

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

REGION V

Report No. 50-460/79-13
50-513/79-13

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

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

Facility Name: Washington Nuclear Projects Nos. 1 and 4 (WNP 1 & 4)

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

Inspection conducted: December 1-31, 1979

Inspectors: *A. D. Toth* 1/14/80
A. D. Toth, Resident Reactor Inspector Date Signed

Date Signed

Date Signed

Approved By: *R. T. Dodds* 1/15/80
R. T. Dodds, Chief, Engineering Support Section Date Signed

Summary: Inspection on December 1-31, 1979 (Report Nos. 50-460/79-13 and 50-513/79-13)

Areas Inspected: Routine, unannounced inspection by the resident inspector of construction activities relating to safety-related equipment storage, containment structural steel welding, containment equipment support welding, reactor pressure vessel storage, containment concrete reinforcing steel work, safety-related piping welding, electrical component installation document controls. The inspection involved 45 inspector-hours onsite by one NRC inspector.

Results: Of the 7 areas inspected, one item of noncompliance was identified in the area of pipe welding (paragraph No. 5) and one deviation was identified in the area of equipment storage (paragraph No. 4).

RV Form 219 (2)

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DETAILS

1. Principal Persons Contacted

Washington Public Power Supply System (WPPSS)

- *A. D. Kohler, Project Manager
- *M. C. Carrigan, Construction Manager
- *T. J. Houchins, Project QA Manager
 - R. M. Simons, Principal QA Engineer (WNP-3/5)
 - W. M. Lazaer, Project QA Specialist
- *L. J. Garvin, Manager QA Engineering and Systems
- *G. K. Dyekman, Project Engineering Manager

United Engineers and Constructors

- *E. C. Haren, Deputy Project QA Manager
- *G. E. McIntosh, Assistant Deputy Project Manager
- *R. H. Bryans, Field Project Engineering Manager
 - K. J. Iverson, Supervisor Nuclear Engineer, Project Engineering
 - W. J. Norton, QA Engineer
 - D. K. Webb, Preventive Maintenance Engineer

University Nuclear Systems/University Mechanical (UM)

C. Larson, QC Inspector

Pittsburgh Des Moines Steel Company (PDM)

- C. Bauer, Site QA Manager
- D. Kashiwahara, QC Inspector
- L. Ganna, QC Boiler Maker Foreman

Foley, Wismer and Becker Company (FWB)

J. Collins, QC Manager

J. A. Jones Construction Company (JAJ)

D. Higginbotham, Senior QC Inspector

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

- M. Latch, QA Manager
- T. Canning, Assistant QA Manager

The inspection also included discussions with other craft, management and quality inspection personnel.

*Principal licensee and architect-engineer/constructor representatives to whom inspection findings were presented during management meetings on December 10, 17 and/or 31, 1979.

2. Plant Tours - Unit #1 and Unit #4 (General)

The inspector made plant tour-inspections during day shift and swing shift at various times each week during this reporting period. Craft personnel, supervisors, and quality control inspectors were interviewed as they were encountered in the various work areas. In-process records such as work control forms, inspector logs, calibration tags, quality release tags, and equipment identification tags were examined. The tours included observations relative to compliance with general and specific codes and standards, regulatory guides and requirements, and implementation of quality assurance program requirements. Results of more detailed audit of work activities are described in other paragraphs of this report.

3. Events Reportable to NRC Under 10CFR50.55(e) or 10CFR21

The licensee site representatives met with the inspector December 7, 1979 to discuss current efforts to evaluate defects found in decay heat removal system containment isolation valves and the core flood tank motor operated valve. These valves were provided by W-K-M Valve Division of American Car and Foundry, Incorporated. The defects in the valve castings were identified during pre-service visual inspection of the valve interior surfaces and subsequent liquid penetrant examination. The inspector reviewed the current licensee actions relative to reporting requirements, corrective actions (including generic implications), and control of nonconforming material. The item is undergoing evaluation by Babcock and Wilcox (NSSS) with a part 21 report decision scheduled for December 14, 1979. The licensee plans to issue a 30-day report in accordance with the 10CFR50.55(e).

