welding material control and nondestructive examination activities associated with replacement of recirculation, core spray, and reactor water cleanup piping were being accomplished in conformance with committed codes and contract requirements.

a. Welding Material Control

The NRC inspector reviewed CB&I Procedure ECSC-2, "Electrode Care, Storage, and Conditioning Procedure (E7018, E308, E309)," Revision 3, and WI-39, "Supplemental Field Weld Material Control," Revision 2. From this review, it was verified that appropriate measures had been prescribed with respect to maintenance of filler material identity during storage and use, and that satisfactory criteria were established for, (1) limiting moisture pickup by electrode coatings during use, and (2) conditioning and baking of unused coated electrodes after return to storage. Examination of oven temperature data for electrode ovens (i.e., Nos. 7, 12, 13, and 14) in the multi-purpose facility confirmed that temperatures were being maintained within the specified range and were being checked at the prescribed frequency of once per shift. Returned electrodes in ovens were checked for number and type against completed material issue requisitions, in order to verify that electrodes were being properly controlled with respect to procedure conditioning requirements. Seven different welding materials, which were located in the welding material storage area, were selected for verification that CB&I had approved the materials for issue and use. Vendor certifications for these materials were then reviewed by the NRC inspector, in order to assure that the materials conformed to the requirements of the applicable CB&I welding material specification, Sections IIC and III of the ASME Code, and NPPD Contract 84-2 through Amendment 2, approved December 3, 1984. The identities of the welding materials reviewed were as listed below:

- E7018 electrode, 1/8", Lot 4B107081, Control 081BBB
- E7018 electrode, 5/32", Lot 3D410A02, Control KK056
- ERNiCr-3 wire, 0.035", Heat NX0704D
- ERNiCr-3 wire, 0.045", Alloy Y4917G382
- ERNiCrFe-3 electrode, 3/32", Control No. 4900
- E309-15, electrode, 3/32", Lot 50407-1
- ER316L wire, 1/8" x 36", Heat S468612

Within this area of the inspection, no violations or deviations were identified.

b. Nondestructive Examination:

- (1) Personnel Qualification and Certification - The NRC inspector reviewed the CB&I "Nondestructive Examination Personnel Training Qualification and Certification Program," Issue 10, Revision 19, dated March 22, 1984, with respect to the requirements of SNT-TC-1A. The certification records for 14 personnel holding nondestructive examination certifications were reviewed in regard to CB&I program and SN-TC-1A requirements.

Within this area of the inspection, no violations or deviations were identified.

- (2) Liquid Penetrant Examination Procedure Review - The NRC inspector reviewed the following three CB&I liquid penetrant examination procedures with respect to the requirements of Section V of the ASME Code:
- PT14X, Revision 1, "Liquid Penetrant Examination Procedure, Color Contrast, Solvent Removable, Wet Developer"
 - PT9X, Revision 1, "Liquid Penetrant Examination Procedure, Color Contrast, Water Washable, Wet Developer"
 - PT22X, Revision 1, "Liquid Penetrant Examination Procedure, High Temperature, Color Contrast, Wet Developer"

From this review, it was ascertained that the specified parameters for performing the examinations and the defined acceptance standards were in conformance with ASME Code requirements. The NRC inspector also reviewed CB&I certifications for onsite penetrant, cleaner and developer materials, in order to verify that the sulfur and halogen levels were in compliance with ASME Section V Code requirements. In addition to the CB&I procedures, a review was made of General Electric Apparatus and Engineering Services Procedure IP-W812, Revision 0, "Liquid Penetrant Examination of Nuclear Power Plant Components." This procedure was applicable to ASME Section IX Code preservice examination of replacement piping welds.

Within this area of the inspection, no violations or deviations were identified.

- (3) Radiographic Examination Procedure Review - The NRC inspector reviewed the following two CB&I radiographic examination procedures with respect to the requirements of Section V of the ASME Code:

- RT1X, Revision 1, "Radiographic Examination Procedure For Welds"
- RT9X, Revision 3, "Radiographic Examination Procedure For Piping Welds"

From this review, it was ascertained that the radiographic technique details and defined acceptance standards were in conformance with ASME Code requirements. It was noted during review of Procedure RT9X, Revision 3, that the procedure had not been currently qualified for the minimum thickness of $\frac{1}{4}$ " permitted by the procedure to be examined by Iridium 192 gamma radiation. Paragraph T-243 in Article 2 of Section V of the ASME Code requires that the procedure be proven for thicknesses by actual demonstration of penetrometer resolution. Radiographic examination had not yet been performed using this procedure. CB&I personnel informed the NRC inspector that the procedure would be qualified in first use. Review of CB&I Instruction QTI-1, Revision 9, "NDE Procedure Qualification Instructions," confirmed that this was the CB&I practice for radiographic examination procedures.

Within this area of the inspection, no violations or deviations were identified.

4. Exit Interview

An exit interview was conducted on January 25, 1985, at the CNS site with those personnel denoted in paragraph 1 of this report. The NRC inspector summarized the scope and findings of the inspection.