UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

January 24, 2000

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. 50-397/2000-02

Dear Mr. Parrish:

This refers to the inspection conducted on January 10-13, 2000, at the Washington Nuclear Project-2 facility. The purpose of this inspection was to review your solid radioactive waste management program and radioactive waste/materials transportation program. The enclosed report presents the scope and results of that inspection.

We determined that your solid radioactive waste management and radioactive waste/materials transportation programs were properly controlled and implemented.

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,

/RA/

Gail M. Good, Chief
Plant Support Branch
Division Reactor Safety

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

Enclosure:
NRC Inspection Report No.
50-397/2000-02

cc w/enclosure:
Chairman
Energy Facility Site Evaluation Council
P.O. Box 43172
Olympia, Washington 98504-3172

Rodney L. Webring (Mail Drop PE08)
Vice President, Operations Support/PIO
Energy Northwest
P.O. Box 968
Richland, Washington 99352-0968

Greg O. Smith (Mail Drop 927M)
Vice President, Generation
Energy Northwest
P.O. Box 968
Richland, Washington 99352-0968

D. W. Coleman (Mail Drop PE20)
Manager, Regulatory Affairs
Energy Northwest
P.O. Box 968
Richland, Washington 99352-0968

Albert E. Mouncer (Mail Drop 1396)
General Counsel
Energy Northwest
P.O. Box 968
Richland, Washington 99352-0968

Paul Inserra (Mail Drop PE20)
Manager, Licensing
Energy Northwest
P.O. Box 968
Richland, Washington 99352-0968

Thomas C. Poindexter, Esq.
Winston & Strawn
1400 L Street, N.W.
Washington, D.C. 20005-3502

Bob Nichols
State Liaison Officer
Executive Policy Division
Office of the Governor
P.O. Box 43113
Olympia, Washington 98504-3113

E-Mail report to D. Lange (DJL)
E-Mail report to NRR Event Tracking System (IPAS)
E-Mail report to Document Control Desk (DOCDESK)

E-Mail notification of report issuance to the WNP SRI and Site Secretary (GDR, HIB).

E-Mail notification of issuance of all documents to Nancy Holbrook (NBH).

bcc to DCD (IE06) - Radiological Protection Reports

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	50-397
License No.:	NPF-21
Report No.:	50-397/2000-02
Licensee:	Energy Northwest
Facility:	Washington Nuclear Project-2
Location:	Richland, Washington
Dates:	January 10-13, 2000
Inspector:	J. Blair Nicholas, Ph.D., Senior Health Physicist Plant Support Branch
Approved By:	Gail M. Good, Chief, Plant Support Branch Division of Reactor Safety
Attachment:	Supplemental Information

EXECUTIVE SUMMARY

Washington Nuclear Project-2
NRC Inspection Report No. 50-397/2000-02

This announced, routine inspection reviewed the implementation of the solid radioactive waste management and the radioactive waste/materials transportation programs. Training and qualifications, quality assurance oversight, facilities and equipment, procedural guidance, and annual reports were also reviewed.

Plant Support

- The solid radioactive waste management program was effectively implemented. Solid radioactive waste was properly classified and characterized for shipment and disposal. The volume and radioactivity of solid radioactive waste generated during the time period 1995 through 1999 showed a continuing decline; even though, during the same time period, the station's 3-year rolling averages of generated solid radioactive waste were greater than the industry median for boiling water reactor facilities. Solid radioactive waste generation goals for fiscal years 1997, 1998, and 1999 were met indicating the effective implementation of the solid radioactive waste minimization program. The transportation program for radioactive wastes and materials was effectively implemented. Documentation and packages were properly prepared for shipment (Sections R1.1 and R1.2).

- Facilities for the processing, storage, and management of solid radioactive wastes and the performance of transportation activities were properly maintained. The radioactive waste processing and storage areas were clean and free of debris. An effective radioactive waste inventory/accountability system was maintained. Personnel dose received from performance of solid radioactive waste activities showed an approximate 47 percent decrease between 1994 and 1999 as a result of less solid radioactive waste generated and improved ALARA processing practices (Section R2).

- Procedures established to implement the solid radioactive waste management and transportation programs provided detailed guidance for the handling, processing, and shipping of radioactive waste/materials (Section R3).

- The training and qualification programs for chemistry and radiation protection personnel involved with the processing, packaging, and shipping of radioactive waste/materials were properly conducted in accordance with regulatory requirements. Chemistry and radiation protection radwaste personnel were properly trained and qualified (Section R5).

