

U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION V

Report No. 80-02

Docket No. 15000027 License No. _____ Safeguards Group _____

Licensee: _____

Facility Name: Nuclear Engineering Company

Inspection at: Beatty, Nevada

Inspection conducted: January 14-18, 1980

Inspectors: B.A. Riedlinger 2/21/80
B.A. Riedlinger, Radiation Specialist Date Signed

Date Signed

Approved By: H.E. Book 2/22/80
H.E. Book, Chief, Fuel Facility and Materials Date Signed
Safety Branch

Date Signed

Summary:

Inspection of January 14-18, 1980 (Report No. 15000027/80-02)

This inspection was conducted to observe waste shipments and packages. Vehicle placarding, packaging conditions, and labels were observed. Radiation surveys were conducted and removable radioactive contamination wipes were taken of 13 shipments.

This composite report details 12 shipments which were found to be in compliance with DOT and NRC regulations. One shipment was noted with apparent items of noncompliance and is referenced in Inspection Report 80-03.

The State of Nevada was represented onsite during 2 days of this inspection (1-15-80 and 1-16-80). DOT representatives were onsite on 1-15-80, but they did not inspect any radioactive materials shipments. No containers were opened.

Results: No items of noncompliance were identified.

DETAILS

Persons Contacted

Steve Carpenter, Site Manager, NECO, Beatty, Nevada
Brian Thayer, Asst. Site Manager & Radiation Controls Technician
Jim Cruickshank, Radiation Safety Officer
Walt Hipsher, Deputy Chief, Radiological Control-Safety Officer
Steve Bump, Nevada State Health Division-Radiation Control Specialist
Darwin Garvin, DOT, Federal Highway Administration, Bureau of Motor
Carrier Safety, Carson City, Nevada
D. Irwin, DOT, Carson City, Nevada

Background

This inspection was conducted between January 14 and 18, 1980. A State of Nevada representative was onsite from 9:30 a.m. on 1-15-80 to about 2:30 p.m. on 1-16-80. Two Department of Transportation representatives were onsite for a few hours on 1-15-80, but they did not inspect any radioactive materials shipments.

No package was opened during this inspection due to the lack of proper containment. The Nevada State representative concurred.

The survey instrument used was NRC 005780 (Xetex Model 303A). Recalibration of the instrument will be on or before March 20, 1980. The instrument used for initial swipe counting was NRC 006385 (Eberline E-520) with HP-260 pancake G-M Probe. Laboratory recount of the swipe samples was performed with NRC 000383, NMC Gas Proportional Counter Model PC-55.

1. Licensee - Shipper: NPPD, Cooper Nuclear Station
Brownville, Nebraska
Shipment Inspected: January 14, 1980
Carrier: Nuclear Engineering Co.
Trailer: 6
Freight Bill: 80-3 (Shipment No.)

The load was one lead shielded transport cask containing fourteen, 55 gallon drums of solid poly-resin. A radiation survey of the vehicle showed a maximum dose rate of 20 mR/hr at the surface of the cask and less than 1 mR/hr at six feet from the vehicle. Swipes of the cask surface and truck bed showed no significant removable radioactive contamination above background.

No item of noncompliance was identified.

2. Licensee - Shipper: Battelle Columbus Laboratories
West Jefferson, Ohio
Shipment Inspected: January 14, 1980
Carrier: Tri-State Motor Transit
Freight Bill: 330741

The load contained 4 wooden boxes and 58, fifty-five gallon drums of assorted laboratory wastes. Contamination swipes showed no significant removable radioactive contamination above background except for a swipe of the surface of one drum (about 800 disintegrations per minute/300 cm² beta-gamma). A radiation survey of the vehicle showed a maximum dose rate of 45 mR/hr at the surface of the vehicle and 7.5 mR/hr at 6 feet from the vehicle. The dose rate in the cab of the truck was 1 mR/hr. This was an exclusive use shipment.

No item of noncompliance was identified.

3. Licensee - Shipper: NPPD, Cooper Nuclear Station
Brownville, Nebraska
Shipment Inspected: January 14, 1980
Carrier: Tri-State Motor Transit
Freight Bill: 330583

The load was a cask containing 14, fifty-five gallon drums of poly-resins. A radiation survey of the vehicle showed a maximum dose rate of 1.5 mR/hr at the surface of the cask and less than 0.5 mR/hr at six feet from the vehicle. Swipes of the cask surface and truck bed showed no significant removable radioactive contamination above background.

No item of noncompliance was identified.

4. Licensee - Shipper: Yankee Atomic Electric Company
Rowe, Massachusetts
Shipment Inspected: January 14, 1980
Carrier: McCormack's Highway Transportation, Inc.
Freight Bill: 20219 (Delivery Receipt No.)

The load contained 10 boxes of LSA material. A radiation survey of the vehicle showed a maximum dose rate of 15 mR/hr at the surface of the trailer and less than 1.5 mR/hr at six feet from the trailer. The dose rate in the cab of the vehicle was less than 0.5 mR/hr. Swipes of the surfaces of 2 boxes and of the truck bed showed no significant removable radioactive contamination above background, although the truck bed did have some fixed contamination. As the dose rate at the surface of the area of fixed contaminated was less than 0.5 mR/hr, the trailer was released per 49 CFR 173.397 (c).

No item of noncompliance was identified.

5. Licensee - Shipper: Southwest Nuclear Company,
Pleasanton, California
Shipment Inspected: January 15, 1980
Carrier: Home Transportation Company, Inc.
Freight Bill: 2-0003

The load contained 168, fifty-five gallon drums of LSA material. A radiation survey of the vehicle showed a maximum dose rate of 1 mR/hr at the surface of the trailer. Swipes of the trailer floor and of four drums showed no significant removable radioactivity above background.

