



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES

P.O. Box 8469
Harrisburg, PA 17105-8469
July 30, 1993

RADIATION PROTECTION

(717) 787-2480

Mr. Charles W. Hehl, 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-93-02; 50-388/PA-93-02

On July 22, 1993, our engineers, Messrs. David E. Ney and Robert C. Maiers performed an inspection of LLRW shipment no. 93-065 at the Susquehanna Steam Electric Station. A copy of the inspection report no. 50-387/PA-93-02; 50-388/PA-93-02 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. Dornsife
William P. Dornsife
Director
Bureau of Radiation Protection

Enclosure

cc: Pennsylvania Power & Light Co.

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

Report No. 50-387/PA-93-02; 50-388/PA-93-02

Docket No. 50-387; 50-388

License No. NPF-14; NPF-22

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 22, 1993

Inspector:

David E. Ney
D. Ney, Nuclear Engineer

July 30, 1993
Date

Approved by:

W P Dornishe
W. Dornishe, Director
Bureau of Radiation Protection

7/30/93
Date

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

Results: No violations or deviations were identified.

DETAILS

1. PERSONNEL CONTACTED

1.1 LICENSEE PERSONNEL

- * C. Markley, Effluents Management Supervisor
- * P. Jaeger, Radwaste Foreman

1.2 Pennsylvania Department of Environmental Resources (DER)

- * R. Maiers, Nuclear Engineer
- * Denotes those present at the exit interview on July 22, 1993

Other licensee employees were interviewed during this inspection.

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 inspector reviewed the licensee's low level radioactive waste shipment preparation according to the attached inspection checklist.

The waste prepared for shipment contained dewatered bead resin and was determined to be LSA, Class A. It was stabilized in a Polyethelene High Integrity Container (HIC). The HIC was placed inside a Chem Nuclear Systems, Inc. (CNSI), NRC certified, Type A cask.

The inspector witnessed loading of the HIC into the cask, placement of security seals, and bolt down of the cover. The inspector reviewed the certificate of compliance (COC) for the cask and the cask loading and closing procedure. The inspector also examined the cask and determined it to be in satisfactory material condition.

The inspector performed an independent radiological survey of the shipping cask with the HIC inside. The highest reading detected was .90 mR/hr on the cask surface and .24 mR/hr at 2 meters. The highest removable contamination detected from smear samples taken at representative locations around the outer surface of the cask was 5 counts per minute (cpm) above background or approximately .17 dpm/cm².

The inspector witnessed the licensee performing incoming and outgoing radiological surveys and contamination smears of the HIC and the cask. A visual inspection of the vehicle was performed to ensure that the vehicle was in acceptable condition for transport.

After all surveys were completed, the inspector witnessed the transfer of the appropriate papers to the driver. The shipment then left the site for the Barnwell disposal facility in South Carolina.

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

3.0 EXIT MEETING

An exit meeting was held with the licensee representatives (denoted in section 1.0) at the conclusion of the inspection on July 22, 1993. The inspector 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

PP&L Shipment #93-065

REVISION 1

50-387/PA-93-02
Report No. 50-388/PA-93-02

A. General Information

1. Date of Inspection July 22, 1993
2. Name of Shipper PP&L
3. Name of Carrier Chem. Nuclear Systems Inc.
4. Destination Barnwell SC
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

- Cask #CNSI-14-215H-1
- HIC #L-93-20
- 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. Waste Description Dewatered Bead Resin and
total quantity by weight (lbs) [172.202(a)] 6911.85
volume (cu. ft.) [172.202(a)] 165, activity (Ci) [172.203(d)] .473

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]

Package types used: CNSI-14-215H-1, USA/9176/A-CASK
EL210-HIC-LINER

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)]

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)]
- 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)]
- 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)]

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 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.

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

a. Exclusive Use Vehicles

- .06 Not exceed 2 mR/hr in any occupied position in the vehicle
- .24 Not exceed 10 mR/hr at 2 meters (6.6 ft) from the vehicle
- .30 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)
- .90 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



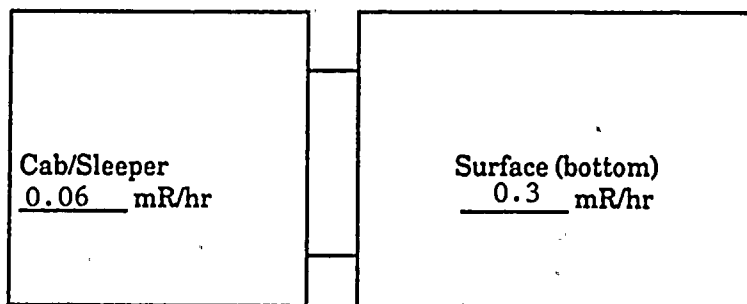
c. Highest Contamination Detected

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

| | | |
|--|-------------|---------------------|
| Highest Contamination Detected | <u>29</u> | CPM |
| Background Reading | <u>24</u> | CPM |
| Difference/Above Background | <u>5</u> | CPM |
| Divide by Instrument Efficiency (0.10) | <u>.50</u> | |
| Divide by (300 cm ²) | <u>.167</u> | DPM/CM ² |

RADIATION/CONTAMINATION SURVEY (transport vehicle)

Surface 0.9 mR/hr
2 meters 0.12 mR/hr



Surface 0.9 mR/hr
2 meters 0.241 mR/hr

G. Results of Inspection

I. Violations/Non-Compliance

None

II. Comments

None

Instruments Used

| | <u>Instrument(s) Type</u> | <u>Serial No.</u> | <u>Calibration Expiration Date</u> |
|-----------------------------|-------------------------------|-----------------------|--|
| Dose Rate Instrument | ESP-2 Eberline HP-270 | 311 | 6/21/94 |
| Contamination Instrument | ESP-2 Eberline HP-210 | 311 | 6/21/94 |

Inspector's Name David E. Ney
 Robert C. Maiers

