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

REGION V

Report No. 50-397/81-11

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: June 1-30, 1981

Inspectors: R T Dodds for 7/16/81
A. D. Toth Date Signed
Senior Resident Inspector

Date Signed

7/16/81
Date Signed

Approved By: R T Dodds
R. T. Dodds, Chief Date Signed
Reactor Projects Section 2
Reactor Construction Projects Branch

Summary: Inspection during the period of June 1-30, 1981 (Report No. 50-397/81-11)

Areas Inspected: Routine, unannounced inspection of licensee and contractor activities to re-evaluate and improve detailed work methods. The inspection involved 66 inspection-hours on-site by the resident inspector.

Results: No items of noncompliance or deviations were identified.

RV Form 219 (2)

DETAILS

1. Persons Contacted

Washington Public Power Supply System (WPPSS)

W. C. Bibb, Project Manager
C. S. Carlisle, Deputy Program Director
M. A. Clinton, Project Engineering Management Specialist, Special Projects
R. B. Glasscock, Quality Assurance Director
P. W. Harness, Field Engineering Manager
*R. T. Johnson, Project Quality Assurance Manager
W. G. Keltner, Assistant Construction Manager
R. L. Knawa, Project Engineering Management Specialist, Special Projects
R. G. Matlock, Program Director
D. M. McCorkle, Team Leader #1, RCSW
A. M. Sastry, Deputy Project Manager, Special Projects
S. L. Washington, Supervisor, Verification Program, Special Projects

Burns and Roe, Inc. (B&R)

L. Good, Field Engineering Manager
J. B. Mahoney, Resident Group Supervisor, Piping and Pipe Supports
R. E. Powe, Audit Supervisor
D. L. Smedley, Quality Assurance Engineer
H. R. Tuthill, Assistant Quality Assurance Manager

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

K. Bishop, Office Engineering Manager
M. H. Brenner, Manager - Quality Assurance
R. Clouse, Project Construction Manager
R. J. D'Amato, Deputy Project Manager, Reactor Outside
M. Houck, Systems Turnover Manager
R. T. Scott, Project General Manager
R. Walters, Engineering Supervisor, Reactor Outside
P. Webster, Procurement Quality Manager
S. Y. Young, Corporate Audit Manager

Bechtel Power Corporation

*D. K. Cosgrove, Quality Assurance Engineerty
E. E. Felton, Construction Manager
C. D. Headrick, Project Quality Control Manager
*M. J. Jacobson, Project Quality Assurance Manager
*D. R. Johnson, Quality Control Manager
P. E. Lindstrom, Project Field Engineering Manager
T. A. Mangelsdorf, Project Manager

Johnson Controls Incorporated (JCI)

T. Bastyr, Project Manager

Pittsburgh Des Moines Steel Company

D. Byers, Quality Control Engineer
D. Pulver, Acting Project Manager
J. Purdy, Quality Assurance Supervisor
C. Vincent, Quality Control Supervisor

Also, the following NRC Region V management representative was on-site June 2-3, 1981:

B. H. Faulkenberry, Chief of Reactor Construction Projects Branch

In addition to the persons identified above, the inspector also routinely interviewed construction, engineering, and quality assurance staffs of the licensee, engineer, and the contractors' on-site organizations.

*Denotes principal personnel present at the monthly summary management meeting. Also, the WPPSS QA Manager met weekly with the resident inspector to discuss status of licensee activities and NRC findings, Representatives of the WPPSS project management organization and the Bechtel quality assurance organization attended these sessions.

2. Project Personnel

The Burns & Roe engineering responsibilities have been emphasized by WPPSS such that WPPSS site engineering staff has been reduced. Some of the key WPPSS personnel joined the Burns & Roe newly established Richland Office, and will, in their new roles, continue to function for the WNP-2 project. Mr. A. N. Kugler (Engineering Manager) and Mr. O. K. Earle (Licensing Engineer) are among these.

The construction management function has been assumed by Bechtel, as has the quality assurance functional interface with the site contractors. The Burns & Roe site quality assurance organization has been withdrawn from construction activities, with termination of most personnel. Some quality assurance personnel have been assigned to activities associated with Burns & Roe engineering functions. Mr. H. R. Tuthill is among these.

