ENCLOSURE B

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

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License No.:	NPF-21
Report No.:	50-397/96-10
Licensee:	Washington Public Power Supply System
Facility:	Washington Nuclear Project-2
Location:	Richland, Washington
Dates:	June 24-28, 1996
Inspectors:	Larry T. Ricketson, P.E., Senior Radiation Specialist Plant Support Branch
	Michael P. Shannon, Radiation Specialist Plant Support Branch
Approved By:	Blaine Murray, Chief, Plant Support Branch Division of Reactor Safety

ATTACHMENT:

Attachment: Partial List of Persons Contacted
List of Inspection Procedures Used
List of Items Opened, Closed, and Discussed
List of Acronyms

EXECUTIVE SUMMARY

Washington Nuclear Project-2
NRC Inspection Report 50-397/96-10

Plant Support

- Generally, radiation exposure controls were good; however, when corrective actions were necessary, the actions were neither prompt nor comprehensive. A violation was identified involving the failure to adequately control high high radiation areas. Some radiation work permit special instructions were complicated and difficult to understand but no associated regulatory issues were identified (Section R1.1).

- Controls of radioactive material and contamination were adequate; however, in some cases additional attention to details was needed (Section R1.2).

- Good progress had been made to reduce source-term and person-rem totals. Most initiatives to reduce exposure were implemented or scheduled. There was good support by all site organizations for ALARA Committee activities. The ALARA program was not comprehensive because it lacked an ALARA suggestion program (Section R1.3).

- Radiation protection procedures generally provided adequate guidance; however, minor procedure revisions were needed to ensure that radiation survey instruments failing response tests were evaluated in a timely manner. All procedures were not updated to reflect the current site organization (Section R3).

- A qualified individual was appointed as acting radiation protection manager (Section R5).

- Oversight of radiation protection activities was adequate. The quality assurance surveillance program was comprehensive, but the surveillances had not been supplemented with self-assessments by the radiation protection organization (Section R7).

Report Details

IV. Plant Support

R1 Radiological Protection and Chemistry Controls

R1.1 External Exposure Controls

a. Inspection Scope (83724)

The inspectors reviewed problem evaluation reports, dosimetry use and placement by radiation workers, radiation work permit implementation, access control of high exposure areas, area posting, and radiation work practices.

b. Observations and Findings

No problems were identified with dosimetry use, posting, and radiation work practices.

Special instructions included in some of the radiation work permits, such as Radiation Work Permit 96000186, were complicated and difficult to understand. Some radiation workers interviewed in the radiological controlled area did not know the specific radiological conditions of areas in which they worked, but the inspectors were unable to conclusively establish that this was because the radiation work permits were too complex to be easily understood. This concern was discussed with licensee representatives who stated that the issue would be evaluated to determine if radiation work permit instruction should be simplified.

Procedure 1.11.8, "Radiation Work Permit," Revision 9, Section 6.3.4 provided guidance that stated radiation work permit backup documentation should be placed in individual folders. This documentation should include copies of survey results and prejob briefings topics. The inspectors did not identify any specific procedure violations; however, management expectations were not met for the selected radiation work permits reviewed. The folders for Radiation Work Permits 96000185 and 96000186 did not include radiation survey records. The folder for Radiation Work Permit 96000186 also did not include prejob briefing topics. Licensee representatives acknowledged that management expectations were not fully met with regard to the content of radiation work permit packages.

Problem Evaluation Request 295-0628 documented an event in which high high radiation areas in the drywell were not controlled through the use of flashing lights, as required by Technical Specification 6.12.2. The licensee used the term high high radiation area to identify areas in which a major portion of the body could receive in 1 hour a radiation

dose greater than 1000 millirems. The problem was identified May 23, 1995, and was caused by a loss-of-electrical power in the drywell. Technical Specification 6.12.2 requires that such areas be provided with locked doors to prevent unauthorized entry. As an alternate means of control where no enclosure exists, Technical Specification 6.12.2 requires that such areas be barricaded, conspicuously posted, and identified with a flashing light.

