

U. S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

REGION V

Report No. 70-984/80-01  
Docket No. 70-984 License No. SNM-942 Safeguards Group 5  
Licensee: Pacific Northwest Laboratories  
Battelle Blvd.  
Richland, Washington 99352  
Facility Name: Pacific Northwest Laboratories  
Inspection at: Richland, Washington  
Inspection conducted: April 24-25, 1980  
Inspectors: *William J. Cooley* 7/11/80  
W. J. Cooley, Fuel Facilities Inspector Date Signed  
Approved by: *R. D. Thomas* July 14, 1980  
R. D. Thomas, Chief, Materials Radiological Protection Section Date Signed  
Approved by: *H. E. Book* 7/14/80  
H. E. Book, Chief, Fuel Facility and Materials Safety Branch Date Signed

Summary:

Inspection on April 24-25, 1980 (Report No. 70-984/80-01)

Areas inspected: Organization; Internal Review and Audit; Employee Training; Criticality Safety; Radioactive Waste Management/Verification of Licensee Action on IE Bulletin No. 79-19; and Review of Internal Exposure Evaluation Methods. The inspection involved 14 inspector hours onsite by one NRC inspector.

Results: No items of noncompliance or deviations were identified within the scope of this inspection.

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## DETAILS

### 1. Persons Contacted

- \*H. V. Larson, Manager, Occupational and Environmental Protection Department
- K. R. Heid, Manager, Personnel Dosimetry, Occupational and Environmental Protection Department
- \*C. R. Richey, Manager, Radiological Safety and Engineering
- \*L. A. Carter, Senior Research Scientist, Radiological Safety and Engineering
- D. E. Friar, Research Scientist, RS&E
- B. L. Murphey, Research Scientist, RS&E
- J. M. Taylor, Senior Development Engineer, RS&E
- W. H. Knox, Research Scientist, RS&E

\*Denotes those attending the exit interview.

### 2. Organization

Since the last inspection a new department, Radiological Sciences Department, was organized. The new department drew a number of personnel from the Occupational and Environmental Protection Department. Those who transferred to the new department include C. M. Unruh, R. L. Kathren, J. M. Selby, M. L. Smith, and L. G. Faust. Groups of individuals were transferred from Radiation Standards and Engineering, Environmental Evaluations, and Dosimetry Technology to help form the Radiological Physics, Health Physics Technology, Dosimetry Technology, and Environmental Evaluation and Risk Assessment Sections of the new department. In the organizational change, H. V. Larson was named manager, Occupational and Environmental Protection Department. J. J. Jech was named Associate Manager of Personnel Dosimetry. D. M. Fleming was named Manager, Instrument Calibration and Evaluation. C. R. Richey was named Manager, Radiological Safety and Engineering, and J. B. Martin was named Manager, Radiation Monitoring.

H. L. Wedlick has terminated and was replaced by B. L. Murphey as training coordinator in the Occupational and Environmental Protection Department. At the time of this inspection W. H. Knox was planning on termination. No replacement had been named.

As a result of the reorganization, the total employment in the Occupational and Environmental Protection Department dropped from 153 to about 119.

### 3. Inventory

At the time of this inspection the licensee's inventory of special nuclear material held under the subject license was very much less than one effective kilogram. No use was being made of special

nuclear material by the licensee under the provisions of the subject license.

4. Internal Review and Audit

Since the last inspection the radiation safety internal review and audit program has been revised by Mr. W. H. Knox. A review of that program indicated that a flow chart for formal radiation safety audits had been prepared. It included the details of audit preparation, audit findings, and documentation and approval. It also provided for the details of followup on recommended actions. The radiation safety audit program appeared to remain generally unchanged except that audit and followup procedures had been formalized.

Mr. Knox had developed an activity versus facility matrix for displaying audit findings. The ordinate of the matrix consisted of 24 subject areas (activities) addressed during inspections. The abscissa identified 35 facilities which were subject to audit. The body of the matrix consisted of the number of recommendations made at a given facility in a given subject area. That matrix permits a graphic determination of adverse trends in subject areas (by totaling the number of recommendations in a given subject area for all facilities reviewed); and gives a graphic display of adverse trends at a given facility in all subject areas (by totaling the number of recommendations for a given facility).

Mr. Knox had also prepared a check list type audit outline for the broad subject areas covered during audits. For example, the subject area of waste management was further detailed into a check list of 8 subheadings and subsequently, into 38 items to be addressed during the audit. Additional discussion of the licensee's waste management audit is presented below in section 6 of this report.

Criticality Safety Audits and annual criticality appraisals are presently conducted by Ms. D. E. Friar.

5. Employee Training

The licensee's employee training program in the areas of criticality and radiological safety have been reviewed in inspection reports 70-984/76-01, 70-984/77-03, and 70-984/78-02. As stated above in Organization, section 2, a Ms. B. L. Murphey is presently the licensee's training coordinator. Training coordination includes course planning, scheduling, provision of instructors and visual aids, and recording attendance and test results. A number of professional persons are available in the Occupational and Environmental Protection Department as instructors in criticality and radiation safety. One of those persons is Ms. D. E. Friar in Radiological Safety and Engineering.

6. Radioactive Waste Management/Licensee's response to IE Bulletin No. 79-19

This inspection included a verification of the licensee's response to IE Bulletin No. 79-19 which was presented to Region V by letter dated September 14, 1979. It was verified that current DOT and NRC regulations are routinely maintained along with a copy of the license certificate for the waste burial firm located in the state of Washington. Copies of the licensee's manual PNL-MA-81, "Radioactive Material Shipping Manual" and PNL-MA-8, "Waste Management" have been reviewed and copies of those documents have been made available to the NRC, Region V. The handling, packaging and transportation of radioactive materials has been a part of the licensee's established training and audit programs.

As stated by the licensee in the September 14, 1979 letter, an audit of the waste management program was conducted in October 1979. Some details of that audit have been presented in section 4, above in this report. Among the objectives of that audit was to assure that all radioactive waste was properly packaged and disposed of in accordance with specifications. The scope of the audit included examination of waste management records and the physical examination of waste packaging and labeling. The facilities examined included Buildings 3720, 325, 324, 231Z, PSC, EDL, and LSLII. Licensed material may be used in those buildings (and others) under the subject license.

Recommendations resulting from the audit included additional documentation that waste handling and shipment was included in employee training programs, as well as improvements in waste container labeling, shipment records, and the interim storage of waste. Actions on the storage and labeling recommendations were completed at the time of the audit.

At the time of this inspection, no special nuclear material waste accumulation was available and, therefore, no waste packages could be inspected or opened by the NRC inspector.

7. Management Interview

The scope and results of the inspection were discussed with licensee representatives on April 25, 1980. Those persons were informed that no items of noncompliance or deviations were observed within the scope of the inspection.