

U.S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No: 50-397/87-01
Docket No: 50-397
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

Inspection Conducted: January 4 - February 14, 1987

Inspectors:	<u>P. H. Johnson</u>	3/3/87
	for R. T. Dodds, Senior Resident Inspector	Date Signed
	<u>P. H. Johnson</u>	3/3/87
	for R. C. Barr, Resident Inspector	Date Signed
Approved by:	<u>P. H. Johnson</u>	3/3/87
	P. H. Johnson, Chief	Date Signed
	Reactor Projects Section 3	

Summary:

Inspection on January 4 - February 14, 1987 (50-397/87-01)

Areas Inspected: Routine inspection by the resident inspectors of control room operations, engineered safety feature (ESF) status, surveillance program, maintenance program, licensee event reports, special inspection topics, and licensee action on previous inspection findings. During this inspection, Inspection Procedures 30703, 40700, 61726, 62703, 71707, 71710, 71714, 73051, 90712, 92700, 92701 and 92702 were covered.

Results: No violations or deviations were identified.

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DETAILS

1. Persons Contacted

J. Shannon, Deputy Managing Director
*C. Powers, Plant Manager
*J. Baker, Assistant Plant Manager
*R. Corcoran, Operations Manager
*S. McKay, Assistant Operations Manager
*K. Cowan, Technical Manager
*J. Harmon, Assistant Maintenance Manager
*R. Graybeal, Health Physics and Chemistry Manager
*D. Feldman, Plant Quality Assurance Manager
J. Peters, Administrative Manager
P. Powell, Licensing Manager
M. Wuesterfeld, Reactor Engineering Supervisor
J. Landon, Maintenance Manager
*S. Washington, Sr. Compliance Engineer
*H. McGilton, Manager Operational Assurance Program

*Personnel in attendance at exit meeting on February 19, 1987.

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

2. Plant Status

The plant operated at approximately 72% power throughout the inspection period.

3. Operations Verifications

The resident inspectors reviewed the control room operator and shift manager log books on a daily basis during this report period. Reviews were also made of the Jumper/Lifted Lead Log and Nonconformance 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 control room personnel available at the time of the review. The events were evaluated for potential safety significance. The licensee's adherence to Limiting Conditions for Operation (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 violations or deviations were identified.

4. 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 witnessing and verifying daily control panel instrument checks, the inspectors observed portions of several detailed surveillance tests performed by operators and instrument and control technicians. The following tasks were observed for procedural adequacy and performers' compliance to procedures:

- PPM 7.4.6.1.1 Primary Containment Integrity Verification (1/7-8/87)
- PPM 7.4.1.4.1.3 Rod Worth Monitor Control Rod Sequence Verification (1/10/87)
- PPM 7.4.3.8.2.1 Weekly Turbine Valve Tests (1/10/87)
- PPM 7.4.7.2.7 Control Room Emergency Filtration System "B" Operability Test (1/10/87)
- PPM 7.4.1.3.2 Control Rod Drop Scram Timing (1/10/87)
- PPM 7.4.3.10.1 Neutron Flux Noise in Low Flow Region, 1 Loop Operation Only (1/10/87 at 34% power)

Additionally, the surveillance test data were evaluated for conformance to acceptance criteria.

On January 10, 1987 special operations were observed in conjunction with the above tests. They included:

- PP 9.3.10 Control Rod Sequence Exchange (B-1 to A-2)
- T.P. 8.3.57 Single Loop Core Flow Measurement
- PP 9.3.12 Plant Power Maneuvering

Of the 19 control rods that were scram time tested from full power to position 05, Control Rod 26-51 was slowest with a time of 2.497 seconds to position 05. The Technical Specification limit is 7.00 seconds.

No violations or deviations were identified.

5. Monthly Maintenance Observation

Portions of selected safety-related systems maintenance activities (MWR's AU 2054 and AU 7626) were observed. By direct observation and review of records the inspector determined whether these activities were consistent with LCOs; that the proper administrative controls and tagout procedures were followed; and that equipment was properly tested before return 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.