Problem Evaluation Request 296-0247 documented a second occurrence of the failure to control high high radiation areas in accordance with the requirements of Technical Specification 6.12.2 on April 10, 1996. Again, a loss-of-electrical power caused the flashing lights identifying high high radiation areas in the drywell to be inoperable. The second problem evaluation request stated that corrective actions proposed as a result of the first occurrence had not been completed, prior to the second event. The corrective actions implemented after the second event involved the use of battery-operated flashing lights to supplement the existing flashing lights. However, the corrective actions were focused on high high radiation areas only in the drywell.

Problem Evaluation Request 296-0492 documented a third example of a failure to control a high high radiation area with flashing lights. The last example occurred on the refueling floor of the reactor building rather than in the drywell, on June 2, 1996. The high high radiation area was the result of an open liner in a shielded cask. Licensee representatives speculated that the loss-of-electrical power to the flashing lights may have been caused by emergency medical responders who needed a source of electrical power for equipment used to treat a downed worker during a medical emergency. Licensee representatives also stated there was no ladder or means of easy access to the top of the liner to afford an opportunity for inadvertent personnel entry into the high high radiation area. Additionally, licensee representatives stated that, following the medical emergency on June 2, 1996, the refueling floor was evacuated and the area was posted so as to prevent personnel entry into the area. The loss-of-electrical power to the flashing light was discovered by a radiation protection technician prior to general personnel re-entry into the area.

The inspectors acknowledged that the chances of inadvertent entry into the high high radiation area and the actual safety consequences of the third event were low. However, the third event demonstrated that the corrective actions following the second event were narrowly focused. The first two events involve failures to control radiation areas with radiation dose rates greater than 1000 millirems per hour and as violations of Technical Specification 6.12.2 (397/9610-01). The inspector's primary concern involved the failure to implement effective corrective actions following the first event that should have prevented

the second and third events. Because adequate corrective actions were not implemented after the licensee identified the first violation, the inspectors determined that these items did not meet the criteria for exercise of discretion, as described in Section VII.B.1 of the NRC Enforcement Policy.

c. Conclusions

Generally, radiation exposure controls were good; however, when corrective actions were necessary, the actions were neither prompt nor comprehensive. A violation for failure to adequately control high high radiation areas occurred because corrective actions were not implemented following the first occurrence. Some radiation work permit special instructions were complicated and difficult to understand but no associated regulatory issues were identified.

R1.2 Control of Radioactive Materials and Contamination; Surveying and Monitoring

a. Inspection Scope(83726)

The inspectors reviewed personnel contamination events, release of radioactive materials from the radiological controlled area, use of portable radiation survey instrumentation by radiation protection technicians, and radiation survey documentation.

b. Observations and Findings

The only problems identified in this area of inspection were minor labeling concerns. Labels on vacuum cleaners used in the radiological controlled area were fading and becoming difficult to recognize as warning labels.

c. Conclusions

Controls of radioactive material and contamination were adequate. Additional attention to details was needed.

R1.3 Maintaining Occupational Exposures ALARA

a. Inspection Scope (83728)

The inspectors reviewed person-rem totals, the status of licensee dose and source term reduction initiatives, ALARA Committee meeting minutes, and the ALARA program description.

b. Observations and Findings

The licensee's recent person-rem totals are given below:

YEAR	1994	1995	1996 to Date
LICENSEE RESULTS	865	428	333
NATIONAL BWR AVERAGE	327	*	*

*Not available

During a meeting in the Region IV offices on November 8, 1994, licensee representatives discussed lessons they had learned and outlined initiatives they planned for the reduction of source term and radiation exposure. The licensee's progress in implementing these initiatives was reviewed during NRC Inspection 50-397/95-04. The final implementation dates of some initiatives had been revised slightly, but generally, the source term reduction initiatives were completed or were scheduled for implementation. At least one item, control rod blade replacement, was discontinued because the licensee learned that changes would not produce the benefit originally thought. In other initiatives, the licensee went beyond its original plans. For example, the licensee completed installation of the planned drywell shielding, then extended the program and added additional shielding.