The WPPSS RCSW Team #1 leader has taken a position with the off-site NDE company BESTCO (previously named NIX). Mr. W. Wingfield has assumed the position of team leader for remaining restart activities associated with the mechanical contractor.

3. General

The resident inspector was on-site June 1-5, 8-12, 15-19, 22-26, and 29-30, 1981. During this period, the inspector continued examination of daily activities of the licensee, the architect-engineer, and the mechanical contractor, concerning efforts to re-evaluate and improve detailed work methods. The inspector continued review of the scope, criteria, personnel, data base, conclusions, and corrective actions involved in the implementation of the commitments in the WPPSS July 17, 1980 reply to the NRC 10 CFR 50.54 (f) inquiry.

Two NRC regional inspectors were on-site June 22-26 to review licensee actions relative to previously submitted reports under 10 CFR 50.55(e).

Two NRC regional inspectors were on-site June 22-25 to review activities relative to preparations for pre-operational testing.

Results of the above inspections are documented in separate inspection reports.

4. Bechtel Transition Activities

The Project Management Instructions (PMI's) are being reviewed and revised to include the Bechtel functions and the new interfaces. The inspector's routine interview of personnel revealed that Burns & Roe and WPPSS personnel were being indoctrinated relative to recent changes to the PMI's. Drafts of the new documents were being used to expedite this process. The WPPSS quality assurance organization identified that Bechtel personnel had not been correspondingly trained to the PMI's, and corrective action in this regard was requested (Corrective Action Report CAR-1000). The status of the corrective action appeared to be acceptable at this time, in view of the on-going status of work at the time of the Bechtel transition.

5. WNP-2 Quality Awareness Program

WPPSS has instituted a quality awareness program with a stated objective to create and maintain a sensitivity toward quality and its relation to project completion. The WPPSS employee newsletter (Newsline May 18, 1981) has advertised that a "Hotline" is available for concerned site personnel when they don't believe their own in-house management has been responsive to their problem. Additionally, professionally developed posters have been posted on-site in the contractor work areas. Permanent weather/tamper resistant poster-display cabinets have been erected in prominent locations throughout the site to advertise the hotline and encourage quality awareness amongst craft and professional personnel. The hotline program includes provision for callers to remain anonymous or to be notified of the results of follow-up investigation of their concern. The inspector interviewed the hotline coordinator, examined the message-phone, and verified the stated posting at the main entrance of the offices of the mechanical contractor. The inspector considers these actions as positive steps to prevent future deliberate or inadvertant suppression of quality problems.

6. Review of Employee Concerns

Bechtel is the new Construction Manager, and includes quality control personnel who review the completed work of site contractors reporting to Bechtel. Several of the QC personnel are union members. Since Bechtel has no contract with the local union, the personnel are assigned to Bechtel by a site contractor who does have such a contract with the union, (the mechanical contractor, WBG).

An incident occurred this month where the mechanical contractor fired one such employee who was assigned to Bechtel. Her co-workers expressed concern that their Bechtel supervision had little say in this matter, and it appeared that they felt somewhat intimidated by the contractual mandate/option exercised by the contractor.

The inspector interviewed the licensee Hotline coordinator, the Becthel and the WBG quality assurance management, contractor security/personnel representatives, and the employee's co-workers. The responsible management were satisfied with the basis for the employee's termination, which involved alleged drug use and associated breaking of job-rules. However, the co-workers were not convinced that such offenses had occurred.

The management staff interviewed by the inspector agreed that the Bechtel role in such matters required clarification. Such clarification has been provided in correspondence requiring Owner and Bechtel concurrence in any such personnel actions in the future. The Bechtel representatives also indicated that additional measures are being considered to improve the organizational independence of the union quality assurance personnel.

The existing organizational arrangements clearly are conducive to a dampening of the inspection personnel's aggressiveness with the mechanical contractor. The proven strong union representation of the quality control personnel tends to constitute the off-setting reinforcing influence. The position of the Bechtel organization relative to the contractor, the separate quality control management, and the new Hotline also provide support for the quality control personnel.

