

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

Region I

Report No. 40-2940/80-03

Docket No. 40-2940

License No. SUC-346 Priority _____ Category _____

Licensee: N. L. Industries Inc.

1130 Central Avenue

Albany, New York 12205

Facility Name: Shipment

Inspection at: Beatty, Nevada

Inspection conducted: April 9, 1980

Inspectors: See attached report cover sheet

date signed

date signed

date signed

Approved by: See attached report cover sheet

date signed

Inspection Summary:

See attached report cover sheet

8007140 670

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

-REGION V

Report No. 80-47

Docket No. 15000027 License No. _____ Safeguards Group _____

Licensee: _____

Facility Name: Nuclear Engineering Company

Inspection at: Beatty, Nevada

Inspection Conducted: April 9, 1980

Inspectors: P. R. Zurakowski 28 Apr 80
P. R. Zurakowski, Radiation Specialist Date Signed

Date Signed

Date Signed

Date Signed

Approved by: R. D. Thomas 4/28/80
R. D. Thomas, Chief, Materials Radiological Protection Section Date Signed

Approved by: A. E. Book 4/30/80
H. E. Book, Chief, Fuel Facilities & Materials Safety Branch Date Signed

Summary:

Inspection on April 9, 1980, (Report No. 15000027/80-47)

As part of the inspection conducted during April 7-11, 1980, the inspection of a shipment of 67 drums containing uranium turnings in a cutting oil is detailed in this report. No representative of the State of Nevada or of the DOT were on site at the time of this inspection. No containers were opened.

Result: Two apparent items of noncompliance with DOT / NRC requirements were observed. See paragraphs 2 & 7.

It appears that DOT and the State of New York are the appropriate organizations to take enforcement actions.

DETAILS

Persons Contacted

1. Mr. Steve Carpenter, Site Manager, NECO
2. Mr. Jim Cruickshank, Site RSO, NECO
3. Mr. John Vaden, Supervisor, Radiological Health, Nevada State Division of Health
4. Mr. Brian Thayer, Site Assistant Manager, NECO

Background

As part of the inspection conducted on April 7-11, 1980, the inspection of a shipment arriving at NECO, Beatty, on April 9, 1980 is documented in this report.

Inspection

Licensee-Shipper: NL Nuclear Division, Albany, N.Y.

Shipment Inspected: April 9, 1980

Carrier: NL Nuclear Division, Albany, N.Y.

Trailer No.: 71517

Shipping Notice No.: 11921

1. The load consisted of 67 55-gallon drums of depleted uranium turnings in cutting oil. This was an exclusive use shipment (See Enclosure A). A radiation survey of the vehicle showed a maximum dose rate of 2.0 mr/hr at the surface of the trailer. The trailer door was sealed on arrival. Wooden braces were used to prevent the load from shifting in transit. In addition, a plastic (covered with cardboard or plywood) lining was used to cover the bed of the enclosed trailer to prevent contamination. It was this lining that prevented leakage from the trailer (see paragraph 2). Each drum was labeled with the letters LSA, weight and number of the package.
2. Drum No. 40 was observed to be setting in a pool of oily liquid ($\approx 1\frac{1}{2}$ qt.). A wipe of the drum disclosed a reading of 100 DPM per 300cm^2 Beta-Gamma activity. The pool of liquid did not penetrate through the trailer bed because the bed was covered with a plastic and cardboard lining. Three other drums were wiped and found to have a small amount of removable contamination. (Drum #15, 175 DPM/ 300cm^2 , Drum #18, 205 DPM/ 300cm^2 and Drum #25 660 DPM/ 300cm^2 Beta-Gamma activity). A currently calibrated Eberline MS-2 miniscaler was used to count the wipes. The leaking drum is a violation of DOT Regulation 173.392(C)(1).
3. The NECO Site Manager notified John Vaden of the State of Nevada that a shipment containing a leaking drum had been received. Prior to the discovery of the leaking drum, the trailer was parked at the NECO unloading dock. After the leaking drum was discovered, all unloading operations stopped pending instructions from the State of Nevada. The trailer remained at the unloading dock during this period of time. It was John Vaden's instructions to repackage the

leaking drum into an 85 gallon recovery drum with absorbent material and reload it onto the trailer. The repackaged drum and the remaining 43 drums on the trailer were to be returned to the shipper (leave the State of Nevada). He also stated that until further notice no other shipment from NL Nuclear Division will be accepted for burial at the NECO Beatty Site. He therefore ordered another NL truck, waiting at the gate to be unloaded, to be returned to the shipper without opening the trailer.

