

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-293/86-04

Docket No. 50-293

License No. DPR-35 Priority -- Category C

Licensee: Boston Edison Company  
800 Boylston Streets  
Boston, Massachusetts 02199

Facility Name: Pilgrim Nuclear Power Station

Inspection At: Barnwell, South Carolina

Inspection Conducted: January 2, 1986

Report  
Prepared by: M. Miller  
M. Miller, Radiation Specialist

2/4/86  
date

Approved by: W. Pasciak  
W. Pasciak, Chief, Effluents  
Radiation Protection Section

2/4/86  
date

Inspection Summary:

Inspection on January 2, 1986 by a Representative of the State of  
South Carolina Department of Health and Environmental Control

Areas Inspected: Boston Edison Company was the originator of a waste shipment which was inspected at the Chem-Nuclear Systems, Inc., burial site in Barnwell, South Carolina.

Results: One violation was identified (failure to meet packaging requirements for low specific activity radioactive materials).

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### DETAILS

On December 30, 1985, the Boston Edison Company dispatched a shipment of LSA radioactive waste (solid metallic oxides on noncompacted trash) to the Chem-Nuclear Systems, Inc. burial site at Barnwell, South Carolina. The shipment was made in a Seatrain container, containing 0.195 Curies of licensed material.

On January 2, 1986, a representative of the South Carolina Department of Health and Environmental control inspected the shipment at the burial site. The inspection consisted of a review of shipping papers, placarding, marking and labeling, radiation measurements, selective contamination surveys and examination of the packages and the tractor-trailer.

A copy of the report prepared by the representative is attached. The report states that upon inspection of the Seatrain container, the container had three small holes on the left rear side which allowed some of the contents to be visible, and the container was very corroded.

10 CFR 71.5, "Transportation of licensed material," states that "each licensee who transports licensed material outside of the confines of its plant or other place of use, or who delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the regulations appropriate to 49 CFR 173.425(b)(1), "Transport requirements for low specific activity (LSA) radioactive materials." 49 CFR 173.425 (b)(1) states "materials must be packaged in strong, tight packages so that there will be no leakage of radioactive material under conditions normally incident to transportation."

49 CFR 173.475(b) "Quality control requirements prior to each shipment of radioactive materials" states "the shipper shall ensure by examination or appropriate tests that the packaging is in unimpaired physical condition, except for superficial marks." The failure to assure that the Seatrain container was a strong tight package and that the container was in an unimpaired physical condition, except for superficial marks, prior to shipment to the burial site represents a violation of 10 CFR 71.5 (50-293/86-04-01).

The Pilgrim Nuclear Power Station Assistant Chief Radiological Engineer-Radwaste was informed of this apparent item of noncompliance with NRC requirements in a telephone conversation with P. Clemons of the Region I office on January 14, 1986.

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL  
Bureau of Radiological Health  
Division of Radioactive Material Licensing and Compliance  
Radioactive Shipment Inspection Report

A. General Information:

Report No. 85-12-07

1. Shipper Boston Edison Company-Pilgram Station Address Plymouth, Massachusetts  
2. Carrier CNSI Tractor # 37 Trailer # 011 Type Flashed  
3. Type Package Seatrain Cask Containing Old seatrain carrier

B. Shipping Documentation:

1. AS# 42137 Volume Allocation # 1285-243-A Permit # 0007-20-85-X  
2. Shipping Name & Class: Radioactive Material, LSA, non HM Id. # UN-2912 (172.202(a))  
3. Total Net Weight: 2560 lbs (172.202(c)) Total Curies: 0.195 (172.203(d))  
4. Radionuclides: Co-58660, Cs-137, H-3, Mn-54, Ca-134, Pu-241, C-14 (172.203(d))  
5. Describe chem./phy. media: Solid metallic oxides on noncompacted trash (172.203(d))  
6. Chelating Agents (X) None Shippers Certification: State DOE (172.204)  
7. Exclusive Use NA Instructions NA (173.425(b)) Total T.I. NA (177.842(a))  
8. Check for: Radiation Survey NA (173.441) Contamination Levels NA (173.443)  
9. Compare: Radionuclides w/resin analysis NA Rad/Contamination Levels w/CNSI/BRH NA

C. Shipment Inspection Check List:

<input checked="" type="checkbox"/> Shipment Braced/Blocked (173.425(b)(6))	<input checked="" type="checkbox"/> Lids (Drum, <u>box</u> cask) secure (173.425)(b)
<input checked="" type="checkbox"/> Visible Leakage (173.425(B)(1))	<input checked="" type="checkbox"/> Visible Damage (173.425)
<input checked="" type="checkbox"/> Package Labeling: W-I, Y-II, III (172.403)	<input checked="" type="checkbox"/> Cask Defects/Missing Parts
<input checked="" type="checkbox"/> (b) & (c) or <u>Radioactive LSA</u> (173.425)	<input checked="" type="checkbox"/> Radiation Survey: Cab/sleeper,
<input checked="" type="checkbox"/> Waste Class. Marked <u>A-B-C Stable/Unstable</u>	<input checked="" type="checkbox"/> trailer/truck (173.441)
<input checked="" type="checkbox"/> Gross Weight Marked (172.310)	<input checked="" type="checkbox"/> Contamination Levels (173.443)
<input checked="" type="checkbox"/> [LSA Exclusive Use Exempt]	<input checked="" type="checkbox"/> Vehicle Placards (173.425(c)) (172.507)
<input checked="" type="checkbox"/> Type A/ Type B Package Marked (172.310)	<input checked="" type="checkbox"/> Tiedowns Secure/Adequate
<input checked="" type="checkbox"/> Trailer/Tractor Defects	<input checked="" type="checkbox"/> Offloading Discrepancies
<input checked="" type="checkbox"/> Packages banded/reinforced, palletized	

D. Radiation/Contamination Survey: (transport vehicle or package)

(mR/hr) Surface: 60.0 2 meters: \_\_\_\_\_

Surface: \_\_\_\_\_ Cab/sleeper \_\_\_\_\_ Surface: \_\_\_\_\_

2 meters: \_\_\_\_\_ 2 meters: \_\_\_\_\_

Surface: 30.0 2 meters: 7.0

Highest contamination detected: Arrival 0-alpha dpm/100cm<sup>2</sup> Release \_\_\_\_\_ dpm/100cm<sup>2</sup>

18 beta gamma \_\_\_\_\_ dpm/100cm<sup>2</sup> \_\_\_\_\_ dpm/100cm<sup>2</sup>

E. Results of Inspection: Summary of violations and discrepancies Upon Department inspection, it was found that the seatrain cargo carrier was very corroded and had three (3) small holes on the left rear side which allowed some of the contents to be visible. Since the seatrain cargo carrier is the disposal package, this is contrary to the requirements of Condition 61, S.C. Radioactive Material License 097, Amendment 41, and 49 CFR 173.425(b)(1). Each of these items of noncompliance constitute separate violations of Section 1.2, Department Regulation 61-83.

Date: January 2, 1986

Inspector's Signature s/Richard S. Sappington