The inspector has identified no items of noncompliance or deviations at this time. However, the organizational relationships as described above, appear to be a program weakness and will be examined during inspection of Bechtel reverification program activities. (397/81-11-01)

7. Functioning Of The WPPSS Task Force

The licensee has declared the Task Force 1 activities complete. A final status report was issued June 12, 1981 (F-81-5365) to define the status of each sub-task of this effort. The report includes identification of some performance standards for processing various kinds of control documents, and some goals for reduction of back-logs of open issues. The scope and results of this effort appeared consistent with the objectives identified in the licensee's July 17, 1980 reply to the NRC 10 CFR 50.54(f) inquiry.

Task Force II continues to function as generally described in the licensee's July 17, 1980 reply to the NRC 10 CFR 50.54(f) inquiry. Task Force II activities are predominantly confined to reviews to assure that contractor work methods are adequate for assuring compliance with conditions of the construction permit. Some effort has been included recently to try to recover some of the task force review experience as may have implications

regarding previously installed work. The inspector noted that similar experience attained by contractor personnel during their deficiency-review/procedure-revision activities has not been captured for the Phase II reverification program.

Hardware reinspection activities and record reviews have not yet started; however, some planning activities continue. The licensee had advised that the reverification plan would be submitted to NRC, in conjunction with updating of the particular commitments delineated in the July 17, 1980 WPPSS reply to the NRC 10 CFR 50.54(f) inquiry.

Task Force III activities involve review and strengthening of management systems, including those of the contractors. This also includes dissemination of lessons learned at WNP-2 to the other WPPSS projects. The responsibility for coordinating this program has now been assigned to the WNP-1/4 project.

8. Limited Work Restart Authorizations

The inspector examined work restart authorizations issued to the site contractors, in June. For each such authorization the inspector verified that it was reviewed by the project QA organization and the RCSW as appropriate to its scope. It was ascertained that the particular work released was commensurate with the status of the WPPSS evaluations of detailed work methods and corrective action plans, as described in the WPPSS's July 17, 1980 reply to the NRC 10 CFR 50.54(f) inquiry.

By the end of this period, the licensee had authorized all principal contractors to restart work on most phases of the project. Exceptions include certain activities of the mechanical contractor, some sub-contractors, and some specific activities such as installation of pipe support sway brace end-brackets furnished by Power Piping Company. The inspector reviewed the following work release this period:

Mechanical contractor (215) - Concrete coring activities (ref. WNP-F-81-1407 date July 1, 1981)

9. Restart of Work by the Mechanical Contractor

The mechanical contractor has been working on non-safety related (Quality Class II) systems and structures since the end of the labor dispute in November 1980. However, there has been no Quality Class 1 installation work since June 1980, except for the girth weld repair on the sacrificial shield wall, as specifically approved by NRC in January 1981.

On May 31, 1981, the NRC concurred in the WPPSS conditional release of the mechanical contractor, to commence safety related work subject to finalization of various corrective actions. As of July 1, 1981, the safety related work had not commenced, partly due to status of procedure approvals and training.

10. Containment Vessel Retrofit Contractor Activities

The inspector interviewed the Pittsburgh Des Moines (PDM) quality control supervision and lead records personnel. The scope of the PDM deficiency review, the results of trend analysis of most recent inspection data, and the current work package controls were discussed. These personnel stated that the usual PDM containment erection control documentation had proved to be cumbersome and ineffective in assuring proper control of work involving rework and retrofit. They advised that the process control system had been changed to a work package system.

The inspector examined typical work package C/102, associated with fabrication checklists FCL-USH20-008N.1, FCL-KI-003 and FCL-GD-003, for rework of the containment vessel Upper Spray Header. These relate to correction of the conditions identified on Corrective Action Reports CAR-28182 (dated April 1, 1981) and CAR-30289 (May 28, 1981). These were issued as a result of unacceptable radiograph film and missing radiograph reports found during the PDM internal document review activities in 1981. The work package appeared to address each of the deficient items in rigorous detail.

No items of noncompliance or deviations were identified.

11. Mechanical Contractor System Walkdown

The inspector attended a debriefing meeting for the quality control walkdown of three isometrics of the standby service water system (system 58.0, isometrics SW-1031.1, 1524-1. and 1525-1). Three teams of two inspectors, plus their supervisors, were involved. The inspector examined the walkdown-inspection criteria/procedures and interviewed quality control and engineering personnel. The approved piping and hanger work procedures (WP-530 and WP-330) were part of this activity, as were special requirements checklists identified in procedure QAI-002.

