

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

REGION V

Report No. 50-397/80-22  
Docket No. 50-397 License No. CPPR-93 Safeguards Group \_\_\_\_\_  
Licensee: Washington Public Power Supply System  
P. O. Box 968  
Richland, Washington 99352

Facility Name: Washington Nuclear Project No. 2 (WNP-2)  
Inspection at: WNP-2 Site, Benton County, Washington  
Inspection conducted: December, 1980

Inspectors: *D. P. Haist Jr* *1/26/81*  
A. D. Toth, Resident Reactor Inspector Date Signed  
*D. P. Haist* *1/26/81*  
D. P. Haist, Reactor Inspector Date Signed  
*R. T. Dodds* *1/26/81*  
for R. T. Dodds, Section Chief, Reactor Construction Date Signed  
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for R. C. Haynes, Chief, Reactor Projects Section, Date Signed  
Reactor Construction and Engineering Support Branch

Summary:

Inspection on December 1-31, 1980 (Report No. 50-397/80-22)

Areas Inspected: Routine, unannounced inspection of licensee and contractor activities to re-evaluate and improve detailed work methods.

The inspection involved 68 hours onsite by the NRC resident inspector, and 24 hours onsite by a regional based inspector.

Results: No items of noncompliance or deviations were identified.



## DETAILS

### 1. Persons Contacted

#### Washington Public Power Supply System

A. M. Sastry, Deputy Project Manager Systems Turnover  
R. I. Johnson, Quality Assurance Manager  
T. A. Gross, Management Systems Task  
W. C. Bibb, WNP-2 Project Manager  
L. J. Garvin, Manager, QA Engineering and Systems

#### Burns and Roe Engineers (B&R)

H. Tuthill, Assistant QA Manager

#### Bechtel Power Corporation (BPC)

F. B. Damerval, Reverification Manager

#### Wright-Schuchart-Harbor/Boecon Corp./ General Energy Resources, Inc. (WBG)

M. Houck, Manager-Engineering

#### Other General Contacts and Notes

Also, the WPPSS QA Manager met weekly with the resident inspector to discuss current status of licensee activities and NRC inspection findings.

In addition to the persons identified above, the inspector also routinely interviewed construction, engineering, and quality control staffs of various site contractor organizations.

### 2. Project Personnel

During this period the inter-project functions of task III have been transferred to the WPPSS corporate office staff. The former task III manager announced plans to leave the project at year end.

### 3. General

A regional office inspector and supervisor were onsite December 2-5, 1980 to assist in review of the licensee's preparations for installing the sacrificial shield wall (SSW) girth weld. The regional inspector reviewed NRC open items relative to their possible constraint on this work, and examined selected work procedures for compliance with applicable regulatory requirements. The regional inspector also examined the licensee's master deficiency list for the SSW, to ascertain the scope of that investigation and the licensee's assurance that none of the items identified affect the proposed work.



The resident inspector was onsite December 1-5, 8-9, 12, 18-19, and 22-23 this period. During this period, the inspector continued examination of licensee and contractor activities concerning efforts to re-evaluate and improve detailed work methods. Emphasis was on examination of a Reverification of Completed Safety Related Work (RCSW) evaluation package and related documentation. The evaluation package for sacrificial shield work by the mechanical contractor had been prepared by the RCSW task force. This package had been submitted to the WPPSS site QA organization and the WPPSS independent review team for examination and comment prior to beginning work on the sacrificial shield wall girth weld. The review and resolution of comments have been in-progress during December. The task II data packages examined by the inspector were not yet complete, and had not yet been reviewed and resolved by the project quality assurance organization nor the WPPSS corporate independent review group.

The inspectors found that the licensee's independent reviews of the mechanical contractor's work methods and controls for the sacrificial shield wall repairs were not yet complete. These reviews are to be successfully completed prior to release of the current stop work order on the mechanical contractor concerning installation work on the sacrificial shield wall.

4. Project Status

No safety related construction work has recommenced onsite. However, other construction was restarted during this report period. Individual work restart authorizations appear to be given close review by the project QA organization to assure that provisions of any stop work orders are not compromised. (The resident inspector routinely receives copies of such authorizations for information.) Limited work on the SSW, such as layout of reference points, and erection of scaffolds were begun in preparation for restart of the installation work.

