

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

REGION V

Report Nos. 50-508/78-07
50-509/78-07

Docket Nos. 50-508 License Nos. CPPR-154 Safeguards Group _____
50-509 CPPR-155

Licensee: Washington Public Power Supply System
P. O. Box 468
Richland, Washington 99352

Facility Name: WNP-3 and WNP-5

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

Inspection Conducted: October 24-27, 1978

Inspectors: [Signature] 11/27/78
J. H. Eckhardt, Reactor Inspector Date Signed
[Signature] Nov 27 1978
T. W. Hutson, Reactor Inspector Date Signed
[Signature] 11/27/78
G. Hernandez, Reactor Inspector Date Signed

Approved By: [Signature] 11/27/78
R. C. Haynes, Chief, Project Section, Reactor Date Signed
Construction and Engineering Support Branch

Summary:

Inspection on October 24-27, 1978 (Report Nos. 50-508/78-07 and 50-509/78-07)

Areas Inspected: Routine, unannounced inspection by regional based inspectors of construction activities including: structural concrete placement, concrete testing laboratory, containment structural steel welding, and general work in progress. The inspection involved 72 inspector-hours onsite by three NRC inspectors.

Results: Of the areas inspected, no items of noncompliance or deviations were identified.

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DETAILS

1. Person Contacted

Washington Public Power Supply System (WPPSS)

- *W. J. Talbott, Project Division Manager
- *C. E. Love, Deputy Project Manager
- *D. H. Walker, Principal QA Engineer
- C. A. Cal, QA Engineer
- R. R. Quimby, QA Engineer
- L. E. Nielson, QA Engineer

Ebasco Services, Inc. (Ebasco)

- *D. Quamme, Construction Manager
- *A. M. Cutrona, Supervising Project Quality Engineer
- M. Diaz, Lead Civil QC Engineer
- F. E. Shack, QC Engineer
- R. Jubala, QC Engineer
- C. McClaskey, Supervisor Welding & NDE

Associated Sand and Gravel (AS&G)

- P. Meservey, QC Technician

Pittsburgh Testing Laboratory (PTL)

- K. O. Drake, Seattle District Manager
- P. A. McCollom, QA Supervisor

Guy F. Atkinson (GFA)

- J. C. Forrester, QA Manager
- D. G. Summers, QC Supervisor
- P. Parfait, Document Control Clerk

Chicago Bridge and Iron Company (CBI)

- J. W. Cain, Project Welding & QA Superintendent
- M. W. Loibl, QA Engineer

State of Washington

- *G. Hansen, Engineer (EFSEC)

*Denotes those attending exit interview.

2. Construction Status

As of 10/27/78, 9,000 cubic yards of concrete had been placed in the Unit 3 containment base mat, and the excavation and working platform (mud mat) were complete for Unit 5 containment. The licensee reported that Units 3 and 5 construction work was 6.6% and 0.3% complete, respectively.

3. Structural Concrete Placement

a. Review of Quality Assurance Implementing Procedures

The following concrete related procedures were reviewed to ascertain compliance with ACI Standards. No items of non-compliance or deviations were identified.

(1) Guy F. Atkinson Company (GFACo)

QCP-3, Rev. 4, Reinforcing Steel
QCP-9, Rev. 4, Concrete Preplacement Inspection
QCP-10, Rev. 2, Adverse Weather Preparation
QCP-11, Rev. 3, Concrete Placement and Finish of Uniform Surfaces
QCP-12, Rev. 1, Post-placement Inspection, Repair Finish of Formed Surfaces and Curing

(2) Associated Sand and Gravel (AS&G)

Procedure No. 4, Rev. 2, Inspection
Procedure No. 5, Rev. 5, Test Control
Procedure No. 6, Rev. 1, Calibration

b. Observation of Work and Work Activities

Concrete preplacement, placement and inspection activities were observed for Placement No. 4 of the Unit 3 foundation base mat to ascertain compliance with the above procedures. During the concrete placement, instances of improper and unsystematic use of vibrators were observed. The QC inspectors corrected each situation in a timely manner, and the NRC inspectors concluded that the concrete consolidation activity was controlled in accordance with procedural requirements. No items of noncompliance or deviations were identified.

c. Review of Quality Records

The following records were reviewed for compliance with AS&G construction specifications and quality assurance instructions.

- (1) Placement records for Lift Nos. 7 and 15.
- (2) Qualification records of six concrete inspectors.
- (3) Receipt Inspection records for resteel receiving and installation for Lift No. 001.

No items of noncompliance or deviations were identified.

