

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-344/85-34

Docket No. 50-344

License No. NPF-1

Licensee: Portland General Electric Company
121 S. W. Salmon Street
Portland, Oregon 97204

Facility Name: Trojan

Inspection at: Rainier, Oregon

Inspection conducted: October 3 - November 16, 1985

Inspectors:

R. J. Richards
S. A. Richards

Senior Resident Inspector

11/22/85
Date Signed

G. C. Kellund
G. C. Kellund

Resident Inspector

11/22/85
Date Signed

Approved By:

R. T. Dodds
R. T. Dodds, Chief

Reactor Projects Section 1

11/22/85
Date Signed

Summary:

Inspection on October 3 - November 16, 1985 (Report 50-344/85-34)

Areas Inspected: Routine inspection of operational safety verification, corrective action, maintenance, surveillance, followup on previously identified items, and inspection of various aspects of plant operation. The inspection involved 197 inspector-hours by the NRC Resident Inspectors. 21 hours of inspection were during back shift hours. Inspection procedures 30703, 40700, 61726, 62703, 71707, 71710, 92700, 92701, and 93702 were used as guidance during the conduct of the inspection.

Results: One violation was identified concerning storage of compressed gas bottles (paragraph 9).

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DETAILS

1. Persons Contacted

*W.S. Orser, Plant General Manager
R.P. Schmitt, Manager, Operations and Maintenance
D.R. Keuter, Manager, Technical Services
J.D. Reid, Manager, Plant Services
R.E. Susee, Operations Supervisor
D.W. Swan, Maintenance Supervisor
A.S. Cohlmeier, Engineering Supervisor
G.L. Rich, Chemistry Supervisor
T.O. Meek, Radiation Protection Supervisor
S.B. Nichols, Training Supervisor
D.L. Bennett, Control and Electrical Supervisor
M.R. Snook, Acting Quality Assurance Supervisor
R.W. Ritschard, Security Supervisor
H.E. Rosenbach, Material Control Supervisor
J.K. Aldersebaes, Manager, Nuclear Maint. and Construction

The inspectors also interviewed and talked with other licensee employees during the course of the inspection. These included shift supervisors, reactor and auxiliary operators, maintenance personnel, plant technicians and engineers, and quality assurance personnel.

*Denotes those attending the exit interview.

2. Operational Safety Verification

During this inspection period, the inspectors observed and examined activities to verify the operational safety of the licensee's facility. The observations and examinations of those activities were conducted on a daily, weekly, or biweekly basis.

On a daily basis, the inspectors observed control room activities to verify the licensee's adherence to limiting conditions for operations as prescribed in the facility technical specifications. Logs, instrumentation, recorder traces, and other operational records were examined to obtain information on plant conditions, trends, and compliance with regulations. On occasions when a shift turnover was in progress, the turnover of information on plant status was observed to determine that all pertinent information was relayed to the oncoming shift.

During each week, the inspectors toured the accessible areas of the facility to observe the following items:

- a. General plant and equipment conditions.
- b. Maintenance requests and repairs.
- c. Fire hazards and fire fighting equipment.
- d. Ignition sources and flammable material control.

- e. Conduct of activities in accordance with the licensee's administrative controls and approved procedures.
- f. Interiors of electrical and control panels.
- g. Implementation of the licensee's physical security plan.
- h. Radiation protection controls.
- i. Plant housekeeping and cleanliness.
- j. Radioactive waste systems.

The licensee's equipment clearance control was examined weekly by the inspectors to determine that the licensee complied with technical specification limiting conditions for operation with respect to removal of equipment from service. Active clearances were spot-checked to ensure that their issuance was consistent with plant status and maintenance evolutions.

During each week, the inspectors conversed with operators in the control room, and with other plant personnel. The discussions centered on pertinent topics relating to general plant conditions, procedures, security, training, and other topics aligned with the work activities involved.

The inspectors examined the licensee's nonconformance reports (NCR) to confirm that deficiencies were identified and tracked by the system. Identified nonconformances were being tracked and followed to the completion of corrective action. NCRs reviewed during this inspection period included 85-083, 85-091, 85-094, and 85-095.

