



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

P.O. Box 2063
Harrisburg, PA 17120

July 29, 1991

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 Nos. 50-387/PA-91-01;50-388/PA-91-01

On July 16, 1991, Messrs: Richard R. Janati and David E. Ney, Nuclear Engineers, performed an inspection of LLRW shipment no. 91-129 at the Susquehanna Steam Electric Station. A copy of the inspection report no. 50-387/PA-91-01;50-388/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 Pennsylvania Power and Light Company for their 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. Dornisfe
William P. Dornisfe, Chief
Division of Nuclear Safety

Enclosure

cc: Pennsylvania Power and Light Company

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

Report No. 50-387/PA-91-01;50-388/PA-91-01
Docket No. 50-387,50-388
License No. NPF-14;NPF-22 Category C
Licensee: Pennsylvania Power and Light Company
P.O. Box 467
Berwick, PA 18603

Facility Name: Susquehanna Steam Electric Station
Inspection At: Salem Township, Pennsylvania
Inspection Conducted: July 16, 1991

Inspectors:

D. Ney
D. Ney, Nuclear Engineer

7/29/91
Date

R. Janati
R. Janati, Acting Chief
Nuclear Safety Section

7/29/91
Date

Approved by:

W. Dornishe
W. Dornishe, Chief
Division of Nuclear Safety

7/30/91
Date

Inspection Summary:

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.

Results: No violations or deviations were identified.

DETAILS

1. Personnel Contacted

1. Licensee Personnel

- * C. Lewis, Health Physics Specialist
- * P. Jaeger, Health Physics Foreman
- F. Habib, Quality Control Inspector
- D. Kline, Health Physics Technician
- * G. Stanley, Superintendent of Plant
- * D. Roth, Senior Compliance Engineer
- * D. Hagan, Effluents Management Supervisor

* Denotes those present at the exit meeting.

2. 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 to the burial site according to the attached inspection checklist.

The shipment (#91-129) contained 1.274 curies of dewatered bead resin and was determined to be LSA, Class A Waste. It was stabilized in a Radlok Polyethylene High Integrity Container (HIC) with a disposal volume of 195.20 cubic feet. The HIC was placed inside a Scientific Ecology Group, NRC certified Type A cask.

The inspectors surveyed the cask and the vehicle for radiation and contamination. The maximum radiation level at the surface of the cask with the HIC inside was 4.49 mR/hr and 0.51 mR/hr at 2 meters. The highest removable contamination detected was 11 counts per minute (cpm) above background or approximately 0.24 dpm/cm².

After the survey was completed, the inspectors observed the transfer of the appropriate papers to the driver. A visual inspection of the vehicle was performed to ensure that the vehicle was in acceptable condition for transport. The shipment then left the site for the destination of the Barnwell disposal facility in South Carolina.

The inspectors performed an independent verification of licensee's calculations for waste classification, Low Specific Activity (LSA), Reportable Quantity (RQ) and A2 Quantity determination. The shipping papers were also reviewed for completeness and accuracy.

Exit Meeting

An exit meeting was held with the licensee representatives (denoted in Section 1) at the conclusion of the inspection on July 16, 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. 50-387/PA-91-01;
50-388/PA-91-01

A. General Information

1. Date of Inspection July 16, 1991
2. Name of Shipper PP&L
3. Name of Carrier Hittman Transport Services
4. Destination Barnwell, S.C.
5. Verify Advanced Notification to the Consignee

Date of Shipment July 16, 1991
Expected Date of Arrival July 17, 1991
Any loading/unloading or operations instructions Yes, per document no. STD-P-02-01;
cask handling procedure for 14-215 shipping cask.

