

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

REGION V

Report No. 79-05
Docket No. 99990005 State of Nevada License No. 13-11-0043-02 Safeguards Group _____

Licensee: Nuclear Engineering Company
Beatty, Nevada

Facility Name: Beatty Facility

Inspection at: Beatty, Nevada

Inspection conducted: July 25-27, 1979

Inspectors: B. A. Riedlinger August 13, 1979
B. A. Riedlinger, Radiation Specialist Date Signed

Date Signed

Approved By: H. E. Book 8/13/79
H. E. Book, Chief, Fuel Facility and Materials Safety Branch Date Signed

Summary:

The purpose of this special inspection, which took place from July 25 through July 27, 1979, was to observe shipments arriving at Nuclear Engineering Company's Beatty facility after Governor List signed an Executive Order to reopen the site (see Reports 79-03 and 79-04).

No shipments arrived at Beatty during this inspection, but radiation level surveys and swipe checks of a decontaminated trailer at the Beatty facility and of a radioactive materials shipment at a Las Vegas truck stop were made during this inspection.

No significant health and safety hazards were disclosed during the inspection.

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DETAILS

Persons Contacted

Brian Thayer, Acting Site Assistant Manager, NECO
Robert Phalen, Acting Radiation Safety Officer, NECO
Darwin Garvin, Inspector, Department of Transportation (DOT)
Robert Gill, Inspector, Department of Transportation
Steven Bump, Inspector, State of Nevada Radiologic Health Section
Richard A. Williams, Home Transportation Company Driver

Background

On July 24, 1979 at 10:15 a.m., Region V was informed by Mr. John Vaden of the State of Nevada Radiologic Health Section that Governor List had signed an Executive Order (see Reports 79-03 and 79-04) to reopen the Nuclear Engineering Company's (NECO) Beatty, Nevada facility. He further remarked that State of Nevada and Department of Transportation (DOT) inspectors would be on site on July 25, 1979 and that a shipment was expected to arrive at NECO on the afternoon of July 25. An NRC inspector was dispatched to the site.

Inspection Activities

The inspector arrived on site at NECO's Beatty facility at 7:30 a.m. on July 25, 1979.

The trailer that had been used to transport the leaking shipment of solidified evaporator waste bottoms and uncompressible radioactive waste from the Consumers Power Company's Palisades Plant in Covert, Michigan (see Reports 79-03 and 79-04) was observed to be in NECO's decontamination area. Brian Thayer stated that NECO personnel had steam-cleaned the trailer and that swipes were going to be taken to see if further decontamination effort was required. He said that the floorboards of the trailer would be torn out if it was necessary.

Messrs. Bump, Garvin and Gill arrived on site.

Mr. Thayer commented that NECO's corporate office had notified them that the first shipment of radioactive material to be received after the site reopening was not expected to arrive at Beatty prior to July 27, 1979.

Mr. Bump remarked that the Governor's Executive Order required all shippers to certify to the State that all shipping requirements were met. It also required that all shipments be inspected no longer than 48 hours prior to the time the consignor releases the shipment for transport. The certification must be

completely filled out and must accompany the shipping papers. Copies of the certificate were to be distributed to NECO's San Ramon and Louisville offices with the original going to the State of Nevada Department of Human Resources.

Neither Mr. Bump nor NECO's Beatty facility had copies of either the Governor's Executive Order or the newly required certification form.

On July 26, 1979, Mr. Thayer stated that a shipment was expected to arrive the next morning. He also remarked that Steve Bump (who had returned to Carson City on the evening of July 25, 1979) would be present to witness the arrival of that shipment.

No shipments arrived on July 26, 1979.

At 9:40 a.m. on July 27, 1979, Ms. Riedlinger and Messrs. Bump, Garvin, and Gill were present at the NECO site.

The NRC inspector surveyed the decontaminated trailer number 544132 (Missouri License 441-930; see Reports 79-03 and 79-04). Swipes were also taken to check for the presence of removable contamination. Results are shown in Annex A of this report. NECO's results are shown in Annex B.

The NRC inspector made the survey with both a P-11 (pancake) thin window GM detector and a conventional P-7 GM detector. Both sets of results are reported in Annex A. The P-11 pancake probe gives significantly higher results because the thin window permits the detection of many low energy beta particles not measured by conventional instruments, and the construction of the probe results in a slightly closer approach to the source of radiation and the measurement of a slightly larger area during any one measurement.

