U.S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-397/84-19

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

Facility Name: Washington Nuclear Project No. 2 (WNP-2)

Docket No. 50-397

License No. NPF-21

Inspection at WNP-2 Site near Richland, Washington

Inspectors:

A. D. Toth, Senior Resident Inspector — Date 8/21/84

R. S. Waite, Resident Inspector — Date 8/21/84

Approved by : R. T. Dodds, Chief — Date 8/21/84
Reactor Projects Section 1

Summary:

Inspection on July 8 - August 3, 1984

Areas Inspected:

Routine, unannounced inspection by the resident inspectors of control room operations, engineered safety feature status, surveillance program, maintenance program, power ascension test program, licensee event reports, special inspection topics, and licensee action on previous inspection findings.

The inspection involved 122 inspector-hours onsite by two resident inspectors, including 5 hours during backshift work activities.

Results:

No items of noncompliance were identified.

DETAILS

1. Persons Contacted

Washington Public Power Supply System

G. Afflerbach, Assistant Plant Manager
*R. Corcoran, Operations Manager
*D. Feldman, Quality Assurance Supervisor
*R. Graybeal, Health Physics/Chemistry Manager
*J. Landon, Maintenance Manager
*J. Little, Training Coordinator
*J. Martin, Plant Manager
*J. Peters, Administrative Manager
*C. Powers, Reactor Engineering Supervisor
D. Walker, Plant Quality Assurance Manager

*Denotes persons attending exit meeting

The inspectors also had discussions with various control room operators, shift supervisors and shift managers, engineering, quality assurance, and management personnel relative to activities in progress and records.

The Assistant Plant Manager (G. Afflerbach) announced his resignation effective August 3. Mr. C. Powers has been named Acting Assistant Plant Manager.

2. General

The Senior resident inspector and/or the resident inspector were onsite July 9-13, 16-20, 23-27, and 30-31. Backshift inspections were conducted July 24 and 28.

Several regional office inspectors visited the site this month for routine inspection activities. Their activities were documented in other separate inspection reports. These included:

Regional office operations inspectors (D. Willett and A. Hon) were onsite July 16 to July 20.

A regional office health physics inspector (C. Sherman) was onsite July 30 - August 3.

3. Plant Status

During this period the plant conducted portions of test condition 2 of the power ascension program. During the majority of this inspection period (July 10-30) the plant was in the shutdown mode due to maintenance and modifications being performed on Diesel Generators #1 and #2. Heatup commenced July 30 in preparation for a loss-of-power test.

The licensee established a senior management level point of contact for "employees with any constructive comments information or recommendations for improving Supply System working conditions." This provides a telephone number with a 24-hour telephone recording feature and a mailing address, and commitment to confidential feedback to the employee. The feature has been advertised throughout the licensee organization via the employee newspaper July 17, 1984 issue. This constitutes a form of hotline to assure that safety related concerns may be identified and addressed.

4. Operations Verifications

The resident inspectors reviewed the control room operator and shift manager log books on a daily basis for this report period. Reviews were also made of the Jumper/Lifted Lead Log and Non-conformance Report Log to verify that there were no conflicts with Technical Specifications and that the licensee was actively pursuing corrections to conditions listed in either log. Events involving unusual conditions of equipment were discussed with the control room personnel available at the time of the review and evaluated for potential safety significance. The licensee adherence to LCO's, particularly those dealing with ESF and ESF electrical alignment, were observed. The inspectors routinely took note of activated annunciators on the control panels and ascertained that the control room licensed personnel on duty at the time were familiar with the reason for each annunciator and its significance. The inspectors observed access control, control room manning, operability of nuclear instruments, and availability of onsite and offsite electrical power. The inspectors also made regular tours of accessible areas of the facility to assess equipment conditions, radiological controls, security, safety and adherence to regulatory requirements.

No items of noncompliance were identified.

5. Surveillance Program Implementation

The inspectors ascertained that surveillance of safety-related systems or components was being conducted in accordance with license requirements. In addition to observation of, and sometimes witnessing and verifying daily control panel instrument checks, the inspectors observed portions of several surveillance tests by operators and instrument and control technicians. Typical activities included the following:

a. ADS Trip System B Channel Calibration

The inspector observed the performance of procedure 7.4.3.3.1.49, "ADS Trip System B (Pump Running) LPCI Pump B and C Discharge Pressure - Channel Calibration". This surveillance received special attention by the inspector because previous inspections had indicated that the licensee had failed to take prompt and effective

corrective action for a malfunction in this particular channel of the Emergency Core Cooling System Logic. In performing this channel calibration the trip setpoints were raised from their previous head corrected settings to higher uncorrected settings in accordance with General Electric recommendations. The inspector identified two areas of concern during this inspection.