- Problem evaluation requests showed no adverse programmatic trends. There was appropriate evaluation of the contractors' performance (Section R7).

Report Details

IV. Plant Support

R1 Radiological Protection and Chemistry (RP&C) Controls

R1.1 Solid Radioactive Waste Management

a. Inspection Scope (86750)

The inspector interviewed personnel assigned to implement the solid radioactive waste management program, including the chemical technical supervisor, radwaste technical reviewer, and radioactive shipment coordinator. The following solid radioactive waste program activities were reviewed:

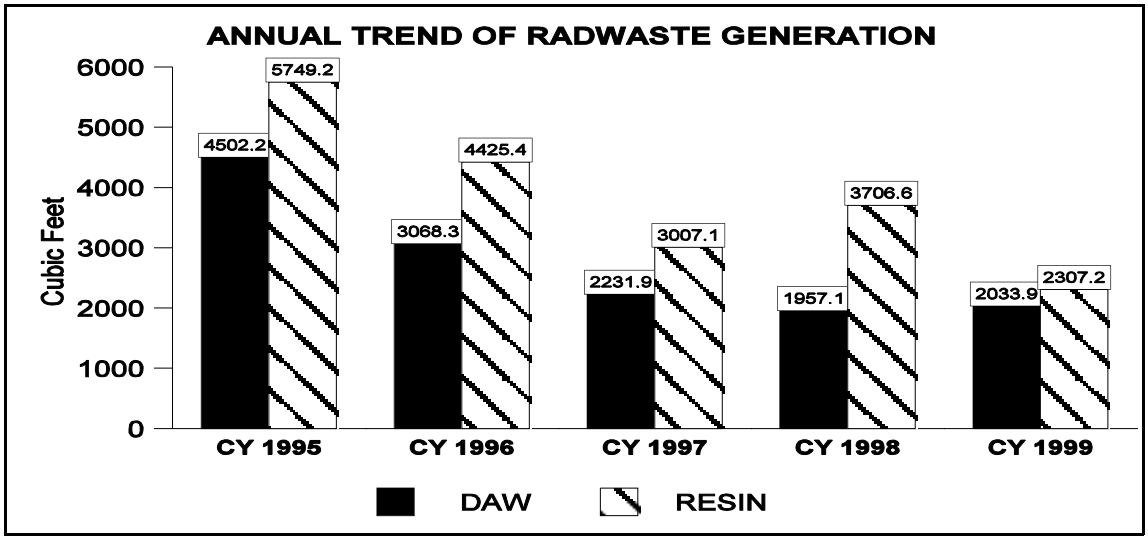
- Waste stream sampling results and waste characterization documentation
- Scaling factors
- Solid radioactive waste classification
- Quantities of radioactive waste shipped for disposal
- Waste minimization program
- Annual radioactive waste effluent release reports

b. Observations and Findings

The inspector verified that waste stream samples were taken annually and analyzed to meet 10 CFR Part 61 requirements for waste classification and characterization. Five waste streams were identified that consisted of dry active waste, resins, and filters. The waste stream samples were analyzed by a contractor laboratory. Based on the annual waste stream sample analysis results, new scaling factors were calculated and updated annually in the radwaste computer code data base for each waste stream and used in the radioactive waste calculations for radioactive waste characterization.

The inspector noted that the licensee had reduced the amount of solid radioactive waste generated during the past 5 years. Radworker awareness to minimize radioactive waste when performing their assigned tasks was emphasized during general employee training. Licensee data trends showed that the radioactive waste minimization efforts were effective.

The volume of solid radioactive dry active waste and resins generated were tracked by the licensee. A summary of the volume of solid radioactive dry active waste and resins generated during the time period 1995 through 1999 is presented in the graph below. For 1995 through 1999, the licensee's data showed a continuing decline in solid radioactive waste generated. The licensee met the dry active waste generation goals established for fiscal years 1997, 1998, and 1999. However, a comparison of the licensee's 3-year average amounts of solid radioactive waste generated for the periods 1995 through 1997, 1996 through 1998, and 1997 through 1999 to the industry's 3-year median values for the respective time periods showed that the licensee generated more solid radioactive waste than the industry's 3-year median values for boiling water reactors over the past 5 years.



The annual radioactive effluent release reports contained the required solid radioactive waste data. Dry active waste was shipped to an off-site contractor for volume reduction and subsequent burial. A summary of the volume and activity of solid radioactive waste including resins, irradiated components, and dry active waste shipped for volume reduction and subsequent disposal and/or directly for burial during the last 5 years is tabulated below.

