Washington Public Power Supply System
P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000
Docket No. 50-397

March 11, 1982
G02-82-319

Mr. R. H. Engelken
U.S. Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 260
Walnut Creek, California 94596

Subject: NUCLEAR PROJECT NO. 2 - CPPR-93
REVISED RESPONSES TO NRC NOTICE OF VIOLATIONS
79-10/01, 79-10/03, 80-08/09, AND 80-08/22

References: a) G02-80-120, dated June 11, 1980
b) G02-80-209, dated September 19, 1980

Reference a) transmitted the Supply System's response to Notice of Violation 79-10/01 and 79-10/03. Reference b) transmitted the Supply System's response to 80-08/09 and 80-08/22. Subsequent to the transmittal of these replies, organizational and procedure change at WNP-2 have occurred which require submittal of revised responses for these four (4) violations. The Supply System committed to provide these responses in NRC Inspection Report 81-22. Attachments 1 through 3 fulfill that commitment in part. The response to 80-08/22 is not included in this letter, but will be provided prior to March 19, 1982.

R. G. Matlock
Program Director, WNP-2

RTJ/kd

Attachments: (3) As stated

cc: W.S. Chin, BPA - Site
R.A. Feil, NRC Resident Inspector - Site
A. Forrest, Burns and Roe - HAPO
N.D. Lewis, NRC
J. Plunkett, NRC
R.E. Snaith, Burns and Roe, NY
V. Stello, NRC
RMSF - 917Y

ATTACHMENT 1

Notice of Violation in letter from G. S. Spencer to N. O. Strand dated January 21, 1980 (GI2-80-17).

Appendix A, Item A (79-10/01)

Notice of Violation: 10CFR50, Appendix B, Criterion IX, states, in part, that "measures shall be established to assure that special processes, including...heat treating...are controlled and accomplished by...using qualified procedures..."

Paragraph D.2.5.9 of the Supply System Quality Assurance Program documented in the PSAR, states, in part, that "measures shall be established...to assure that special processes, including...heat treating...are accomplished ...using qualified...procedures..."

Contrary to the above, on May 31, 1979, it was found that the Piping Post Weld Heat Treating Procedure No. PWHT-1, Revision 4 (entitled "Post Weld Heat Treat Procedure No. 1) was implemented using a unique method of heat application without the benefit of qualification. The method employed electric resistance heater blankets placed along each side of the weld (approximately 1½ inches from the weld center line) rather than directly over the weld. This procedure had been used to heat treat safety related pipe welds including welds 6, 7, and 8 of Burns and Roe Isometric Drawing No. RFW-419-4.

This is an infraction.

Summary

Due to Bechtel Power Corporation assuming Contract 215 (WBG) system completion work and associated procedure changes, it is necessary to revise our response.

Action to Correct Deficiency

Old Response: A one dimensional transient analysis was performed to determine the maximum temperature the feedwater piping reached, utilizing electrical resistance heater blankets specified in Post Weld Heat Treating Procedure No. PWHT-1, Revision 4.

Because the transient analysis results disclosed that the maximum temperature obtained anywhere on the pipe was below 1330°F, we concluded that the material adjacent to the weld and under the heating blanket, was not excessively over heated and that post weld heat treatment performed did adequately stress relieve the welds as desired. It is further noted that the analysis corroborates the findings of Report No. IT-119, dated September 28, 1979, titled "Results of Hardness Testing and Metallurgical Examination on Feedwater Pipe Welds at Washington Nuclear Project No. 2."

Action to Correct Deficiency (Continued)

New Response: It has been determined that fifteen (15) Code Class 1 welds in the RFW system and five (5) Code Class 2 welds in the MS systems were post weld heat treated using procedure PWHT-1. A metallurgical nondestructive examination was performed on weld 1R1 of piping isometric RFW 418-5.6. This weld was chosen as the potential worst case of ASME Code Class 1 welds in question. As a vertical piping run, the weld would have been subject to a chimney effect with respect to air flow and, although within Code allowable limits, this Class 1 weld achieved the highest temperature on the strip chart recorder used in the PWHT process. Microstructure, grain size and hardness analyses were performed on the base material on the area directly unde the initial heater blanket placement and also on a reference area approximately six (6) feet from the weld area. The results of these examinations provide justification that adverse metallurgical properties have not been induced near the subject welds by the use of PWHT-1. A full report of this analysis has been generated and is available for review.

Action to Prevent Recurrence

Old Response: None stated.

New Response: WBG assumed direct responsibility for all PWHT upon termination of the PWHT subcontractor's contract. WBG's procedure provided for in-line review and approval of PWHT procedures. PWHT will now be accomplished in accordance with proven Bechtel procedures.

Date of Full Compliance

Old Response: None stated.

New Response: WBG assumed responsibility for PWHT effective September 12, 1979 in accordance with approved procedures.

Bechtel assumed responsibility for PWHT effective September 3, 1981, in accordance with approved procedures.

ATTACHMENT 2

Notice of Violation in letter from G. S. Spencer to N. O. Strand dated January 21, 1980 (GI2-80-17).

Appendix A, Item C (79-10/03)

Notice of Violation: G01-80-55, D. L. Renberger to G. S. Spencer (3-5-80). 10CFR50, Appendix B, Criterion XVII, states, in part, that "sufficient records shall be maintained to furnish evidence of activities affecting quality..."

