

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

Region I

Report No. 50-219/80-37 (State of Nevada Report dated December 30, 1980)

Docket No. 50-219

License No. DPR-16 Priority \_\_\_\_\_ Category \_\_\_\_\_

Licensee: Jersey Central Power and Light Company

P. O. Box 388

Forked River, New Jersey 08731

Facility Name: Oyster Creek Nuclear Power Generation Station

Inspection at: Beatty, Nevada burial site

Inspection conducted: December 30, 1980

Inspectors: Bert Gray, Jr.  
State of Nevada Resident Inspector

date signed

Reviewed by J. Roth  
J. Roth, Fuel Facility Inspector

2/24/81  
date signed

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

date signed

2/25/81  
date signed

Inspection Summary:

Inspection on December 30, 1980 (Report No. 50-219/80-37 (State of Nevada Report 12/30/80))

Areas Inspected: Onsite inspection conducted by the State of Nevada resident inspector consisting of a review of shipping papers, placarding, marking and labeling requirements, radiation measurements, selected contamination surveys and examination of the packages and tractor-trailer. In office review and examination of shipping papers by a region-based inspector.

Results: Three apparent items of noncompliance with NRC/DOT regulations were identified. Violations - the licensee delivered radioactive materials to a carrier in two packages that were not strong, tight packages (80-37-01) paragraph 1; the physical form of material waste was described as solid when at least one package contained free standing liquid (80-37-02) paragraph 2; the licensee transferred byproduct material to the burial site operator in a form which the operator was not authorized to receive (80-37-03) paragraph 2.)

Region I Form 12  
(Rev. April 77)

8107060467 810602  
PDR ADDCK 05000219  
PDR

## REPORT DETAILS

### 1. State of Nevada Report

A copy of the report prepared by the State of Nevada resident inspector on December 30, 1980 concerning the shipment of radioactive waste from the licensee's site to the Beatty, Nevada burial site is attached. The shipment left the licensee's site at Forked River, New Jersey on December 24, 1980 and arrived at the Beatty Nevada burial site on December 30, 1980. During unloading of the drums at the burial site, the state inspector noted that Drum No. 21 had four small holes in the bottom and that liquid was still seeping through these holes. The State of Nevada Inspector also observed that the locking bolt was missing from the locking ring on Drum No. 48. The locking bolt was subsequently found on the floor of the trailer. These violations are contrary to 49 CFR 173.392(c)(1) which states that materials must be packaged in strong, tight containers so that there will be no leakage of radioactive material under conditions normally incident to transportation. (80-37-01)

### 2. In-Office Examination of the State of Nevada Report and Attached Licensee Shipping Papers

During an in-office examination of the State of Nevada report and the attached licensee shipping papers it was noted by the NRC Region I inspector that on page 2 of 7 of the licensee's Radioactive Shipment Record sheets Drum No. 21 was described as containing 0.40 millicuries of radioactive material as solid contaminated equipment and material. Since liquid was found to be seeping from holes in the bottom of the drum, this description of physical form did not properly describe the physical form of the radioactive material contained in the drum as required by 49 CFR 172.203(d)(1)(ii). This is a violation of US DOT regulations. (80-37-02)

The State of Nevada license issued to Nuclear Engineering Company for the Beatty, Nevada burial site requires that all liquid wastes shall be solidified prior to burial. Drum No. 21 contained byproduct material in liquid form. The licensee therefore, transferred byproduct material to the burial site which the burial site was not authorized to receive. This is contrary to 10 CFR 20.301(a) and 10 CFR 30.41(b) and (c) which requires that no licensee shall dispose of licensed material except by transfer to an authorized recipient as provided in the regulations in Part 30, 40 or 70 of the Title 10 CFR regulations. (80-37-03)

Date: 12-30-80

To: N.E.C.O. Transportation file

From: Bert Gray

Subject: Shipment of radioactive waste received by N.E.C.O.,  
from Jersey Central Power and Light Co. Nevada  
state uses permit # 307.

RECEIVED

JAN 02 1981

Consumer Health  
Protection Services

During inspection of shipment of radioactive waste received by N.E.C.O. from Jersey Central Power and Light Co., the following violations were observed.

① - Violation: D.O.P. 173.392(c)(1), which states materials must be packaged in strong tight packages, so that there will be no leakage of radioactive materials under conditions normally incident to transportation.

Drum number eleven was found to have a quantity of brown colored water standing in the recessed area of its lid (refer to photograph # 2), Drum number twenty-one, which had been sitting on top of Drum number eleven was checked for possible leakage, and four (4) small holes were found in its bottom (refer to photograph number 1). Approximately 1 pint of liquid was standing on top of Drum # 11. Liquid was still seeping from Drum # 21.

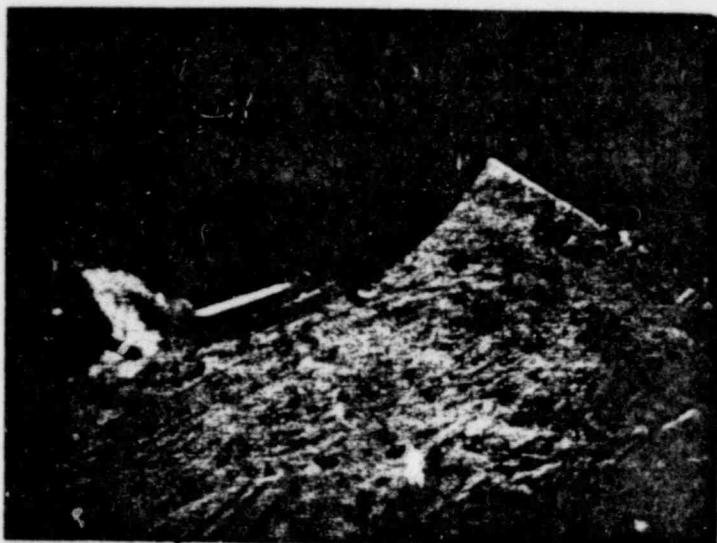
Drum number 48 was found to have no locking bolt on the locking ring. The bolt was found on the floor.

