

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 70-371/85-05

Docket No. 70-371

License No. SNM-368

Licensee: United Nuclear Corporation
67 Sandy Desert Road
Uncasville, Connecticut 06382

Facility Name: UNC Naval Products

Inspection At: Uncasville, Connecticut

Inspection Conducted at: Barnwell, South Carolina

Report prepared by: P.E. Clemons
P.E. Clemons
Radiation Specialist, DRSS

5/4/85
date

Approved by: M. Shanbaky
M. Shanbaky, Chief, PWR,
Radiation Safety Section
Emergency Preparedness and
Radiological Protection Branch

5/10/85
date

Inspection Summary: Inspection on February 26, 1985 by a representative of the South Carolina Department of Environmental Control

Areas Inspected: United Nuclear Corporation was the originator of a waste shipment that was inspected at the Chem-Nuclear Systems, Inc. burial site.

Results: One violation was identified (Drum No. 1-13 was found to have a hole in its bottom, therefore, this was not a strong tight package as required by 49 CFR 173.425(b)(1)).

DETAILS

On February 20, 1985, United Nuclear Corporation dispatched a shipment of Low Specific Activity (LSA) radioactive waste to the Chem-Nuclear Systems, Inc. burial site at Barnwell, South Carolina. The shipment was made in fifty-eight 55-gallon drums containing 4.2 millicuries of Special Nuclear Material (SNM), i.e., U-235 and U-238.

10 CFR 71.5, "Transportation of licensed material", states that each licensee who transports licensed material outside of the confines of its plant or other place of use, or who delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the regulations appropriate to the mode of transport of DOT in 49 CFR Part 170 through 189."

49 CFR 173.425(b)(1) states that "materials must be packaged in strong tight packages so that there will be no leakage of radioactive material under conditions normally incident to transportation."

The licensee delivered the shipment to the burial site on February 26, 1984, and the representative of the State of South Carolina determined that the drums were labeled "Radioactive LSA." He also found that drum No. 1-13 had a hole in its bottom and some of its contents (vermiculite) had leaked out of the drum onto the bed of the trailer. According to a licensee representative in a telephone conversation on March 20, 1985, Drum No. 1-13 contained less than 0.1 grams of special nuclear material, which represents the lowest limit of detection for the instruments used in making the evaluation but yet the drum was labelled "Radioactive LSA" and the shipping documentation identified the entire shipment as "Radioactive Type -A unstable n.o.s."

The failure to have a strong, tight package that would not leak its contents represents a violation of 10 CFR 71.5(85-05-01).

The United Nuclear Corporation Manager, Nuclear and Industrial Safety was informed of this apparent item of noncompliance with NRC requirements in a telephone conversation with Mr. P. Clemons of the Region I office on March 20, 1985.

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
Bureau of Radiological Health
Division of Radioactive Material Licensing and Compliance
Radioactive Shipment Inspection Report

A. General Information:

Report No. 85-02-06

1. Shipper UNC Naval Products Address Uncasville, CT
2. Carrier Tri-State Tractor # 8705 Trailer # 444522 Type Hard top
3. Type Package/Cask STC Cask Containing 55-gal. drums

B. Shipping Documentation:

1. AS# 39282 Volume Allocation # 0285-060-A Permit # 0096-06-85-X
2. Shipping Name & Class: Radioactive, Type-A unstable n.o.s. HM Id.# UN 2912 (172.202(a))
3. Total Burial Vol.: 435 ft³ (172.202(c)) Total Curies: 4.18 (172.203(d))
4. Radionuclides: U-235, U-238 (172.203(d))
5. Describe chem./phy. media: compacted/noncompacted trash/solid (172.203(d))
6. Chelating Agents(%) compound Shippers Certification: State ✓ DOT ✓ (172.204)
7. Exclusive Use ✓ Instructions ✓ (173.425(b)) Total T.I. ✓ (177.842(a))
8. Check for: Radiation Survey ✓ (173.441) Contamination Levels ✓ (173.443)
9. Compare: Radionuclides w/resin analysis ✓ Rad/Contamination Levels w/CNSI/BRH ✓

C. Shipment Inspection Check List:

<input checked="" type="checkbox"/> Shipment Braced/Blocked (173.425(b)(6))	<input checked="" type="checkbox"/> Lids (Drum, box, cask) secure (173.425)(b)
<input checked="" type="checkbox"/> Visible Leakage (173.425(B)(1))	<input checked="" type="checkbox"/> Visible Damage (173.425)
<input checked="" type="checkbox"/> Package Labeling: W-I, Y-II, III (172.403) (b) & (c) or "Radioactive LSA" (173.425)	<input checked="" type="checkbox"/> Cask Defects/Missing Parts
<input checked="" type="checkbox"/> Waste Class. Marked <u>A</u> B-C Stable/Unstable	<input checked="" type="checkbox"/> Radiation Survey: Cab/sleeper, trailer/truck (173.441)
<input checked="" type="checkbox"/> Gross Weight Marked (172.310) [LSA Exclusive Use Exempt]	<input checked="" type="checkbox"/> Contamination Levels (173.443)
<input checked="" type="checkbox"/> <u>Type A</u> Type B Package Marked (172.310)	<input checked="" type="checkbox"/> Vehicle Placards (173.425(c)) (172.507)
<input checked="" type="checkbox"/> Trailer/Tractor Defects	<input checked="" type="checkbox"/> Tiedowns Secure/Adequate
<input checked="" type="checkbox"/> Packages banded/reinforced, palletized	<input checked="" type="checkbox"/> Offloading Discrepancies

D. Radiation/Contamination Survey: (transport vehicle or package)

(mR/hr) Surface: .1 2 meters: _____

Surface: _____	Cab/sleeper <u>.1</u>	Surface: _____
2 meters: _____		2 meters: _____

Surface: .1 2 meters: _____

Highest contamination detected: Arrival 7 dpm/100cm² Release _____ dpm/100cm²
9 dpm/100cm² _____ dpm/100cm²

E. Results of Inspection: Summary of violations and discrepancies Upon inspection, it was found that Drum No. 1-13 had a hole in the bottom and some of its contents (vermiculite) had leaked out onto the bed of the trailer. This is contrary to requirements of 49 CFR 173.425(B)(1). Also, the drum had undergone considerable corrosion which caused the hole. This is contrary to requirements of Condition 61 of SC Rad. Material Li. Amendment 41, issued to Chem-Nuclear Systems, Inc.

These items of noncompliance constitute separate violations of Department Regulation 61-83, Section 1.2.

Date: February 26, 1985

Inspector's Signature s/Richard S. Sappington