

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

Region I

Report No. 70-371/80-17

Docket No. 70-371

License No. SNM-368 Priority 1 Category UR

Licensee: United Nuclear Corporation

67 Sandy Desert Road

Uncasville, Connecticut 06382

Facility Name: UNC Naval Products Division

Inspection at: Montville, Connecticut

Inspection conducted: December 3-5, 1980

Inspectors: *P. Clemons*
P. Clemons, Radiation Specialist

12/30/80
date signed

date signed

date signed

Approved by: *P. J. Knapp*
P. J. Knapp, Chief, Radiation Support
Section, FF&MS Branch

1/16/81
date signed

Inspection Summary: Inspection on December 3-5, 1980 (Report No. 70-371/80-17)

Areas Inspected: Routine unannounced inspection by a regional based inspector of the Radiation Protection Program including: daily inspections, monthly inspections, posting, labeling, training, bioassay, whole body count, dosimetry, special work permit, organization, release of material for unrestricted use, source inventory and leak tests, air samples, gamma alarm calibration, ventilation, liquid waste and environmental sampling. Shortly after arrival, areas where work was being conducted were examined to review radiation control procedures and practices. The inspection involved twenty hours on site by one regional based inspector.

Results: Of the 17 areas inspected, no items of noncompliance were identified in 11 areas. Six apparent items of noncompliance were identified in six areas.

DETAILS

1. Persons Contacted

Mr. G. Amy, Executive Vice President
Mr. T. Collopy, Manager, Nuclear Safeguards
Mr. D. Ganley, President
Mr. W. Kirk, Manager, Nuclear and Industrial Safety
Mr. D. Luster, Specialist, Radiological and Environmental Control

The inspector also interviewed other licensee personnel including Health Physics Personnel, Operating Personnel, and Maintenance Personnel.

2. Daily Checks

On December 3, 1980, the inspector noted that daily checks of areas were required to be performed by Health Physics personnel.

Condition 10 of Special Nuclear Material License SNM-368, states, "For use in accordance with statements, representations and conditions in Part I of the licensee's application..."

Section 2.7.1, Part I of SNM-368, states, "Health Physics personnel...shall make daily checks to determine that there has been no change in the parameters or conditions of operations that may affect the safety of these operations...Results of daily checks...shall be documented..."

The inspector asked a licensee representative to provide documentation that would verify the fact that the checks were made as required during 1980. The inspector was given certain documentation and he observed that daily checks had been made and documented for June 1980, but he also noted that for the period July through October daily checks had not been documented. He asked if the daily checks had been performed to determine if there had been changes in the parameters or conditions that might have affected safety and a licensee representative stated that the daily checks had not been made.

The inspector noted that failure to make and document the daily checks as required represents noncompliance with a license requirement. (80-17-01)

3. Special Work Permit

The licensee has a special work permit system for certain potentially hazardous situations.

Condition 10 of Special Nuclear Material License SNM-368, states, "For use in accordance with statements, representations and conditions in Part I of the licensee's application..."

Section 4.6.3, Part I of SNM-368, states, "A Special Work Permit system shall be used to guide...UNC personnel in performing non-routine work operations that could cause or threaten to cause personnel exposure to... radiation."

On December 4, 1980, the Radiological and Environmental Control Specialist was approached by a Maintenance Foreman, in the presence of the inspector, in "Building B North". The foreman told the Specialist he wanted to discuss a potential radiation exposure that occurred in the X-ray Photometry (XRP) Gauge Room. He stated that one of his men was working on a new XRP Gauge, which contained a Cobalt-57 source that had an activity up to 1.2 curies, and he stuck his arm in the beam of radiation. The foreman asked the Specialist to evaluate the situation to determine what the exposure might have been.

The inspector asked the foreman if the man was working under a special work permit and he was informed that a special work permit had not been issued for the operation. The specialist said that he would evaluate the incident.