(1) A group of four Procedure Deviations was initiated July 11, and approved by the instrument group supervisor and the plant operations committee (Procedures 7.4.3.3.1.26, 27, 48 and 49). These did not incorporate some administrative information which was prescribed by recent July 2 revision to the instructions for processing Procedure Deviations (Procedure 1.2.3, Revision 7). Licensee management representatives stated that the POC had agreed to accept Deviations recorded on the prior forms on individual case basis, until files of the older forms at various locations were depleted or replaced. However, management had not yet assessed the cause of failure of staff members (including supervisors) to be sufficiently aware of the provisions of the latest procedure revision, so as to assure inclusion of the newly required information on whatever forms they used.

This matter is considered an additional element of the procedures questions defined in NRC item 84-15-01.

(2) The implementation of the above noted specific deviations, and also other cases, prescribed some intentional entry into Technical Specification Action Statements (TSAS). For instance, surveillance procedures 7.4.3.3.1.44 and 7.4.3.3.1.45, in addition to three of the four deviations mentioned above require the use of a "Surveillance Test Switch" which renders ADS Trip System B inoperable per Technical Specification 3.3.3 (the engineer included this as additional insurance against inadverant depressurization of the reactor vessel). Also, administrative procedure 1.9.3, "Personnel Entry to Primary Containment ", specifies disabling of the airlock door interlock and entry into TSAS 3.6.1.3.b. (the engineer included this in order to allow expedited exit from an inerted containment under emergency conditions, although such exit could possibly allow compromise of containment integrity). The inspector questioned the need for such provisions and cautioned that proceduralized and incidental intentional entry into technical specification action statements may be abused and in some cases may not be warranted. For the above specific cases, the instrument supervisor committed to reconsider need for the ADS channel bypass; also, plant management issued a procedure deviation (1.9.3-84-779) to delete the requirement to disengage the airlock door interlock. Continued licensee attention to this concern will be reviewed during future routine inspection activities. (84-19-01)

No items of noncompliance were identified.

b. Sampling Program

On July 12 the licensee erroneously discharged liquid waste prior to performance of sampling and analyses on the tank released. The release was stopped prior to completion of the discharge when the error was noted. Analyses were performed on the tank which was partially discharged and the results of the analyses indicated that the release was within the limits of 10CFR20, Appendix B, Table II, Column 2.

Chemistry had been requested by operations to perform sampling of EDR-TK-4B and FDR-TK-9 in preparation for discharge. When sampling and analysis on EDR-TK-4B was complete the chemistry technician transferred data from the Liquid Release Work Sheet for EDR-TK-4B to the Radioactive Release Authorization Form but errently listed tank number FDR-TK-9 for release. It appears that during subsequent review by the Shift Manager this error was not noted although copies of the Liquid Release Work Sheet were included with the Radioactive Release Authorization Form when supplied to the Shift Manager for his approval prior to release. The tank number which has been analyzed for release was identified in several places on the Liquid Release Work Sheet. The errent discharge was discovered when problems with the licensee Batch Liquid Release computer program prompted the Chemistry Technician to notify operations that the samples and analyses on tank FDR-TK-9 would be delayed. Operations immediately noted that they were already discharging tank FDR-TK-9 and secured the discharge.

The licensee initiated corrective action on this item to prevent its reccurence. This included revision of the procedure 7.4.11.1.1.1 to require checking of the proper tank number and clarifying this as a specific responsibility of the reviewer.

The licensee corrective actions and reporting to NRC appeared to be in accordance with 10 CFR 2, Appendix C, Item IV.A.

No items of noncompliance were identified.

c. ADS Trip System B

The inspector observed licensee performance of approved surveillance procedure 7.4.3.3.1.44, "ADS Trip System B on ADS Timer-CFT." The performance of this procedure requires the installation of two electrical jumpers. The inspector observed the installation and removal of the two jumpers and noted that operations supplied jumpers were used. An operator observed the I&C personnel install and remove the jumpers thereby providing independent verification of the installation. It appears that installation and removal of the jumpers was in accordance with procedure 1.3.9, "Control of Electrical and Mechanical Jumpers and Lifted Leads".