- No item of noncompliance was identified.
- 6. Licensee - Shipper: D.C. Cook Nuclear Plant
Bridgeman, Michigan
- Shipment Inspected: January 15, 1980
- Carrier: Tri-State Motor Transit
- Freight Bill: 331-151 (Shipper's Number)

The load contained 6 wooden boxes and 111 fifty-five gallon drums of LSA waste. A radiation survey of the vehicle showed a maximum dose rate of 45 mR/hr at the surface of the trailer and 3.5 mR/hr at 6 feet. The dose rate in the cab of the vehicle was 1.5 mR/hr. Swipes were taken of three drums, 1 box, and from the floor of the trailer. A swipe from the floor of the trailer showed approximately 250 disintegrations per minute (dpm) per 300 square centimeters. NECO's RSO found 2200 dpm/100 cm² at another spot on the floor of the truck bed. The NRC inspector subsequently took an additional swipe in that location and found no significant removable radioactive contamination above background. However, there was fixed radioactive contamination on the floor of the trailer, and a substantial portion of a 24" X 4" area of wood was removed in order to decontaminate the trailer. As no leakage was observed from any package on the shipment, as the area on the floor of the trailer was not damp, and as the removed wood appeared to have been stained, it was concluded that the fixed radioactive contamination was caused by an earlier shipment. The underside of the truck was swiped to assure that the material had not leaked through the bed of the trailer. No significant removable radioactive contamination was found on the underside of the trailer. A representative of the state of Nevada was present when this shipment was unloaded.

- No item of noncompliance was identified.
- 7. Licensee - Shipper: Aerojet Ordnance
Compton, California
- Shipment Inspected: January 16, 1980
- Carrier: Tri-State Motor Transit
- Freight Bill: 331191

The load contained 768 five gallon pails (32 pallets of 24 pails each) and one 4X4X4 wooden box all containing LSA material waste. A radiation survey of the vehicle showed a maximum dose rate of 1.5 mR/hr at the surface of the trailer. Swipes were taken of the

trailer floor, the sides of pails, and from the lower portion of a pallet. A swipe of the trailer floor, taken prior to the trailer unloading, showed approximately 237 dpm/300 cm². A swipe taken from the side of a pail showed approximately 60 dpm/ cm². The swipe from the lower portion of a pallet showed approximately 225 dpm/300 cm². A survey of the trailer floor prior to its release disclosed three spots where there was some radioactive contamination. The RSO decontaminated the areas to background. A representative of the State of Nevada was present when the shipment was unloaded.

No item of noncompliance was identified.

8. Licensee - Shipper: Southwest Nuclear Company
Pleasanton, California
Shipment Inspected: January 17, 1980
Carrier: Home Transportation Inc.
Freight Bill: 2-000014

The load contained 148 fifty-five gallon drums and 60 thirty gallon drums of LSA material waste. A radiation survey of the vehicle showed a maximum dose rate of 20 mR/hr at the surface of the trailer and 1 mR/hr at 6 feet. Swipes from the sides of four drums and one from the floor of the trailer showed no significant removable radioactive contamination above background.

No item of noncompliance was identified.

9. Licensee - Shipper: Coleman Company, Inc.
Wichita, Kansas
Shipment Inspected: January 17, 1980
Carrier: Coleman Company, Inc.
Freight Bill: DM 63584 (shipper's number)

The load contained 172 drums of mantle waste (LSA). A radiation survey of the vehicle showed a maximum dose rate of 5 mR/hr at the surface of the trailer and 1.2 mR/hr at 6 feet. Swipes from the sides of 2 drums and 3 from the floor of the trailer showed no significant removable radioactivity above background. The maximum dose rate found at the surface of a container was 6.5 mR/hr. The dose rate was 1.5 mR/hr at 3 feet from the container.

No item of noncompliance was identified

10. Licensee - Shipper: Aerojet Corporation
Compton, California
Shipment Inspected: January 17, 1980
Carrier: Tri-State Motor Transit
Freight Bill: 331192

The load consisted of 1 wooden box and 32 pallets of 5 gallon pails (24 pails per pallet) all containing LSA material waste. A radiation survey of the vehicle showed a maximum dose rate of 1 mR/hr at the surface of the trailer. Swipes from the floor of the trailer and from a pail on a pallet showed no significant removable radioactive contamination above background. Two spots of fixed radioactive contamination were found on the trailer floor but levels were less than 0.5 mR/hr on those surfaces.

No item of noncompliance was identified.

11. Licensee - Shipper: University of Nevada
Reno, Nevada
Shipment Inspected: January 17, 1980
Carrier: University of Nevada; Reno, Nevada
Shipment No: UNR-80-1

NECO Radioactive Waste Shipment & Disposal Form No. 2070-2072

This shipment contained 28 drums of LSA material waste. The truck had wooden slat sides. Plastic was thrown over the barrels and held in place with plywood boards. A radiation survey of the vehicle showed a maximum dose rate of less than 1 mR/hr. Swipes from the bed of the truck and from one drum showed no significant removable radioactive contamination above background.

No item of noncompliance was identified.

12. Licensee - Shipper: Peach Bottom Reactor
Delta, Pennsylvania
Shipment Inspected: January 18, 1980
Carrier: Tri-State Motor Transit
Trailer: 232274
Freight Bill: 331181

The load was two large wooden boxes containing fuel racks. A radiation survey of the vehicle showed a maximum dose rate of 50 mR/hr at the surface of the boxes and 6.2 mR/hr at 6 feet from the vehicle. Swipes of the trailer bed and of one box showed no significant removable radioactive contamination above background.

No item of noncompliance was identified.