

U.S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No: 50-397/84-37
Docket No: 50-397 License No: NPF-21
Licensee: Washington Public Power Supply System
P. O. Box 968
Richland, WA 99352
Facility Name: Washington Nuclear Project No. 2 (WNP-2)
Inspection at: WNP-2 Site near Richland, Washington

Inspectors: PH Johnson 1/29/85
for A. D. Toth, Senior Resident Inspector Date Signed
PH Johnson 1/29/85
for R. S. Waite, Resident Inspector Date Signed
Approved by: PH Johnson 1/29/85
P. H. Johnson, Chief Date Signed
Reactor Projects Section 3

Summary:

Inspection on December 1 - January 4, 1984 (Report No. 50-397/84-37)

Areas Inspected: Routine 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 188 inspector-hours onsite by two resident inspectors, including 15 hours during backshift work activities.

Results: No violations or deviations were identified.

DETAILS

1. Persons Contacted

Washington Public Power Supply System

- *J. Martin, Plant Manager
- *C. Powers, Assistant Plant Manager
 - J. Baker, Acting Operations Manager
 - K. Cowen, Technical Manager
 - D. Walker, Plant Quality Assurance Manager
 - M. Wuesterfeld, Reactor Engineering Supervisor

*Personnel present at exit meeting.

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

2. General

The Senior Resident Inspector and/or the Resident Inspector were onsite December 2-7, 10-14, 17, 19-21, 27-28, 31, January 2-4, 1985. Backshift inspections were conducted December 2, 6, 7, 10-12, 19, 21, 28 and 31, 1984.

Various 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 inspectors (D. Willett and R. Kanow) were onsite December 3-7 and December 17-21 to conduct routine operations inspections.

A regional office staff member (A. Johnson) was onsite December 11-13 to review quality assurance program implementation in the areas of procurement and material receiving and handling.

3. Plant Status

On December 13 the Plant Operations Committee and Plant Manager completed evaluation and approval of power ascension test program test results. The WPPSS Managing Director classified the plant as in commercial operation at 3:50 p.m. December 13, 1984. The inspectors confirmed that containment inerting was completed by noon of December 14, 1984.

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. Licensee adherence to Limiting Conditions for Operation (LCO's), particularly those dealing with Engineered Safety Features (ESF) and ESF electrical alignment, was observed. The inspectors routinely took note of activated annunciators on the control panels and occasionally interviewed the control room licensed personnel on duty at the time to determine if they 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. The inspectors noted some cases of operations staff oversight of off-normal plant conditions, such as the following. These were directed to the attention of plant management for review.

a. Main Steam Leakage Control

On January 4, 1985, the inspector observed heaters C2 and C3 of the Main Steam Leakage Control system indicating a loss of power in the control room. A clearance order had been issued on January 2, which tagged the power supply breaker for these heaters in the open position. It appeared that the control room staff did not realize that Technical Specification Action Statement (TSAS) 3.6.1.4 had been entered on January 2; however, the TSAS requirements were met. The inspector presented this finding to the Operations Manager, who discussed this item with the responsible shift manager. The inspector verified that the Shift Manager log was subsequently corrected.

b. Drywell/Suppression Pool Vacuum Breaker

On December 14 the inspector observed the shift turnover of the Control Room Supervisors and noted that an open vacuum breaker was not mentioned; it also was not noted in the log books. It appeared that neither of the supervisors had noted the abnormal condition breaker at the time of the panel walkdown. The inspector mentioned this to the oncoming supervisor, who immediately recognized that a Technical Specification Action Statement (TSAS) was involved. The TSAS requirements were implemented. The Shift Manager and reactor operators then made late entries in their logs to identify the TSAS condition, and closed the vacuum breaker.

No violations or deviations were identified.