No violations or deviations were identified.

6. Engineered Safety Feature Verification

The inspector verified the operability of portions of the Standby Service Water (SSW) 'B' System, the Low Pressure Core Spray (LPCS) System, the Standby Gas Treatment System, the Residual Heat Removal (RHR) 'A' System and the Reactor Core Isolation Cooling (RCIC) System by performing a walkdown of the accessible portions of the systems. The inspector confirmed that the licensee's system lineup procedures matched plant drawings and the as built configuration. Valves were verified to be in the proper position, to have power available to their operators, and to be locked as appropriate. The licensee's procedures were verified to be in accordance with the Technical Specifications and the FSAR.

No violations or deviations were identified.

7. Cold Weather Preparation

Administrative Procedure PP 1.3.37, Cold Weather Operations, has been established to provide information and increase awareness of conditions to prevent damage and/or malfunctions of both safety-related and non-safety-related equipment during cold weather. For each winter season the procedure is initiated by the Scheduled Maintenance System on November 1 and terminated on April 1. On December 11 and 22, 1986, a licensee QA Engineer performed surveillances on cold weather procedure implementation. Due to earlier than predicted cold weather, the procedure was actually implemented on October 14, 1986. The QA Engineer identified deficiencies in the timely implementation of certain provisions of the procedure (valve identification and periodic operator surveillances of heat trace panels). The QA Engineer believes the identified deficiencies can, for the most part, be directly attributed to the inadequacies of the procedure. Corrective action has been initiated by adding the shiftly check of heat trace panels to the equipment operator's log sheets and repairing the out-of-service heat tracing. The revision of PP 1.3.37 was under discussion between Operations and Quality Assurance.

No violations or deviations were identified.

8. Licensee Event Reports

The regional and resident inspectors performed an in-office review of the following Licensee Event Reports (LERs) relative to timeliness, adequacy of description, generic implications, planned corrective actions and adequacy of coding.

- LER 86-35-00 Spurious Control Room Emergency Filtration System Actuation (Closed)
- LER 86-36-00 Control Room Emergency Filtration System Actuation (Closed)
- LER 86-37-00 Plant Shutdown Caused by an Unqualified Component Due to Inadequate Procedures (Closed)
- LER 86-38-00 Reactor Scram Due to Temporary Loss of Feedwater Due to an Inadequate Procedure (Closed)

- LER 86-39-00 Spurious Control Room Emergency Filtration System Actuation - Flow Lamp Failure (Closed)
- LER 86-41-00 Spurious Control Room Emergency Filtration System Actuation-Unknown Cause (Closed)
- LER 86-42-00 Missed Fire Door Surveillance Due to Inadvertent Omission From Procedures (Closed)
- LER 86-43-00 Spurious Control Room Emergency Filtration System Actuation-Unknown Cause (Closed)

The resident inspectors reviewed the preceding reports and supporting information onsite to verify that licensee management had reviewed the events, corrective actions had been taken, no unreviewed safety questions were involved and violations of regulations or Technical Specification conditions had been identified.

No violations or deviations were identified.

9. Licensee Response to Surry Feedline Rupture of 12/9/86

a. Wall Thinning

In mid 1985 the licensee identified several instances of abnormal pipe and component erosion (turbine cross under piping, moisture separator reheater (MSR) shell and various heater drain valves). A limited program was established to measure and trend wall thickness of these areas. As a result of the trending, modifications have been planned for these components during the April-June refueling outage.