The inspector noted that failure to secure a special work permit when non-routine operations threaten to cause exposure to radiation represents noncompliance with a license requirement. (80-17-02)

On December 10, 1980 the inspector was informed by the specialist that an evaluation had been made of the XRP Gauge that contained the Cobalt-57 source and had determined that the exposure was insignificant. The specialist stated that a survey of the area occupied by the arm of the maintenance worker indicated a dose rate of 4-5 mrem/hr. The foreman had stated, in the presence of the inspector, that the man had his arm in the beam for about two minutes, therefore, the specialist concluded that the exposure was not significant.

4. Label

On December 4, 1980 the inspector observed that the licensee had a 20 curie Am-Li source in a container in the Isotopic Source Assay Fissometer (ISAF) area of the Chemistry Laboratory. The licensee had the source container labeled as follows:

"Caution-Radioactive Material Neutron Source".

10 CFR 20.203(f)(1), "Caution, signs, labels, signals, and controls" requires each container of licensed material shall bear a durable, clearly visible label identifying the radioactive contents. 10 CFR 20.203(f)(2) states, "A label required pursuant to the above shall bear the radiation caution symbol and the words "Caution, Radioactive Material". It shall also provide sufficient information to permit individuals handling or using the containers, or working in the vicinity thereof, to take precautions to avoid or minimize exposure.

The information will include, as appropriate, radiation levels, kinds of material, estimate of activity and date for which activity is estimated.

The licensee's labeling of the container did not comply with the requirements of 10 CFR 20.203(f), therefore, this constitutes noncompliance with the regulation. (80-17-03)

5. Training

The licensee is required to provide retraining for continuing employees.

Condition 10 of Special Nuclear Material License SNM-368, states, "For use in accordance with statements, representations and conditions in Part I of the licensee's application..."

Section 2.8.1, Part I of SNM-368 states, "Training programs concerning the safety aspects of handling source and special nuclear materials shall be established on a division wide basis...Reorientation for those already in the employ of United Nuclear Corporation shall be given on an annual basis...Documentation shall be provided to assure compliance."

The inspector asked Specialist-Radiological and Environmental Control to demonstrate that new and old employees had received training as required. The inspector was directed to the Training Department. The Manager of the Department was not available so the inspector was directed to the Secretary of Training who maintains the training records. The inspector asked the secretary to verify that seven old employees had received retraining during 1980. The training records indicated that the seven employees were last trained in August 1979. The inspector asked if there was a reason why retraining had not been given in 1980, and he was told that the Manager of Training was developing a new health physics training program.

The inspector stated that failure to provide training for new and old employees as required represents noncompliance with the license requirements. (80-17-05)

6. Environmental

The licensee is to collect and analyze certain types of environmental samples at a stated frequency. One such sample is the water from a process cooling pond.

Condition 10 of Special Nuclear Material License SNM-368, states, "For use in accordance with statements, representations, and conditions in Part I of the licensee's application..."

Section 4.7.2.3.2, Part I of SNM-368, states, "Samples of the industrial liquid effluent shall be composited at the inlet to the cooling pond and shall be collected on a monthly basis and analyzed for nitrate, fluoride, phosphate, oils and grease. Temperature and pH shall also be monitored at least monthly.

On December 5, 1980, the inspector asked a Health Physics Technician to demonstrate that the samples had been collected and analyzed for the period July through October 1980. The technician, being relatively new on the job, could not demonstrate that the samples had been collected and analyzed. The inspector stated that he would contact the Specialist-Radiological and Environmental Control during the week of December 8, 1980 to get the answer. On December 11, 1980, the inspector asked the Specialist if the samples had been collected and analyzed as required. The inspector was told that the sample had not been collected and analyzed during the period cited.

The specialist told the inspector that to the best of his knowledge the sampling point in the cooling pond discharge pipe had been "lost" because the entire pipe had been replaced during plant shutdown in July-August 1980. The inspector asked if the specialist had documented the fact to support his contention, but the specialist had no such documentation.

The inspector noted that failure to collect and analyze the cooling pond sample represents noncompliance with a license requirement (80-17-06).

7. Organization

The inspector was informed that the licensee has only two technicians to do all of the routine work, and to respond to "special" requests. During the exit interview the inspector expressed his opinion to the President that he was concerned that the licensee was understaffed to do the routines and to respond to the "special" request. The inspector was informed by the President that a third technician had recently been hired and was awaiting clearance. The President also said they were attempting to recruit a fourth technician.