5. Engineered Safety Feature Verification

The inspector verified the operability of the Standby Liquid Control System by performing a walkdown of all accessible portions of the system. The walkdown included verification of correct valve position and locking status, availability of electrical power, and accuracy of plant drawings and system lineup procedures. The inspector also verified that the

licensee's surveillance procedures were in accordance with Technical Specifications.

No violations or deviations were identified.

6. 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 observing 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.

No violations or deviations were identified.

7. Monthly Maintenance Observation

Portions of selected safety-related systems maintenance activities were observed. By direct observation and review of records the inspector determined that these activities were not violating LCOs, that the proper administrative controls and tagout procedures were followed, and 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 to verify that backlogs which might affect system performance were not developing.

8. 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.

a. Completion of Testing

The licensee completed power ascension testing this period, with completion of the 100-hour warranty run on December 12 at 2:30 p.m. and completion of test program data evaluation by the Plant Operations Committee at 3:30 p.m. on December 13, 1984.

b. Recirculation Pump Trip Test

The inspector witnessed the test trip of one recirculation system pump at 95% power on December 7 at 12:30 a.m. This included examination of the real time computer plots of reactor water level, heat flux, neutron flux and jet pump flow. Reactor vessel water level increased 18 inches from the starting reference point of 36 inches, pressure decreased from 980 psig to 955 psig, and core heat flux decreased by 30 percent. The reactor did not scram and the test was uneventful. Recirculation control valve step changes to 50%, 30% and 0% position were successfully completed on the un-tripped loop. The inspector observed the reactor internals vibration measurement instruments and sections of charts and

interviewed the General Electric Company vibration engineer relative to acceptance criteria for the jet pump monitoring; he stated that there was no indication that vibration amplitudes exceeded the stress-strain values of the acceptance criteria. Test procedures were available and discussed with the operating crew; a shift technical advisor/test engineer directed the test and used the established checklist for verification of prerequisites; crew actions appeared correct and timely; consideration of and reference to applicable technical specification requirements was apparent; and adequate support personnel were present for data handling and compilation.

No violations or deviations were identified.

9. Licensee Event Reports

The inspector reviewed selected licensee event reports (LERs) and supporting information 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-84-71	Inadvertent Secondary Isolation
LER-84-89	Scram Initiated by Surveillance Testing
LER-84-103	Failure of Div. I Critical Switchgear Cooling Supply Fan Motor
LER-84-114	Reactor Scram on Low Reactor Vessel Water Level

No violations or deviations were identified.

10. Special Inspection Topics

The inspectors examined records, interviewed personnel, and inspected plant conditions relative to the following matters requested by the regional office:

a. Emergency Procedures

The inspectors selected a scenerio involving a plant fire with subsequent off-site release of radioactive material, with unusual event and alert status classifications to ascertain prescription of adequate staff and management actions. Corrective actions, classification of the event, notifications, and emergency center activations were considered. The flow path through, and the cross reference of procedures was considered, in addition to the source and availability of data required for execution of prescribed decisions and calculations of off-site doses.

The procedures appeared consistent and provided guidance for evaluation, classification, notifications and corrective actions.

The following minor discrepancies were identified to the responsible emergency planning engineer for resolution, who initiated prompt corrective action for their resolution. This included revisions of the procedure (already in progress for items (1)(e) and item (2)), and future revision and interim procedure changes for items (1)(a) through (d). The licensee is also programming a battery operated computer to assist the shift technical advisors in expediting manual dose calculations and event classification if required in the event the main process computer is inoperable during an event.

(1) Procedure 13.8.2, Manual Offsite Dose Calculations:

- (a) The default value for turbine building ventilation flow was shown as 260,000 cfm. The computer printer in the control room showed an actual value of 310,000 cfm on December 6, 1984.
- (b) The default value for radwaste building ventilation flow was shown as 84,000 cfm. The computer printer in the control room showed 110 millivolts on December 6. A conversion means for flow was not incorporated into the procedure to permit direct utilization of the actual flows indicated by the computer printer.
- (c) The procedure required telephone contact of the Pacific Northwest Laboratory Weather Forecaster or the National Weather Service Forecaster to obtain stability category and/or weather forecast for the next 12 hours. The telephone numbers of these locations were not identified.
- (d) The procedure called for health physics grab samples from the release points in accordance with Standard Operating Procedure (to be supplied later).