As part of the licensee's November 8, 1994, presentation, licensee personnel stated that one of their lessons learned from outage activities was that premature draindowns of certain systems resulted in personnel dose increases. During NRC Inspection 50-397/95-04, the inspector noted that the licensee had made no progress in implementing a mechanism to ensure that operations personnel were aware of the consequences of draining systems and the possible effects on radiation levels and personnel doses. During this inspection, the inspector determined that, although this issue continued to be carried as a lesson learned, it had not been formally addressed with a plan of action.

From a review of the ALARA Committee minutes for 1995 and the first quarter of 1996, the inspectors determined that the ALARA Committee met at least quarterly. All site organizations demonstrated support for committee activities through good attendance.

During an interview with the inspectors, the acting ALARA supervisor stated that the ALARA suggestion program had been discontinued for approximately a year. The licensee did not provide any specific reason why the ALARA suggestion program was discontinued. When last reviewed during NRC Inspection 50-397/94-25, ALARA suggestions were submitted as part of the Beneficial Suggestion Program. Strong support for the program was noted at that time. The inspectors reviewed Procedure 1.11.2, "ALARA Description," Revision 9 and noted that Section 5.13 of the policy statement described how the ALARA suggestion program was to be implemented. The inspectors identified the failure to maintain the ALARA suggestion program as a violation of Procedure 1.11.2 and Technical Specification 6.8.1.a. Technical

Specification 6.8.1.a. requires that written procedures be established implemented, and maintained covering the activities in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Section 7.e.(9) of Appendix A includes implementation of the ALARA Program. This failure constitutes a violation of minor significance and is being treated as a Non-Cited Violation, consistent with Section IV of the NRC Enforcement Policy (397/9610-02).

c. Conclusions

Source term and person-rem totals were reduced. Most, but not all, initiatives to reduce exposure were implemented or scheduled. There was good support by all site organizations for ALARA Committee activities. The ALARA program was not comprehensive because it lacked an ALARA suggestion program.

R2 Status of Radiological Protection and Chemistry Facilities and Equipment

A recent discovery of a licensee operating their facility in a manner contrary to the Updated Final Safety Analysis Report (UFSAR) description highlighted the need for a special focused review that compares plant practices, procedures, and/or parameters to the UFSAR description. While performing the inspection discussed in this report, the inspector reviewed the applicable portions of the UFSAR that related to the areas inspected. The inspectors verified that the UFSAR wording was consistent with the observed plant practices, procedures, and/or parameters.

R3 Radiological Protection and Chemistry Procedures and Documentation

a. Inspection Scope (83724, 83726, 83728)

The inspectors reviewed selected radiation protection procedures related to the areas of inspection.

b. Observations and Findings

Radiation survey instrument use procedures typically included the instruction, "If the instrument does not pass any field [response] check, affix a radiological instrument repair tag (Form 968-15012) and store for transfer to Health Physics Services." The procedure did not include guidance to ensure that a technical review of the instrument's use was performed promptly. The purpose of a technical review is to determine if survey information from a potentially faulty instrument was used to formulate protective measures or instructions to workers. A similar concern involving instruments found to be out of tolerance during calibration was discussed in NRC Inspection Report 50-397/95-21.

The radiation protection manager acknowledged this concern and stated that the need for additional guidance would be evaluated for inclusion in a future procedure revision. The inspector did not identify any specific events where improperly calibrated instruments were used to establish dose rates.

Procedure 1.1.6, "ALARA Committee," Revision 8, had not been revised to eliminate the corporate radiological health officer and the corporate chemist from the ALARA Committee membership. Both positions were discontinued. The corporate radiological health officer was listed as the committee chairman. Licensee representatives stated that Procedure 1.1.6 was being revised to reflect the changes.

c. Conclusions

Procedures generally provided adequate guidance. Minor revisions in instrument use procedures were necessary to ensure that radiation survey instruments failing response tests were evaluated in a timely manner. All procedures were not updated to reflect the current site organization.

