UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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October 19, 1999

Mr. J. V. Parrish (Mail Drop 1023)
Chief Executive Officer
Energy Northwest
P.O. Box 968
Richland, Washington 99352-0968

SUBJECT: NRC INSPECTION REPORT NO. 50-397/99-11

Dear Mr. Parrish:

This refers to the inspection conducted on September 27 through October 1, 1999, at the Washington Nuclear Project-2 facility. The purpose of the inspection was to review your inservice inspection program and its implementation. The enclosed report presents the results of this inspection.

Overall, it was determined that your inservice examination program plan for the second 10-year interval for the Washington Nuclear Project-2 facility was well defined and was being implemented in accordance with the applicable ASME Code and regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room (PDR).

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/s/

Dr. Dale A. Powers, Chief
Engineering and Maintenance Branch
Division of Reactor Safety

Docket No.: 50-397
License No.: NPF-21

Enclosure:
NRC Inspection Report No.
50-397/99-11

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E-Mail report to Document Control Desk (DOCDESK)
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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	50-397
License No.:	NPF-21
Report No.:	50-397/99-11
Licensee:	Energy Northwest
Facility:	Washington Nuclear Project-2
Location:	Richland, Washington
Dates:	September 27 through October 1, 1999
Inspector:	Claude E. Johnson, Senior Reactor Inspector Engineering and Maintenance Branch
Approved By:	Dr. Dale A. Powers, Chief, Engineering and Maintenance Branch Division of Reactor Safety

ATTACHMENT: Supplemental Information

EXECUTIVE SUMMARY

Washington Nuclear Project-2
NRC Inspection Report No. 50-397/99-11

This inspection consisted of a review of the licensee's inservice inspection examination program plan and schedule, and the implementation of the program plan for the facility. The inspection covers a 1-week period onsite by one region-based inspector.

Maintenance

- The licensee had developed a well-defined second 10-year interval inservice inspection examination program plan, in that, the examination categories, examination methods, augmented inspections, relief requests, code cases implemented, and changes to the examination plan were clearly identified. The licensee had implemented the program requirements appropriately (Section M1.1).

- The overall external material condition of equipment observed in the control room (i.e., electrical and instrumentation panels) and reactor building (i.e., hydrogen recombiner, reactor building cooling water, low pressure core spray, low pressure keep fill, high pressure core spray, residual heat removal, and control rod drive pumps) was good. No rust, loose bolts, or major oil or water leaks were visible (Section M2).

- Nondestructive examination and ASME code repair and replacement procedures were in compliance with regulatory and ASME code requirements. Work packages contained sufficient instructions to accomplish the tasks (Section M3).

- Licensee personnel were knowledgeable of the program, procedures, ASME code requirements, and the corrective action process (Section M4.c).

- The licensee was effective in identifying, resolving, and preventing problems in the area of inservice inspections, with one exception. A letter from General Electric dated May 26, 1998, “Qualitative Assessment of FW Sparger Cracks for WNP-2 - Final,” recommended continued operation with the existing sparger for up to 24 months. However, with the current change in the licensee's fuel cycle from 12 to 18 months the licensee would have exceeded the 24-month time period without having an opportunity to conduct the inspections prior to the next refueling outage. The licensee initiated a problem evaluation request to correct this problem and commenced the necessary inspections during the current refueling outage (Section M4.c).

- The quality assurance audit and surveillance reports related to inservice inspection activities were satisfactory (Section M7.1).

Report Details

Summary of Plant Status

Unit 2 was shutdown for Refueling Outage 14 during the inspection.

