



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL RESOURCES  
P.O. Box 2063  
Harrisburg, PA 17120

January 7, 1992

Radiation Protection

(717) 787-2163

Mr. Malcolm R. Knapp, Director  
Division of Radiation Safety and  
Safeguards  
U.S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406

Gentlemen:

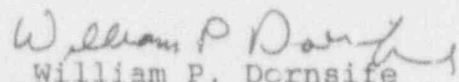
Subject: Pennsylvania LLRW Shipment Inspection Report  
No. 50-277/PA-91-01 and 50-278/PA-91-01

On November 26, 1991, our engineers, Messrs. Stan Maingi and Rich Janati performed an inspection of LLRW shipment no. 1191-044 at the Peach Bottom Atomic Power Station. A copy of the inspection report no. 50-277/PA-91-01 and 50-278/PA-91-01 is enclosed with this letter. This report is being forwarded to you for docketing, distribution, and any other action you may deem necessary. This inspection was conducted under the provisions of a Memorandum of Understanding between the Commonwealth of Pennsylvania and the Nuclear Regulatory Commission (NRC). A copy of this letter and our inspection report is being forwarded to the Philadelphia Electric Company for information.

Within the scope of this inspection, no violations or deviations were noted.

Your cooperation with our staff and the Commonwealth of Pennsylvania is appreciated.

Sincerely,

  
William P. Dornis  
Acting Director  
Bureau of Radiation Protection

Enclosure

cc: Philadelphia Electric Company

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Pa. Department of Environmental Resources  
Bureau of Radiation Protection  
Division of Nuclear Safety

Report Nos. 50-277/PA-91-01  
50-278/PA-91-01

Docket Nos. 50-277  
50-278

License Nos. DPR-44  
DPR-56

Licensee: Philadelphia Electric Company  
Delta, PA 17314

Facility Name: Peach Bottom Atomic Power Station

Inspection At: Delta, Pennsylvania

Inspection Conducted: November 26, 1991

Inspectors: *S. Maingi* 1/7/92  
S. Maingi, Nuclear Engineer Date

*R. Janati* 1/7/92  
R. Janati, Acting Chief Date  
Nuclear Safety Section

Approved by: *W. P. Dornsife* 1/7/92  
W. Dornsife Date  
Acting Director  
Bureau of Radiation Protection

Inspection Summary: Inspection on November 26, 1991  
(Inspection Report Nos. 50-277/PA-91-01; 50-278/PA-91-01)

Areas Inspected: Announced inspection of the licensee's low level radioactive waste shipment to the burial site including: shipping documentation, packaging/package inspection, labeling, marking, placarding, vehicle inspection, radiation and contamination surveys.

Result: No violations or deviations were identified.

## DETAILS

### 1.0 Personnel Contacted

#### 1.1 Licensee Personnel

- Darryl Lequia, Superintendent, Plant Services
- \* Martin Ryan, Radwaste Engineer
- \* Fred Crosse, Radwaste Shipping Supervisor
- \* Gerald Dworsak, Radwaste Shipping Physicist

#### 1.2 U.S. Nuclear Regulatory Commission

- \* J. Furia, Senior Radiation Specialist
- \* Denotes those present at the exit meeting

### 2.0 Scope of the Inspection

This inspection was conducted in accordance with the Memorandum of Understanding (MOU) between the Commonwealth of Pennsylvania and the U.S. Nuclear Regulatory Commission. The State inspectors reviewed the licensee's low-level radioactive waste shipment no. 1191-044 to the Barnwell Waste Management Facility according to the attached inspection checklist.

The shipment contained 5222 millicuries of dewatered bead and powdex resin recovered from condensate polishers packaged in NUPAC PL-210 liner and NUPAC 14/210L cask, loaded on a Tri-State Motor Transit flatbed for shipment to Barnwell, South Carolina. The shipment was determined to be LSA, and waste form was determined to be class A unstable (AU) per Barnwell site disposal criteria.

At previous occasions, the inspector had observed the unloading of the liner from dewatering process cask to the shipment cask. From previous two observations, it seemed that the mode of transferring the liner was deemed safe and prudent per ALARA considerations. At the time of this inspection, the liner transfer activity was not observed.

The radiological survey for the shipment was done after the truck had been engaged with the flatbed trailer and parked in the parking lot ready to leave the site. The survey taken by the inspectors agreed with survey readings taken by the licensee radwaste shipment group and the health physics group. The agreement was rather close for trends and readings.