The inspector determined that referenced drawing H501 incorporates Key Criteria; however, this referenced drawing had not yet been issued by Burns & Roe in its most recent revision. Discussion with the responsible quality assurance manager revealed that this fact was known and was being documented by the quality control inspectors. Additional deferral actions included the fact that the field engineers had not yet finished their walkdown with the special requirements checklists, and quality assurance records review input was yet to be complete. This appeared to be sufficient cause to classify the walkdown activity as trial and preliminary. The inspector identified no items of noncompliance.

12. Licensee Action On Previous NRC Inspection Findings

The licensee has assigned Bechtel the responsibility for followup on items identified by NRC. This function has been included in the Bechtel site quality assurance organization. The following is the status of items reviewed by the resident inspector this period:

a. (Open) Unresolved Item (397/79-16-04)

Tabulation of surface defects in SSW welds which are to be repaired. The NRC licensing organization required such a tabulation prior to starting any repairs. Questions have centered around the accessibility or inaccessibility of various welds for inspection.

During this period the WPPSS NDE organization inspected several of the welds which Burns & Roe deemed inaccessable. This group inspected 24 with no examination aids required, 6 using mirrors, and 9 using fibre-optics. They identified 3 welds which do not meet the AWS-D-1.1 workmanship criteria. The licensee management representatives met with the NRC inspector and identified these as inaccessible for repair. The inspector examined the welds and concluded that only one of these provided limited access for repair work, the other two welds being so open as to permit direct photography and hand contact. The licensee quality assurance manager agreed to further investigate this matter. The inspector stated that the tabulation accordingly appears to be incomplete, and this matter still unresolved.

b. (Closed) Unresolved Item (397/80-08-13)

Potentially reportable defects in containment structural steel radial beams manufactured by Pybus Steel Company. The beams were found to have various ultrasonic indications along the web-to-flange weld joint. This matter was identified as closed in inspection report 50-397/81-10; however, additional questions were identified as a result of review by a regional inspector this period.

A WPPSS memorandun (EMN-DB-80-60, dated December 24, 1980) identified that the weld joint preparation angle appeared to be less than the 45-degrees allowed, for an AWS-D1.1 prequalified weld procedure. The documentation file made available to the inspector did not include identification of the corrective action associated with this apparent code violation. The Bechtel representative stated that this matter would be researched.

With regard to the above, on July 6, 1981 the inspector observed acid etch examinations of three sections which had been cut from the Pybus beams for ultrasonic testing calibration and examination correlation to macro-analysis. This examination showed that the joint preparation angles were generally within the 5-degree tolerance allowed by the AWS-D1.1 code. The inspector considers this matter closed.

c. (Closed) Followup Item (397/80-16-01)

Licensee review of LMT procedures for measurements of piping minimum wall thickness.

The licensee has not included the LMT organization procedures in the Restart Program reviews. The program of this pre-service inspection program NDE contractor was reviewed by the NRC in 1980, as documented in report 50-397/80-01, and similarly by the licensee, and will be subject to NRC routine inspection activities. There are no known deficiencies in the LMT program at this time. The inspector this period reviewed the procedure being used for measuring pipe wall thickness (UTP-19) and noted the availability of calibration standards. Acceptance criteria were not on the data sheets, but were readily identifiable on the isometric drawings referenced on the data sheets. The data includes measurements in the heat affected zone on each side of the weld and along the weld centerline at each of four azimuth locations. It also includes those PSI blended longitudinal welds at 18-inch intervals. The technique of minimum-wall thickness measurement is relatively straight-forward, and the procedures described above appeared appropriate to the circumstances. Future review of data will be considered during NRC routine review of the related licensee's 10 CFR 50.54(e) report. This followup item is considered to be closed.

d. (Closed) Unresolved Item (397/81-01-02)

Establishment of performance indicators and standards. The resolution of this item was discussed in NRC inspection report 50-397/81-01. Additionally, this period the licensee has now issued the Task Force I Closeout report, which identifies various performance goals and standards to be applied to engineering, construction management, and contractor activities.

13. Management Meetings

The inspector met with the WPPSS site QA manager on July 2, 1981, to summarize his inspection findings and to receive a status report of principal WPPSS activities. Attendees at this meeting are identified by notation (*) in Paragraph 1 of this report. The inspector also met weekly with the QA manager to discuss status of his inspection efforts.