COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

P.O. Box 2063
Harrisburg, PA 17120

May 26, 1992

Radiation Protection

(717) 787-2163

Mr. Richard W. Cooper, 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 Nos. 50-352/PA-92-01 and 50-353/PA-92-01

On May 14, 1992, our engineers, Messrs. R. Janati and M. Murphy performed an inspection of LLRW shipment no. LGS-018-92 at the Limerick Generating Station. A copy of the inspection report no. 50-352/PA-92-01 and 50-353/PA-92-01 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 Dornsife

William P. Dornsife, Acting Director
Bureau of Radiation Protection

Enclosure

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

Report Nos. 50-352/PA-92-01
50-353/PA-92-01

Docket Nos. 50-352
50-353

License Nos. NPF-39
NPF-85

Licensee: Philadelphia Electric Company
Correspondence Control Desk
P.O. Box 195
Wayne, PA 1908-0195

Facility Name: Limerick Generating Station, Units 1 and 2

Inspection Date: May 14, 1992

Inspectors: R. Janati _____ 5/26/92
R. Janati, Nuclear Engineer Date

M. Murphy _____ 5/26/92
M. Murphy, Nuclear Engineer Date

Approved by: W Dorsife _____ 5/26/92
W. Dornsife, Acting Director Date
Bureau of Radiation Protection

Inspection Summary: Inspection on May 14, 1992 (Inspection Report Nos. 50-352/PA-92-01; 50-353/PA-92-01)

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

Results: No violations or deviations were identified.

DETAILS

1.0 Individuals Contacted

1.1 Licensee Personnel

* K. Cenci, Senior Engineer Radwaste
  L. Wells, Radwaste Supervisor Services
* H. Paust, Radwaste Physicist
  N. Harmon, Radwaste Physicist
* H. Miller, Radwaste Technical Assistant
  T. Burke, Quality Control Inspector
* J. Phillabaum, Licensing Engineer
  T. Leddy, Health Physics Technician

* 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. LG-018-92 to the Barnwell Waste Management Facility according to the attached inspection checklist.

The shipment contained 6.51 curies of dewatered powdered resin and was determined to be stable Class A Waste. The shipment was packaged in a Model EL-210 Polyethelene High Integrity Container (HIC) with a disposal volume of 202.1 cubic feet. The HIC was transported in a NUPAC Model 14/210L, NRC certified, Type A shipping cask.

The inspectors witnessed loading of the HIC into the cask; placement of security seals; cover placement and bolt down with QC verification of bolting pattern and torque. Prior to placement of the HIC into the cask, the inspectors reviewed the Certificate of Compliance (COC) for the cask and the Cask Loading and Closing Procedure. The cask was examined and determined to be in satisfactory material condition.

The inspectors performed an independent radiological survey of the shipping cask with the HIC inside. The highest reading detected was 29.3 mR/hr on the cask surface and no removable contamination was detected from smear samples taken at representative locations on the surface of the cask and the vehicle. The inspectors also witnessed the utility surveys, QC inspection, and transfer of shipping papers to the driver. A

visual inspection of the vehicle was performed to ensure that the vehicle was in acceptable condition for transport.

The inspectors performed an independent verification of the licensee's calculations for waste classification and low specific activity (LSA) determination. The shipping papers were reviewed for completeness and accuracy. No discrepancies were noted.

3.0 Exit Meeting

The inspectors met with the licensee representatives denoted in Section 1.0 at the conclusion of the inspection on May 14, 1992. 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

REVISION 1

Report No. 50-352/PA-92-01; 50-353/PA-92-01

A. General Information

1. Date of Inspection May 14, 1992
2. Name of Shipper Limerick Generating Station
3. Name of Carrier Tri-State Motor Transit
4. Destination Barnwell, S.C.
5. Verify Advanced Notification to the Consignee NA

[Fissile materials, and Type B or highway route controlled quantities - 49 CFR 173.22(c)]

6. Verify Advanced Notification to the State(s) NA

[(Type B packages only - 10 CFR 71.97)]