Seven swipe samples were taken to check for loose contamination on the cask. The swipe results indicated very small amounts of removable contamination.

The manifest had not been signed by the licensee representative because the shipment had to be deferred, but the information filled seemed satisfactory and met the regulatory requirements.

### 3.0 Exit Meeting

An Exit Meeting was held with the licensee representatives (denoted in Section 1) at the conclusion of the inspection on November 26, 1991. The inspectors summarized the scope and findings of the inspection.

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES  
BUREAU OF RADIATION PROTECTION  
DIVISION OF NUCLEAR SAFETY  
LOW LEVEL RADIOACTIVE WASTE SHIPMENT  
INSPECTION REPORT

Report No. 50-277/PA-91-01  
50-278/PA-91-01

A. General Information

1. Date of Inspection 11-26-91
2. Name of Shipper Philadelphia Electric Company - PBAPS
3. Name of Carrier Tri-State Motor Transit Company
4. Destination CNSI, Barnwell, S.C.
5. Verify Advanced Notification to the Consignee

Date of Shipment 11-26-91 (Expected)  
Expected Date of Arrival 11-27-91  
Any loading/unloading or operations instructions None

[Fissile materials, and Type B or highway route controlled quantities - 49 CFR 173.22(c) and burial site criteria, e.g., Barnwell]

6. Verify Advanced Notification to the State(s) NOT APPLICABLE (NA)

(Type B packages only - 10 CFR 71.97)

7. Package(s) Used

Cask NUPAC 14/210L  
 HIC  
 Liner NUPAC PL-210  
 Drums  
 Boxes  
 Other (Specify)

8. Number of Packages One

9. Method of Shipment

A.  Exclusive Use  
B.  Non-Exclusive Use

10. Transport Vehicle

Open Flatbed with cask  
 Closed

B. Shipping Documentation Checklist

1.  Shipping papers present [49 CFR 172.200, 201, 202, 203]
2.  Proper shipping name and hazard class [172.202(a)]
3.  Proper I.D. number [172.202(a)]

4.  X  Waste Description  Dewatered Resin  and  
total quantity by weight (lbs) [172.202(a)]  8420   
volume (cu. ft.) [172.202(a)]  202.10 , activity (Ci) [172.203(d)]  5.222
5.  X  Radionuclides identified [10 CFR 20.311(b) & 49 CFR 172.203(d)]
6.  X  Total quantity of radionuclides H-3, C-14, Tc-99 and I-129 shown [10 CFR 20.311(b)]
7.  X  Waste classified and characterized properly [61.55, 61.56 and BTP]  
(Perform a review of documentation for classification and characterization to determine if  
classification is correct and reasonable)
8.  X  Description of chemical/physical form [172.203(d)]
9.  NA  Category of label applied to each package [172.203(d)]
10.  NA  T.I. assigned to each package bearing Y-II or Y-III [172.203(d)]
11.  X  Shipper's certification [172.204(a)]
12.  X  Instructions to carrier provided [173.441(c), 173.425(b)] (exclusive use only)

C. Packaging/Package Inspection

a. Packaging Compliance

NA  Are authorized packages used? [173.415, 173.416]

Package types used:

X  LSA-strong tight [173.425(b)]

DOT-7A, Type A

NA  Performance test records on file? [173.415(a)]

DOT-55

NA  Licensee aware of 6/30/85 cutoff on use? [173.416(a)]

NA  Requalified under DOT Spec. 7A or NRC COC's obtained? [173.415(b), 173.416(b)]

NRC Certified

NA  Current NRC COC's on file? [10 CFR 71.12(c)]

NA  Registered with NRC NMSS as user? [71.12(c)]

(Prior to the licensee's first use of the package)

b. Security Seals and Package Integrity

X  Security seals [173.412(b)] (LSA-Exclusive use, closed vehicle exempt)

X  Lids secure [173.475(c)]

X  No visible damage or leakage [173.425(b)]

X  Packages monitored for radiation [173.441] and contamination [173.443]

D. Labeling, Marking and Placarding Checklist

a. Labeling

- NA Packages labeled W-I, Y-II, Y-III [172.403(b), (c)]  
(LSA - Exclusive use exempt)
- NA "Contents" and "Activity" entered [172.403(g)]
- NA Transport Index affixed on Y-II, Y-III labels [172.403(g)]

b. Marking

- X Packages marked properly, i.e., proper shipping name, identification number, DOT Spec. number, NRC COC number, consignee or consignor's name and address, etc. [172.301, 304, 306]
- NA Type A/type B package marked "Type A" or "Type B" [172.310(a)]
- X Gross weight marked if package exceeds 110 pounds [172.310(a), burial site criteria, e.g., Barnwell]
- X Waste class marked A-B-C stable/unstable [10 CFR 20.311(d)(2), burial site criteria]
- X LSA - Exclusive use package marked "RADIOACTIVE-LSA" [173.425(b)]

c. Placarding

- X Placards on each end and sides of vehicle for Y-III, LSA exclusive use and highway route controlled quantity [172.504(a), 176.507, 173.425(b)]

