U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION V

Report No. 50-508/80-12
50-509/80-12

Docket No. 50-508 & 50-509 License No. CPPR-154 & 155 Safeguards Group

Licensee: Washington Public Power Supply System

P. O. Box 968

Richland, Washington 99352

Facility Name: WNP-3 and WNP-5

Inspection at: WNP-3 and WNP-5 Site (Satsop)

Inspection conducted: October 21-24, 1980

Inspectors: D. P. Haist, Reactor Inspector — Date Signed 11/25/80

W. J. Wagner, Reactor Inspector — Date Signed 11/26/80

A. J. D'Angelo, Reactor Inspector — Date Signed 11/26/80

Approved By: R. C. Haynes, Chief, Projects Section — Date Signed 11/26/80
Reactor Construction and Engineering Support Branch

Summary:

Inspection during the period of October 21-24, 1980

(Report Nos. 50-508/80-12 and 50-509/80-12)

Areas Inspected: Routine, unannounced inspection by regional based inspectors of construction activities including welding procedures and welding by the prime electrical contractor, structural steel erection, quality assurance program of the civil/structural contractor inside the reactor building, licensee action on previous inspection findings, and licensee audits of contractor activities.

The inspection involved 63 hours onsite by three NRC inspectors.

Results: One item of noncompliance at Unit No. 3 was identified in the area of control of nonconforming conditions by the HVAC contractor.

RV Form 219 (2)

DETAILS

1. Persons Contacted

a. Washington Public Power Supply System (WPPSS)

*D. E. Dobson, Division Manager
*J. C. Lockhart, Quality Assurance Manager
*O. E. Trapp, Project Engineering Manager
*C. H. Tewksbury, Senior Project Quality Engineer
*R. A. Davis, Senior Project Quality Engineer
*J. A. Vanni, Quality Assurance Engineer

b. Ebasco Services, Inc. (EBASCO)

*A. M. Cutiona, Deputy Project Quality Assurance Manager
*T. E. Cottrell, Senior Resident Engineer
*D. Quamme, Construction Manager
*J. C. Murphy, Project Superintendent
*C. B. Tatum, Construction
P. Peck, Project Quality Engineer
T. F. Tully, Quality Assurance Auditor
P. McGrath, Quality Assurance Records Clerk

c. Morrison-Knudsen, Inc. (MK)

F. C. Edler, Project Quality Manager
D. Cook, Quality Control Inspector, Level II

d. Pittsburgh Testing Laboratory (PTL)

J. Adatchi, Site Supervisor
T. Gibbs, Quality Assurance Manager

e. Fischbach and Moore, Incorporated (F/M)

J. A. Wiley, Construction Manager
H. S. Jaillet, Project QC Manager
J. Mispagel, Quality Control Welding Engineer

*Denotes those persons present at the NRC exit interview meeting on October 24, 1980. In addition, Mr. G. Hansen, Sr. Project Engineer, State of Washington Energy Facility Site Evaluation Council, attended the meeting. Mr. T. W. Bishop, Senior Resident Inspector and Mr. R. T. Dodds, Chief, Engineering Support Section, USNRC Region V also participated in this meeting.

2. Site Tour

Upon arrival at the site the inspectors toured the WNP-3 and 5 plant areas to observe completed work, equipment storage and housekeeping. The inspectors also observed sandblasting in progress on the Unit 3 containment vessel. No deviations or items of noncompliance were identified.

3. Licensee Action on Previously Identified Followup and Unresolved Items

a. Closed (50-508/80-02/01) Followup Item: Calibration Check of Gradation Sieves

The inspector previously examined the concrete testing contractor's (PTL) program to assure calibration of aggregate gradation sieves and had concerns which were documented in IE Inspection Report Nos. 50-508/79-04 and 79-05. The licensee described the system used for control of sieves in his letter No. G03-80-597 dated March 24, 1980. This system included purchase of sieves in compliance with ASTM-E-11 and periodic visual inspection for damage.

To clarify the requirements for sieve calibration programs, the inspector obtained guidance from IE management in the form of an IE position statement. This statement described basic requirements as follows: (1) verification that the sieve conforms to requirements when received by the using organization; (2) frequent visual checks by the user to verify that the sieve has not been damaged, and (3) periodic checking "independent" of user on an annual frequency, based on the criticality of particle size and the importance to safety of the end use of the sieve analysis. Gradation of concrete aggregates is not considered by IE to be a critical use requiring periodic checking as in (3) above.

The inspector examined PTL procedure Nos. QC-LT-1, Revision 8 and QC-[illegible]evision 1 for conformance to the IE position. The procedures require visual examination of sieves for damage prior to each use by a laboratory technician. The inspector also sampled receiving documentation and ascertained that the sieves were verified for conformance to requirements (ASTM-E-11). A visual inspection disclosed that all sieves are in good condition.