The overall condition of the shipment was poor. Many drums were badly damaged by dents, and several other drums were covered with

sand and dirt. This same sand and dirt was also covering the floor area of the van.

The State of Nevada was notified and the following instructions were given to N.E.P.A.

- ① - stop off loading process
- ② Notify Jersey Central Power & Light
- ③ give Jersey Center power & light opportunity to come and observe violations.
- ④ Contain leakage of drum number 21.
- ⑤ secure drum number 48.
- ⑥ Jersey Central power and light's State uses permit # 507 is suspended and no further shipments are to be received.



Jersey Central Power & Light 12-30-80  
B.H.  
Drum # 21

①



Jersey Central Power & Light 12-30-80  
B.H.  
Drum # 22  
Brown area is liquid from Drum # 21

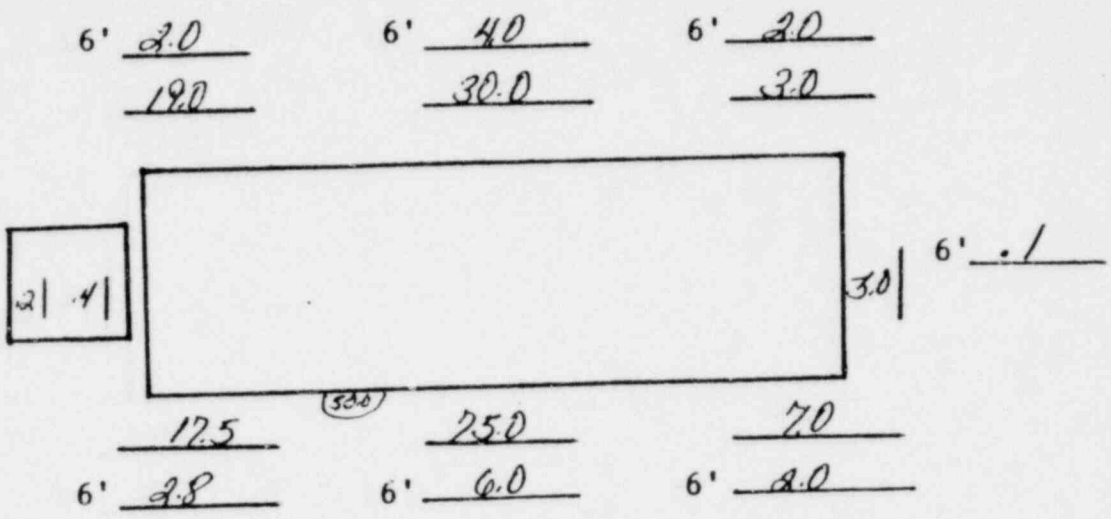
②

STATE OF NEVADA  
RADIOLOGICAL HEALTH  
TRANSPORTATION SURVEY

SMEAR SURVEY RESULTS  
DPM/100CM<sup>2</sup>

Jessie Central Power & Light Date: 12-30-80 Time: 0800 hrs  
Customer: Cyster Creek Station Vehicle I.D.: Lk. 2336 Lk. 440131  
Carrier: T.S.M.T. Driver(s): Mr. Bishop

Arrival			Departure		
No.	Beta	Alpha	No.	Beta	Alpha
1	<MBA	<MBA			
2	290	<MBA			
3	28.0	2.0			
4	<MBA	<MBA			
5	390	8.2			



Alpha Background	.50CPM
Alpha Efficiency	.304
Beta Background	138CPM
Beta Efficiency	.308

Max. Contact Side of Trailer/Underneath (MR/HR): 75.0 Mr/hr 50.0 Mr/hr  
Max. Contact of Containers (MR/HR): 130 Mr/hr  
Dose Rate Inside Cab/Sleeper (MR/HR): .2 Mr/hr .4 Mr/hr  
Scan of Trailer Empty (CPM/BKG): trailer not off loaded  
Placards: as required  
Shipping Papers: as required Exclusive use  
Labels: Radio active LSA  
State Use Permit Number: 307

INSTRUMENTS USED

Type	Cont.	Rad.
	<u>Radum</u> <sup>520C</sup>	<u>Medline</u> <sup>520</sup>
Serial #	<u>13453</u>	<u>928</u>
Response Check	<u>OK</u>	<u>OK</u>

Remarks: \* Drum # 21 Leaking liquid from  
Pin holes in Bottom  
\* Drum # 48 No bolt in lock Ring

