

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

Report No. 50-460/79-09
50-513/79-09

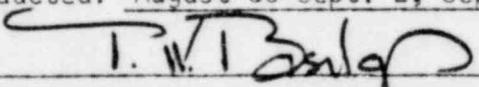
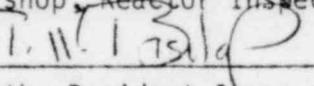
Docket No. 50-460, 50-513 Licensee No. CPPR-134, CPPR-174 Safeguards Group _____

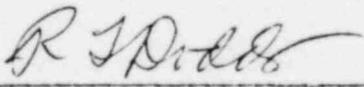
Licensee: Washington Public Power Supply System
P. O. Box 968
Richland, Washington 99352

Facility Name: Washington Nuclear Project Nos. 1 and 4 (WNP-1 and 4)

Inspection at: WNP 1 and 4 Site, Benton County, Washington

Inspection Conducted: August 30-Sept. 2, Sept. 10-25, 1979

Inspectors:  Nov. 16, 1979
T. W. Bishop, Reactor Inspector Date Signed
 Nov. 16, 1979
A. D. Toth, Resident Inspector Date Signed

Approved by:  11/16/79
R. T. Dodds, Section Chief, Reactor Construction and Engineering Support Branch Date Signed

Summary: Inspection on August 30-Sept. 2, Sept. 10-25, 1979 (Report Nos. 50-460/79-09 and 50-513/79-09)

Areas Inspected: Routine inspections by regional and resident inspectors of construction activities including: reactor vessel installation; compliance to ASME certification system requirements; follow-up on previous inspection findings; and plant tour. The inspection involved 93 hours on site by one regional inspector and the site resident inspector.

Results: No items of noncompliance or deviations were identified in the areas inspected.

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DETAILS

1. Persons Contacted

a. Washington Public Power Supply System (WPPSS)

F. D. McElwee, Assistant Director of Projects
W. C. Bibb, Project Manager
M. C. Carrigan, Construction Manager
M. E. Witherspoon, Manager QA
*T. J. Houchins, Project QA Manager
V. B. Mody, Civil Engineer
B. F. Brockett, Field Surveillance QA--ASME
J. L. Gilbert, Civil Engineer
K. A. Blanchard, Quality Services
P. D. Maqbool, QC Surveillance - Civil
*W. M. Lazaer, Project QA Specialist
D. L. Renberger, Assistant Director - Technology
J. R. Nickolas, Lead Quality Assurance Engineer-Mechanical

b. United Engineers and Constructors (UE&C)

R. Bryans, Engineering Manager
*G. S. Korin, QA Manager
D. L. Hausauer, Contract Supervisor
*E. C. Haren, Deputy QA Manager

c. Babcocks & Wilcox (B&W)

D. T. Larson, Sr. Site Consultant

d. Lampson Universal Rigging

B. R. Knight, Project Manager
V. E. Durkin, QA Engineer

e. G. F. Atkinson - Wright/Schuchart/Harber (A-WSH)

M. D. Latch, Project QA Manager
J. Ivora, QC Supervisor
R. McCoy, Lead QC Inspector
J. Ruppert, Lead QC Inspector

f. J. A. Jones (JAJ)

J. Boynton, Quality Inspector

*Denotes those present at the exit interview.

The inspectors also contacted various craft and quality control personnel during the inspection activities, including laborers, equipment operators, ironworkers and carpenters.

2. Followup on Previous Inspection Findings

- a. (Closed) Unresolved item (50-460/513/79-07/03) Concrete testing performed by Level I trainees.

The licensee has concluded a review of the use of Level I trainees in performing concrete testing. The review, documented in WPPSS memoranda of August 8, 1979 and August 31, 1979 identified that Level I trainees were allowed only to perform elementary concrete tests (slump, air entrainment, temperature, and limited participation in preparation of concrete cylinders) and performed these tests in the company of a fully qualified Level I inspector. The reports of all tests were examined and signed by a Level II inspector, who also provided supervisory surveillance of the Level I and Level I trainee activities. The review further included an analysis of NCRs, CNCRs, CARs, and Surveillance Reports to determine if the use of trainees had resulted in any adverse trends in the inspection program. No adverse trends were identified. The review concluded that the limited use of trainees in this case was consistent with ANSI N45.2.6 requirements. The inspector concurs with this conclusion and has no further questions regarding this matter.

- b. (Closed) Follow up item (50-460/513/79-01/02) Contractors procedure for training and certification of NDE personnel allows "open book" exams and does not require a sufficient number of questions in all cases.

The contractors procedure (Procedure No. 3004 of Contract 9779-243) has been revised to be in strict accordance with the requirements of SNT-TC-1A (1975). The revised procedure (Revision H) was examined and found to be satisfactory. This item is closed.

- c. (Closed) Follow up item (50-460/513/78-03/06) Fire protection of AWSH record storage.

The licensee has determined that the AWSH records storage facility is in compliance with the NRC staff's position contained in the proposed ANSI N45.2.9, which requires a minimum of a 2 hr rated facility. The existing facility is basically a 4 hr facility with a 3 hr fire door. The inspector has no further questions on this item.

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- d. (Closed) Followup item (50-460/79-08/01) Preparations for reactor vessel lift.

The licensee's preparations for the reactor vessel lift were examined as noted in paragraph 4, below. The specific concern from the previous inspection regarding certification and actual weight of the Transi-Lift crane test load was resolved by re-weighing each weight independently. Computation of the actual crane test load with the new weight values revealed that sufficient weight had been applied to certify the crane for the reactor vessel lift but that the weight was not sufficient to certify the crane for the heavier steam generator lifts. Because of this, and questions of ground slope stability at the actual lift site, an additional load test was performed. This test was witnessed and found to be in compliance with pertinent procedures and requirements. This item is closed.