Radiation level survey results with the P-7 probe confirmed NECO's results. A NECO representative demonstrated to the inspector the reproducibility of his measurements using the E-520 instrument. These results were less than 0.5 mr/hr (see Annex B), the acceptable dose rate as described in 49 CFR 173.397(c).

Contamination swipe results were not in total agreement with NECO's findings. However, all results were less than 2200 dpm per 100 square centimeters, NECO's action level, which is also 10 percent of the limit in 49 CFR 173.397(a).

The inspector concluded that the trailer met the requirements of 49 CFR 173.398 and could be returned to service.

At approximately 1:20 p.m. on July 27, 1979, NECO received a telephone call from Home Transportation Company indicating that a shipment of radioactive material was at the Husky Truck stop on Cheyenne Road in Las Vegas near I-15.

As the shipment could not arrive at Beatty prior to 3:30 p.m., when NECO closes, the DOT and State representatives decided to drive to Las Vegas and check the shipment while it was at the truck stop. The NRC inspector accompanied them.

Upon arrival at the truck stop, the inspectors located the truck driver and reviewed the documentation describing the shipment. The Bill of Lading described the load as containing 5.89 millicuries of Ra-226 on solid filters in DOT-17H, 55-gallon radioactive waste drums. The shipment was indicated as "Exclusive Use." The control number was number 2-9066, and the shipper's number was G10523.

The shipping papers did include the newly required certification, which was examined by the State inspector. Mr. Bump stated that the form was completed properly.

Emergency procedures accompanied the shipment, as did a certificate from the consignor (W. R. Valentine, Chief, Nuclear Operations Branch of Todd Research, Galveston, Texas) stating that he understood the conditions of NECO's license.

A Radioactive Shipment/Transfer Record dated July 25, 1979 showed the following survey results:

	<u>On Contact</u>	<u>At Six Feet</u> <u>Less Than:</u>	Results in mr/hr
Front	0.1	0.1	
Back	0.2	0.1	
Right Side	0.1	0.1	
Left Side	0.2	0.1	
Occupied Area	0.05		

Although the NRC did not have jurisdiction over this shipment, surveys were made by the NRC inspector. Results are indicated below.

Measurements made with instrument or probe at the surface of the trailer. Readings are in mr/hr.

	<u>Digi/Master</u>	<u>TA PUG-IAB, P-7 Probe</u>
Front	0.1	0.025
Back	0.1	0.05
Right Side	0.4	0.1
Left Side	0.2	0.1
Occupied Area	0.0	0.0

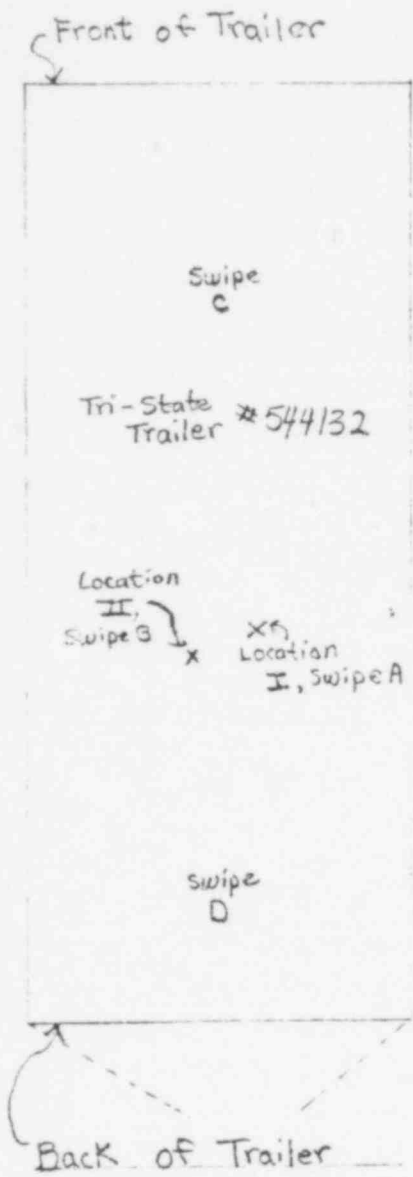
The digi/master exposure ratemeter is NRC #000356 calibrated in June 1979 and due for recalibration on September 15, 1979. The TA PUG-IAB instrument and probe was discussed previously.