The inspector observed that procedure 7.4.3.3.1.44 does not include prerequisites, precautions or instructions that requires adherence to procedure 1.3.9. Further review of licensee procedures 7.4.3.3.1.45 and 7.4.3.3.1.50, indicates that these procedures also lack the above requirement for adherence to procedure 1.3.9. The inspector reviewed procedure 1.3.9 and procedure 1.3.1 (standing orders/night orders) and noted that no requirements exist for following procedure 1.3.9 in the performance of the above surveillance tests.

This item will remain open pending NRC review of the licensee response to a prior noncompliance item (84-18-03).

d. Main Steam Line Leak Detection

The inspector observed the performance of a portion of surveillance procedure 7.4.3.2.1.12 "Isolation MSL Temperature and Differential Temperature Channel D - CFT". The inspector verified that required test instrumentation was calibrated, testing was coordinated with the control room operators, testing was conducted in accordance with the approved test procedure, and independently verified that the system was returned to service.

No items of noncompliance were identified.

6. Monthly Maintenance Observation

Portions of selected safety-related systems maintenance activities were observed. By direct observation and review of records the inspector determined whether these activities were violating LCOs, that the proper administrative controls and tagout procedures were followed, that equipment was properly tested before return to service and independently verified that the equipment was returned to service. The inspector also reviewed the outstanding job orders to determine if the licensee was giving priority to safety related maintenance and that backlogs which might affect system performance were not developing. The systems selected for maintenance observation are listed below:

a. Diesel Generator #1 and #2

On July 9 during surveillance testing of Diesel Generator #2, sparking was observed in the generator housing. The generator was subsequently placed in an inoperative status. The sparking was determined to be due to disintegration of fiberglass insulation located between the generator shaft and inner race of the bearings. The inspector observed the removal of the generator from the plant and was aware of maintenance and modification actions being performed by the licensee. Generator #1 was subsequently removed

in order to perform the same modification performed on #2. The inspector observed reinstallation of the modified generators and testing performed to verify their operability. The inspector observed that during the time both emergency diesel generators were removed from the plant, an additional source of offsite power was made available and that all applicable technical specifications were adhered to.

No items of noncompliance were identified.

7. Power Ascension Test Program)

The inspectors examined equipment, interviewed personnel, and reviewed records and procedures relative to conduct of the power ascension program described in Chapter 14 of the FSAR. During this period the plant was shut down about 3 weeks for diesel generator repairs, and other maintenance. The inspector reviewed the procedure for the pending loss of power test.

No violations were identified.

8. Licensee Event Reports

The inspector reviewed each of the LER's issued during the current report period. Each of these is considered to be closed unless noted otherwise below. The inspector verified that reporting requirements had been met, causes had been identified, corrective actions appeared appropriate, generic applicability had been considered, and the LER forms were complete. Additionally, for those reports identified by asterisk, a more detailed review was performed to verify that the licensee had reviewed the event, corrective action had been taken, no unreviewed safety questions were involved, and violations of regulations or Technical Specification conditions had been identified.

LER-84-059 Technical Specification Violation (Diesel generator prelube/warmup)

LER-84-060 Reactor Trip Due to Reactor Low Water Level (Reactor automatic trip from feedwater control valve failure flow transient)

LER-84-061 Breach of Fire Barrier (Technical Specification Violation due to compromise of floor fire barrier due to floor drain not completed during construction)

LER-84-062 Technical Specification Violation (Omission of surveillance of rod sequence control system)

LER-84-063 Unscheduled Initiation of Control Room Emergency Filtration Units (Control room ventilation closed cycle initiation from electrical surge to radiation monitor from valve SW-P-1B)

LER-84-064 Reactor Protection System - Channel 'B' Circuit Breaker Trip (Failed circuit breaker caused isolation valve closures and 1/2 scram signal)

*LER-84-065 Shutdown Cooling System Failure (Pump wear ring seizure from omission of coupling set screws)

LER-84-066 Inadvertent Initiation of Control Room Emergency Filtration Unit (Control room ventilation closed cycle initiation from maintenance error at chlorine monitor)

LER-84-067 Unscheduled Initiation of Control Room Emergency Filtration Units (Control room ventilation closed cycle initiation from electrical surge to radiation monitor from RCIC valve V-45)

LER-84-068 Unscheduled Initiation of Control Room Emergency Filtration Units (Control room ventilation closed cycle initiation from electrical surge to radiation monitor from RCIC valve V-1 or V-8) (The licensee's cause code "B" appears incorrect, since code "A" is relevant to personnel error.)