Surveyor: Beate Hayes

Reviewed By : \_\_\_\_\_

CONTAINERIZATION INSPECTION DATA SHEET

COMPANY W.E.C.O LOCATION Beatty Nevada DATE 12-30-80 TIME 0800h

INSTRUMENT: TYPE Lead Meter 2200 SERIAL NO. 13453 CALIB. DATE 12-18-80 BACKGROUND B-5.0CPM  
B-13.8CPM

SHIPPER & ORDER NO.	TYPE OF I.G. CONT NO. PKGS. IN CONT	CONTENTS		LABELS		RADIATION MR HR		CONTAINER			RMKS NO.	
		ISOT.	M/Ci	LIST T. I. NO.	TYPE	SURFACE @ 3 FT.	SEAL	Cyft SIZE	SWIPE NO.	REMOV. CONT.		
<del>                    </del>												
<i>Jerry Central</i>	1	CO60 MN54 CO58	.80	N/A	SLA	2.0	<.1	None	7.5	126	A-2000	
<i>Beatty Light</i>	1	CO60 MN54 CO58	.80	N/A	SLA	2.0	<.1	None	7.5	117	B-2000	
	1	CO60 MN54 CO58	.80	N/A	SLA	2.0	<.1	None	7.5	108	B-890	
	1	CO60 MN54 CO58	.40	N/A	SLA	<.1	<.1	None	7.5	38	B-2000	
	1	CO60 MN54 CO58	.40	N/A	SLA	<.1	<.1	None	7.5	21	B-2000	

REMARKS:

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ENGINEERING COMPANY, INC.  
P.O. Box 7240 • Louisville, Kentucky 40207  
EXECUTIVE OFFICE: (602) 426-7160

CALIFORNIA SALES OFFICE  
415-932-4800

ILLINOIS SALES OFFICE  
815-454-2624

NEVADA NUCLEAR CENTER  
702-553-2203

WASHINGTON NUCLEAR CENTER  
509-377-2411

5110

MATERIAL TRANSFER FORM

CUSTOMER: JEFFERY CENTRAL POWER + LIGHT  
OYSTER CREEK  
FORKED RIVER, NJ  
(N-10000)

WASTE

QTY.	CONTAINER	SOLID	VIALS
149	55 GALLON BARRELS	✓	

CONTAINERS

QTY.	TYPE
117 5/4 <sup>3</sup>	.539 Ci

Date 12/20/80

Received By SC [Signature]



**STRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - Not Negotiable**

RECEIVED subject to the conditions and tariffs in effect on the date of the issue of this Bill of Lading.

The property described herein is received in accordance with the bill of lading and is subject to the conditions and tariffs in effect on the date of the issue of this Bill of Lading. The carrier is not responsible for the loss of or damage to the property under the bill of lading if it is caused by fire, theft, pilferage, or any other cause, unless the carrier is notified in writing at the time of the loss or damage.

Units of packages (units) marked, consigned, and delivered as indicated below, which shall be taken to be in good order at the time of delivery, unless otherwise indicated. The carrier is not responsible for the loss of or damage to the property under the bill of lading if it is caused by fire, theft, pilferage, or any other cause, unless the carrier is notified in writing at the time of the loss or damage.

The carrier is not responsible for the loss of or damage to the property under the bill of lading if it is caused by fire, theft, pilferage, or any other cause, unless the carrier is notified in writing at the time of the loss or damage.

FREIGHT BILL NO. 441  
36.6.211  
SHIPPER'S NUMBER  
cc-1189-00  
EXECUTIVE OFFICES  
P.O. BOX 113, JOPLIN, MO 64801

From Jersey Central Power & Light DATE SHIPPED 12/24/80  
At Cyster Creek Nuclear gen. sta. P.O. Box 355 Forked River N.J. 08313  
ORIGINATING CARRIER tri-state water trans.

CONSIGNEE TO Neco Beatty Nevada (Mail or street address of consignee - For purposes of notification only)  
DESTINATION Neco Beatty Nevada STATE COUNTY

DELIVERY ADDRESS Neco Beatty Nevada (To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

CONNECTING CARRIER(S) tri-state DELIVERING CARRIER tri-state TRACTOR NO. 2326 TRAILER NO. 440121

NUMBER OF ARTICLES	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS, AND EXCEPTIONS	WEIGHT (Subject to Correction)	CLASS Q. RATE	CK. COL.
1	Drums of solid Material	21,500		

Subject to Section 7 of conditions, of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:  
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.  
If charges are to be prepaid write or stamp here. To be Prepaid.  
Rec'd \$ \_\_\_\_\_ to  
apply in prepayment of the charges on the property described hereon.  
Agent or Carrier.  
Per \_\_\_\_\_  
(The signature here acknowledges only the amount prepaid.)  
Charges advanced: \$ \_\_\_\_\_

LARGEST SINGLE ARTICLE	LENGTH	WIDTH	HEIGHT	TOTAL TRAILER SPACE OCCUPIED
	40'	8'	8'	All

UNLESS A GREATER VALUE IS DECLARED, THE SHIPPER HEREBY RELEASES THE VALUE TO \$5000.00 PER TON OF 2000 POUNDS FOR EACH ARTICLE.

ARRIVED AT SHIPPER	DATE	TIME	PREARRANGED SCHEDULE	DATE	TIME	LOADING STARTED	DATE	TIME	
	12/24/80		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO						
LOADING COMPLETED	12/24/80		VEHICLE RELEASED			SHIPPER'S SIGNATURE			
PERMANENT POST OFFICE ADDRESS OF SHIPPER				SHIPPER, PER			AGENT PER		

**SIGNATURE TALLY RECEIPT**

Must be filled out and signed at origin and each time the shipment changes custody.