Year	Number Of Shipments	Total Volume (m^3)	Total Activity (Ci)
1995	62	276	1001
1996	48	223	575
1997	30	145	481
1998	33	173	89
1999	24	118	325

c. Conclusions

The solid radioactive waste management program was effectively implemented. Solid radioactive waste was properly classified and characterized for shipment and disposal. The volume and radioactivity of solid radioactive waste generated during the time period 1995 through 1999 showed a continuing decline; even though, during the same time period, the station's 3-year rolling averages of generated solid radioactive waste were

greater than the industry median for boiling water reactor facilities. Solid radioactive waste generation goals for fiscal years 1997, 1998, and 1999 were met indicating the effective implementation of the solid radioactive waste minimization program.

R1.2 Transportation of Radioactive Waste and Radioactive Materials

a. Inspection Scope (86750)

The inspector reviewed the following items:

- Shipping documentation for selected radioactive materials/waste shipments
- Certificates of compliance for NRC-certified shipping casks
- Copies of licenses for recipients of radioactive materials/wastes
- Packaging and shipping papers
- Marking and labeling of packages for shipment
- Vehicle placarding and driver instructions
- Emergency response information
- Radiation surveys of packages and vehicles

b. Observations and Findings

Selected shipping records for shipments performed between January 1998 and December 1999 were reviewed. Shipments requiring Type B packaging were made by the licensee. The inspector verified that Certificates of Compliance for routinely used Type B shipping casks were current and that the licensee was a registered user for the NRC-certified shipping casks used. State shipping permits were verified to be current. The inspector verified that the licensee maintained on file current copies of consignees' radioactive material licenses.

No shipments of radioactive materials or radioactive wastes were made during the week of the inspection; therefore, no observations of actual shipment preparation were possible. The inspector observed the transfer of condensate spent resin from the condensate phase separator tank to a metal liner in preparation for shipment and burial. The resin transfer evolution was performed according to procedure, and good ALARA practices were observed.

A quality controlled vendor supplied radioactive waste computer program was used by the licensee to determine proper radioactive material transportation categories, shipping packages, labeling, and shipment documentation. Shipping papers for radioactive material shipments contained the information required by 49 CFR Part 172, Subpart C. In addition to this information, radioactive waste shipment documentation included manifests that conformed to the requirements of 10 CFR Part 20, Appendix G, and 49 CFR 173.433. Shipping documents included radioactivity measurements recorded in system international units as well as customary units. The inspector verified that proper emergency telephone numbers were included with the shipping papers. Radiation survey records documented that radiation and contamination levels of shipments were within regulatory limits.

c. Conclusions

The transportation program for radioactive wastes and materials was effectively implemented. Documentation and packages were properly prepared for shipment.

R2 Status of Facilities and Equipment

a. Inspection Scope (86750)

The inspector toured the solid radioactive waste processing facilities in the radwaste building and inspected radioactive waste container storage and accountability.

b. Findings and Observations

Inspection of the radioactive waste processing and storage facilities revealed that the radioactive waste facilities were well maintained. The radioactive waste processing and storage areas were properly posted and controlled. Radioactive waste containers were properly labeled and marked. Housekeeping in the radioactive waste processing and storage areas was good and free of debris.

Shipments of radioactive wastes were made in a timely manner to maintain the radioactive waste inventory at a minimum. The licensee kept accurate records of radioactive waste container accountability. The inspector verified that selected radioactive waste containers were stored as documented. The inspector concluded that the licensee could account for all of the radioactive waste inventory.

The inspector reviewed the personnel dose records complied from radiation work permits used to process and ship radioactive waste. The personnel dose received from the performance of radioactive waste activities showed an approximate 47 percent decrease between 1994 and 1999 from 2.8 rem to 1.5 rem. This was attributed to less solid radioactive waste generated and better ALARA practices developed to process the waste.

c. Conclusions

Facilities for the processing, storage, and management of solid radioactive wastes and the performance of transportation activities were properly maintained. The radioactive waste processing and storage areas were clean and free of debris. An effective radioactive waste inventory/accountability system was maintained. Personnel dose received from performance of solid radioactive waste activities showed an approximate 47 percent decrease between 1994 and 1999 as a result of less solid radioactive waste generated and improved ALARA processing practices.

R3 Radiological Protection and Chemistry Procedures and Documentation

The inspector reviewed the solid radioactive waste management and transportation programs implementing procedures and determined that they provided detailed guidance for radioactive waste stream sampling and analyses. The health physics radwaste procedures also provided excellent step-by-step guidance for the preparation and shipment of radioactive waste and materials.