E. Vehicle Inspection Checklist

- X Verify that vehicle was monitored and inspected by the licensee upon arrival.
- X Shipment blocked, braced, tied down in vehicle [173.425(b)]
- X After loading, vehicle surveyed for radiation [173.441] and contamination [173.443]

F. Radiation/Contamination Survey [49 CFR 173.441, 173.443]

a. Exclusive Use Vehicles

- 0.166 Not exceed 2 mR/hr in any occupied position in the vehicle
- 3.24 Not exceed 10 mR/hr at 2 meters (6.6 ft) from the vehicle
- 11.4 Not exceed 200 mR/hr on outer surface (including upper or lower) of the vehicle
- NA Not exceed 1,000 mR/hr on the external surface of the package (closed transport vehicle)
- 11.4 Not exceed 200 mR/hr on the external surface of the package (open transport vehicle)

b. Non-Exclusive Use Vehicles

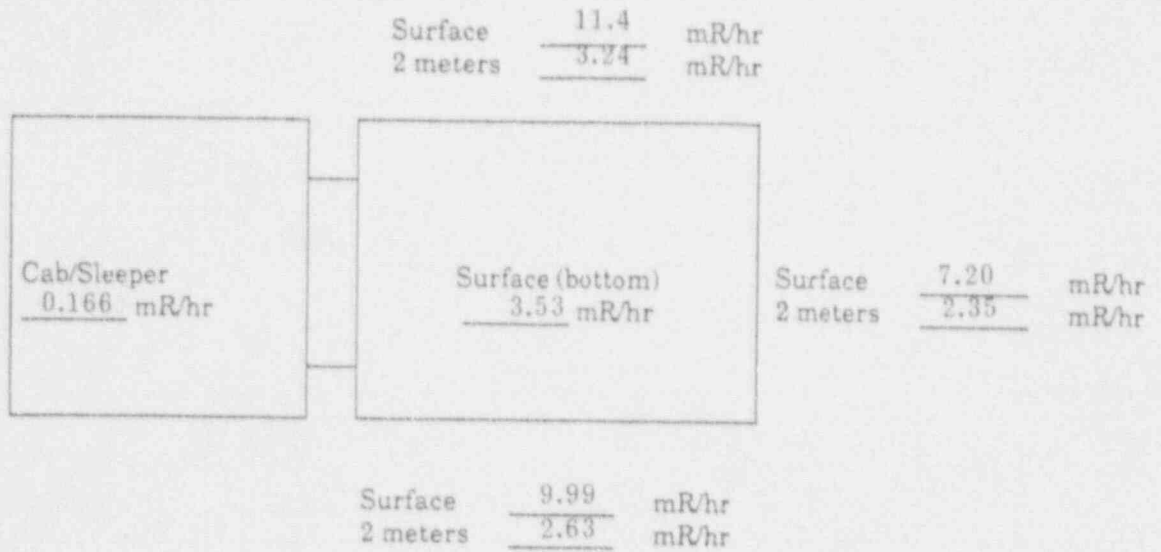
- NA Not exceed 10 mR/hr at 1 meter (3.3 ft) from package
- NA Not exceed 200 mR/hr on the external surface of the package

c. Highest Contamination Detected

Not exceed 22 dpm/cm<sup>2</sup> (beta & gamma)  
 (Wipe sample for 300 cm<sup>2</sup>)

Highest contamination detected	93 cpm
Background reading	73 cpm
Difference/Above background	20 cpm
Divide by instrument efficiency (0.15) =	133.3
Divide by (300 cm <sup>2</sup> ) =	0.44 dpm/cm <sup>2</sup>

RADIATION/CONTAMINATION SURVEY (transport vehicle)





G. Results of Inspection

I. Violations/Non-Compliance

None

II. Comments

None

Instrument(s)	Serial Number(s)	Calibration Date
ESP - 2 Eberline	309	5/31/91
FSP - 2 Eberline	312	5/31/91

Inspector's Name

Stan Maingi  
Rich Janati