Logs of jumpers, bypasses, caution, and test tags were examined by the inspectors. Implementation of radiation protection controls was verified by observing portions of area surveys being performed, when possible, and by examining radiation work permits currently in effect to see that prescribed clothing and instrumentation were available and used. Radiation protection instruments were also examined to verify operability and calibration status.

Two significant power reductions occurred during this reporting period which affected core axial flux difference (AFD). During these power reductions, the inspectors verified that the technical specification requirements associated with control of AFD were met.

The inspectors verified the operability of selected engineered safety features. This was done by direct visual verification of the correct position of valves, availability of power, cooling water supply, system integrity and general condition of equipment, as applicable. ESF systems verified operable during this inspection period included the containment spray chemical addition system.

No violations or deviations were identified.

3. Corrective Action

The inspectors examined facility records to verify that quality related deficiencies were identified and reported to cognizant management for resolution. Records examined by the inspectors included Requests for

Evaluation, Possible Reportable Occurrences, Plant Review Board meeting minutes, and Quality Assurance Program Nonconformance Reports. Plant Review Board meetings were attended by the inspectors on October 30. In addition, the inspectors attended Quality Assurance exit meetings on October 15 and November 1.

No violations or deviations were identified.

4. Maintenance

Maintenance activities involving preventive and corrective maintenance were observed by the inspectors during the inspection period. On a selective basis, observations by the inspectors verified that proper approvals, system clearances, and required prerequisites were performed, as appropriate, prior to maintenance on safety-related systems or components. The inspectors verified that qualified personnel performed the maintenance using appropriate maintenance procedures. When possible, replacement parts were examined to determine the proper certification of materials, workmanship and tests. During the actual performance of the maintenance activity, the inspectors checked for proper radiological controls and housekeeping, as appropriate. Upon completion of the maintenance activity, the inspectors verified when possible, that the component or system was properly tested prior to returning the system or component to service. During the inspection period, maintenance activities observed were associated with oil sampling of the auxiliary feedwater pump turbine and lubrication of its trip and throttle valve.

No violations or deviations were identified.

5. Surveillance

The surveillance testing of safety-related systems was witnessed by the inspectors. Observations by the inspectors included verification that proper procedures were used, test instrumentation was calibrated and that the system or component being tested was properly removed from service if required by the test procedure. Following completion of the surveillance tests, the inspectors verified that the test results met the acceptance criteria of the technical specifications and were reviewed by cognizant licensee personnel. The inspectors also verified that corrective action was initiated, if required, to determine the cause for any unacceptable test results and to restore the system or component to an operable status consistent with the technical specification requirements. Surveillance tests witnessed during the inspection period were associated with a full core flux map, and start testing the east emergency diesel generator.

No violations or deviations were identified.

6. Followup On Previous Inspection Items

Open Item 85-17-01 (Closed): Reactor Vessel Inservice Inspection. As indicated in NRC Inspection Report (IR) 85-17, the licensee was to submit an inservice inspection report to the NRC by the end of September 1985. This report was to contain the information specified in IR 85-17, including reactor coolant system water temperature data previously

unavailable to the inspector. On September 15, 1985, the subject report was submitted by the licensee. The inspector's review verified that the required information was provided in the report. Accordingly, open item 85-17-01 is closed.

Inspection methods, extents and techniques were found to be consistent with the licensee's Reactor Vessel Examination Program Plan. Evaluations of examination data were performed by certified examiners, and no major deviation between initial and final calibration data was evident.

No violations or deviations were identified.

7. Material Certification

As a followup to a previous NRC inspection of material procurement practices, the inspectors reviewed the documentation for Request for Design Change (RDC) 83-009, Detailed Construction Package (DCP) 2. This RDC installed two motor operated valves in existing lines of the residual heat removal (RHR) system. A brief review of this modification during the review of procurement practices had indicated that material lacking the proper certification may have been installed under this modification. Specifically, four 2 1/2 inch by 2 inch pipe reducers appeared to have been used for this modification to nuclear class piping without the licensee receiving from the supplier material test reports (MTR) for the reducers. An MTR provides results of chemical and mechanical tests of the material used in the fabrication of piping components. Discussions with licensee quality assurance personnel and reviews of the applicable piping code requirements indicated that an MTR was required for the reducers in question.