R4 Staff Knowledge and Performance

The inspector interviewed the chemical technical supervisor, radwaste technical reviewer, and radioactive shipment coordinator, who were responsible for the implementation of the solid radioactive waste management program and performance of radioactive waste/materials shipping activities. The radwaste technical reviewer and radioactive shipment coordinator were experienced and had an excellent working knowledge of the transportation regulations.

R5 Staff Training and Qualification in Radiological Protection and Chemistry

a. Inspection Scope (86750)

The inspector reviewed the training and qualification requirements of personnel responsible for the preparation and packaging of radioactive waste and radioactive materials for shipment. The inspector reviewed the following items:

- Training materials related to 49 CFR Parts 171-179 and 10 CFR Part 71
- Personnel training and qualification records

b. Observations and Findings

The inspector verified that personnel training records documented that the chemistry department's staff and radiation protection technicians assigned to implement the solid radioactive waste processing and transportation activities were properly trained and qualified.

The training program was conducted in accordance with commitments made in the licensee's response to NRC Bulletin 79-19, "Packaging of Low-Level Radioactive Waste for Transport and Burial." Training records indicated that the chemistry department's chemical technical supervisor, radwaste technical reviewer, radioactive shipment coordinator, radioactive material control supervisor, and radwaste technical staff had received the required triennial training in radioactive waste processing and transportation regulatory requirements. The training department's program descriptions, lesson plans, and vendor supplied course materials provided a comprehensive training program.

c. Conclusions

The training and qualification programs for chemistry and radiation protection personnel involved with the processing, packaging, and shipping of radioactive waste/materials were properly conducted in accordance with regulatory requirements. Chemistry and radiation protection radwaste personnel were properly trained and qualified.

R6 Radiological Protection and Chemistry Organization and Administration

The chemistry and radiation protection departments' organization and staffing for the implementation of the solid radioactive waste management and transportation programs were reviewed. The chemical technical supervisor assisted by the radwaste technical reviewer, radioactive shipment coordinator, radioactive waste chemistry specialist, radioactive material control supervisor, and radiation protection radwaste technicians effectively implemented the radioactive waste management and transportation programs. There had been no changes in the personnel implementing the solid radioactive waste management and transportation programs since the previous NRC inspection of this area conducted in June 1998.

R7 Quality Assurance in Radiological Protection and Chemistry Activities

R7.1 Solid Radioactive Waste and Transportation Program Assessments

a. Inspection Scope (86750)

The following area was reviewed to evaluate the licensee's effectiveness at identifying and correcting problems:

- Problem evaluation requests of radioactive waste and transportation activities

b. Observations and Findings

A biennial audit of the solid radioactive waste management and radioactive waste/materials transportation programs was not performed since the previous NRC inspection conducted in June 1998. The next biennial audit of the process control program was scheduled for February 2000. Therefore, no quality assurance audit was reviewed during this inspection period.

Based on the review of the problem evaluation requests involving solid radioactive waste activities written during 1998 and 1999, no adverse programmatic trends were noted.

c. Conclusions

Problem evaluation requests showed no adverse programmatic trends.

R7.2 Quality Evaluation Program of Contractors

a. Inspection Scope (86750)

The supplier quality assurance audit program of contractors performing solid radioactive waste management program support activities was reviewed.

b. Observations and Findings

Contractors were used to perform the processing of solid radioactive waste processing and volume reduction, radioactive waste transportation and cask rental, radioactive waste disposal services, and radiochemistry analyses of radioactive waste samples for 10 CFR Part 61 waste classification and characterization requirements.

Nuclear procurement issues committee and third party audits of the contractors were used to evaluate the performance of the respective radioactive waste activities. The audits were comprehensive and satisfactory to evaluate each of the contractor's abilities to perform the respective radioactive waste program activities.

c. Conclusion

The contractors' performance was appropriately evaluated.

V. Management Meetings

X1 Exit Meeting Summary

The inspector presented the inspection results to members of licensee management at an exit meeting on January 13, 2000. The licensee acknowledged the findings presented. No proprietary information was identified.