The licensee stated that the contractor will revise his procedures to require periodic checking of sieves in accordance with the IE position in the event that sieves are used where particle size is critical to safety, for example, graded filters associated with an earth filled safety related dam or impoundment, or for controlling a parameter influencing liquefaction. Sieves are not presently being used for these critical types of applications. The inspector had no further questions in this area.

b. Closed (50-508/79-08/01) Followup Item: Peter Kiewit Sons-Quality Assurance Implementing Procedures did not Implement Certain Code and QA Program Requirements.

The inspector examined procedure No. PKS-WI-302, Pipe Cleanliness Control, Revision 4 as approved by EBASCO with comments. The procedure now incorporates appropriate controls over the removal of marking materials or pressure sensitive tapes. The inspector had no further questions in this area.

c. Closed (50-508/80-07/02) Followup Item: Wallace/Superior (HVAC Contractor) Use of Contractor NCR Form - Procedure QCP-12-12.

Closed (50-508/80-08/01) Unresolved Item: Wallace/Superior Nonconformance Report No. 064.

Open (50-508/80-12/01) Noncompliance: Wallace/Superior - Control of Nonconforming Conditions.

The inspector initially expressed concern (item 50-508/80-07/02 of IE Inspection Reports Nos. 80-07 and 80-10) that definitive criteria was lacking about the use of the Wallace/Superior nonconformance report form in procedure QCP-12-12. Specifically, disposition of nonconformance reports by the contractor in some cases could bypass those engineering reviews required pursuant to the quality assurance program requirements of 10 CFR 50 Appendix B.

Subsequently the NRC senior resident inspector examined Quality Class I duct hanger No. 5210 installed by Wallace/Superior and identified that the I-beam clips were not installed in conformance with the current architect-engineer approved drawing. This nonconforming condition had been documented and accepted "as is" based upon calculations performed by the contractor. (Ref: IE Inspection Report 50-508, Item 80-08/01). Wallace/Superior Nonconformance Report No. 064 documented these actions. The nonconforming condition was that one instead of two beam clips had been used to attach the duct hanger to supporting I-beams.

The licensee's investigation disclosed that the duct hanger had been installed in accordance with Revision 4 of Wallace/Superior Drawing No. I-3. However, this drawing (Revision 4) was not consistent with the architect-engineer's specification No. 3240-232 in that the drawing required one beam clip and the specification (governing document) required two beam clips on each end of the supporting I-beams. (Specification No. 448 is invoked by No. 3240-232 and shows on page 21 that two beam clips are required.) Wallace/Superior Nonconformance Report No. 064 was initiated documenting the supports where the single clip configuration existed and accepted these installations "as is" based upon an engineering analysis of vertical weight distribution and the AISC parameters for one-sided connections. Also, Wallace/Superior revised Drawing I-3 (Revision 5 dated April 17, 1980) to include the double clip configuration and this revision was approved by the architect-engineer. However, Wallace/Superior did not notify the architect-engineer that supports had been installed with single clips and accepted "as-is" in nonconformance with the requirements of the architect-engineer's specification.

The licensee's actions in response to this problem have included: (1) an audit on September 2, 1980 of Wallace/Superior nonconformance reports which identified five nonconformance reports whose disposition should include the approval of the architect-engineer; Wallace/Superior has not yet responded to these audit findings; (2) mandating changes to Wallace/Superior Procedure No. QCP-12-12 to require criteria for the use of the Wallace/Superior nonconformance report; (3) a commitment to audit all remaining Wallace/Superior nonconformance reports for improper use; and (4) a calculation confirming that the single beam clip configuration is acceptable for the worst condition.

The failure of the contractor's quality program to assure that affected organizations are notified of nonconforming conditions and accept the disposition thereof, as appropriate, is an apparent item of noncompliance. (50-508/80-12/01)

4. Steel Structures and Supports

a. Visual Examination of Containment Vessel Welds - Chicago Bridge and Iron - Contract Number 213

The inspector visually examined 6 completed weld seams performed during fabrication of the Unit 5 containment vessel. The welds selected, both vertical and horizontal, were located between girth seams 1-2 and 2-3. Weld preparation has progressed to the 3rd and 4th girth seams. Characteristics examined were weld length, size and alignment, weld reinforcement height and absence of surface discontinuities exceeding code requirements. The inspector also examined one completed weld seam and weld fit-up on the Unit 5 top head (containment dome). Welding on the Unit 3 top head has not started; however, the inspector examined the tack welds and fit-up for possible mismatch and overlap of the to-be joined segments.

No items of noncompliance or deviations were identified.

b. Weld Procedure Specifications and Quality Assurance Procedures - Fischbach and Moore-Contract Nos. 225 and 253

The inspector examined Fischbach and Moore's (F&M) quality assurance responsibilities relative to their welding activities associated with electrical cable trays and safety related hangers. F&M's quality assurance manual "Project Quality Assurance Manual for Electrical Installations at Nuclear Power Plants" was examined to verify that procedures addressing the preparation, qualification, approval, distribution and revisions of weld procedure specifications have been established.