DATE SHIPMENT RECEIVED FROM CONSIGNOR	3RD TIME CARGO CHANGED CUSTODY	6TH TIME CARGO CHANGED CUSTODY
12/24/80		
DATE	DATE	DATE
TIME	TIME	TIME
TRACTOR NO.	TRACTOR NO.	TRACTOR NO.
DRIVERS SIGNATURE	DRIVERS SIGNATURE	DRIVERS SIGNATURE
HOME TERMINAL	HOME TERMINAL	HOME TERMINAL
DRIVERS SIGNATURE	DRIVERS SIGNATURE	DRIVERS SIGNATURE
HOME TERMINAL	HOME TERMINAL	HOME TERMINAL
1ST TIME CARGO CHANGED CUSTODY	4TH TIME CARGO CHANGED CUSTODY	7TH TIME CARGO CHANGED CUSTODY
12/27/80		
DATE	DATE	DATE
TIME	TIME	TIME
TRACTOR NO. 2326	TRACTOR NO.	TRACTOR NO.
DRIVERS SIGNATURE	DRIVERS SIGNATURE	DRIVERS SIGNATURE
HOME TERMINAL	HOME TERMINAL	HOME TERMINAL
DRIVERS SIGNATURE	DRIVERS SIGNATURE	DRIVERS SIGNATURE
HOME TERMINAL	HOME TERMINAL	HOME TERMINAL
2ND TIME CARGO CHANGED CUSTODY	5TH TIME CARGO CHANGED CUSTODY	8TH TIME CARGO CHANGED CUSTODY
DATE	DATE	DATE
TIME	TIME	TIME
TRACTOR NO.	TRACTOR NO.	TRACTOR NO.
DRIVERS SIGNATURE	DRIVERS SIGNATURE	DRIVERS SIGNATURE
HOME TERMINAL	HOME TERMINAL	HOME TERMINAL
DRIVERS SIGNATURE	DRIVERS SIGNATURE	DRIVERS SIGNATURE
HOME TERMINAL	HOME TERMINAL	HOME TERMINAL

ARRIVED AT CONSIGNEE	DATE	TIME	PREARRANGED SCHEDULE	DATE	TIME	UNLOADING STARTED	DATE	TIME
	12/30/80	0700 P.M.	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				12/30/80	1030 P.M.
UNLOADING COMPLETE			VEHICLE RELEASED	12/30/80	1030 P.M.	CONSIGNEE'S SIGNATURE		
				<u>Slap-L Neco</u>				

RECEIVED THE ABOVE DESCRIBED PROPERTY IN GOOD CONDITION EXCEPT AS NOTED

SECTION A:

GENERATOR/PACKAGER: Jersey Central Power & Light Co  
(Company Name)

Certification is hereby made to the State of Nevada that shipment no. CC-1189-80 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: Low Spruill

DATE: 12/24/80

TITLE: Dep. Supv.

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: TRV State  
(Company Name)

Certification is hereby made to the State of Nevada that the vehicle transportation shipment no. CC-1189-80 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: John L. Brennan

DATE: 12-24-80

TITLE: Trv State

BY: \_\_\_\_\_

DATE: \_\_\_\_\_

TITLE: \_\_\_\_\_

BY: \_\_\_\_\_

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:

JERSEY CENTRAL POWER & LIGHT CO.  
COMPANY

Wm. Snyder  
AUTHORIZED SIGNATURE

Sup. Supervisor  
TITLE

12/24/80  
DATE

JERSEY CENTRAL POWER & LIGHT COMPANY  
OYSTL CREEK NUCLEAR GENERATING ST. ON

FORM 600-002 (7-78) USE IN GREEN

RADIOACTIVE MATERIALS SHIPMENT RECORD

PRIVATE VEHICLES CANNOT BE USED FOR SHIPMENT OF RADIOACTIVE MATERIALS

SHEET 1 OF 2

SHIPMENT NO. <sup>1189</sup>  
~~OC-488-80~~  
WS

CARRIER *TRI STATE*

DATE *12/24/80*

FROM:  
JERSEY CENTRAL POWER & LIGHT CO.  
OYSTER CREEK NUCLEAR GEN. STA.  
PO BOX 388  
FORKED RIVER, N. J., 08731

TO: *NECO  
BEATTY, NEVADA.*

USAEC LIC. NO. *MD-27-001-02*

LABELS APPLIED

- WHITE I
- YELLOW II
- YELLOW III
- EMPTY
- RADIATION HAZARD
- CONTENTS
- INNER CONTAINER
- NO LABEL REQUIRED
- RADIOACTIVE LSA

PLACARDS

- VEHICLE
- ICC MOTOR
- ICC RAIL
- OLD LABELS REMOVED

RS# *13428-80*

BY *FD*

DATE *12/24/80*

NO SIGNIFICANT REMOVABLE CONTAMINATION ON OUTER SURFACE OF CONTAINER

SS# *13428-80*

BY *FD*

DATE *12/24/80*

EXPOSURE RATES  
IN TRANSIT

MAXIMUM TIME  
LIMIT PER 24 HR.  
*24 HRS*

SAFE DISTANCE  
PER 24 HR.  
*@ 7.8*

TO: *DRIVER*

**THIS IS A SOLE USE SHIPMENT**

REMARKS: *TRI STATE VAN  
WITH 149 DRUMS OF  
SOLID MATERIAL.*

TRANSPORT VEHICLES BEING USED BY J.C.P.&L.  
FOR SOLE USE SHIPMENTS SHALL NOT ACCEPT  
MATERIAL FOR SHIPMENT FROM OTHER SHIPPERS

*205-12829-80*

DRIVER ACCEPTANCE *John S. French*

APPROVAL TO SHIP

"This is to certify that the above named articles are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation."