4. One of the truck drivers then called his dispatcher for orders. One of the NL Executives told him to stay at the site while they appealed the order by telephone. The appeal failed and the truck drivers were again ordered to leave. The Inspector overheard one truck driver telling the other that they had been ordered by the company to go to Baker, California.
5. It was noted by the Inspector that one part of the State Certification was not signed (see Enclosure A-2). However, the DOT Certification was signed.
6. It was noted by the Inspector that the Radioactive Waste Shipment and Disposal Form referred to U-238 in solid oxide form. However, John Vaden in his conversation with NL Executives got the impression that the drums contained depleted uranium turnings in solidified (packed with absorbent) cutting oil. This apparent discrepancy could not be checked by the Inspector. However, discussions with John Vaden and NECO personnel left the inspector with the impression that the drums contained metallic depleted uranium turnings in partially solidified (or possibly unsolidified) cutting oil.
7. The vehicle was not properly placarded as a "Radioactive" shipment as required by 49 CFR 173.392(c)(7). The placard on the front of the trailer was missing. The truck driver stated that he had placed one on the front of the trailer but bad weather in the "Rockies" had caused it to come off. Some tape remnants were noted by the inspector to be on the trailer where the driver said he had put the placard.
8. Before both trucks left the NECO site, the Assistant Site Manager supplied them with the needed placards.

NL

NUCLEAR DIVISION - Albany Plant
1130 CENTRAL AVENUE, ALBANY, NEW YORK 12205

EXCLUSIVE USE OF VEHICLE

SHIPPING NOTICE
11921

T
O
Nuclear Engineering Co.
Beatty, Nevada 89003

DATE 4-1-80	YOUR ORDER NO.	OUR PRODUCTION NO. NEV-08
<input type="checkbox"/> PARTIAL	<input checked="" type="checkbox"/> COMPLETE	SHIPPED VIA: HL Fleet 71517 "Prepaid" EXCLUSIVE USE OF VEHICLE

Box No.	No. of Pieces	DESCRIPTION	Gross	Tare	Net	Element	Isotope
67		Contaminated Waste for Burial	40289	3618	36671		
		Total Cubic Ft. 502.5				SF	
					7330 kg.		
					16312 lbs.		
43		Drums returned to sender					
		License 13-11-0043-02					
<p><i>Shipment refused in part by State of Nevada per J. Maden</i></p> <p><i>Order for NECD</i></p>							

Q. C. Supervision	Date	4-1-80
Shipper R. Socha	Date	4-1-80

PACKING SLIP

Enclosure A-1

As required by Executive Order dated July 24, 1979, issued by the Governor of the State of Nevada, the following certification, as applicable, is made to the State of Nevada:

SECTION A:

GENERATOR/PACKAGER:

NI Industries
(Company Name)

Certification is hereby made to the State of Nevada that shipment no. NEV-08 of low-level radioactive waste has been inspected in accordance with requirements of the Governor of Nevada's Executive Order dated July 24, 1979, prior to its shipment and further certification is made that the inspection has revealed no items of non-compliance with all applicable laws, rules and regulations. It is further certified that in the case of solidified waste, there is no free-standing liquid in any container in this shipment.

BY: Frank J. Vumbaca

TITLE: asst. RSO

DATE:

4-2-80

SECTION B:

BROKER:

(Company Name)

Certification is hereby made to the State of Nevada that shipment no. _____ of low-level radioactive waste has been inspected in accordance with the requirements of the Governor of Nevada's Executive Order dated July 24, 1979, prior to its shipment and further certification is made that the inspection has revealed no items of non-compliance with all applicable laws, rules and regulations.

BY: _____

DATE: _____

TITLE: _____

SECTION C:

CARRIER:

NI Industries
(Company Name)

Certification is hereby made to the State of Nevada that the vehicle transportation shipment no. NEV-08 of low-level radioactive waste is properly placarded and that the load is secure for transport and that all shipping papers as required by the United States Department of Transportation (U. S. DOT) have been properly executed and delivered.