4. Safety-Related Component Storage (Unit #4)

The inspector audited work activities for storage of safety related components in temporary enclosures on-site. This involved inspection of equipment in three enclosures, (one metal building level B storage, and two lumber and fabric structures for level C storage), including the reactor coolant system pump motors, let-down heat exchangers, auxiliary feedwater pumps, in-core instrument tubes, fuel transfer tube assembly, main steam pressure relief valves, and primary system piping. Applicable codes, standards, and other special requirements are described in PSAR Sections 17 and 3.12 (Regulatory Guide 1.38), contract specification number 211 Section IE, and contractor procedures numbered FS-II-1-23, FQS-13-2 and FGCP-9. The following aspects of the work were considered: covers, dunnage, housekeeping, desiccant indication, space heaters, ice damage, and access controls. The equipment items appeared to be adequately protected from environmental conditions, however the access controls appeared to be marginal. The doors on the lumber and fabric enclosures were partially open, and no provisions for control of entry had been provided. The door on the metal building was closed but not locked; (the licensee storage surveillance inspector offered an explanation that some preventive maintenance had been in-progress that morning and the door

left unlocked to facilitate later re-entry). The work performance procedure FGCP-9 parts 6.9 and 6.7.7 provide access controls only for ANSI-N45.2.2 type A storage and for salvaged material storage. The components identified by the inspector were generally storage level C items, except for the reactor pumps, which were level B. Although the surveillance procedure FQS-13-2 recites access control requirements of part 6.2.1 of ANSI-N45.2.2, the site personnel apply the requirements only to the items covered by the work procedure FGCP-9. Site engineering personnel stated that they considered that the wood-fabric enclosures satisfied ANSI N45.2.2 level C requirements, where temperature/humidity variations in the enclosures is not a matter of concern. The licensee representatives stated that although the level C enclosures are not locked, some access control is provided by the general site access controls. The absence of specific access controls for level C items appears contrary to ANSI-N45.2.2. (513/79-13-01).

5. Safety-Related Piping Welding (Unit 1)

The inspector audited work activities for welding in progress on two welds in safety-related piping. This involved inspection of auxiliary feedwater system stainless steel welds #F411975-005 and 006, and makeup and purification system stainless steel weld #F411246-019 and completed weld #F411499-021. Applicable codes, standards, and other special requirements are described in SAR Sections 17 and 3.12 (Regulatory Guide 1.33 and 1.44), contract specifications numbered 257, and contractor procedures numbered (JAJ) WP-P8-1, NDE-007 and NDE-008. The following aspects of the work were considered: identification of welder, documentation of weld material used, drawing and process control sheet availability, use of purge gas, documentation of quality control inspector signoff of hold points were required, control of interpass temperature and availability of calibrated device for measurement, availability of oxygen analyzer for purge gas verification, control of heat input parameters such as weld weave limitations.

The disc of valve #MUS-V68 (weld #F411246-019) was on its valve seat while the welding of a pipe spool to the pipe was in progress. The welders had raised the valve stem and were under the impression that the disc was off the seat. The disc was a floating stop-check type, such that raising the stem does not lift the disc. The welding process traveler showed that the quality control inspector had checked to assure that the disc was off the seat. He apparently also relied on the valve-stem position. The requirement to assure valve closure parts are off of valve seats appears in contract specification #257 part 15A-5.4.3 and procedure (JAJ) NDE-007 part 6.4.1. These documents do not address the type of valve where valve stem indication is inadequate to ascertain the position of the closure parts. This item is unresolved pending licensee action to clarify applicable documents and evaluation of possible valve damage where such welding has been performed to date. (460/79-13-01).

The completed weld #F411975-006 measured at least 5/8-inch width; it was welded by a 1/8-inch core electrode. The welder (K5) was working on adjacent joint #F411975-005, and was not able to identify by the weld procedure limitation on weld weave for stainless steel (JAJ procedure WP-P8-1 revision 1 calls for oscillation not to exceed 3 times the electrode core diameter.) The welder did not have a copy of the weld procedure in the vicinity of his work. The inspector also observed that completed weld #F411499-021 measured at least 3/4-inch width, (this weld was also observed by an NRC regional based inspector on December 11, 1979). These two instances of excessive weld weave are contrary to the JAJ procedure WP-P8-1, and the requirements of the contract specification 257-17A. This appears to be an item of noncompliance with criterion 9 of 10CFR50 Appendix B. (460/79-13-02)

6. Containment Concrete Reinforcing Steel (Unit 1)

The inspector audited work activities for placement of reinforcing steel in the containment wall. This involved inspection of the installation of a sheetmetal protective cover over the waterstop partially embedded in the construction joint, and general cleanup of the construction joint area, in preparation for Cadwelding operations at positions above the joint. Applicable codes, standards and other quality requirements are described in PSAR Sections 3.8 and 17, and contract specifications numbered 253. The following aspects of the work were considered: cleanness of reinforcing steel for splicing, absence of excessive rust, condition of reinforcing steel, cleanup to prevent fire damage, and general protection of the steel.