5. Establishment of WPPSS Task Forces

The task force functions described in the licensee 17 July 1980 reply to the NRC 10CFR50.54(f) inquiry have been established, but are not fully active. Reverification of completed work has not been scoped and initiated, although organization provisions have been made and the function recognized. (Ref. IE Report No. 50-397/80-18)

6. Functioning of WPPSS Task Forces

Task force II continues to function as described in the licensee 17 July 1980 reply to NRC 10CFR50.54(f) inquiry. Task II activities are still generally confined to review of contractors' revised procedures and preparations for work restart. Hardware reinspection activities and record reviews have not yet begun.

Task force III has thus far functioned in an ad-hoc manner. Several of the specified commitments in the WPPSS reply to the NRC 10CFR50.54(f) inquiry have been implemented. However, formal procedures for conduct of Task III activities to meet the objective of applying the lessons learned to other contractor's and other WPPSS nuclear projects have not been provided. With assignment of this objective now to the corporate office, the inter-project coordination possibilities appear to be strengthened. Other task III activities include WNP-2 contractor management systems evaluations described in paragraph 7 of this report.

7. WPPSS Work Restart Management Control

The licensee briefly described elements of the WPPSS project management system for WNP-2, in a letter to NRC dated November 12, 1980. The inspector reviewed the letter and related site documents and ascertained that the project controls included elements described in the letter to NRC. In many cases the elements are included in formal Project Management Instructions or similar procedures. An analysis was not, however, available to identify where each element was formally incorporated into the management controls. The inspector did not identify any instance where actions contrary to the described elements were being taken.

The mechanical contractor has taken each node on his management system logic network and identified the applicable procedure and paragraph number which prescribe the details in which the controls represented by that node are implemented. WPPSS site personnel audited four of the nodes to ascertain that the identified procedure references were proper and adequate. Similarly, WPPSS RCSW personnel have identified essential elements to be included in each contractor's management system, and are reviewing each contractor's system to assure inclusion of these elements.

8. Training of Personnel

The inspector attended a training session held by the mechanical contractor for personnel to be involved in the girth weld work on the SSW. The subject of the session was work procedure WP-170, the process control procedure for the work. Lesson plans had been developed, instruction was well planned, key personnel were in attendance, and a reasonable examination was given to attendees to probe for weaknesses. The session was attended and audited by a representative of the licensee site QA organization.

Attendees were not given copies of the procedure prior to attendance of the training session and no WBG company instructions provided guidance for assuring advance reading of complex procedures were required. This appears to undermine the training effectiveness and will be the subject of further inspection.  
(50-397/80-22/01)

9. Licensee Action on Previous Inspection Findings

- a. (Closed) Noncompliance (50-397/79-16-08): Failure to maintain cleanliness of instrument sensing lines.  
(Closed) Noncompliance (50-397/79-16-06): Failure to maintain cleanliness of instrument rack/tubing.

The inspector examined records substantiating the statements in WPPSS letters to NRC dated February 4 and 29, 1980. These records included corrective action request Nos. 1425 and 1424, WPPSS letter No. WNP 2FL-218F-80-794 to Fischbach & Lord, a Johnson Controls Project Manager directive to construction supervisors and foremen, training session attendance sheets, and penetration inspection records for October/December 1980. These records demonstrated management emphasis on cleanliness and protection of instruments and tubing. Minutes of a meeting held on March 6, 1980 noted attendance of personnel from Johnson Controls and Fischbach/Lord wherein the WPPSS Construction Quality Manager emphasized instrument rack cleanliness control. Memorandum No. WLB-QA-80-86 indicated increased emphasis by site QA personnel on surveillance of instrument rack cleanliness in March 1980. November 12-17, 1980 site QA reports document results of walkdown inspections of instrument racks for cleanliness and instrument/tubing caps. The NRC inspector briefly accompanied the licensee staff on part of this inspection. An NRC regional inspector examined WPPSS startup organization procedures to ascertain controls to recap/protect instrument/tubing/racks following access to racks for startup related work. The issue appears to be resolved at this time.

