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

REGION V

Report No. 80-09

Docket No. 15000027 License No. _____ Safeguards Group _____

Licensee: _____

Facility Name: Nuclear Engineering Company

Inspection at: Beatty, Nevada

Inspection conducted: January 21-25, 1980

Inspectors: F. T. Fong, Radiation Specialist — 2/27/80 Date Signed

_____ Date Signed

Approved by: R.D. Thomas, Chief, Materials Radiological Protection Section — 3/25/80 Date Signed

Approved By: H.E. Book, Chief, Fuel Facility and Materials Safety Branch — 3/25/80 Date Signed

Summary:

Inspection between January 21-25, 1980 (Report No. 15000027/80-09)

This inspection was conducted at NECO, Beatty, Nevada to observe low level waste packaging.

Vehicle placarding, packaging conditions, and packaging marking were inspected. Radiation surveys and contamination wipes were conducted on five shipments. 22 man hours were expanded for this effort.

Representatives from the DOT and State of Nevada were not onsite when these shipments were inspected. o containers were opened.

Results: No items of noncompliance with NRC or DOT regulations were observed.

RV Form 219 (2)

DETAILS

Persons Contacted

Steve Carpenter, NECO Site Manager
Jim Cruickshank, NECO Site RSO
Steve Bump, Radiation Control Specialist Nevada Health Division

Background

NRC inspection at the low level radioactive waste disposal site, operated by NECO at Beatty, Nevada, continues. This composite report details the inspection conducted between January 21 and 25, 1980. No items of noncompliance were observed.

Field radiation survey instruments were NRC 006385, E-520 S/N 1462 with a HP 260 pancake probe and NRC 005780, Xetex 303A, S/N 04035, which is to be recalibrated by March 20, 1980. Laboratory recount of the wipe samples were analyzed with NRC 000383, NMC Gas Proportional Counter Model PC 55.

No DOT representative was onsite during this inspection. The representative of the State of Nevada was present about 1½ days during this week, but no vehicle or radioactive waste burial took place at the time he was on-site. Therefore, no packages were opened.

As an independent effort, each vehicle was surveyed for contamination after unloading. The measurement was conducted with a direct survey using the pancake detector about 1 inch from the surface of interest. The survey found no radioactive contamination on these vehicles.

1. Licensee - Shipper: NPPD, Cooper Nuclear Station
   Brownsville, Nebraska

   Shipment Inspected: January 21, 1980

   Carrier: Nuclear Engineering Company

   Freight Bill: RMSR 80-5/6048, 6047, 6049

   Trailer: 6

This vehcile was a flat bed trailer on which was a cabled-down cask. Inside the shielding cask were 14 Type 17H metal drums, containing ion exchange resin. Exclusive use vehicle was requested and the vehicle was placarded. LSA was stenciled on the cask.

Maximum dose rates of the vehicle were 2 mR/hr at the surface of the trailer and <1 mR/hr at 6 feet from the surface of the trailer and in the cab. Selective wipes of the trailer bed and cask showed no removable radioactive contamination.

No items of noncompliance were identified.

2. Licensee - Shipper: Southwest Nuclear Company
Pleasanton, California

Shipment Inspected: January 22, 1980

Carrier: Home Transport Company, Inc.

Freight Bill: 2-0025

Trailer: 743006

This shipment consisted of 170 Type 17H 55 gallon metal containers. The load was declared as Radioactive Material N.O.S. and L.S.A. Exclusive use was requested and instructions to the driver were provided in addenda to the freight bill. Placarding was proper on the vehicle.

Radiation surveys of the vehicle showed the maximum dose rates in the cab as<1 mR/hr, at the trailer surface as 5 mR/hr and at 6 feet from the trailer as 1.5 mR/hr. Wipes of the trailer revealed no removable radioactive contamination.

The surface of the containers was observed to have at least one LSA label. Selective package wipes showed no removable radioactive contamination.

No items of noncompliance were identified.

3. Licensee - Shipper: Southwest Nuclear Company
(Mare Island Naval Shipyard, Vallejo, Calif.)

Shipment Inspected: January 24, 1980

Carrier: Tri-State Motor Transit Company

Freight Bill: 332502

Trailer: 228131

This shipment was a cabled-down shielding cask on a flat bed trailer. Inside the cask was a metal tank containing dewatered resin beads. The material was desingated LSA and less than Type A quantity (2.69 curies of Cobolt-60) was shipped. The cask was marked LSA and placarding of the trailer was in place.

Radiation measurements of the trailer showed the maximum dose rates as 5 mR/hr at the surface and 1.8 mR/hr at 6 feet from the trailer. Dose rate within the cab was noted to be<1 mR/hr. Wipes of the trailer and cask found no radioactive contamination. After the off loading, wipes of the inside of the cask also revealed no radioactive contamination.

No items of noncompliance were identified.

4. Licensee - Shipper: Thomas Gray & Associates, Inc.
Orange, California (Nichols Institute,
San Pedro, California)

Shipment Inspected: January 24, 1980

Carrier: Home Transportation Company, Inc.

Freight Bill: 2-0015

Trailer: 743006

This vehicle transported 166 55 gallon metal containers. The load was designated Radioactive Material - LSA, NOS. Exclusive use vehicle was requested, and vehicle placards were posted.

Radiation measurements at the exterior of the trailer and in the cab were <1 mR/hr. Wiping of the trailer showed no loose radioactive contamination.

Thomas Gray & Associates is a waste broker, and one of his customers in this shipment was Nichols Institute of San Pedro, California. Nichols Institute was not sanctioned by the State of Nevada, due to a problem with Nichols Institute in an earlier shipment. This shipment was refused and returned to California.

No items of noncompliance were identifed.

5. Licensee - Shipper: Philadelphia Electric Company (NRC Licensee)
Delta, Pennsylvania

Shipment Inspected: January 21, 1980

Carrier: Tri-State Motor Transport Company

Freight Bill: 331180

Trailer: 232212

This flat bed trailer transported two metal fuel racks, each contained in a wooden box. The frieght bill described the packages as Radioactive Material, and the accompanying Radioactive Shipment Record showed that less than Type A quantities were shipped. The labels used were LSA. Exclusive use of the vehicle was not requested nor written instructions provided to the driver. The vehicle was placarded.

Radiation measurements of the vehicle showed that the maximum dose rates were 10 mR/hr at the surface of the trailer, 3.5 mR/hr at six feet from the trailer and $<$ 1 mR/hr in the cab. Selective wipes disclosed no removable radioactive contamination.

After unloading the trailer, the vehicle clearance survey found radioactive contamination on two areas of the flat bed trailer. NRC found the maximum radioactive contamination with a direct survey to be 4,000 cpm, and a wipe of this area produced 1,000 dpm/100 cm^2 (beta-gamma). NECO reported that their maximum wipe was 22,000 dpm/100 cm^2 (beta-gamma). For a non-exclusive use vehicle DOT regulation, 49 CFR 173.397(a), considers radioactive contamination significant if the level of contamination exceeds 220 dpm/cm^2 (beta-gamma). Since the NRC wipe of 10 dpm/cm^2 and the NECO wipe of 220 dpm/cm^2 do not exceed the DOT limitation of 220 dpm/cm^2, it was concluded that no significant radioactive contamination was observed.

NECO decontaminated the areas of concern by the use of a wet procedure and removed about six square inches of the wood from the bed of the trailer. After the decontamination, NRC detected no removable radioactive contamination, and no instrument reading exceeded 600 cpm.

No items of noncompliance were identified.