LER-84-061 Revision 1 Breach of Fire Barrier (Walkdown finds two additional floor drains which were incomplete).

* items which were examined on site and which are closed.

The following items were examined on site by the resident inspectors:

Closed, 84-065 - The inspectors examined equipment, procedures and drawings and interviewed personnel relative to inspection repair of the ECCS pump couplings. These activities were discussed in report 50-397/84-18 (paragraph 7.d).

No items of noncompliance were identified.

9. Observations During Plant Tours

During routine inspections of plant equipment and facility status the inspectors noted the following conditions; more detailed inspections of the circumstances showed the following information:

a. Personnel Entry To Primary Containment

The inspector reviewed procedure 1.9.3, "Personnel Entry To Primary Containment " which was completed on June 21, 1984, during personnel entry into the containment. In reviewing this procedure and the control room operators logs for June 21, the inspector noted that it appears that personnel entry had not been made in accordance with procedure 1.9.3. Specifically, procedure 1.9.3,

part Q, step 6 states that during exit, when all personnel have returned to the airlock, with the interlock disengaged and the outer door closed, "Close the inner door and renegade the interlock and notify operations to perform PPM 7.4.6.1.3.3 to verify interlock function." Part R, immediately subsequent, states "The outer interlock door can now be opened." It appears that on June 21 exit was made through the outer door prior to reengagement of the interlock and performance of PPM 7.4.6.1.3.3. The reactor was in mode 2 at the time of entry. This item is considered follow-up action on the prior open item regarding procedure adherence (84-15-01).

10. Licensee Actions on Previous NRC Inspection Findings

The inspectors reviewed records, conducted personnel discussions, and inspected plant conditions relative to licensee actions on the following previously identified inspection findings:

a. (Open) Airlock Doors Interlock, Noncompliance (84-09-01)

The inspector reviewed the licensee response (dated July 12,1984) to the Notice of Violation contained in Appendix A of Inspection Report 50-397/84-09. The corrective steps to be taken by the licensee appears to be in direct violation of Technical Specification Action Statement 3.6.1.3.a and is therefore unacceptable. Licensee corrective action had already been implemented prior to the inspector's review of this item, but in a discussion with the plant management, the inspector was assured that the response and action taken would be looked at further by the licensee. A letter by the regional office was issued July 25 instructing the licensee to amend their response to Violation "A" to be in compliance with the technical specifications.

At the exit meeting of August 3, the licensee committed to revise the access control procedure 1.9.3 to eliminate the requirement for deliberate disengagement of the interlock assembly during normal airlock entries. The licensee also advised that he was not at this time in agreement with the July 25 NRC direction, and would not amend the reply to the notice of violation until further review with NRC and industry representatives. The licensee agreed to advise the inspector prior to any planned entry into the containment involving a disengaged or non-operable door interlock mechanism. This matter remains open pending licensee and NRC review.

b. (Open) Control of Instrumentation Test Activities (84-09-02)

The plant staff failed to provide appropriate procedures for connection of test devices into the feedwater control system.

The inspector reviewed the licensee response (dated July '2, 1984) to Item B of the Notice of Violation contained in Appendix A of this NRC letter of transmittal for Inspection Report 50-397/84-09. The response argues that the safety related power ascension test procedure *8.2.23A was not yet applicable to manipulation of the valve in question (RFW-FCV-10), and the valve itself was not a safety related component described in the FSAR; thus the failure to provide adequate procedural controls for work on its controllers did not constitute a violation of regulatory requirements. The written position reverses the verbal statements made by the Reactor Engineering Supervisor to the resident inspectors at a meeting April 27, at which time the procedure *8.2.23A was identified as the procedure applicable to the troubleshooting/controller tuning work in question. The incompleteness of that procedure at the time of troubleshooting was the matter in question. Reconsideration of this matter, in view of the licensee's documented position, appears to support the conclusion that this item is not a violation of the license.