II. Maintenance

M1 Conduct of Maintenance

M1.1 Inservice Inspection Program

a. Inspection Scope (73753)

The inspector performed a limited review of the licensee's "First 10-Year Interval Inservice Inspection Examination Plan," and a thorough review of the "Second 10-Year Interval Inservice Inspection Plan for WNP-2." In addition, the inspector reviewed ASME code cases implemented, correspondence from the licensee to the NRC for the first and second 10-year intervals to determine if the licensee had submitted relief requests for Code Class 1, 2, and 3 weld examinations where essentially 100 percent full examination coverage could not be achieved. The inspector also reviewed inservice inspection program changes that would require the licensee to obtain approval from the NRC prior to implementation.

b. Observations and Findings

The inspector found that the licensee had committed to ASME, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," 1989 Edition, with no Addenda for the second 10-year interval inservice inspection program. The examination program plan identified the examination categories, components to be examined, nondestructive examination methods, augmented inspections, and the applicable code cases implemented. The inservice inspection plan also identified relief requests submitted to the NRC. The inspector verified that: (1) program changes were documented appropriately; (2) ASME code cases implemented that were not listed in Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability ASME, Section XI, Division 1," Revision 11, had been granted approval by the NRC; (3) code welds not receiving essentially 100 percent full examination coverage were documented on relief requests; and (4) augmented inspections were performed as planned. The inspector determined that the licensee had developed a well-defined second 10-year interval inservice inspection examination plan and was implementing the program in accordance with the requirements of 10 CFR 50.55a.

There was one problem identified below in Section M4.b.3 related to a vendor-recommended examination that was affected by a change in fuel cycle. Otherwise, there were no concerns identified in the program examination plan length or schedule.

c. Conclusions

The licensee had developed a well-defined second 10-year interval inservice inspection examination program plan, in that, the examination categories, examination methods, augmented inspections, relief requests, code cases implemented, and changes to the examination plan were clearly identified. The licensee had implemented the program requirements appropriately.

M2 Maintenance and Material Condition of Facilities and Equipment

a. Inspection Scope (73753)

During plant tours, the inspector observed the external material condition of some facility equipment.

b. Observations and Findings

The inspector observed the external material condition of the equipment listed below:

- Control room electrical panels
- Reactor Building Cooling Water Pump 1A, 1B, and 1C and associated heat exchangers
- Control Rod Drive Pumps 1B and 1A
- Hydrogen Recombiner B
- Residual Heat Removal Pump 2B
- High pressure core spray pump
- Low pressure core spray pump
- Low pressure core spray keep fill pump

No rust, loose nuts, major oil or water leaks were visible. External material condition of the equipment was good.

c. Conclusions

The overall external material condition of equipment observed in the control room (i.e., electrical and instrumentation panels) and reactor building (i.e., hydrogen recombiner, reactor building cooling, low pressure core spray, low pressure keep fill, high pressure core spray, residual heat removal, and control rod drive pumps) was good. No rust, loose bolts, or major oil or water leaks were visible.

M3 Maintenance Procedures and Documentation

a. Inspection Scope (73753)

The inspector reviewed several nondestructive examination procedures to determine if they had been developed in accordance with regulatory and applicable ASME code requirements. The inspector also reviewed the licensee's ASME code repair and replacement procedure, and the work packages for the removal and installation of the main steam relief valves. The procedures reviewed are listed in the attachment.

b. Observations and Findings

The inspector found that the licensee's nondestructive examination and ASME code repair and replacement procedures contained sufficient detail and inspection criteria to perform the intended examinations, and were in compliance with regulatory and ASME code requirements. The ASME code replacement work packages also contained sufficient instructions to accomplish the tasks.

c. Conclusions

The nondestructive examination and ASME code repair and replacement procedures were in compliance with regulatory and ASME code requirements. The ASME code replacement work packages contained sufficient instructions to accomplish the tasks.

M4 Maintenance Staff Knowledge and Performance

a. Inspection Scope (73753)

The inspector assessed the knowledge and performance of licensee and contractor personnel by observing portions of activities associated with main steam relief valve replacement activities.