R5 Staff Training and Qualification

a. Inspection Scope (83724, 83726, 83728)

The inspectors reviewed the qualifications of the radiation protection manager.

b. Observations and Findings

The licensee appointed a new acting radiation protection manager. The individual had been in the position for approximately two weeks. The individual's qualifications and experience exceeded the minimum requirements listed in Regulatory Guide 1.8.

c. Conclusions

A qualified individual was appointed as acting radiation protection manager.

R6 Radiological Protection and Chemistry Organization and Administration

a. Inspection Scope

The inspectors reviewed a revised organization chart and compared it with an organization chart obtained during the previous inspection.

b. Observations and Findings

The radiation protection and chemistry organizations were under the supervision of one manager. Staffing of the radiation protection organization decreased by 13 individuals since May 1996, when it was reviewed during NRC Inspection 50-397/96-05. Nine of the staffing cuts came from the radiation protection technician pool. The changes were effective the week of the inspection.

c. Conclusions

Because the changes were recently implemented, no conclusion was reached with regard to the affect of staffing cuts in the radiation protection organization.

R7 Quality Assurance in Radiological Protection and Chemistry Activities

a. Inspection Scope (83724, 83726, 83728)

The inspector reviewed selected quality assurance surveillance reports concerning radiation protection activities.

b. Observations and Findings

The last quality assurance audit of radiation protection activities was 294-010. The audit was performed February 28 through March 14, 1994, and the audit results were reviewed during NRC Inspection 50-397/94-25. Audits of the radiation protection program were not required by Technical Specification. No future audits were planned. The licensee stated that oversight would be in the form of surveillances by the quality assurance organization and self-assessments by the radiation protection organization.

To ensure that all aspects of programs were reviewed, the quality assurance organization maintained lists of "critical attributes" associated with each program. The inspectors compared the list of critical attributes associated with the radiation protection program with areas of inspection included in NRC inspection procedures and concluded that the licensee's list of critical attributes was comprehensive. The inspector noted that, even though the list of critical attributes was comprehensive, individual areas were required to be reviewed by quality assurance personnel only once every three years.

The inspector determined that the radiation protection organization had conducted no self-assessments since January 1, 1995. Licensee representatives stated that training was being presented to site organization representatives explaining the expectations for performing self-assessments. The licensee had performed reviews of the radiation protection program in 1994 and 1995 in accordance with 10 CFR 20.1101(c)

c. Conclusions

Oversight of radiation protection activities was adequate. The quality assurance surveillance program was comprehensive, but the surveillances had not been supplemented with self-assessments by the radiation protection organization.

V. Management Meetings

X1 Exit Meeting Summary

The inspectors presented the results of the inspection to members of licensee management at the conclusion of the inspections on June 28, 1996. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspections should be considered proprietary. No proprietary information was identified.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

W. Barley, Manager, Quality
C. Foley, Licensing Engineer
M. Hedges, Acting Chemistry Manager
R. James, Acting Supervisor, ALARA
T. Love, Manager, Radiation Protection/Chemistry
C. McDonald, Supervisor, Health Physics/Chemistry Training
J. Muth, Manager, Quality Services
J. Parrish, Chief Executive Officer
L. Rathbun, Supervisor, Radiation Protection Support
G. Smith, Plant General Manager
D. Swank, Manager, Regulatory Affairs
R. Webring, Vice President, Operations Support
V. Harris, Manager, Maintenance
L. Fernandez, Manager, Licensing
R. Winslow, Acting Radiation Protection Manager

NRC

G. Replogle
H. Wong, Branch Chief, Division of Reactor Projects

INSPECTION PROCEDURES USED

83724	External Occupational Exposure Control and Personal Dosimetry
83726	Control of Radioactive Materials and Contamination, Surveys, and Monitoring
83728	Maintaining Occupational Exposures ALARAt

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

397/9610-01	VIO	Failure to control high high radiation areas
397/9610-02	NCV	Failure to maintain an ALARA suggestion program

Closed

397/9610-02	NCV	Failure to maintain an ALARA suggestion program