HEALTH PHYSICS  
DATE *12/24/80*

ACKNOWLEDGEMENT OF RECEIPT

NAME *John S. French*  
DEPT. *Tri State*  
DATE *12-24-80*

DIST. SHIPMENT  SHIPPER FILE  OCHP FILE

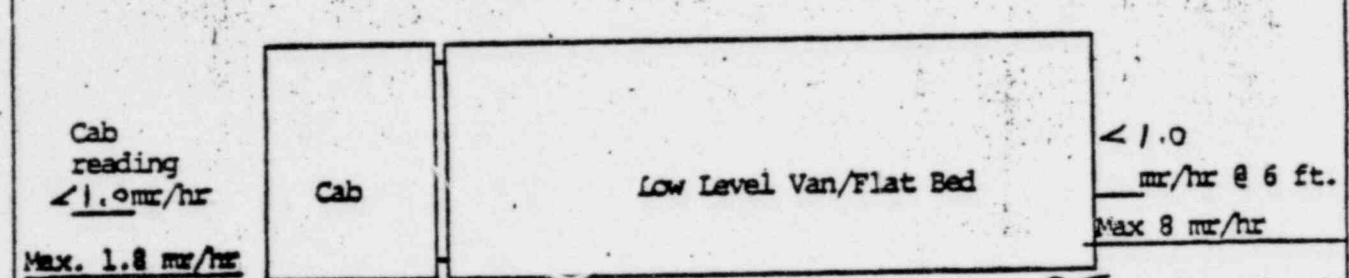
REV. 10

Oyster Creek Station  
JCP&L

Shipment No. OC-115580 <sup>1189 wt</sup>  
Shipment Date: 12/24/80  
Waste Type: Solid (MAY 1981)  
Payload: 21500  
Curie Content: 537.1

Major Nuclides	Group IV			Group III			Group II		
	<sup>57</sup> Co				160				
<sup>58</sup> Co									

JCP&L Rad. Level Max 8 mr/hr		Group I		
	2 mr/hr @ 6 ft. from cast surface			
	4 mr/hr @ 3 ft. from cast surface			
Max 180 mr/hr	18 mr/hr contact			



Max 180 mr/hr	60 mr/hr contact	25 mr/hr underside Max 180 mr/hr
	8 mr/hr @ 3 ft. from cast surface	
	4 mr/hr @ 6 ft. from cast surface	

Comments:

Max 1000 mr/hr @ 3 ft. from external surface of package (Solo use vehicle)

JCP&L - Surface Contamination Max.

<math>\alpha</math> - 100 DPM / <math>\beta</math> - 1000 DPM (DPM/100 <math>cm^2</math>)

If any of the above limits are exceeded, notify the Radiaste Shipping Supv. immediately.

OYSTER CREEK NUCLEAR GENERATING STATION  
RADIATION PROTECTION SURVEY RECORD

No. 13428-80

DATE 12/24/80

LOCATION: Yard Area

TIME 1000

REASON FOR SPECIAL SURVEY: Waste Shipment #

ROUTINE   
SPECIAL

OC-1189-80

ITEM NO.	ITEMS	DOSE RATES				DISTANCE	SMEARABLE CONTAMINATION		
		A mrad/hr	T mrad/hr	Neutron mrem/hr	Total mrem/hr		dry cpm	wet cpm	AREA cpm
1	Van Ext.						<1000	<100	100 c/m <sup>2</sup>
2									
3				SEI					
4				ATTACHED					
5				SHEET					
6									
7	Tires								
8									
9									
10									
11	cab								
12	"								
13									
14									
15									
16									
17									
18									

AIR SAMPLE DATA:

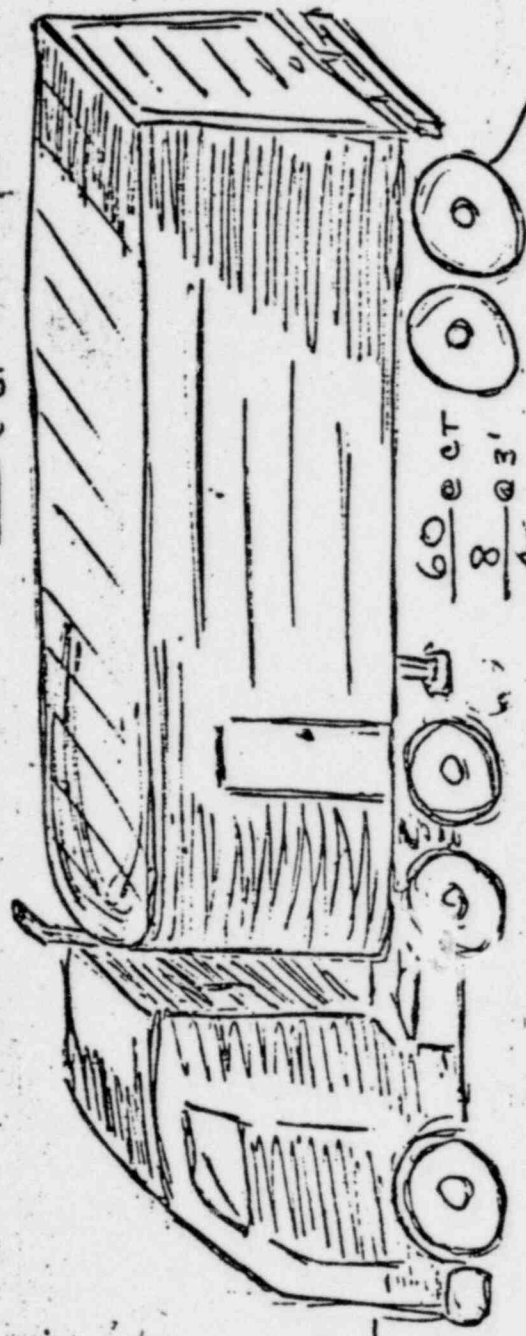
REMARKS: RO-2A-624  
Rm-14-3434 w/HP-210  
Rm-6-476