- (2) Procedure 13.2.1, Fires/Explosions, required implementation of abnormal condition procedure 4.12.1.2, in lieu of the correct procedure 4.12.4.1.

The licensee's correction of these items was timely and adequate.

No violations or deviations were identified.

b. Event Report From Another Site

Palo Verde experience with excessive corrosion of check valve internals in boron solution systems: The Nuclear Safety Assurance Group (NSAG) evaluated the inspector's questions and identified that Borg-Warner valves in the standby liquid control system (a boron solution system) were downstream of injection pumps and normally isolated from the boron solution; also, the piping at these valves is normally flushed after testing and maintained filled with demineralized water. The WNP-2 NSAG evaluated various other experience reports dealing with corrosion and other factors

affecting operability of check valves, and has recommended a preventive maintenance program for routinely verifying operability of check valves important to safety. The NSAG referred this matter to Plant Engineering October 18, 1984 for action.

No violations or deviations were identified.

c. Compliance With Selected Testing Commitments

The inspector reviewed test data against test commitments established in connection with FSAR Amendment No. 34. Certain of these commitments were not included in the published amendment, but were found to have been accomplished as agreed with NRC technical review staff prior to issuance of the operating license:

- (1) Power ascension testing of loss of turbine generator and offsite power included maintaining the loss of offsite power condition for 30 minutes. The inspector witnessed compliance with this commitment. This relates to FSAR Section 14.2.12.3.31.
- (2) The preoperational test of the standby service water system included verification of adequate net positive suction head and absence of vortexing over the full range of basin levels. This relates to FSAR Section 14.2.12.1.48, as updated in Amendment 35.
- (3) Preoperational testing of the solid radwaste system has not been completed due to the system having been deferred. However, FSAR Amendment 35 reflected the commitment that the end product must be free standing and contain no liquid. This relates to FSAR Section 14.2.12.1.17.
- (4) The preoperational test of the containment control/instrument air system included loss of air tests, including slow loss of air pressure (less than 10 psig per minute). This relates to FSAR Section 14.2.12.1.34.
- (5) Power ascension tests of the intermediate range monitors included weekly surveillance tests to assure that scram setpoints were at 96% of full scale. This relates to FSAR Section 14.2.12.3.10.
- (6) The power ascension test of shutdown from outside the control room included reduction of reactor coolant temperature by at least 50°F in the cold shutdown demonstration. This relates to FSAR Section 14.2.12.3.28.

No violations or deviations were identified.

11. Licensee Actions on Previous NRC Inspection Findings

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

- a. (Open) Followup Item (84-35-01) - During inspection 84-35 the inspector identified to the licensee that a vent valve in the HPCS system had not been included in the licensee's program as requiring position verification for primary containment integrity purposes. Based on this inspection finding the licensee pursued a program to identify any other valves which were required to have their positions verified for primary containment integrity. This program identified several additional valves as requiring position verification. Procedure 7.4.6.1.1, "Primary Containment Verification", is now being revised to reflect these additional valves. Technical Specification Surveillance 4.6.1.1.b requires that certain valves be verified closed every 31 days. Upon discovery of these additional valves, the licensee reported to the NRC that these valves had not been included in the position verification procedure during the past year. The licensee plans to address these findings in a Licensee Event Report. The significance of these valves will be evaluated during a future inspection.

No deviations or violations were identified.

12. Management Meeting

On January 4, 1985, the resident inspector met with the plant manager and his staff (as indicated in paragraph 1) and summarized the inspection findings for this period. Additionally, the inspector met with the Plant Manager weekly to review status of inspection findings, and as required with the department managers to define data and information needs relevant to the inspections in progress.