

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 70-371/89-04

Docket No. 70-371

License No. SNM-368

Priority 1

Category UHFF

Licensee: UNC Naval Products
67 Sandy Desert Road
Uncasville, Connecticut 06382-0981

Facility Name: UNC Naval Products

Inspection At: Montville, Connecticut

Inspection Conducted: August 21-25, 1989

Inspectors:

M. A. Austin
M. A. Austin, Radiation Specialist, Effluents
Radiation Protection Section, FRSSB, DRSS

9/26/89
date

Approved by:

Robert J. Bores
R. J. Bores, Chief, Effluents Radiation
Protection Section, FRSSB, DRSS

9/26/89
date

Inspection Summary: Inspection on August 21-25, 1989 (Inspection Report No. 70-371/89-04).

Areas Inspected: Routine, unannounced inspection by a region-based inspector of management organization and controls, nuclear criticality safety, operations, and environmental protection.

Results: Two violations were identified: (1) Failure to perform a complete nuclear criticality safety evaluation of a fuel storage box (Section 2.1); and (2) failure to submit an amendment application and obtain NRC approval before implementing a change to the licensed safety organization (Section 3.0). An unresolved item related to a potentially radioactive, unmonitored pathway is discussed in Section 4.1.

DETAILS

1.0 Individuals Contacted

- *G. Waugh, Executive Operating Officer
- *R. Gregg, Director, Technical Services
- *T. Gutman, Criticality & Licensing Specialist
- *D. Luster, Health Physics Specialist
- *G. Surrat, Health Physics Supervisor
- D. Birks, Criticality Engineer
- J. Burden, Unit 3 Supervisor
- K. Mott, Health Physics Technician

*denotes those present at the exit interview. The inspector also interviewed other licensee employees during the inspection.

2.0 Review of Operations

The inspector examined the plant to observe activities in progress, to inspect the nuclear criticality safety and radiation protection aspects of existing operations, and to check the general status of the construction and installation of planned operations.

2.1 Existing Process Operations

The inspector examined the fissile material handling and storage systems in the B-South area. The inspector reviewed the licensee's use of floor markings as an administrative control to maintain proper spacing for nuclear criticality safety (NCS). The inspector observed that no floor markings were placed around a box located in the Unit 1 Quality Control area that is used for the storage of raw fuel containers. The inspector asked the licensee whether floor markings were needed to administratively control the proper spacing between the storage box and the fissile material transport carts used in the same area. The licensee provided the inspector with the records that were immediately available which pertained to previous NCS evaluations of the storage box. The inspector reviewed these records and found that the need for floor markings had not been addressed. After the inspector discussed this with licensee representatives, the licensee performed another NCS evaluation and determined that floor markings were needed. Section 2.5.1 of Chapter 2, "Organization, Personnel and Administration" of Part I, Conditions and Specification of License No. SNM-368, requires licensee management to assure "that suitable control measures shall be prescribed, and that all pertinent regulations, controls, or procedures relative to nuclear criticality safety and radiological safety shall be followed by supervision and all operating personnel." Section 3.2.1 of Chapter 3, "Nuclear Criticality Safety Standards", of Part I requires that: "Evaluations shall be

performed considering all factors which may affect the criticality of the system. Specifically, the following parameters shall be considered: ... interaction ...". Section 3.6 of Chapter 3 of Part I requires: "... The application and use of marking and identifying procedures shall be established by the NIS Department on the basis of an evaluation of its need or effectiveness in the overall NCS program. These evaluations shall be documented."

Failure to apply and use floor markings because of the failure to perform a complete NCS evaluation is an apparent violation of the nuclear criticality safety specifications of the license (70-371/89-04-01).

2.2 Planned Process Operations

The inspector toured the continuing construction of the L-Building that will be used for a new process operation. The inspector observed that raw fuel was being stored in the new vault. At the time of the inspection, no fuel was being handled in the new vault, but licensee representatives stated that raw fuel had been handled within a box enclosure in the new vault during the week of June 26, 1989. Licensee representatives stated that plans were being developed to begin operational testing of new equipment in other areas of the L-Building early in 1990. This testing will involve the use of 350g of raw fuel. The licensee also stated that a computer room will be maintained as an unrestricted area within the L-Building. The inspector observed that this computer room was located within a planned radiation-controlled area. Licensee representatives stated that the physical layout of this area was being re-evaluated to enable access to the unrestricted computer room without entering the surrounding radiation-controlled area.