The inspector also assessed the effectiveness of the licensee's controls in identifying, resolving, and preventing problems by reviewing corrective actions, root cause analyses, and audits in the area of inservice inspections.

b Observations and Findings

b.1 Personnel Knowledge

The inspector found that the licensee's personnel were knowledgeable of the program, procedures, ASME code requirements, and the corrective action process. Contractor personnel installing the main steam relief valves were journeyman pipefitters, and were experienced in the activities performed.

b.2 Performance

There were few inservice inspection activities available for observation during this inspection. However, the inspector observed activities associated with the ASME code replacement and installation of several main steam relief valves in the drywell. These activities included the torquing of the inlet and outlet flange bolts for the main steam relief valves.

A quality control inspector was observed appropriately verifying inservice inspection activities.

During this inspection, the inspector observed the following deficiencies:

- During alignment of a main steam relief valve to its outlet piping, the inspector noted that the chain for the come-along for rigging was inappropriately wrapped around a support and the flexible test line for the main steam relief valve. The licensee’s project engineer initiated a plant tracking log to preclude this problem recurring. The corrective actions included reiterating the proper rigging techniques to contractor personnel.

- During removal of a main steam relief valve, some pitting was noted by the quality control inspector on the flange seal area. There was no acceptance criteria available for the quality control inspector to make an appropriate evaluation of the pitted surface; therefore, the engineer was called to make the determination. Fortunately, the engineer was in the area to make the assessment, and no significant unnecessary dose was accrued by the involved personnel. The licensee’s project engineer initiated a plant tracking log to prevent this problem recurring. The corrective action was to include the acceptance criteria in remaining work packages.

The inspector determined that overall the work activities observed were being accomplished in accordance with procedures and work instructions.

b.3 Effectiveness of Licensee Controls

The inspector evaluated the effectiveness of the licensee's controls in identifying, resolving, and preventing problems by reviewing corrective actions, root-cause analyses, and self assessments in the area of inservice inspection. This review determined that problems identified had been appropriately placed into the licensee's

corrective action process. The inspector's review of problem evaluation requests (PERs) indicated that the corrective actions implemented were appropriate.

The inspector reviewed PER 298-0525. This PER addressed cracks identified on the feedwater sparger. As a result of the inspector's question on PER 298-0525, the licensee's representative identified a scheduling problem concerning vendor-recommended examinations of the feedwater spargers.

A letter from the vendor dated May 26, 1998, “Qualitative Assessment of FW Sparger Cracks for WNP-2 - Final," recommended continued operation with the existing sparger for up to 24 months. However, with the current change in the licensee's fuel cycle from 12 to 18 months, the licensee would have exceeded the 24-month time period without having an opportunity to conduct the inspections prior to the next refueling outage. The licensee initiated PER 299-2036 to document this issue. The licensee's representative informed the inspector that the spargers were to be inspected during the current refueling outage. The licensee's representative also informed the inspector that this finding was an exception and that they were to ensure that no examinations would be inadvertently omitted as a result of the changed fuel cycle.

c. Conclusions

The licensee's personnel were knowledgeable of the program, procedures, ASME code requirements, and the corrective action process. Contractor personnel installing the main steam relief valves were experienced. Several minor observations were noted during the installation of the main steam relief valves, and the project engineer initiated problem tracking logs to preclude their recurrence. Overall, work activities observed were being performed in accordance with procedures and work instructions.

The licensee was effective in identifying, resolving, and preventing problems in the area of inservice inspections, with one exception. A letter from the vendor dated May 26, 1998, “Qualitative Assessment of FW Sparger Cracks for WNP-2 - Final," recommended a continued operation with the existing sparger for up to 24 months. However, with the change in the licensee's fuel cycle from 12 to 18 months, the licensee would have exceeded the 24-month time period without having an opportunity to conduct the inspections prior to the next refueling outage. The licensee initiated a problem evaluation request to correct this problem and commenced the necessary inspections during the current refueling outage.

M7 Quality Assurance in Maintenance Activities

M7.1 Licensee Self-Assessment Activities

a. Inspection Scope (73753)

The inspector reviewed the licensee’s previous quality assurance audit and surveillance reports.

b. Observation and Findings

The inspector verified that deficiencies identified in the quality assurance audit and surveillance reports were documented appropriately in problem evaluation requests and tracked by the licensee's corrective action program. The inspector found that the quality assurance audit and surveillance reports were satisfactory.

c. Conclusions

The quality assurance audit and surveillance reports related to inservice inspection activities were satisfactory.