No items of noncompliance were identified.

8. Leak Test

Condition No. 13 of Material License No. 06-06884-01 requires that by-product material sealed sources be leak tested at least every six months. The inspector reviewed leak test data for seven sources, and the data indicated that the sources were leak tested every three months during 1980.

No items of noncompliance were identified.

9. Monthly Inspections

Section 2.7.3, Part I of SNM-368 requires that plant inspections be performed at a certain frequency. Health Physics inspections must be conducted monthly. "Plant inspections of Health Physics and Criticality Control shall be performed by the Nuclear and Industrial Safety (NIS) Department personnel (other than technicians) i.e., (Health Physics or Nuclear Criticality Specialist, an Engineer, the NIS Manager, the Division Medical Physician or the Industrial Safety Specialist)...Generally, a specific area will be observed for a sufficient time to indicate if corrective action is needed. Inspections shall be documented and maintained as a record for at least one year."

The inspector reviewed records of inspections conducted by the Specialist-Radiological and Environmental Control for 1980.

No items of noncompliances were identified.

10. Bioassay

Section 4.2.3, Part I, of SNM-368 requires personnel who work in controlled areas, and/or areas where respirators are used, to participate in a monthly urine bioassay program.

The inspector selected the names of five employees from a list of employees who work in these areas to determine if the requirement was being met for 1980. The bioassay data indicated that all personnel were participating as required, and the data also indicated there were no problems with exposure control.

No items of noncompliance were identified.

11. Gamma Alarm Calibration

Section 4.5.1.3, Part I of SNM-368 requires each gamma alarm be calibrated quarterly.

The inspector reviewed calibration data that indicated that all gamma alarms, in use, were calibrated quarterly as required.

No items of noncompliance were notified.

12. Receipt of Radioactive Material

10 CFR 20.205(b)(1) requires that each licensee upon receipt of a package of radioactive material must monitor the external surface of the package for contamination. The inspector reviewed the incoming shipment records

for two shipments that were received in July and November 1980 to determine compliance with the regulations.

No items of noncompliance were observed.

13. In-Vivo Counting

Section 4.2.3, Part I, of SNM-368 requires In-Vivo Counting be accomplished twice a year on specially selected employees. The selection is made by the Specialist-Radiological and Environmental Control.

The inspector reviewed data that indicated that employees were counted in November 1979, and again in July 1980. Personnel involved in the procedure are on a rotating basis, but specific employees are counted at least once a year.

No items of noncompliance were identified.

14. Release of Material/Equipment from Controlled Areas

Condition No. 15 of SNM-368 states, "Release of equipment and materials from plant to off-site or from controlled to uncontrolled areas shall be in accordance with the attached Annex C, dated November 1976. Records of the contamination survey and the final disposition of any equipment shall be kept for audit by NRC."

On December 14, 1980, the inspector reviewed records of contamination surveys and the final disposition of items removed from controlled areas to uncontrolled areas. The period covered was August-October 1980.

The inspector reviewed approximately ten transfers of items and the records contained the contamination survey data and the final disposition of each item.

No items of noncompliance were observed.

15. Liquid Waste

The inspector reviewed the liquid waste discharge records for the period July through November 1980. Fifty discharges were made during the period. The total volume released was 119,698 gallons. According to the data, all discharges were within the regulatory requirements.

No items of noncompliance were identified.

16. Dosimetry

The inspector reviewed dosimetry records for 1980 for personnel monitored at the Montville site. Approximately seventy people were monitored during the year, and according to the data, no one exceeded the 10 CFR 20.101 limit.

No items of noncompliance were identified.

17. Ventilation

Section 4.4.1, Part I, of SNM-368 requires that hood face velocities measurements be made at a stated frequency.

18. Exit Interview

The inspector met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on December 5, 1980. The inspector summarized the purpose and the scope of the inspection, and the findings as presented in this report.

The President directed that immediate action be taken to correct Items A and B of Appendix A, and he stated that consideration would be given to the other items cited.