[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) NA

(Type B packages only - 10 CFR 71.97)

7. Package(s) Used

Cask
 HIC
 Liner
 Drums
 Boxes
 Other (Specify)

8. Number of Packages one

9. Method of Shipment

A. Exclusive Use

B. Non-Exclusive Use

10. Transport Vehicle

Open
 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 Bead Resin and
total quantity by weight (lbs) [172.202(a)] 8634
volume (cu. ft.) [172.202(a)] 165.2 , activity (Ci) [172.203(d)] 1.274
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. 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

- X Are authorized packages used? [173.415, 173.416] HIC # L91-45, Radlok 195
cask # 14-215-02, Model 14-215
- Package types used:
- NA 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

- X 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]
- X Type A/type B package marked "Type A" or "Type B" [172.310(a)] Type A
- X Gross weight marked if package exceeds 110 pounds [172.310(a), burial site criteria, e.g., Barnwell] HIC 8634lbs HIC & cask 47034 lbs
- X Waste class marked A-B-C stable/unstable [10 CFR 20.311(d)(2), burial site criteria] 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.
- 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

- .186 Not exceed 2 mR/hr in any occupied position in the vehicle
- .51 Not exceed 10 mR/hr at 2 meters (6.6 ft) from the vehicle
- 1.22 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)
- 4.49 Not exceed 200 mR/hr on the external surface of the package (open transport vehicle)

b. Non-Exclusive Use Vehicles

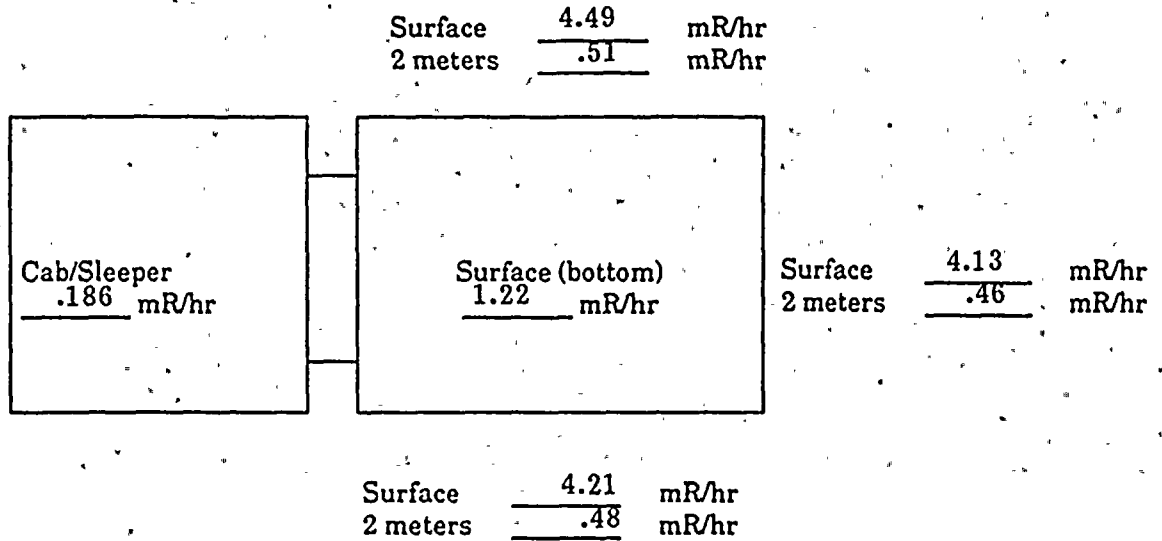
- NA Not exceed 10 mR/hr at 1 meter (3.3 ft) from package
- NA Not exceed 200 mR/hr on the external surface of the package

c. Highest Contamination Detected

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

Highest contamination detected 54 cpm
 Background reading 43 cpm
 Difference/above background - 11 cpm
 Divide by instrument efficiency (0.15) = 73.3
 Divide by (300 cm²) = 0.24 dpm/cm²

RADIATION/CONTAMINATION SURVEY (transport vehicle)



G. Results of Inspection

I. Violations/Non-Compliance

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

II. Comments

Instrument(s)	Serial Number(s)	Calibration Date
ESP-2	309	11/30/91
ESP-2	312	11/30/91

Inspector's Name

David E. Ney
Richard R. Janati