

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

REGION V

Report No. 50-508/80-07  
50-509/80-07

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: August 11-14, 1980

Inspectors: D. P. Haist 9/2/80  
D. P. Haist, Reactor Inspector Date Signed

G. Hernandez 9/2/80  
G. Hernandez, Reactor Inspector Date Signed

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Date Signed

Approved By: R. T. Dodds 9/2/80  
R. T. Dodds, Chief, Engineering Support Section Date Signed  
Reactor Construction and Engineering Support Branch

Summary:

Inspection during the period of August 11-14, 1980 (Report Nos. 50-508/80-07 and 50-509/80-07).

Areas Inspected: Routine, unannounced inspection by regional-based inspectors of construction activities including licensee action on previous inspection findings; containment structural steel welding activities, and structural steel and concrete placement activities on safety related structures.

The inspection involved 47 inspector-hours onsite by two NRC inspectors.

Results: No items of noncompliance or deviations were identified.

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## DETAILS

### 1. Individuals Contacted

#### a. Washington Public Power Supply System (WPPSS)

- \*W. J. Talbott, Project Division Manager
- \*J. C. Lockhart, Quality Assurance Manager
- \*R. A. Davis, Senior Project Quality Engineer
- \*C. H. Tewksbury, Senior Project Quality Engineer
- \*C. E. Love, Deputy Division Manager
- \*J. A. Puzauskas, Project Quality Engineer
- \*M. F. Euiebson, Lead Project Quality Engineer

#### b. Ebasco Services, Inc. (Ebasco)

- \*A. M. Cutrona, Deputy Quality Assurance Manager
- \*J. P. Sluka, Manager of Engineering
- \*F. J. E. Storey, Manager of Projects
- \*R. E. Jurbala, Lead Project Quality Engineer
- \*L. F. Adams, Senior Project Quality Engineer
- C. M. McClaskey, Quality Assurance Engineer

#### c. Chicago Bridge and Iron (CBI)

J. W. Cain, Project Welding and QA Superintendent  
O. Weil, QC Inspector  
Three welders conducting welding on the Unit 5 containment vessel.

#### d. Morrison-Knudsen (M&K)

F. C. Edler, Project Quality Manager  
J. M. Sallie, QC Inspector  
D. A. Dow, Level III, QC Inspector

#### e. Peter Kiewit Sons (PKS)

D. W. Paulson, Project Quality Assurance Manager

#### d. State of Washington

\*G. Hansen, Engineer (EFSEC)

Various other Field and Quality Engineering personnel were contacted during the inspection.

\*Denotes persons present at the exit interview.

2. Plant Tour

On August 11, 1980 the inspectors conducted a tour of Unit 3 and 5 to observe completed work and work in progress for obvious deviations or noncompliance with PSAR commitments and regulatory requirements.

During the tour the inspectors discovered 31 pieces of unused E6011, 3/32" weld filler material in a Peter Kiewit Sons (PKS) gang box located at the 335' elevation of Unit 3. Investigation by the licensee determined that the weld filler material had been reported stolen by a welder for the HVAC contractor, Wallace/Superior. The licensee stated that the contractor had issued Nonconformance Report No. 0119 to document the incident and the welder had noted the missing filler material on the filler material withdrawal form. The inspector reviewed the nonconformance report and the filler material withdrawal form and confirmed the licensee's findings. Wallace/Superior's control of weld filler material was not examined and will be the subject of a future inspection. This is a followup item (50-508/80-07/01).

In the process of reviewing NCR No. 0119 and the Wallace/Superior nonconformance reporting procedure, QCP-12-12, the inspector observed that the procedure did not specifically address the contractor's NCR form for onsite detected nonconformances, but only addressed the pre-numbered owner/engineer furnished NCR form. It appears that for onsite detected nonconformances the procedure lacks direction in the use of the contractor's NCR form. The licensee committed to investigate this matter and take appropriate action. This is a followup item (50-508/80-07/02).

3. Licensee Action on Previously Identified Enforcement Items

a. (Open) Noncompliance (50-508/79-10-06) - Failure to requalify welding procedure specifications

Contrary to the requirements of the ASME B&PV Code Section IX, the maximum amperages allowed in CBI weld procedure specification WPS-E7018/34.1, Rev. 2 are higher than those specified in the applicable welding procedure qualification records (PQR Nos. 2631 and 3250). This is considered a change in a supplementary essential variable. The welding procedure specification had not been requalified at the higher amperages.