I. Deven

REVIEWED BY

M. Lewis

$\frac{2}{4}$  @ 6'  
 $\frac{4}{18}$  @ 3'  
 ect



$\frac{11.0}{@ 11}$

35 UNDERSIDE

CAB. 11.0

$\frac{60}{8}$  ect @ 3'  
 $\frac{4}{@ 6'}$

VAN SHIPMENTS

DLL READINGS IN MR/HR

WASTE SHIPMENT # OC-1189-80

12/24/80

Survey # 13428-80

RADIOACTIVE SHIPMENT RECORD

Inform Neco 12/24/80  
 10/30/80  
 1 of 2

Package Identification (1) L.L. UFW Unit No. (2) NA Date (3) 12/24/80

Shipment Origin (4) LIBERTY CENTRAL POWER & LIGHT Shipment Destination (6) NECO

Address (5) Oyster Creek, FRENCH RIVER, N.J. Address (7) BETTY NEVADA

Shipment No. (8) CC-119-80 Carrier (9) TRISTATE Driver's Signature (10) [Signature]

Material Description (11) RADIOACTIVE MATERIAL L.S.H. - NO. 1 RADIOACTIVE MATERIAL  
 Total Number Of Containers (12) 149 Total Activity m(Ci) (13) 539.1

Container Number (14)	Volume (Cu. Ft.) (15)	Weight (Lbs.) (16)	MREM/HR Surface (17)	MREM/HR 3 Ft. or 1 M. (18)	Radionuclide (19)	Transport Group (20)	Activity m(Ci) (21)	Transport Index (22)	S.N.M. (Grams) (23)	Source Material (Lbs.) (24)	Chemical Form (25)	Physical Form (26)	Label (27)
1	7.5	100	1	<1	Co <sup>60</sup>	III	.40	NA	NA	NA		Solid	L.S.H.
2	"	100	3	<1	Mn <sup>54</sup>	IV	1.2						
3	"	100	1	<1	Co <sup>58</sup>	IV	.40						
4	"	100	2	<1			.80						
5	"	100	1	<1			.40						
6	"	100	2	<1			.80						
7	"	100	1	<1			.40						
8	"	100	2	<1			.80						
9	"	100	2	<1			.80						
10	"	100	1	<1			.40						
11	"	250	2	<1			1.16						
12	"	150	7	2			2.8						
13	"	200	100	10			58						
14	"	150	32	6			12.8						
15	"	400	1	<1			.82						
15	112.5	2150	← TOTALS →					81.98	-	-	-		

CONTAMINATED EQUIPMENT MATERIAL

THE APPLICABLE ROUTINE DETERMINATIONS REQUIRED BY 10 CFR 71.54 HAVE BEEN PERFORMED AND ARE ACCEPTABLE

(28) NA NA NA  
 DATE AUTHORIZED SIGNATURE TITLE

SURVEY DATA: SURFACE (29) 60 MREM/HR. 6 FT. (30) 4 MREM/HR. CAB (31) <1.0 MREM/HR.

(32) INSTRUMENT USED: Manufacturer EBERLINE Model RO2A Serial Number 624

(33) LOOSE CONTAMINATION <1000 DPM/100CM<sup>2</sup>

(34) INSTRUMENT USED: Manufacturer EBERLINE Model Rm-14 Serial Number 3434

(35) 12/24/80 [Signature] [Signature]  
 DATE SURVEYOR'S SIGNATURE TITLE

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 THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

(36) 12/24/80 [Signature] [Signature]  
 DATE AUTHORIZED SIGNATURE TITLE

THIS SHIPMENT IS TO BE MAINTAINED AS AN EXCLUSIVE USE SHIPMENT  
 INSTRUCTIONS FOR MAINTENANCE OF EXCLUSIVE USE SHIPMENT CONTROLS: THIS SHIPMENT IS TO BE MAINTAINED AS AN EXCLUSIVE USE SHIPMENT. LOADING MUST BE PERFORMED BY A SINGLE CONSIGNOR HAVING THE EXCLUSIVE USE OF THE VEHICLE. UNLOADING MUST BE DONE BY THE CONSIGNEE AND ONLY AT THE DESIGNATED DESTINATION. REPOSITIONING OR MOVEMENT OF ANY LOADED MATERIAL WITHOUT THE WRITTEN PERMISSION OF THE CONSIGNOR OR HITTMAN NUCLEAR & DEVELOPMENT CORPORATION IS PROHIBITED.



**RADIOACTIVE SHIPMENT RECORD  
CONTINUATION SHEET**

Shipment Origin: Dept L

Date: 12/24/80  
1184

OYSTER CREEK, FORKED RIVER, N.J.

Shipment No.: OC-H58-80

Container Number (14)	Volume (Cu. Ft.) (15)	Weight (Lbs.) (16)	MREM/NR Surface (17)	MREM/NR 2 Ft. or 1 M. (18)	Radionuclide (19)	Transport Group (20)	Activity in (Ci) (21)	Transport Index (22)	S.N.M. (Grams) (23)	Source Material (Lbs.) (24)	Chemical Form (25)	Physical Form (26)	Label (27)
16	7.5	400	2	<1	Co-60	III	1.64	N/A	N/A	N/A		Solid	L.S.A.
17	"	400	6	1	Na-54	IV	1.92						
18	"	400	4	1	Co-58	IV	3.28						
19	"	100	2	<1			.80						
20	"	100	1	<1			.40						
21	"	100	<1	<1			.40						
22	"	100	1	<1			.40						
23	"	100	1	<1			.40						
24	"	100	1	<1			.40						
25	"	100	1	<1			.40						
26	"	100	1	<1			.40						
27	"	100	2	<1			.80						
28	"	200	12	4			6.96						
29	"	100	30	5			12						
30	"	100	3	<1			1.2						
31	"	100	2	<1			.80						
32	"	100	6	2			2.4						
33	"	100	2	<1			.80						
34	"	100	2	<1			.80						
35	"	100	2	<1			.80						
36	"	100	40	10			16						
37	"	100	45	8			18						
38	"	100	3	<1			1.2						
39	"	100	2	<1			.80						
40	"	100	1	<1	↓		.40	↓	↓	↓		↓	↓
25	187.5	3500	← TOTALS →				76.40	-	-	-			