7. Package(s) Used

X Cask Model 14/210L
X HIC Model EL/210 Poly HIC
___ Liner
___ Drums
___ Boxes
___ Other (Specify)

8. Number of Packages One

9. Method of Shipment

A. X Exclusive Use

B. ___ Non-Exclusive Use

10. Transport Vehicle

X Open
___ Closed

B. Shipping Documentation Checklist

1. X Shipping papers present [49 CFR 172.200, 201, 202, 203]
2. X Proper shipping name and hazard class [172.202(a)]
3. X Proper I.D. number [172.202(a)]
4. X Waste Description Dewatered Powdered Resin and total quantity by weight (lbs) [172.202(a)] HIC 8500, volume (cu. ft.) [172.202(a)] 202.1, activity (Ci) [172.203(d)] 6.51

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] Class A Stable
(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. X 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:

NA LSA-strong tight [173.425(b)]

DOT-7A, Type A

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

NRC Certified

X Current NRC COC's on file? [10 CFR 71.12(c)] COC # USA/9176/A Rev. 6

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 surveyed 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]

X Type A/type B package marked "Type A" or "Type B" [172.310(a)] Type A Cask

X Gross weight marked if package exceeds 110 pounds [172.310(a)]

X Waste class marked A-B-C stable/unstable [10 CFR 20.311(d)(2)] HIC only

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), 506, 507, 173.425(b)]

E. **Vehicle Inspection Checklist**

X Verify that vehicle was monitored and inspected by the licensee upon arrival. Form HP-715, Rev. 12

X Shipment blocked, braced, tied down in vehicle [173.425(b)]

X Ensure that the licensee surveys the shipment adequately using proper instruments. Review the licensee's survey map(s) to verify that all the required readings are performed and they are in reasonable agreement with inspector's. Form HP-715, Rev. 12 - See Section G.II. (comments)

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

a. Exclusive Use Vehicles

0.11 Not exceed 2 mR/hr in any occupied position in the vehicle

1.82 Not exceed 10 mR/hr at 2 meters (6.6 ft) from the vehicle

16.9 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)

29.3 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

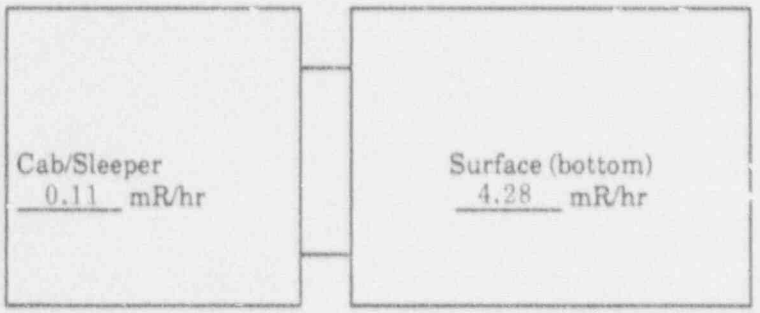
c. Highest Contamination Detected None

Not exceed 22 dpm/cm² (beta & gamma)
(Wipe sample for 300 cm²)

Highest Contamination Detected	_____	CPM
Background Reading	_____	CPM
Difference/Above Background	_____	CPM
Divide by Instrument Efficiency (0.10)	_____	
Divide by (300 cm²)	_____	DPM/CM²

RADIATION/CONTAMINATION SURVEY (transport vehicle)

Surface 16.9 mR/hr
2 meters 1.82 mR/hr



Surface 16.6 mR/hr
2 meters 1.53 mR/hr

G. Results of Inspection

I. Violations/Non-Compliance

Within the scope of this inspection, no violations were observed.

II. Comments

In general, BRP instrument readings were slightly lower than the licensee's but they were consistent. Both readings were well within the allowable limits.

Instruments Used

	Instrument(s) Type	Serial No.	Calibration Expiration Date
Dose Rate Instrument	Eberline ESP-2 HP-270	00309	7-13-92
Contamination Instrument	Eberline ESP-2 HP-210	00309	7-13-92

Inspector's Name

R. Janati
M. Murphy