

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

Region I

Report No. 70-820/80-11

Docket No. 70-820

License No. SNM-77 Priority 1 Category UR

Licensee: United Nuclear Corporation

Recovery Operations

Wood River Junction, Rhode Island

Facility Name: UNC Recovery Operations

Inspection at: Wood River Junction, Rhode Island

Inspection conducted: July 7-8, and August 1, 1980

Inspectors: J. Roth
J. Roth, Fuel Facilities Inspector

8/22/80
date signed

date signed

date signed

Approved by: H. W. Crocker
H. W. Crocker, Chief, Fuel Facility
Projects Section, FF&MS Branch

8/22/80
date signed

Inspection Summary:

Inspection on July 7-8, and August 1, 1980 (Report No. 70-820/80-11)

Areas Inspected: Special, announced inspection by a region-based inspector for the purpose of obtaining water and solids samples from selected monitoring wells and all of the operating lagoons.

Results: Samples were obtained and no apparent items of noncompliance were identified.

DETAILS

1. Persons Contacted

E. Barton, Acting Supervisor Nuclear and Industrial Safety (NIS)
T. Itillag, NIS Technician
*R. Gregg, Manager, Quality Assurance
D. Schultz, Manager, Compliance

*Denotes those present at the exit interview.

2. Scope of Inspection

This inspection was conducted on July 7-8 and August 1, 1980 for the purpose of obtaining water and solids samples from selected monitoring wells and all of the operating lagoons. Each of these samples were then split with the licensee.

3. Monitoring Well Water and Lagoon Water Sampling

Prior to sampling, each well was pumped for about 4-5 minutes in order to clear out the lines of standing water and this water was discarded. The licensee took a five (5) gallon sample and the NRC sample (one (1) liter) was split from the licensee's sample. The conditions under which each well sample was obtained are shown in the following table.

Well and Lagoon Water Samples
Taken July 7 and 8, 1980

<u>Well No.</u>	<u>Flow Rate</u> (approx gal/min)	<u>Sampling Time</u> (minutes)	<u>Specific Conductivity</u> (umhos)
<u>Wells</u>			
T-1	30	2	30
T-2	20	3	90
T-3	30	2	2400
T-6	50	2	1500
PW-1	100	2	40
PW-2	9	2	30
W-B	30	2	150
W-D	30	2	50
W-3	30	3	150
W-8A	30	2	425
W-11	70	2	300
W-12	30	2	1100
76-U	30	2	400
77-B	50	2	2500
77-D	10	5	850

	<u>Lagoons</u>		
A/B	--	-	--
C	--	-	--
D	--	-	--
G	--	-	--
Tank	70	2	--

The lagoon water samples shown in the table were taken from each lagoon by dipping a one (1) gallon container into the lagoon and then 500 to 1000 ml of the liquid was poured into each sample container (one for the licensee and one for the NRC).

4. Lagoon Sludge Samples

On August 1, 1980 the inspector obtained solid (sludge) samples from each available lagoon and a drum of processed lagoon solids as shown in the following table. Sampling locations are also shown in the table.

<u>Lagoon No.</u>	<u>Sampling Location</u>
A/B	North End top surface
C	East of Center on the south side
D	Center on the west side
F	East End slope
Drum	Product from Lagoon A/B taken 2:00 pm 8/1/80

In each case a large sample of lagoon solids were taken and then split with the licensee. The samples consisted of about 500 to 1000 ml of solids plus liquids.

5. Sample Analysis

The well water, lagoon water and lagoon solids samples obtained by NRC were sent to the USDOE Radiological and Environmental Services Laboratory located in Idaho Falls, Idaho for analysis. The licensee's samples were sent to Controls for Environmental Pollution, Inc. located in Santa Fe, New Mexico. Each sample was to be analyzed for the following by each laboratory:

1. Gross alpha
2. Gross beta
3. Strontium-90
4. Cesium-137
5. Uranium isotopic (i.e., 234, 235, 238)
6. Thorium isotopic (i.e., 228, 230, 232)
7. Radium 226
8. Radium 228
9. Gamma spectroscopy
10. Plutonium (solids samples only)

Sample Analysis Results

The NRC sample analysis results will be forwarded to NRC-NMSS for analysis. Region I will compare the analytical results obtained from each laboratory. This comparison will be the subject of a subsequent inspection report (80-11-01).

7. 10 CFR Part 20 Burial Sites

While on site on August 1, 1980 the inspector examined the site of the Part 20 burials which took place during 1967 and 1968 and were exhumed and sent to a licensed burial ground during July 1979.

A copy of the information obtained from the bronze plaques which marked the burial locations is attached to this report. This information was obtained from the plaques during July 1979 prior to transporting the material off site.

The inspector surveyed the area involved and for about 50 feet around the area for radiation level using a Ludlum Model 16 analyzer equipped with a Model 44-3 low energy gamma scintillator which was calibrated in counts/minutes on July 17, 1980. No radiation above background (ca 150-200 c/m) was observed.

8. Exit Interview

The inspector met with the licensee representative (denoted in paragraph 1) at the conclusion of the inspection at about 4:15 pm on August 1, 1980. The inspector summarized the scope and observations made during the inspection.

These are the markings on the burial
site plaques for purposes of
value assignments.

Original initialled by
R. Gregg, 7/20

UNCFRP MARKER

Burial Log No. 68-1

Volume 30 yards

U-235 0.48 Grams

U-235 30.0 Microcuries

U-234 0.3 microcuries

UNCFRP BENCHMARK

B. L. No. 67-1

46 Y

0.74 g

46.0 Mc

0.4 Mc