ATTACHMENT

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

J. Allen, Radwaste Principal Health Physicist and Technical Reviewer, Chemistry Department
A. Barber, Quality Services Supervisor, Quality
D. Bennett, Chemical Technical Supervisor, Chemistry Department
S. Boynton, Manager, Quality
D. Coleman, Manager, Regulatory Affairs
J. Hanson, Manager, Chemistry Department
W. Kiel, Supervisor, Regulatory Affairs
W. Oxenford, Manager, Operations
C. McDonald, Supervisor, Health Physics/Chemistry/ General Employee Training
J. Peters, Manager, Radiological Services
T. Powell, Licensing Engineer, Regulatory Affairs
M. Price, Manager, Project Development
R. Schott, Radioactive Shipment Coordinator, Chemistry Department
G. Smith, Vice President, Plant General Manager
J. Tarr, Radwaste Technician, Radiation Protection
R. Webring, Vice President, Operations Support
D. Welker, Training Specialist, Health Physics/Chemistry/ General Employee Training
G. Wooley, Supervisor, Supplier Quality

NRC

J. Rodriguez, Resident Inspector

LIST OF INSPECTION PROCEDURES USED

IP 86750	Solid Waste Management and Transportation of Radioactive Waste

LIST OF DOCUMENTS REVIEWED

ORGANIZATION CHARTS

Chemistry Department

Radiation Protection Department

TRAINING DOCUMENTATION

Vendor Training Course	“Use of WMG Programs and Regulatory Compliance,” presented March 5-7, 1997
Training Course Description RW000087	“Packaging and Transportation of Radioactive Waste and Material,” Revision 3
Lesson Plan HZ000018	"49 CFR - Hazardous Materials Transportation Awareness," Revision 0
Lesson Plan RW000103	“Waste Characterizing Computer Code Training,” Revision 0
Lesson Plan RW000113	"Class B Commercial Drivers License with Hazmat Endorsement," Revision 0
Lesson Plan RW000114	“Radioactive Waste Material Transport Preparation Certification,” Revision 0
Lesson Plan RW000115	“WNP-2 Radwaste Procedures,” Revision 0
Lesson Plan RW000116	“NRC Packaging and Shipping Regulations,” Revision 0
Lesson Plan RW000117	“DOT Packaging and Shipping Regulations,” Revision 0
Lesson Plan RW000118	“Burial Site Disposal Requirements Training,” Revision 0

Chemistry department training records

Radiation protection department training records

QUALITY ASSURANCE DOCUMENTS

Quality 1998 Audit Schedule, Revision 1

Quality 1999/2000 Audit Schedule, Revision 3

Site-Wide Procedure SWP-ASU-01, "Evaluations of Programs, Processes, and Suppliers," Revision 5

Quality Assurance Procedure QAP-2, "Planning, Scheduling, and Conducting Evaluations," Revision 8

Operational Quality Assurance Program Description, Appendix III, Section 2.2.8, Revision 4

Quality Assurance Program Approval for Radioactive Material Packages, expiration date November 30, 2002

Vendor Audits

Portland General Electric Quality Assurance Supplier Audit of Interstate Nuclear Services, conducted May 6-7, 1997

NUPIC Joint Quality Assurance Audit of Teledyne Brown Engineering-Environmental Services, conducted August 31 through September 4, 1998

Portland General Electric Quality Assurance Supplier Audit of Allied Technology Group, conducted August 26-27, 1997

PROCEDURES

Station-Wide Procedures

SWP-RMP-01	“Radioactive Waste Management Program,” Revision 0
SWP-RMP-02	“Radioactive Waste Process Control Program,” Revision 0

Health Physics Procedures

11.2.23.1	“Shipping Radioactive Materials and Waste,” Revision 1
11.1.23.2	“Computerized Radioactive Waste and Material Characterization,” Revision 15
11.2.23.3	“Manual Radioactive Waste and Material Characterization,” Revision 11
11.2.23.4	“Preparing Radioactive Waste and Materials Packages," Revision 17
11.2.23.14	“Sampling of Radioactive Waste Streams,” Revision 9
11.2.23.19	“Operation of the Pacific Nuclear Resin Drying System,” Revision 7
11.2.23.20	“Use of the NUPAC Services Transport Cask Model 14/210L or 14/210H,” Revision 9
11.2.23.21	“Use of the NUPAC Services Transport Cask Model 10/142,” Revision 11
11.2.23.28	"Transferring Possession of Radioactive Material to Another Entity," Revision 4
11.2.23.29	"LSA Contaminated Laundry Shipments," Revision 5
11.2.23.35	“Use of the NUPAC Services Transport Cask Model 14/190L, 14/190M, or 14/190H,” Revision 2

MISCELLANEOUS DOCUMENTS

Annual Operating Radioactive Effluent Reports - 1997 and 1998

Selected Problem Evaluation Reports