The licensee, in response to the Surry event, will be augmenting the wall thinning program by adding approximately forty "critical" areas to the trending program during the upcoming refueling outage. The selection criteria for the "critical" areas will be based on guidelines found in EPRI-NP-3944 dated April 1985. The criteria consider pipe type, location, fitting separation, flow rate, flow phase, turbulence, temperature and oxygen concentration. Future program modifications will be based on the data collected during this and future outages.

b. Potential for Actuation of Fire Protection System

The licensee evaluated the potential for inappropriate actuation of fire protection systems during a feedline rupture. The licensee concluded that the control features of the Halon and the Carbon Dioxide (Cardox) Systems would not be affected. The Halon System provides fire suppression only in control room cabinets and the Cardox System provides fire suppression only in the main generator static exciter housing. These control systems are not located in areas susceptible to feedline ruptures.

The water fire suppression system could potentially be inappropriately activated during a feed or steam line rupture event; however, the licensee believes the actuation of the water

suppression system would not deter from the ability to respond and would be beneficial since the area would be cooled by the fire suppression water.

An inspector walked-down down various fire suppression systems and verified that the cover plates for these systems and control features were securely fastened in place. Additionally, electrical conduit was verified to be properly sealed.

c. Check Valve Monitoring Program

To date, the licensee's monitoring of check valve performance has been that required by ASME Boiler and Pressure Vessel Code Section XI which monitors operability of a limited set of check valves and does not evaluate performance for degradation. The licensee is in the process of developing a formal program to evaluate actual "check valve performance". The remaining element necessary to formalize the program is the "INPO CHECK VALVE APPLICATION GUIDE" which was to be published by September 1986, but has yet to be distributed. Regardless of receiving this document, the licensee plans to evaluate the performance of approximately twenty check valves during the upcoming refueling outage.

The licensee has previously identified some minor erosion problems with check valves, specifically, valves RHR-V-53, RFW-FCV-15 and feedwater heater 5A drain valves. These valves will be included in the evaluation program.

10. Annunciators (Followup Items 85-38-02, Open - Policy for long standing activated alarms; 86-06-03, Closed - Awareness of plant status annunciators)

There continues to be a significant number of activated and deactivated annunciators in control room panels that need attention, about 35 each. In recent observations during shift turnovers, it appeared that the Control Operators and the Control Room Supervisor were cognizant of the status of the annunciators and plant equipment. Also, a weekly status report was being prepared for the Assistant Operations Manager's review. While the licensee has developed an effective means of tracking repair status, it has not been apparent that adequate priority has been given to the correction of deficiencies. The inspector sampled the annunciator associated work planned during the upcoming R-2 outage. Assuming all the planned work will be accomplished, approximately one-third of the annunciator problems would be corrected. This would return the number of lighted annunciators to the post R-1 outage level.

In the inspector's view, more aggressive action appears necessary to reduce the number of annunciator deficiencies to a manageable level. Licensee management agreed to evaluate annunciator status and initiate corrective action, if appropriate, to assure safety of operation. (Follow-up items 86-06-03, Closed; 85-38-02, Open)

11. Procedural Compliance

Trending of plant events over the past four months indicates that the question of procedural compliance expressed in the last SALP evaluation still warrants significant attention. Several recent procedural non-compliances have resulted in errors in discharging effluents (LER's 86-44, 86-40), increases in the number of half-scrams, and a minor personnel injury when a craftsman worked on the wrong sample cooler. Singularly each event of procedural non-compliance had little impact on safety or plant operation. Because these events were self (licensee) identified, as yet, no regulatory action has been taken. Collectively, it appears to the inspector that the number of events involving procedural non-compliance indicates a need for action by the licensee to preclude recurrence. The licensee agreed to examine recent events for common cause and place additional emphasis on procedural compliance. Additionally, the licensee has already initiated a "human performance evaluation program" with increased attention on "near misses" and root cause analysis. The results of the licensee's program will be examined in the future as follow-up item 87-01-01. (Follow-up item, 87-01-01)

12. Management Meeting

During this period the inspectors met with the Plant Manager frequently to discuss inspection finding status. On February 19, 1987 the inspectors met with the Plant Manager and members of his staff to discuss the inspection findings during this period.