BY: Rudy Socha

TITLE: Materials Mgr

DATE: 4-2-80

BY: _____

TITLE: _____

DATE: _____

BY: _____

Enclosure A-2

NEV-08

CERTIFICATION

THIS IS TO CERTIFY THAT I HAVE READ AND UNDERSTAND THE REQUIREMENTS OF LICENSE #13-11-0043-02 ISSUED TO NUCLEAR ENGINEERING COMPANY (NECO) BY THE NEVADA DEPARTMENT OF HUMAN RESOURCES FOR THE RECEIPT AND DISPOSAL OF RADIO-ACTIVE MATERIALS AT BEATTY, NEVADA, AS DESCRIBED IN PARAGRAPHS 5.1.1.3; 5.1.1.4; 5.1.1.5; 5.1.1.6 and 5.4.6.1 OF THE NECO SITE OPERATIONS MANUAL, AND I FURTHER CERTIFY THAT THE MATERIALS IN THIS SHIPMENT ARE IN CONFORMITY WITH THOSE REQUIREMENTS:

NL INDUSTRIES

COMPANY

Frank J. Vumbaco

AUTHORIZED SIGNATURE

asst. RSO

TITLE

4/2/80

DATE

TRL #
71517

RADIOACTIVE WASTE SHIPMENT & DISPOSAL FORM
NUCLEAR ENGINEERING COMPANY, INC.
 EXECUTIVE OFFICE: (502) 426-7160
 P.O. BOX 7246 • LOUISVILLE, KENTUCKY 40207

Illinois Office: (815) 454-2624
 California Office: (415) 932-4800

P.O. Box 578
 Beatty, NV 89303
 (702) 553-2203

P.O. Box 630
 Richland, WA 99352
 (509) 377-2411

SHIPPER: NL IND.
 ADDRESS: FIRBANK NY
 PHONE: (518) 459-2700
 SHIPMENT NO.: NEW-88
 DATE OF SHIPMENT: 4-1-80
 CARRIER: NL IND 71517

NO. 28066

PAGE 1 OF 5

TOTAL QUANTITY		PROPER SHIPPING NAME & HAZARD CLASS (PER 49 CFR 172.101)										TOTAL WEIGHT IN POLYDS		
		- Radioactive Material - Radioactive Material - Radioactive Material - Radioactive Material - Radioactive Material - Radioactive Material - Radioactive Material												
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
Item No.	Cubic Feet	Weight (Pounds)	Physical Form	Chemical Form	Radioisotope	Special Nuclear Material (grams)	Source Material (Kilograms)	Activity Curies/Millicuries	Surface Radiation Levels (MR/HR)	3 Feet Radiation Levels (MR/HR)	Transport Group	Transport Index	Label	Fixed Container
1	7.5	815	Solid	OXIDE	V-238	-	297	113	2.5	0.2	III	0.3	Radioactive -	LSA
2		763					257	98	2.7	0.3		0.3	Radioactive -	
3		735					266	101	2.2	0.2		0.2	Radioactive -	
4		832					303	115	1.9	0.2		0.2	Radioactive -	
5		809					295	112	2.9	0.3		0.3	Radioactive -	
6		773					280	107	1.9	0.2		0.2	Radioactive -	
7		829					302	115	1.5	0.2		0.2	Radioactive -	
8		665					238	91	1.4	0.2		0.2	Radioactive -	
9		315					102	39	0.3	0.1		0.1	Radioactive -	
10		880					322	122	1.2	0.1		0.1	Radioactive -	
11		480					166	63	0.1	0.1		0.1	Radioactive -	
12		577					212	80	1.6	0.2		0.2	Radioactive -	
13		809					295	112	1.1	0.1		0.1	Radioactive -	
14		567					387	147	0.7	0.1		0.1	Radioactive -	
15		797					290	110	3.1	0.2		0.2	Radioactive -	
TOTALS		112.5	10553				4012	1525						