V. Management Meetings

X1 Exit Meeting Summary

The inspector presented the inspection results to members of licensee management at the conclusion of the inspection. The licensee's representatives acknowledged the findings presented.

The inspector asked the licensee's representatives whether any materials examined during the inspection should be considered proprietary. There was one proprietary document identified that had been reviewed by the inspector and that was subsequently destroyed.

ATTACHMENT

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

J. Arbuckle, Acting Manager, Licensing
D. Atkinson, Manager, Engineering
D. Coleman, Manager, Regulatory Affairs
T. Erwin, Acting Supervisor, Material Processes and Qualifications
C. Fu, Quality Assurance Engineer
K. Hannah, Project Engineer
V. Harris, Assistant Manager, Maintenance
T. Hoyle, Supervisor, Component Engineering
C. King, Acting Manager, Design Engineering
D. Ramey, Inservice Inspection Engineer
C. Robinson, Supervisor, Quality Assurance
F. Schill, Licensing Engineer
K. Singh, Lead Engineer, ASME Code Repair and Replacement
G. Smith, Vice President, Generation
D. Welch, Lead, Nondestructive Testing

NRC

E. Merschoff, Regional Administrator
D. Powers, Chief, Engineering and Maintenance Branch
G. Replogle, Senior Resident Inspector

INSPECTION PROCEDURES USED

73753 Inservice Inspection

LIST OF DOCUMENTS REVIEWED

Procedures

QCI 6-3	Ultrasonic Examination Of Dissimilar Metal Welds (Manual)	Revision 3
QCI 6-4	Ultrasonic Examination Feedwater Nozzle Inner Radii	Revision 9
QCI 6-13	Ultrasonic Examination of Ferritic Steel Piping Welds	Revision 8
QCI-3-3	Liquid Penetrant Examination - WNP-2	Revision 5
QCI 4-3	Magnetic Particle Examination - WNP-2	Revision 6

PPM 1.3.30A	Repair And Replacement Of ASME Section III, Code Class MC For Containment Vessels	Revision 0
PPM 13.30	Repair and Replacement And Alteration Of AMSE Items	Revision 14
SWP-ISI-01	ASME Section XI Inservice Inspection	Revision 0
PPM 10.17.2	Main Steam Relief Valve Inspection And Overhaul	Revision 10

Problem Evaluation Requests

295-0328	Request For RHR Pump Casing
295-0639	Jet Pump Retainer Bracket Adjusting Screw Tack Weld
295-1002	Leak In Service Water Train A Return Line
298-0499	Bail Handles from Temporary Wedges Broken
298-0522	Jet Pump Adjusting Screw Tack Weld Was Found Cracked
298-0523	Jet Pump Retainer Bracket Adjusting Screw Does Not Make Contact
298-0525	Crack-Like Indications Noted On Feedwater Sparger Flow Holes
298-0600	Indication Identified Inside RRC Suction Nozzle To Safe End Weld
298-0654	Core Shroud Weld Inspection Misinterpreted

Audit/Surveillance Reports

Audit 298-024, "WNP-2 Engineering Audit," dated June 25, 1998

Surveillance Report 297-035, "Reactor Pressure Vessel Leak Test," dated August 28, 1997

Miscellaneous Documents

Interoffice Memorandum, "Evaluation Of Leak In SW Loop A 18-inch Return Line," dated July 15, 1996

General Electric Qualitative Assessment GE-NE-B13-01920-60, Revision 1, "Feedwater Sparger Flaw Disposition," dated May 26, 1998

Work Order Task No. BNP7, "RHR-V-41A; Body To Bonnet Leak," Revision 1

Work Order Task No. FTS3, "OSP-RPV-R801 RPV Leakage Test," Revision 6