3. Plant Tour (Units Nos. 1 and 4)

The inspector performed a tour-inspection of the Unit #4 containment wall and reinforcing steel areas and the A-WSH quality control field office. He similarly inspected the Unit #1 containment building, general services building, and turbine building. He observed reinforcing steel installation activities in-progress at both units containment structure, concrete pre-placement at the Unit #1 containment wall and concrete repair on an interior wall of the general services building. The inspector interviewed iron workers, laborers and quality control inspectors, in addition to engineering and construction supervision personnel in the work areas. The inspector took particular note of presence of quality control inspection personnel, nonconforming condition controls such as hold tags and checklists, measuring device calibration control and tagging, and craft and QC inspector performance. No items of noncompliance were identified, however, the inspector identified the following items as unresolved:

a. Quality control inspection criteria for concrete repair.

The inspector observed that an interior wall of the general services building contained a small area where concrete had been chipped out in preparation for repair of an apparent rock pocket. There was an A-WSH hold tag properly posted adjacent to the area. The area was covered with wet burlap in preparation for the repair. The exposed reinforcing steel had several points of damage from the

chipping hammers. Subsequent review showed that A-WSH quality control inspection procedures provide for QC inspection of the excavated concrete area prior to proceeding with the repair. A detailed inspection checklist is provided, however, it does not call for inspection of the reinforcing steel for damage, nor does it prescribe acceptance criteria for evaluating such damage. This absence of criteria is evident in the QC procedures for repairs of the containment structure and other structures. The AWSH QC management and some QC inspectors stated that they prepare a nonconformance report if they see any damaged steel, and they offered examples of where this had been done in the past. Such a report had not yet been prepared for the area observed by the NRC inspector. This item is unresolved pending review of appropriate QC procedure revisions and documented interim policy guidance for AWSH QC inspectors relative to inspection of reinforcing steel damage. (460/513/79-09/01)

b. Quality control inspection of concrete consolidation.

The inspector observed placement of concrete for the exterior wall of the containment structure. The inspector observed slump testing at the truck discharge, which was being witnessed by various supervision and quality control and quality assurance personnel. The inspector observed activities of three A-WSH quality control inspectors outside of and at the top of the 10 foot high forms. The QC inspectors did not go inside the forms during the first 18-inches of placement, apparently on the basis that working conditions would be too crowded. The NRC inspector advised WPPSS management that it did not appear too crowded for performance by QC inspectors. This was verified by subsequent entry into the formwork and observing the unhampered movements of concrete laborers. Shortly thereafter, the A-WSH QC supervisor instructed two QC inspectors to enter the forms and closely observe concrete consolidation activities prescribed by procedure QCP-10. QC inspector entry into the formwork appears necessary in order to accomplish the concrete consolidation verification activities prescribed by the A-WSH quality control procedure OCP-10.

Subsequent discussions with A-WSH quality assurance and quality control supervision indicated that for future concrete placements, congested conditions may make close observation of concrete consolidation impractical, and that management expects the QC inspectors to achieve the best they can in such cases. There were no stated plans to amend the inspection checklists, provide special inspection techniques, or document such conditions in advance. The need for this and possibly the engineering evaluation of such difficulties was discussed with licensee management.

This matter is unresolved pending further review of quality controls associated with placing concrete in congested areas. (460/513/79-09/02)

4. Reactor Vessel Installation

The licensee's preparations for, and installation of, the reactor vessel were examined as noted below.

a. Review of Quality Assurance Implementing Procedures

The following contractor procedures associated with the reactor vessel installation were examined and found to be in compliance with PSAR and specification requirements:

- (1) Lampson procedure LVR-WP-31, Rev 1, "Rough Set Reactor Pressure Vessel Procedure".
- (2) J. A. Jones procedure PCS-RPV-1, Rev 0E (approved as noted), "Installation of Reactor Pressure Vessel"

Procedures for reactor vessel receiving inspection and crane and rigging testing were previously examined and found satisfactory.

b. Observations of Work and Work Activities

The reactor vessel reflective insulation installation, rigging, lifting and placement activities were observed. The observations included verification that proper equipment was utilized, adequate QC coverage was provided, and placement was performed in accordance with applicable UE&C and B&W drawings, specifications and procedures. The adequacy of vessel protection was also verified. No items of noncompliance or deviations were identified.

c. Review of Quality Records

The following quality records associated with reactor vessel installation were examined:

- (1) Reactor Vessel Receiving Inspection Plan of August 31, 1979.
- (2) Transi-Lift Crane Inspection and Load Test (in-process) of September 1, 1979.

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- (3) Transi-Lift Crane records of design reviews, wind load and hook load limitations, and boom certification analysis.
- (4) Reactor Vessel Process Control Sheet (in-process) PCS-RPV-1 for installation preparation, support shimming and torquing, insulation installation, vessel handling, and placement.

No items of noncompliance or deviation were identified.

5. Licensee Compliance to ASME Certification System Requirements

The licensee's ASME Certificate of Authorization (nos. N-1594 and N-1982) for the WNP 1 and 4 projects were examined and found to be current. The authorizations allow WPPSS to complete ASME form No. N-3 (Owner's Data Report) for the WNP-1 and 4 projects.

6. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. Unresolved items disclosed during the inspection are discussed in Paragraph 3a and 3b.

7. Exit Interview

The resident inspector met with licensee and architect-engineer senior quality assurance representatives at the site on September 25, 1979 to discuss the results of the inspection. Attendees at the meeting included those marked (*) in paragraph 1. The inspector summarized the findings discussed in the details of other paragraphs of this report.

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