The inspector also examined the following procedures for compliance with the structural welding code (AWS D1.1) and contractor's quality assurance program:

(1) CP-403S3, Revision 1 dated April 4, 1980 - "Construction Procedure for Welding of Steel Structures". The following F&M AWS D1.1 prequalified joint welding procedures are attachments to CP-403S3:

. AWS-1	Rev. 0	dated January 15, 1980
. AWS-2	Rev. 1	dated April 4, 1980
. AWS-3	Rev. 1	dated April 4, 1980
. AWS-4	Rev. 1	dated April 4, 1980
. AWS-5	Rev. 1	dated April 4, 1980
. AWS-6	Rev. 1	dated April 4, 1980

(2) CP-408S3, Revision 1 dated March 4, 1980 - "Construction Procedure for Welding Filler Material Control."

No items of noncompliance or deviations were identified.

c. Welding Material Control - Fischbach and Moore - Contract Nos. 225 and 253.

The control, issue, return and storage of F&M's weld filler materials were observed by the inspector. Implementation of these activities was inspected for compliance to the contractor's procedure CP-408S3 and applicable AWS D1.1 requirements. The inspector found that the holding ovens were calibrated and operating within the required temperature range; portable rod warmers were being properly maintained; and low hydrogen electrodes were discarded if they were returned damaged, wet, or had received exposure to the atmosphere beyond the permissible length of time (4 hours).

No items of noncompliance or deviations were identified.

d. Observation of Welding Activities - Fischbach and Moore - Contract Nos. 225 and 253

In-process welding of clip angles to support No. 170 column 4W Line B was observed in the Unit 3 reactor auxiliary building. The inspector examined the as-completed weld quality, weld rod control, and through discussions with the welder, was able to determine that adequate instructions about the weld joint and welding procedure used were provided prior to welding. The welder's qualifications to perform this welding operation were examined by the inspector.

No deviations or items of noncompliance were identified.

5. Safety Related Structure - Review of Quality Assurance/Implementing Procedure - J. A. Jones - Contract No. 265

The inspector examined the J. A. Jones quality assurance program POP-N-700, Revision 2, "Project Quality Assurance Programs and Organizations", to ascertain whether quality assurance plans, instructions and procedures for specific safety related activities have been established in the contractor's quality assurance programs and whether these documents conform to PSAR commitments and industry standards. Areas of the program examined included organization, project documentation, design control, procurement control, control of instructions and procedures, document control, control of purchased material, equipment and services, identification and control of materials, parts and components, and control of special processes.

No items of noncompliance or deviations were identified.

6. Safety Related Structures - Structural Steel and Supports Morrison-Knudsen - Contract No. 263

a. Observation of Work and Review of Quality Records Unit 5 Reactor Auxiliary Building

Morrison-Knudsen (M-K) structural steel activity was examined for compliance to approved M-K construction procedure No. CP-05, Revision 3 "Structural Steel Erection, Class I, II and G" in Unit 5 auxiliary building, northeast quadrant, elevation 362.5'.

Three beams were selected (column 438A and girders 209E and 119-H) and reviewed for necessary documentation and erection.

Examination of receipt inspection report for column 438A revealed a gouge in flange of the column. A nonconformance report had been written along with a conditional release request allowing erection of column with repair at later date.

The structural steel storage area for Quality Class I structural steel was observed and appeared in compliance with approved M-K procedure and ANSI N45.2.2 storage requirements.

No items of noncompliance or deviations were identified.

b. Review of Structural Steel Inspection Personnel Qualifications

The inspector reviewed qualification records of M-K structural steel quality control inspectors for compliance with M-K administrative instruction AI-11, Revision 2, "QA/QC Qualifications, Certification, and Training Programs". All M-K structural steel QC inspectors had been designated as qualified to ANSI N45.2.6-1973 level II capabilities.

The inspector found that the records for one M-K structural steel QC inspector indicated that not all of the education and experience requirements recommended in ANSI N45.2.6-1973 were met. However, the M-K procedure and ANSI N45.2.6 allowed some discretion in imposing the education and experience requirements if other factors provided reasonable assurance as to the ability of the inspector. In this case, the contractor had considered the individual qualified based on other factors. The inspector found that this decision was reasonable and had no further questions on this matter.

No items of noncompliance or deviations were identified.

c. Review of Quality Assurance Audits

The inspector reviewed EBASCO audits of M-K for activities in the Auxiliary Building. No audits had been performed specifically on M-K structural steel activities in Unit 3 auxiliary building and Unit 5 auxiliary building. The EBASCO auditor stated that audit #10 scheduled for December, 1980 will address M-K structural steel activities in the auxiliary building on Units 3 and 5.

No items of noncompliance or deviations were identified.

7. Exit Interview Meeting

The inspectors, including the Senior Resident inspector met with the licensee and EBASCO representatives denoted in paragraph 1 on October 24, 1980. The inspectors summarized the scope and findings of the inspection as described in this report.