Contrary to the above, on May 31, 1979, it was found that sufficient records shall be maintained to furnish evidence of satisfactory heat treating of safety related pipe welding. For example, several heat treated record charts were illegible (e.g. welds 6, 7, and 8 of BRI Isometric Drawing No. RFW-419-4); thermocouple indications were not recorded on some portions of the recorder charts (e.g. welds 1A and 2 of BRI Isometric Drawing RFW-419-5.7); no operators' names had been recorded on heat treating data records (e.g. welds 6, 7 and 8 of BRI Isometric Drawing RFW-419-4, welds 1A, 2, and 3 of Isometric Drawing No. RFW-419-5.7); different and conflicting thermocouple numbers had been recorded for the heat treatment of the same weld (e.g. the recorder charts and certification sheets for weld 8 of BRI Isometric Drawing RFW-418-4, weld 1 of Isometric RFW-418-7.8, welds 6, 7, and 8 of Isometric RFW-418-4); different (and conflicting) dates of heat treatment had been listed on recorder charts and certification sheets (e.g. welds 4, 6, 7, and 8 of BRI Isometric RFW-418-4, welds 1, 1A, 2 of Isometric RFW-418-5.6).

This is a deficiency.

Summary

Due to Bechtel Power Corporation assuming Contract 215 (WBG) system completion work and associated procedure changes, it is necessary to revise our response.

Action to Correct Deficiency

Old Response: WBG has initiated a program to review all completed PWHT charts and records for the PWHT conducted by Seattle Industrial...This review activity is overviewed by a Quality Engineer who evaluates the findings. Inspection Reports (IR's) are initiated as necessary to obtain resolution of the discrepancies found.

New Response: WBG has reviewed all completed post weld heat treat (PWHT) charts and records for the PWHT conducted by Seattle Industrial. The thoroughness and adequacy of this review was documented in WBG Corrective Action Report #153 and subsequent status reports. Inspection Reports (IR's) and Nonconconformance Reports (NCR's) were initiated to obtain resolution of discrepancies found.

Action to Correct Deficiency

New Response: (Continued)

The NCR's (53) documented PWHT discrepancies such as:

- Temperature above or below the required range
- Temperature rise rate too high
- Inadequate number or location of thermocouples
- Inadequate soak time
- Missing or incomplete records
- Record anomalies

Disposition of these discrepancies on the NCR's include:

- Re-PWHT
- Reinspection, including UT and RT
- Hardness testing
- Rejection, redesign, and refabrication

Action to Prevent Recurrence

Old Response: As noted in B above, WBG has assumed direct responsibility for the PWHT operation and has initiated a program to assure compliance to the revised PWHT procedure.

New Response: WBG assumed direct responsibility for all PWHT upon termination of the PWHT subcontractor's contract. WBG's procedures provided for in-line QA review of the completed PWHT records. PWHT will now be accomplished in accord with Bechtel procedures.

Date of Full Compliance

Old Response: The review of all records initiated by Seattle Industrial and the initiation of IR's for discrepant conditions is estimated to be complete by April 1, 1980.

New Response: Review of records and documentation of discrepancies has been completed. All NCR's have been prepared and dispositioned. All NCR's have been closed (required action done and verified) except for four (4), which require PWHT to be re-done. This re-PWHT will be performed by Bechtel as dictated by system completion and turnover activities.

ATTACHMENT 3

Notice of Violation in letter from R. H. Engelken to R. L. Ferguson, dated August 15, 1980.

Appendix A, Item D.3 (80-08/09)

Notice of Violation: WBG Quality Assurance Manual, Section 10, paragraph 10.3.1 states, in part, that "all welding including tack welding is performed by welders qualified as required by Section III and Section IX of the ASME Code." ASME Section III, paragraphs NX-4321(b) and NX-4321.2 require the welders of temporary attachments and tack welds to be qualified and that the material used for temporary attachments be compatible for welding to the component material and be certified. WBG Work Procedure No. 42, paragraph 20 requires, with respect to "Welder Record," a record of welder's name(s), filler metal used (includes heat and lot numbers as applicable) and the date(s) that welding was performed."

Contrary to the above requirements, the weld record packages did not contain identification of welders or filler metals used for tack welds and temporary attachments made on pipe spools LPC-756-5.6, LPCS-756-19.21, and LPCS-2271-1.

This is an infraction.

Summary

Due to Bechtel Power Corporation assuming Contract 215 (WBG) system completion work and associated procedure changes, it is necessary to revise our response.

Actions to Correct Deficiency

Old Response: The date and locations of all temporary attachments, welder and weld filler metal identification are recorded on Form NF-286. A review of all work packages requiring traceability will be conducted to determine when the NF-286 form is required. Copies of the required NF-286 forms will be incorporated into the work packages. IR's will be issued when NF-286 forms are required but not located. Inspection reports have been written on the weld record packages for pipe spools LPCS-756-5.6, LPCS-756-19.21, and LPCS-2271-1.

New Response: Same as above.

Action to Prevent Recurrence

Old Response: Work Procedure No. 42 has been revised and now provides for recording the welder identification, weld process, and identification of the filler material for temporary attachments and tack welds on the work package weld material.

Action to Prevent Recurrence (Continued)

New Response: Work Procedure 42 has been revised and is now incorporated into GWS-1, Revision 3 (General Welding Standard, Repair Welding and NDE to Structural Steel), and GWS-2, Revision 3 (General Welding Standard for Welding, Repair Welding, and NDE requirements to Piping, Components and Supports). These standards clearly provide for the recording of all pertinent information for temporary attachment welding in Sections 4.2.8 and 4.2.2 respectively.

WBG will perform the review of documentation for the hardware they installed and identify any NDE reports not traceable to a specific welding activity. Bechtel will walkdown the appropriate hardware to determine if there is a related blended or rough area that is indicative of removal of a temporary attachment. Those cases where the document review, together with the hardware walkdown, indicates that a temporary attachment was made without proper documentation will be documented on a NCR.

Date of Full Compliance

Old Response: January 1, 1981

New Response: February 19, 1982