The licensee responded to this apparent noncompliance in letter No. G03-80-91 dated January 18, 1980 stating disagreement with the NRC interpretation of the ASME B&PV Code Section IX. The licensee believes that the CBI weld procedure specification and associated procedure qualification records demonstrate compliance with code requirements. The licensee supports this position by stating that the Code, Section IX, does not specify that the variables must be taken at either extreme of the range of variables nor does it require more than one demonstration of the capability of the weld procedure specification to produce a sound weld.

The NRC Region V requested, and received from NRC Headquarters the following technical evaluation of the licensee's position:

Welding procedure specifications for use in applications requiring impact testing for notch toughness should be qualified using the maximum anticipated amperage and voltage settings to be used in production welding. An increase in the amperage or voltage is an essential variable and the welding procedure should be requalified in accordance with the requirements of the Section IX of the Code whenever such increase occurs. In addition to the above, the welding procedure to be used in production welding should be qualified using the maximum interpass temperature allowed.

The licensee took this position under advisement and requested a formal statement of position from NRC Region V before stating their position. The licensee had CBI prepare additional procedure qualification records in support of the subject weld procedure specification. The inspector reviewed these qualification records and found them inadequate to satisfy the NRC position, for example, the maximum specified amperage for 1/8-inch, 1/4-inch, 3/16-inch and 7/32-inch electrodes had not been reached, and interpass temperature had not been monitored.

This item of noncompliance will remain open pending licensee receipt of the NRC position on weld procedure qualification and compliance with this position.

b. (Open) Noncompliance (50-508/80-04-02/03 - Incomplete root penetration and excessive offset on pipe subassemblies)

Contrary to the requirements of the ASME B&PV Code Section III, the inspector had identified incomplete root penetration on one pipe weld in each of two pipe subassemblies and excessive offset at weld joints in four pipe subassemblies.

The licensee acknowledged the noncompliance and outlined corrective actions taken and to be taken in letter no. G03-80-1635 dated July 11, 1980. Corrective actions which were verified by the inspector included (1) nonconformance report no. 11934 to disposition the pipe subassemblies identified by the NRC inspector; (2) a stop shipment order to Associated Piping and Engineering (AP&E) and request for a corrective action program; (3) inspection and shipment to AP&E of all nonconforming pipe subassemblies on site (for twelve inch diameter and larger approximately 67 rejected out of 240 inspected and for ten inch diameter and smaller approximately 26 rejected out of 300 inspected.); (4) additional training, issuance of pipe mismatch gauges to inspectors, and direction for 100% inspection of all accessible interior and exterior welds at AP&E.

The licensee stated that Ebasco vendor inspection will be increased to include final inspection of all pipe subassemblies and that 100% visual receipt inspection will be performed on all accessible interior/exterior ASME Section III spool welds until a satisfactory confidence level is reached with regard to the quality of AP&E pipe subassemblies.

The stop shipment on AP&E pipe subassemblies was released on July 25, 1980, however no large bore piping had been received. This item will remain open pending verification by NRC of (1) direction by the licensee for increased vendor surveillance; (2) receipt inspection activities; and (3) quality of received pipe subassemblies.

4. Licensee Action on Previously Identified Followup Items

a. (Closed) Followup Item (50-508/80-04-01) - PKS Filler Metal Control System

A rod room attendant had expressed concerns to the inspector regarding his indoctrination and training in the requirements of procedure no. PKS-WI-701 (Filler Metal Control). PKS was not engaged in Quality Class I Welding at the time.

The inspector examined Quality Assurance Surveillance Report No. 229 (5-23-80) which documents the condition described above. The individual was assigned rod room duties for one day as an alternate to the assigned rod room attendant. Corrective action consisted of assignment of trained individuals to rod room duties and a trained alternate. The inspector reviewed the training records of the assigned and alternate rod room attendants and verified that a copy of procedure PKS-WI-701 is available at the rod room (unit 3 - elev 335). The PKS filler metal control system will be examined under the normal inspection program after commencement of Quality Class I welding activities. This item is closed.

b. (Closed) Followup Item (50-508/80-04-04) - Actions to assure pipe cleanliness

The licensee is obligated to issue piping to PKS from the storage area in a clean condition. Measures were not established to fulfill this obligation.

The licensee has issued a care and maintenance instruction (CMI) which requires the removal of end caps and inspection of 25 randomly selected pipe spools per month and the inspection of storage areas to ANSI N45.2.2 Storage Class "D" requirements. The licensee has also obtained hydro-lance equipment to assure cleanliness prior to turnover. The inspector verified that the required inspections have been performed following issuance of the CMI and that nonconforming conditions have been documented. This item is closed.