Below materials returned

Survey meter 7ms/cm² window

Frank J. Vumbro asst RS

State of Nevada

THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

NECO COPY
 Enclosure A-4
 Authorized Signature

RADIOACTIVE WASTE SHIPMENT & DISPOSAL FORM
NUCLEAR ENGINEERING COMPANY, INC.
 EXECUTIVE OFFICE: (502) 426-7160
 P.O. BOX 7246 • LOUISVILLE, KENTUCKY 40207
 Illinois Office: (815) 454-2624
 California Office: (415) 932-4800

SHIPPER: NL 2nd
 ADDRESS: _____
 PHONE: _____
 SHIPMENT NO.: NE V-618
 DATE OF SHIPMENT: 4-1-80
 CARRIER: NL END 71517

P.O. Box 578
 Beatty, NV 89303
 (702) 553-2203
 P.O. Box 638
 Richland, W.A. 99352
 (509) 377-2411

NO. **28067** PAGE 2 OF 5

TOTAL QUANTITY	PROPER SHIPPING NAME & HAZARD CLASS (PER 49 CFR 172.101)	TOTAL WEIGHT IN POUNDS
	Radioactive Device, N.O.S.	
	Radioactive Material, Fissile, N.O.S.	
	Radioactive Material, Low Specific Activity, N.O.S.	
	Radioactive Material, N.O.S.	
	Radioactive Material, Limited Quantity, N.O.S.	
	Radioactive Material, Special Form, N.O.S.	

(1) Item No.	(2) Cubic Feet	(3) Weight (Pounds)	(4) Physical Form	(5) Chemical Form	(6) Radionuclide	(7) Special Nuclear Material (Grams)	(8) Source Material (Kilograms)	(9) Activity (Ci) (Bq)	(10) Radiation Levels (mR/hr) Surface	(10) Radiation Levels (mR/hr) 3 Feet	(11) Transport Group	(12) Transport Index	(13) Label	(14) Radioactive Class	
16	7.5	726	Solid	OXIDE	U-238		266	101	3.0	0.3	II	-1	LSA	Radioactive -	
17		684					246	935	6.6	0.7		-7		Radioactive -	
18		456					157	60	4.2	0.5		-5		Radioactive -	
19		878					321	122	1.2	0.1		-1		Radioactive -	
20		571					209	80	1.4	0.2		-2		Radioactive -	
21		693					249	95	1.1	0.1		-1		Radioactive -	
22		282					89	34	0.8	0.1		-1		Radioactive -	
23		380					127	48	0.7	0.1		-1		Radioactive -	
24		727					265	100	0.9	0.1		-1		Radioactive -	
25		406					137	52	1.3	0.2		-2		Radioactive -	
26		321					104	40	0.7	0.1		-1		Radioactive -	
27		564					199	76	0.5	0.1		-1		Radioactive -	
28		602					214	81	0.8	0.1		-1		Radioactive -	
29		489					170	64	0.7	0.1		-1		Radioactive -	
30		333					109	41	1.6	0.2		-2		Radioactive -	
TOTALS		8172					2860	1087							

THIS IS TO CERTIFY THAT THE ABOVE-NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

Head: John Matwicki, mgr.
 Authorized Signature

THIS IS TO CERTIFY THAT ARTICLES ARE IN COMPLIANCE WITH ALL REGULATIONS APPLICABLE DESIGNATED DISPOSAL SITE.

John Matwicki
 Authorized Signature

Frank J. Umbro, Asst. 1
 The Closure A-5

RADIOACTIVE WASTE SHIPMENT & DISPOSAL FORM
NUCLEAR ENGINEERING COMPANY, INC.

AD, Box 578
 Beatty, NV 89003
 (702) 553-2203

EXECUTIVE OFFICE: (502) 426-7160
 P.O. BOX 7246 • LOUISVILLE, KENTUCKY 40207

Illinois Office: (815) 454-2624
 California Office: (415) 932-4800

NO. 28068

PAGE 3 OF 5

SHIPPER: NL Ind.
 ADDRESS:
 PHONE:
 SHIPMENT NO.: NEV-08
 DATE OF SHIPMENT: 4-1-80
 CARRIER: NL Ind.