No items of noncompliance or deviations were identified.

7. Containment Structural Steel Welding (Unit 1)

The inspector audited work activities for welding of the containment liner. This involved inspection of reinforcing weld pads on the dome liner for containment spray system pipe hangers and horizontal weld seam 14H1 of the cylindrical shell. Applicable codes, standards, and other special requirements are described in PSAR Section 17 and 3.8.1.2 and 3.8.1.6, contract specifications numbered 213 and contractor procedures. The following aspects of the work were considered: fillet weld size, weld location and identification, preheat, joint preparation and cleanliness, calibration of MT Parker probe, QC inspector knowledge of inspection procedures, radiography performance at required 2% intervals, additional radiography for defects found, quality and identification of radiographs, records for radiography extent and results, interpretations of the radiographs by the level II NDE inspector, weld material handling, and QC inspection records.

No items of noncompliance or deviations were identified.

8. Containment Equipment Support Welding (Unit 1)

The inspector audited work activities for installation of equipment support steel. This involved inspection of shop fabricated lower guide brackets for the steam generators (installed parts #D275-N0026-11), core flood tank bracket (pre-installation part #D275-N0046). Applicable codes, standards, and other quality requirements are described in SAR Sections 17, and contract specifications numbered 134. The following aspects of the work were considered: size and types of welds, visual appearance of the welds (only painted welds could be observed), configuration of the brackets relative to design and fabrication drawings, size of principal structural members, and evidence of physical damage.

No items of noncompliance or deviations were identified.

9. Reactor Pressure Vessels (Unit 1 and Unit 4)

The inspector audited work activities for the yard storage of the Unit 4 vessel. Applicable codes, standards, and other quality requirements are described in SAR Sections 17 and 3.12 (Regulatory Guides 1.38 and 1.39), and contract specifications numbered 211 and 257, and contractor procedures numbered FS-II-2 and FS-II-2. The following aspects of the work were considered: covers on nozzles and other openings, dunnage and protection from construction hazards, desiccant indicators for the covered vessel in the yard, locks on the access room on the installed vessel. The UE&C QA representative advised that previously noted water in instrument tubes in the in-place vessel had now been cleaned and swipe tests were in progress inside the vessel. The inspector had no further question on this item at this time.

No items of noncompliance or deviations were identified.

10. Containment Concrete Reinforcing Steel (Unit 4)

The inspector audited work activities for placement of reinforcing steel in the containment wall. This involved inspection of Cadwelding work in progress. Applicable codes, standards, and other quality requirements are described in SAR Sections 3.8 and 17, contract specifications numbered 253, Section 3D, and contractor procedures numbered (AWSH) QCP-11. The following aspects of the work were considered: presence of QC inspectors, appearance of cadwelds, cleanness of ends of reinforcing steel for splicing, handling of materials, and presence of fire watch and equipment and materials.

No items of noncompliance or deviations were identified.

11. Electrical Components (Document Control)

The inspector audited work activities for electrical component installation document control. This involved examination of ten documents in the electrical contractor's quality control inspector office. The following were examined: procedures QCP-3, 9, and 15; Drawings 1T4-3404-247, 250, and 393, 1T3-3327-3210 and 3248, 1TG-3413-2901 Sheets 1 and 2, and 1T2-3404-393. These were part of work packages WP-22, 29 and 32. Applicable quality assurance requirements are described in PSAR Section 17.

The following aspects were considered: completeness of the work packages, revision of procedures relative to the November 20, 1979 Procedure Index, and presence of applicable change notices on drawings.

No items of noncompliance or deviations were identified.

Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of non-compliance, or deviations. Unresolved items identified during this inspection are discussed in paragraphs 5 and 6.

Exit Interviews

The resident inspector met with licensee management representatives, and others invited by the licensee representatives, approximately weekly to summarize inspection activities and findings, (December 10, 17 and 31, 1979). Attendees at these sessions are so designated in Paragraph 1 of this report. Relative to unresolved items, the licensee lead representative stated that these items will be reviewed by WPPSS and information provided to the inspector for evaluation.