3. Concrete Testing

a. Observation of Work and Work Activities

The sampling and testing of concrete was observed by the inspector and compared with ASTM standards C31-69((1975), C138-75, C143-74, C172-71, and C231-75. The tests observed included sampling, slump, air content, unit weight, and the making of cylinders for compression tests. All tests were conducted in accordance with the applicable ASTM standards by personnel who appeared knowledgeable of the specific tests being performed. In addition, the conditions in the curing room were checked several times during the inspection and no discrepancies were found. No items of noncompliance or deviations were identified.

b. Review of Quality Records

The following quality-related records were reviewed for compliance with the requirements of the PTL quality control instructions and ASTM standards.

- (1) Qualification records for three Level I, three Level II and three Level III inspectors.
- (2) Calibration recall cards for various test equipment.
- (3) Master Inventory Log.
- (4) Standards Traceability File.
- (5) Calibration stickers on various pieces of test equipment.

- (6) Concrete mixing water production records.
- (7) Compression test report for Placement Nos. 7 and 15.
- (8) Aggregate test report.
- (9) Cement certification reports.
- (10) Sieve Analysis Reports.

One sieve analysis report dated May 30, 1978, listed the fineness modulus for fine aggregate as 3.62, where Specification 411, Paragraph 7.02e, states that the fineness modulus shall not be less than 2.3 and not more than 3.1. The licensee indicated that this item would be investigated to determine if a nonconformance report should be written. This item is considered unresolved (508/78-07/01).

The qualification records of all inspectors met the requirements of ANSI N45.2.6 (Qualifications of Inspection, Examination and Testing Personnel for the Construction Phase of Nuclear Power Plants). The inspector again noted that the experience requirements of ANSI N45.2.6 for some Level I inspectors were being waived based on a documented training and testing program. However, the personnel performing the tests on fresh concrete conducted the tests in accordance with the ASTM standards noted in Paragraph 3.a.

No items of noncompliance or deviations were identified.

c. General Laboratory Cleanliness

The general cleanliness of the testing laboratory, storeroom, and test equipment was examined and the inspectors observed debris, dirt, and scrap material in the laboratory and storeroom. In addition, three "Out of Calibration" tags were found on the storeroom floor. These conditions were discussed with the licensee who agreed that the general cleanliness should be upgraded. This area will be reexamined during a subsequent inspection (508/78-07/02).

d. Equipment Calibration

The calibration of the standards used to calibrate field test equipment was examined to ascertain compliance with the Pittsburgh Testing Laboratory calibration procedure. During the inspection, the standards examined were found to be in calibration. However, the inspector found that the calibration records contained inconsistencies, listed below, which require further review.

- (1) Vernier Caliper 1073 was calibrated on April 13, 1978 as documented by a Pacific Testing Laboratory form. Pittsburg Testing Laboratory procedures require that the calibration be traceable to the National Bureau of Standards. The documentation submitted by Pacific Testing Laboratory only stated that the calibration was traceable, but did not state the standard as required by Pittsburg Testing Laboratory. The data for this calibration was not transferred to form CAL-3 as required. The calibration frequency as listed by Pacific Testing Laboratory was one year. Previous records showed that the item was calibrated at 6 month intervals, but Procedure CAL-3 requires a 2 year frequency.
- (2) The dates of calibration records, stickers, and requirements were inconsistent and difficult to follow. The review of the Master Inventory Log for Equipment Requiring Calibration disclosed that approximately eighty percent of the equipment listed was out of calibration, however, examination of the calibration recall cards for selected individual test equipment indicated that all items were in calibration. A comparison of the dates on the recall cards and the stickers on approximately 8 sieves disclosed that the date calibrated agreed, but the date due for calibration differed. The sieves are required to be calibrated at one year intervals as shown on the recall cards, but the stickers on the above sieves showed an interval between calibration and date due for calibration as 18 months. Again, the dates on various records were inconsistent. During the inspection, no items were found out of calibration.

The calibration program for standards and test equipment and associated records is considered to be an unresolved item (508/78-07/03).

4. Containment Structural Steel and Welding

The NRC inspector examined Chicago Bridge and Iron Company (CBI) in-progress containment structural steel work to ascertain compliance with ASME, Section III, 1974 Edition, Summer 1974 Addenda. Work was observed in progress in the onsite shop and included welding of containment ring panel 7-AL-17 to 7-AR-12 and pre-heat and fit-up of containment ring panel 6-4-7 to 6-4-38. Also, the method of moisture control for low hydrogen coated electrodes was examined to ascertain compliance with the CBI Nuclear QA Manual for ASME Section III Products. In addition, welder qualification records of the four CBI welders onsite were reviewed. No deviations or items of noncompliance were identified.

5. Exit Interview

The inspectors met with the licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on October 27, 1978, and summarized the scope and findings of the inspection. The inspectors discussed their concerns regarding PTL onsite laboratory cleanliness, record keeping, and equipment calibration, and the licensee indicated that additional attention would be placed in this area.