- b. (Open) Followup Item (50-397/80-10/04) - Prompt Reporting of Potential 50.55(e) Construction Deficiencies

An NRC inspector had identified a potential 50.55(e) construction deficiency regarding motor control center mounting base welds. This specific construction deficiency was determined not to be reportable as described in IE inspection report No. 50-397/80-14.

The inspector examined a startup problem report No. I345 dated May 2, 1979 which states that flow transmitters feeding the signal to flow switches which isolate the main steam leakage control system upon high leakage flow do not have sufficient range to activate the flow switches. This deficiency was received by the quality assurance group on June 13, 1979 and by the regulatory review committee on July 23, 1980. Both reviews concluded that the deficiency was not reportable because "The preoperational tests are conducted prior to initial startup for the purpose of detecting problems of this nature. Therefore, this condition would not have gone undetected...".

The inspector reviewed with the licensee the applicable portion of the NRC guidance issued April 1, 1980 which states: "The fact that a deficiency is obvious and could not possibly go undetected and therefore could not adversely affect safe operation does not negate the requirement to formally report the deficiency if it meets the criteria of 50.55(e)."

The licensee stated that they will review this item again for reportability as a potential 50.55(e) item. This will be examined during a subsequent inspection.

10. Flammability Resistance of Sacrificial Shield Wall Shield Material

The inspector reviewed information submitted by the licensee responding to the NRC concern over the flammability resistance of the shielding material to be used in the repair of gaps in the sacrificial shield wall.

The testing performed on the high density polymer or its equivalent included ASTM-E119-73 (NFPA-251), "Standard for Fire Tests of Building Construction and Materials"; ASTM-E-84-79a, "Standard Method of Test for Surface Burning Characteristics of Building Materials"; and a mockup test to qualify the shield material with respect to heat input during welding. Test results indicate that penetration seals of the shield material remained in place for the 5 hour duration of the fire exposure test and prevented the passage of flame (E-119-73); flame spread rate and fuel contribution were 10 and 5, respectively as a ratio with asbestos-cement board 0 and red oak flooring 100 (E-84-79a); and no deleterious effects from heat input during the welding of the mockup test. The inspector had no further questions on the suitability of this material for the intended application.

11. Sacrificial Shield Wall Master Deficiency List

The inspector examined the contract 215 sacrificial shield wall restart task No. 3 program and results to ascertain whether or not deficiencies which may affect the partial penetration weld repair at elevation 541'-5" have been identified and resolved. Task No. 3 has determined that as of October 29, 1980 all sacrificial shield wall master deficiency list and document discrepancy notice deficiencies requiring disposition prior to restart on the partial penetration weld were documented on nonconformance reports and dispositioned through engineering signoff. The inspector had no further questions at this time.

12. Review of Quality Assurance Implementing Procedures

The inspector reviewed the following procedures prepared by the 215 Contractor for use on the partial penetration weld repair at elevation 541'-5".

<u>Procedure No.</u>	<u>Title</u>
QAP-360	Quality Assurance Deficiency Reports
WP-170	Sacrificial Shield Wall Girth Weld

The inspector noted that WP-170, paragraph 4.14.1(d) specifies that "Discontinuities over 1 inch (25.4 mm) in length with depth greater than 1 inch shall not be cause for rejection of the plate. Removal of laminations shall not exceed 1 inch in depth and be sealed off and welded out to joint surface." This requirement does not agree with the controlling AWS D.1.1 structural welding code requirement (paragraph 3.2.3.2) to determine the size and shape of discontinuities over 1-inch in length and depth by ultrasonic examination as a basis for dispositioning them. This deviation is documented as project engineering directive No. 215-3830 and was submitted to the NRC Office of Nuclear Reactor Regulation for approval as a part of the partial penetration repair weld at elevation 541'-5". The inspector had no further questions on this issue.

13. Management Meetings

The inspector met with the WPPSS site quality assurance manager approximately weekly to discuss status of inspection efforts and to receive a status report of principal WPPSS activities. Also, the inspector met with WPPSS and B&R site management personnel in conjunction with NRC regional personnel on December 5, 1980. The inspectors summarized the scope and results of the inspection activities documented in this report. Mr. R. G. Matlock, WNP-2 Program Director, represented the licensee senior project management.