CONTAMINATED EQUIPMENT MATERIAL

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 the applicable regulations of the Department of Transportation.

12/24/80  
Date

Wm Spuler  
Authorized Signature

Dep. Supervisor  
Title

RADIOACTIVE SHIPMENT RECORD  
CONTINUATION SHEET

Shipment Origin: Jep & L  
OYSTER CREEK, FORKED RIVER, N.J.

Date: 12/24/80  
Shipment No.: CC-1189-80

Container Number (14)	Volume (Cu. Ft.) (15)	Weight (Lbs.) (16)	MEM/HR Surface (17)	MEM/HR 2 Ft. or 1 M. (18)	Radionuclide (19)	Transport Group (20)	Activity in (Ci) (21)	Transport Index (22)	S.N.M. (Grams) (23)	Source Material (Lbs.) (24)	Chemical Form (25)	Physical Form (26)	Label (27)
41	7.5	100	2	<1	C <sup>60</sup>	II	.80	NA	NA	NA		Solid	L.S.A.
42	"	100	2	<1	Mn <sup>54</sup>	II	.80						
43	"	100	50	5	C <sup>58</sup>	II	20						
44	"	100	15	3			6						
45	"	150	10	2			4						
46	"	200	8	3			4.64						
47	"	100	2	<1			.80						
48	"	100	2	<1			.80						
49	"	100	2	<1			.80						
50	"	100	2	<1			.80						
51	"	200	22	6			12.76						
52	"	100	3	<1			1.2						
53	"	150	3	<1			1.2						
54	"	150	4	1			1.6						
55	"	200	30	10			17.4						
56	"	100	12	4			4.80						
57	"	100	1	<1			.40						
58	"	150	130	12			5.2						
59	"	150	140	14			5.6						
60	"	100	100	5			4.0						
61	"	100	3	<1			1.2						
62	"	100	4	1			1.6						
63	"	100	3	<1			1.2						
64	"	100	5	2			2						
65	"	150	4	1			1.6						
25	187.5	3108	← TOTALS →				234.4						

CONTAMINATED EQUIPMENT MATERIAL

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 the applicable regulations of the Department of Transportation.

12/24/80  
Date

Wm Spaulson Dep Super.  
Authorized Signature

**RADIOACTIVE SHIPMENT RECORD  
CONTINUATION SHEET**

Shipment Origin: Jep + L  
OYSTER CREEK FORKED RIVER, N.J.

Date: 12/24/80  
Shipment No.: OC-1189-48858U

Container Number (14)	Volume (Cu. Ft.) (15)	Weight (Lbs.) (16)	MREM/HR Surface (17)	MREM/HR 3 Ft. or 1 M. (18)	Radionuclide (19)	Transport Group (20)	Activity in (Ci) (21)	Transport Index (22)	S.N.M. (Grams) (23)	Source Material (Lbs.) (24)	Chemical Form (25)	Physical Form (26)	Label (27)	
66	7.5	100	3	<1	Co <sup>60</sup>	II	1.2	NA	NA	NA		Solid	L.S.A.	
67	"	150	20	10	Mn <sup>54</sup>	II	8							
68	"	100	3	<1	Co <sup>57</sup>	II	1.2							
69	"	125	12	5			4.8							
70	"	100	10	4			4							
71	"	100	2	<1			.8							
72	"	150	3	<1			1.2							
73	"	100	3	<1			1.2							
74	"	100	5	2			2							
75	"	100	4	<1			1.6							
76	"	100	8	2			3.2							
77	"	100	2	<2			.80							
78	"	100	2	<2			.80							
79	"	100	50	8			20							
80	"	100	2	<2			.80							
81	"	100	2	<2			.80							
82	"	100	2	<2			.80							
83	"	100	<1	<1			.40							
84	"	100	<1	<1			.40							
85	"	100	<1	<1			.40							
86	"	100	<1	<1			.40							
87	"	100	<1	<1			.40							
88	"	100	<1	<1			.40							
89	"	300	<1	<1			.58							
90	"	100	<1	<1	Y		.40	Y	Y	Y	Y	Y	Y	
25	187.5	2825	← TOTALS →					56.58	-	-	-			

CONTAMINATED EQUIPMENT MAINTENANCE

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 the applicable regulations of the Department of Transportation.

12/24/80  
Date

*Wm. Spurlon*  
Authorized Signature

*Drp. Sykes*  
Title

HITTMAN NUCLEAR & DEVELOPMENT CORPORATION  
 RADIOACTIVE SHIPMENT RECORD  
 CONTINUATION SHEET

Shipment Origin: Jep & L  
CYPRESS CREEK, FORKED RIVER, N.J.