3.0 Management Organization and Controls

The inspector noted that the licensee had recruited an individual for a newly-developed position of Health Physics Supervisor. This new position has responsibility for the administration of the day-to-day health physics surveillance program, which includes supervision of the health physics technicians. This responsibility was previously assigned to the Health Physics Specialist. The new position of Health Physics Supervisor reports to the Director, Technical Services. Licensee management explained that this new position was intended to relieve the Health Physics Specialist of daily administrative and operational duties so that more attention could be focused upon the technical adequacy of the overall health physics program. Condition No. 10 of License No. SNM-368 requires that the licensee operate in accordance with the statements, representations and conditions in Part 1 of the application. The inspector identified this new position as a significant change in the health physics organization described in Part I of License No. SNM-368, specifically Section 2.2.2.3 of Chapter 2, "Organization, Personnel and

Administration" which describes the duties and responsibilities of the Health Physics Specialist. The inspector asked to review the approved, written qualifications for the new position of Health Physics Supervisor. The licensee showed the inspector a draft of the revised organization that included a description of the new assignment of duties and responsibilities. This draft document had not received final internal approval, and it had not been submitted to NRC for review and approval. The licensee implemented the new safety organization, without approval by the NRC. Failure to obtain NRC approval before implementing a change to the licensed safety organization is an apparent violation of the license Specifications (70-371/89-04-02).

4.0 Environmental Protection

4.1 Gaseous Discharges

The inspector examined the exhaust system for the Pack Assembly Evacuation process. The inspector traced the piping system that carries the exhaust from this process and determined that it discharges to the atmosphere through the east wall of the B-Building into the outside alcove area. This is an exhaust system associated with fuel components, and therefore, it could represent a potentially contaminated gaseous discharge. The licensee was not monitoring this discharge point for radioactivity and could not provide any measurement data that demonstrated the effluent of this system was not radioactive. During the inspection, the licensee began to compile information to characterize the nature of this discharge. In addition, a soil sample was collected in the alcove area directly underneath the discharge point to evaluate possible contamination that may have accumulated on the ground because of this exhaust. The soil sample was split between the NRC and the licensee for independent analyses. Section 4.7.2.3.1 of Chapter 4, "Radiation Protection", of the Part I Specifications of the License No. SNM-368 states: "All stacks emitting radioactive particulates shall be continuously monitored for alpha activity at the point of release." Until the analyses of the soil sample are completed and the collection of additional data by the licensee are reviewed by the NRC, this matter will be considered unresolved (70-371/89-04-03).

4.2 Liquid Discharges

The inspector held discussions with licensee representatives and examined equipment being used by the licensee to study methods to remove uranium from liquid discharges. The licensee presently discharges wastewater which is potentially contaminated with uranium to the Montville Sewer System. Other non-contaminated process water (e.g., surface treatment rinse) is discharged through a settling pond to the Thames River. A licensee representative informed the inspector that there is no formal NPDES permit that authorizes this river discharge, but that the licensee and the State of Connecticut have an informal "agreement" regarding this activity.

The licensee representative stated that negotiations have been ongoing between the State and the licensee for about six years to obtain an NPDES permit, but no completion date for this permitting process could be projected. Regardless of the status of the NPDES permit, licensee management stated it did not intend to divert the potentially contaminated wastewater to the river or to the septic leach field. While these radiological discharges to the sewer system and non-radiological discharges to the river continue, the licensee is proceeding with the above-mentioned study to remove uranium from the wastewater. The status and results of this study will be reviewed in future inspections.

4.3 Meteorological Monitoring

The inspector reviewed the status of the licensee's onsite wind measuring system. Chapter 4, Section 4.7.2.3.3, "Meteorological Monitoring", of Part I of SNM-368 requires that "Wind speed and direction shall be recorded on a dual recorder." The licensee had requested an amendment to this requirement to enable them to replace and upgrade this system. During the interim period in which the upgrade was done, the licensee relied upon meteorological data received from the Montville Fossil Fuel Power Plant and the Haddam Neck Nuclear Power Plant. NRC authorized the use of offsite data collection in lieu of an onsite meteorological system during the interim until July 31, 1989. The inspector examined the new measurement system that was installed on the roof of the facility and the new data recorders located in the new health physics office in the new L-Building. The inspector reviewed an internal maintenance service order that indicated the installation of the new equipment was completed on July 31, 1989. The inspector determined that the new equipment meets the above-mentioned license requirement for an operational onsite wind measuring system.

5.0 Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violations or deviations. An unresolved item is discussed in Section 4.1 of this report.

6.0 Exit Interview

The inspector met with the licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on 1989. The inspector presented the scope and findings of the inspection, including the apparent violations and unresolved item.