However, the occurrence of the plant trip was an unnecessary plant transient which may have been prevented by documented precautions and initial conditions for inserting the test devices/jumpers into plant control circuits. The licensee response argues that troubleshooting activities are not amenable to rigorous procedural controls, but it does not identify any controls to assure that such troubleshooting is governed by preplanned examination of potential consequences of specific actions by the instrument technicians. This item remains open pending further review of licensee troubleshooting activities and consequences of absence of controls in this area.

c. (Open) Implementation of Clearance Order Procedures (84-13-02)

Procedure were not followed in processing of changes and in providing redundant verification for valve position clearance orders.

The inspector reviewed the licensee response (dated July 26, 1984) to Item B of the Notice of Violation contained in Appendix A of Inspection Report 50-397/84-13. This stated that the additions to the clearance order were made prior to the crafts' accepting the clearance order, and until accepted, the clearance order was only a working document (not considered complete). The licensee response stated that an item of violation of plant procedures did not occur.

Although the shift manager had signed/approved the clearance order, the licensee considers that additions/changes may be made without invoking the procedure's requirement for him to initial changes. However, the applicable procedure PPM-1.3.8 does not describe this "working document" policy, nor the subject of changes other than those specifically cited in the NRC Notice of Violation. For the

case in question, the shift manager approved/signed the clearance order, the operators implemented the order by positioning the valves identified on the order (causing a reactor protection system actuation), someone added more valves to the clearance order and positioned these with no documented evidence of shift manager re-review and approval (e.g. initials called for by the procedure existing at the time). The inspector considers that the clearly written procedures were violated, notwithstanding management's unwritten policy.

d. (Closed) Procedures Availability For Support Services Personnel

During an inspection in May 1984 the inspector noted that Bechtel craft and foremen did not have copies of work procedures in the vicinity of the work areas, although such procedures were onsite and available in a building outside the protected area fence. The licensee representatives advised the inspector that some steps would be taken to assure that at least those procedures specifically applicable to the work would be made available to the foremen.

This period Bechtel field supervision compiled procedures for four foremen, applicable to the crafts supervised by those foremen, and planed to issue those manuals to the foremen for retention at their work stations in the reactor building. These were hardware related procedures most likely to be of use to the crafts and foremen in answering work related questions . More general administrative procedures were still being maintained in the outside building.

Bechtel has additionally instituted a program of certifying each craft individual for competence for specific work activities within each discipline (e.g. for an electrician: conduit installation, cable pulling, cable tray installation, terminations, equipment installation and testing). Part of this certification process includes having the individual read each of the several pre-identified general and work-specific procedures applicable to his work discipline (e.g. electrical, piping/mechanical, ironwork, insulation, etc.) The program was initiated June 21 and implementation commenced July 5, 1984. This Bechtel procedure review and certification process resolved the inspector's questions in this area.

e. (Closed) Testing Of HPCS Diesel Generator (83-07-01)

The initial system lineup testing (SLT) did not include five test runs with the diesel generator fully loaded with the HPCS pump and auxiliaries.

The inspector examined the approved preoperational test procedure POT-301.0A and interviewed the test engineer responsible for that test and the pending loss of power test activities in August 1984. The POT-301.0A shows that the five tests under full load had been accomplished successfully, as committed to NRC.

f. (Closed) Inadequate Design of 4160V Circuit Breakers (83-17-04)

A design change (PED-218-E-5180) had been issued in October 1981 to incorporate NRC requested features for undervoltage protection of safety feature electrical switchgear. An error had been made in the details of the design, which was found by internal reviews and the design verification process for the HPCS system.

The licensee issued required reports to NRC under 10 CFR 50.55.(e) in March and September 1983, which addressed this matter and its resolution (WPPSS letter numbers GO2-83-253 and 859) The inspector examined the PEDs 218-E-5180 and 4618, latest approved drawings E-517 Sheet 3 and 18, and interviewed the responsible field engineer regarding implementation of the described circuit changes. The committed corrections appeared to have been incorporated into the system design.

g. (Open) Special Team Inspection (84-15-01)

Two items in relation to paragraph 3.c of inspection report 50-397/84-15 concerning procedure adherence were examined in this report. They are in paragraphs 5.a and 9.a.

11. Management Meeting

On August 3 the Senior Resident Inspector met with the Plant Manager and members of his staff to discuss a summary of the inspection findings for this period. Attendees at this meeting are identified in paragraph 1 (*). The inspector also met with the Plant Manager on August 3 to discuss the licensee replies to prior items of noncompliance in the May - June period, involving troubleshooting activities of "non-safety-related" instruments/controls (paragraph 10.b) and approvals of additions to clearance-orders after work commences (paragraph 10.c).