TOTAL QUANTITY		PROPER SHIPPING NAME & HAZARD CLASS (PER 49 CFR 172.101)		TOTAL WEIGHT IN POUNDS
		Radioactive Device, N.O.S.	- Radioactive Material	
		Radioactive Material, Fissile, N.O.S.	- Radioactive Material	
		Radioactive Material, Low Specific Activity, N.O.S.	- Radioactive Material	
		Radioactive Material, N.O.S.	- Radioactive Material	
		Radioactive Material, Limited Quantity, N.O.S.	- Radioactive Material	
		Radioactive Material, Special Form, N.O.S.	- Radioactive Material	

(1) Item No.	(2) Cubic Feet	(3) Weight (Pounds)	(4) Physical Form	(5) Chemical Form	(6) Radionuclide	(7) Special Nuclear Material (Grams)	(8) Source Material (Kilograms)	(9) Activity Curies / Microcuries	(10) Radiation Levels Surface MR/HR 3 Feet	(11) Transport Group	(12) Transport Index	(13) Label	(14) Package Code
31	7.5	322	Solid	OX10E	U-238		105	40	0.7	III	1	LSA	
32		249					96	36	1.4		2		
33		496					172	66	1.7				
34		379		Solidified			4.5	2	0.1				
35		366		oil					0.2				
36		696							0.9				
37		754							0.8				
38		588							0.2				
39		539							0.2				
40		714			leaking				0.2				
41		608							0.2				
42		615							0.5				
43		673							0.5				
44		565							0.7				
45		678							1.0				
TOTALS		8292	31				427	166					

THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

Authorized Signature: Frank J. Umbaco
 Title: asst

Authorized Signature: Frank J. Umbaco
 Title: asst

Enclosure A-6

SHIPPER: NL Land
 ADDRESS:
 PHONE:
 SHIPMENT NO.: N.E. V-68
 DATE OF SHIPMENT: 3-1-80
 CARRIER: NL Land

RADIOACTIVE WASTE SHIPMENT & DISPOSAL FORM
NUCLEAR ENGINEERING COMPANY, INC.
 EXECUTIVE OFFICE: (502) 426-7160
 P.O. BOX 7246 • LOUISVILLE, KENTUCKY 40207
 Illinois Office: (815) 454-2624
 California Office: (415) 932-4800

P.O. Box 578
 Beatty, NV 89303
 (702) 553 2203
 P.O. Box 638
 Richland, WA 99362
 (509) 377-2411

NO. 27986 PAGE 4 OF 5

TOTAL QUANTITY	PROPER SHIPPING NAME & HAZARD CLASS (PER 49 CFR 172.101)	TOTAL WEIGHT IN POUNDS
	- Radioactive Material	
	- Radioactive Material	
	- Radioactive Material	
	- Radioactive Material	
	- Radioactive Material	
	- Radioactive Material	

(1) Item No.	(2) Cubic Feet	(3) Weight (Pounds)	(4) Physical Form	(5) Chemical Form	(6) Radionuclide	(7) Special Nuclear Material (Grams)	(8) Source Material (Kilograms)	(9) Activity Curies (Millicuries)	(10) Radiation Levels MR/HR Surface 3 Feet	(11) Transport Group	(12) Transport Index	(13) Label	(14) Radioactive Class
46	7.5	329	Solid	Sch. 151	U-238	-	4.5	2	0.5	III	.1	LSA	Radioactive -
47		595		Oil					0.6		.1		Radioactive -
48		701							0.9		.1		Radioactive -
49		876							1.6		.2		Radioactive -
50		836							0.7		.1		Radioactive -
51		563							0.3		.1		Radioactive -
52		540							0.3		.1		Radioactive -
53		594							0.4		.1		Radioactive -
54		567							0.3		.1		Radioactive -
55		528							0.5		.1		Radioactive -
56		656							0.7		.1		Radioactive -
57		582							0.3		.1		Radioactive -
58		574							0.1		.1		Radioactive -
59		546							0.2		.1		Radioactive -
60		570							0.4		.1		Radioactive -
TOTALS		112.5					68	30					

THIS IS TO CERTIFY THAT THE ABOVE-NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

State of Missouri
 I, Frank V. Umbro, Secretary of State, do hereby certify that the above materials are in compliance with all regulations applicable to the transportation of radioactive materials.

Authorized Signature: Frank V. Umbro
 Title: Secretary of State