Date: 12/24/80  
 Shipment No.: OC-49845 80

Container Number (14)	Volume (Cu. Ft.) (15)	Weight (Lbs.) (16)	MEASUREMENT Surface (17)	MEASUREMENT 2 Ft. or 1 M. (18)	Radionuclide (19)	Transport Group (20)	Activity (MCi) (21)	Transport Index (22)	S.N.M. (Gross) (23)	Source Material (Lbs.) (24)	Chemical Form (25)	Physical Form (26)	Label (27)
91	7.5	100	<1	<1	Co <sup>60</sup>	III	.40	1.7	1.2	1.7		Solid	L.S.12.
92	7.5	100	<1	<1	Co <sup>57</sup>	II	.40						
93	"	100	<1	<1	Co <sup>58</sup>	II	.40						
94	"	100	<1	<1			.40						
95	"	100	<1	<1			.40						
96	"	100	90	30			36						
97	"	100	2	<1			.80						
98	"	200	2	<1			1.16						
99	"	100	2	<1			.80						
100	"	100	2	<1			.80						
101	"	100	2	<1			.80						
102	"	100	2	<1			.80						
103	"	100	2	<1			.80						
104	"	100	2	<1			.80						
105	"	100	2	<1			.80						
106	"	100	2	<1			.80						
107	"	100	2	<1			.80						
108	"	500	2	<1			2.74						
109	"	500	2	<1			2.74						
110	"	175	2	<1			.80						
111	"	175	2	<1			.80						
112	"	175	2	<1			.80						
113	"	175	2	<1			.80						
114	"	175	2	<1			.80						
115	"	175	2	<1			.80						
25	187.5	3850	← TOTALS →				57.47	-	-	-			

CONTAINMENT TEST  
 EQUIPMENT  
 MATERIAL

This is to certify that the above-named materials are properly classified, described, packaged, sealed, and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation.

12/24/80  
 Date

*Wm. Spence*  
 Authorized Signature

*Edw. Spence*  
 Title

RADIOACTIVE SHIPMENT RECORD  
CONTINUATION SHEET

Shipment Origin: Jepk

Date: 12/24/80

QUASTER CREEK FORKED RIVER, N.J.

Shipment No.: OC-488-80

Container Number (14)	Volume (Cu. Ft.) (15)	Weight (Lbs.) (16)	MREM/HR Surface (17)	MREM/HR 3 Ft. or 1 M. (18)	Radionuclide (19)	Transport Group (20)	Activity in (Ci) (21)	Transport Index (22)	S.N.M. (Grams) (23)	Source Material (Lbs.) (24)	Chemical Form (25)	Physical Form (26)	Label (27)
116	7.5	175	2	<1	Co <sup>60</sup>	III	.80	NA	40g	40g		Solid	L.S.A.
117	"	175	2	<1	Mn <sup>54</sup>	II	.80						
118	"	175	2	<1	Co <sup>58</sup>	IV	.80						
119	"	175	2	<1			.80						
120	"	175	2	<1			.80						
121	"	175	2	<1			.80						
122	"	175	2	<1			.80						
123	"	175	2	<1			.80						
124	"	175	2	<1			.80						
125	"	175	2	<1			.80						
126	"	175	2	<1			.80						
127	"	175	2	<1			.80						
128	"	175	2	<1			.80						
129	"	175	2	<1			.80						
130	"	175	2	<1			.80						
131	"	175	2	<1			.80						
132	"	175	2	<1			.80						
133	"	200	2	<1			1.16						
134	"	400	2	<1			1.64						
135	"	200	2	<1			1.16						
136	"	275	5	<1			2.9						
137	"	100	2	<2			.80						
138	"	175	2	<2			.80						
139	"	200	2	<2			1.16						
140	"	250	2	<2	✓		1.16	✓	✓	✓	✓	✓	✓
25	182.5	4775	← TOTALS →				24.38	-	-	-			

CONTAMINATED EQUIPMENT MATERIAL

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 the applicable regulations of the Department of Transportation.

12/24/80  
Date

*[Signature]*  
Authorized Signature

*[Signature]*  
Title

RADIOACTIVE SHIPMENT RECORD  
CONTINUATION SHEET

Shipment Origin: Jap + L  
QUINCY CREEK, FORKED RIVER, N.J.

Date: 12/24/80  
11 89  
Shipment No.: OC-488-80

Container Number (14)	Volume (Cu. Ft.) (15)	Weight (lbs.) (16)	MEMPH Surface (17)	MEMPH 3 Ft. or 1 M. (18)	Radioisotope (19)	Transport Group (20)	Activity m (Ci) (21)	Transport Index (22)	S.N.M. (Grams) (23)	Source Material (Lbl.) (24)	Chemical Form (25)	Physical Form (26)	Label (27)
141	7.5	175	2	<2	Co <sup>60</sup>	III	.80	IA	IA	IA		Solid	L.S.A.
142	7.5	100	2	<2	Mn <sup>54</sup>	IV	.80						
143	"	175	2	<2	Co <sup>58</sup>	IV	.80						
144	"	100	2	<2			.80						
145	"	200	2	<2			1.16						
146	"	100	2	<2			.80						
147	"	150	2	<2			.80						
148	"	200	2	<2			1.16						
149	"	100	2	<1			.80	↓	↓	↓			↓
9	67.5	1300					7.92						
					Co <sup>60</sup>		307.287						
					Mn <sup>54</sup>		53.91						
					Co <sup>58</sup>		177.903						

CONTAINING 9 TONS OF SHIPMENT MATERIAL

149 21500 ← TOTALS → 537.1 - - -  
1117.5

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 the applicable regulations of the Department of Transportation.

12/24/80 Wm. Spaulo Authorized Signature Shp. Signer. Title