The reducers for the modification were originally procured under purchase order N-27199. The purchase order did not require an MTR to be provided with the material nor was one received. The purchase order is drafted by the engineer responsible for the modification and reviewed by the quality assurance organization. After reviewing the documentation, the engineer agreed that the purchase order was incorrect in not requiring an MTR with the material. However, a more detailed review of the modification documentation by the licensee and the inspectors determined that the reducers purchased under purchase order N-27199 were not used. The storeroom material issue slip for the job listed the purchase order for the reducers that were used as N-29129. This purchase order did come with an MTR for the reducers. The licensee verified that the proper material had actually been used by visually confirming that the heat identification on the installed reducers matched that listed on the MTR received under purchase order N-29129.

Additional discussions with personnel involved with the implementation of the modification determined that when the original reducers were withdrawn from the warehouse for use, site personnel recognized that the material did not have the appropriate certification and therefore rejected the material for use and reordered another set of reducers. The inspectors concluded that the licensee had originally procured the material incorrectly, however, that error was discovered and corrected prior to the material being installed in a safety related system.

No violations or deviations were identified.

8. Residual Heat Removal Pump Recirculation Flow

As discussed in paragraph 12 of inspection report 85-32, the inspectors noted that a failure of one residual heat removal (RHR) pump could potentially affect the performance of the pump of the opposite train. The licensee has discussed this concern further with the Westinghouse Corporation and determined that the particular failure has not been considered as had been previously thought.

The RHR system is designed such that when the flow out of an RHR pump is less than approximately 500 gpm, a recirculation valve off the pump discharge will open and allow flow back to the pump suction. Because the RHR pump discharge lines are cross-connected, it appears that a failure of one RHR pump could cause a percentage of the discharge flow of the other pump to be recirculated back to the suction line thru the failed pump's recirculation valve, rather than be directed to the reactor coolant system. In this manner, a single failure could affect both trains of the RHR system.

Because the electrical circuit breaker to the RHR pump must be shut for it's associated recirculation valve to open, the probability of this type of failure appears to be small. Additionally, the recirculation valve size is 2 inches while the discharge line size is 8 inches in diameter. The small size of the recirculation valve would appear to limit the fraction of flow that would be diverted. The licensee has contracted Westinghouse to determine whether this concern is a credible fault and if so what action should be taken. The inspectors have contacted the NRC Office of Nuclear Reactor Regulation for assistance in evaluating this concern. Followup Item 85-34-03.

No violations or deviations were identified.

9. Miscellaneous Observations

During a tour of the auxiliary building on October 3, the inspectors observed a pair of helium gas bottles strapped to the Seismic Category I supply and return lines of the 'B' train containment hydrogen analyzer. The inspectors notified the operations supervisor who had the bottles removed. The inspectors discussed this matter with the plant engineering staff and it appeared that no safety evaluation had been performed to support this configuration. This is an apparent violation of 10 CFR 50.59 (85-34-01).

The inspectors noted that during the inspection period, housekeeping in the auxiliary building had steadily degraded. The inspectors and a regional management representative discussed this concern with the plant general manager who indicated that action would be taken to improve the situation. The inspectors observed some subsequent improvement in this area and will continue to follow the licensee's efforts.

Twice during this inspection period, blasting cap wires were discovered by the licensee while making groundwork preparations for a new

radiological waste facility being constructed north of the fuel handling building. In both cases, army explosive ordnance disposal personnel were called to the site and determined that the wire was discarded refuse with no safety significance.

The inspectors noted that the suction valves to the containment spray pumps from the refueling water storage tank and the containment recirculation sump were danger tagged in their appropriate positions for cold leg injection. This tag out includes removal of electric power to the valve operators by opening their circuit breakers at the associated motor control center. This appears inconsistent with the final safety analysis report (FSAR) in that the FSAR describes the switch over from the injection phase to the recirculation phase as occurring totally from within the control room. The licensee was still considering this system configuration at the close of the inspection. The inspectors will follow this item up during a later inspection (85-34-02).

10. Exit Interview

The inspectors met with the Plant General Manager at the conclusion of the inspection period. During that meeting, the inspectors summarized the scope and findings of the inspection.