5. Containment Steel Structures and Supports - CBI

a. Welding Material Control - Unit 5 - CBI

The inspector examined the control of weld filler material inside the Unit 5 containment vessel and dome assembly areas. The examination included a review of procedures applied to the purchase, receiving, storage, distribution and control of welding materials; examination of weld filler material issue and retrieval records; identification of filler materials ready for issue; storage of filler materials; and issuance and field control of weld filler materials.

These activities were examined for compliance to the PSAR, ASME Code, Contractor Quality Assurance Manual, and specification no. 3240-213.

No items of compliance or deviations were identified.

b. Observation of Welding and Welding Activities - Unit 5 - CBI

Welding activities, including weld joint fit up, preheating, inprocess welding techniques, and welding equipment were examined for compliance to the requirements of the ASME code, the PSAR, contract specification, and contractor quality assurance implementing procedures. Welding activities were observed on penetration nos. 58 AL and 58 AR and dome seam nos. 21 and E23. The quality control inspector monitoring these activities was interviewed to ascertain his knowledge of weld procedure and specification requirements.

No items of noncompliance or deviations were identified.

c. Visual Examination of Welds - Unit 3 - CBI

The inspector visually examined dome weld nos. T-22-A, T-22-B and T-15-C for conformance to the ASME code, the contract specification, and contractor quality assurance implementing procedures. Areas inspected included weld finish and appearance, weld profile, removal of temporary attachments, finish grinding, absence of surface defects, and alignment of plate sections. The welds were produced in the fabrication shop by the submerged arc process and appeared uniform in shape and size.

No items of noncompliance or deviations were identified.

6. Structural Concrete II

a. Observation of Work and Work Activities

Concrete activities for placement no. RBI-030-357 in Unit 3 and placement no. ABW-032/034-390 in Unit 5 were examined for compliance with applicable specifications, codes, standards, and procedures. Specific attributes examined included, concrete cover for reinforcing steel, cleanliness, concrete free fall, concrete horizontal free flow, consolidation, sampling, testing and curing adequacy. Also, the preplacement, placement and curing records for these placements were reviewed.

No items of noncompliance or deviations were observed.

b. Review of Quality Records

The inspector examined in-process quality records for Unit 3 concrete placements under the containment vessel to ascertain whether the records reflect work accomplishment consistent with licensee and PSAR commitments. The records examined were: 3BRU-001-337, 3BRU-002-343, 3BRU-003-343, 3BRU-004-343, 3BRU-005-343.

The records reviewed for each placement included: concrete preplacement checklist, concrete tracking record, daily inspection reports, final placement reports and applicable nonconformance reports.

No items of noncompliance or deviations were observed.

c. QA Audits

The inspector reviewed the established audit schedule to determine whether the frequency of planned audits had been adhered to for structural concrete activities including batch plant operation and material testing. All audits reviewed had been performed as scheduled.

The inspector reviewed the following audits to ascertain compliance with the licensee's QA program and procedures:

<u>Audit No.</u>	<u>Contractor</u>
204-14 thru 204-17	Pacific Testing Laboratory
209-8 thru 209-11	Associated Sand & Gravel

The audits appeared to be comprehensive in scope, adequately documented and resolved in accordance with the licensee Q.A. program.

No items of noncompliance or deviations were noted.

7. Safety Related Structures (Morrison-Knudsen)

Structural steel bolting for seven beam to column connections in the pipe chase area between lines 7Z and 9 at the 380' elevation and four in the pipe chase area east of line 3 in Unit 3 were examined by the inspector for compliance with the M&K procedure for Structural Steel Erection and the AISC specification for high strength bolting. The connections examined were:

<u>Area No. 1</u>	<u>Area No. 2</u>
(1) 359D to 421B	(1) 367D to 146G
(2) 373D to 352E	(2) 367E to 146G
(3) 373C to 352E	(3) 367F to 146G
(4) 373D to 146W	(4) 367G to 146G
(5) 352C to 373C	
(6) 345B to 148C	
(7) 373A to 351E	

The inspection records for the above connections were also examined and they appeared satisfactory.

No items of noncompliance or deviations were noted.

8. Exit Interview

The inspectors, including the resident inspector, met with licensee representatives, denoted in Paragraph 1 at the conclusion of the inspection on August 14, 1980 and summarized the scope of the inspection and the findings. The licensee requested a formal position paper from NRC Region V regarding weld procedure specification qualification prior to responding to the NRC position (Paragraph 3.a.).