Two swipes each were taken of the surface of two drums on the shipment (four swipes total). The swipes were given a preliminary check at the time of the inspection with the TA PUG-IAB and P-7 probe. They were recounted on July 28, 1979 using the NRC PC-55 gas flow proportional counter. Results showed no significant removable contamination above background level.

Barrels that were examined by the inspectors were labeled "Radioactive LSA."

A newspaper article concerning the Governor's Order to reopen the site is attached as Annex C.

Attachments:
Annex A-C



Radiation Level Surveys and Contamination Checks Made in and under Trailer #544132.

Radiation Level Surveys -

TA Model PUG IAB, NRC #004280 calibrated 6/79. Due for recalibration on 9/9/79. Probe on contact with floor (or undercarriage) of trailer

	Using P-11 (pancake) probe	Using P-7 (G-M tube) probe
Location I	0.75 mr/hr	0.2 mr/hr
Location II	0.70 mr/hr	0.1 mr/hr
Previously contaminated areas	0.25 - 0.70 mr/hr	0 - 0.2 mr/hr
Other areas	0 mr/hr	0 mr/hr
Undercarriage of trailer	—	0.075 mr/hr background \approx 0.03 mr/hr

NOTE: NECA used their Eberline E-520 instrument calibrated on 3/28/79 and due for recalibration on 9/28/79 and demonstrated to the inspector the reproducibility of their measurements. (see ANNEX B).

Contamination Swipes

Counted on 7/28/79 using the Region IV NMC, PC-55 gas flow proportional counter, NRC #000383. Results assume 50% counter efficiency. Background was subtracted.

Inside trailer

Swipe A 42 dpm
 Swipe B 48 dpm
 Swipe C } no significant removable
 Swipe D } contamination above background levels

Outside trailer

Swipe A' 1040 dpm
 Swipe B' 46 dpm
 Swipe C' 106 dpm

POOR ORIGINAL

-ANNEX A-

903305

Beatty Site Survey Sheet

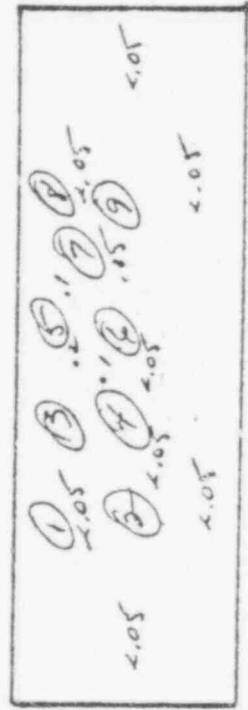
No.

Type of Survey: Transportation Vehicle Date: 7-25-79 Time: 12:30

Customer: CONSUMER SERVICES Vehicle I.D. 544132

Carrier: TR1-SMRE Driver (s)

POOR ORIGINAL



@ 6' @ 6' smears 10-15 taken on undercarriage all <1000 dpm/room²

Max. Contact Side of Trailer (mR/hr)
Max. Contact of Containers (mR/hr)
Dose Rate Inside Cab/Sleeper (mR/hr)
Scan of Trailer Empty (cpm/bkg)

Additional Information: Allowed in accordance with DOT Regulations CFR 49 173.397(c) used cloth smears
Use proper smears (all smears dry)

Remarks: Activities greater than the "Action Levels" require the immediate notification of the RC & SO. Circle in red ink. Unless otherwise noted, radiation levels are in mrem/hour, and smear locations are circled.

Action Levels *

Beta 2200 DPM/100 cm²
Alpha 220 DPM/100 cm²

Smear Survey Results
Arrival DPM/100cm² Departure

No.	Beta	Alpha	No.	Beta	Alpha
			1	<1000	
			2	<1000	
			3	<1000	
			4	<1000	
			5	<1000	
			6	<1000	
			7	<1000	
			8	<1000	
			9	<1000	

Air Activity
Activity in uCi/ml

No.	Time	Volume	Beta	Alpha

Instruments Used
Contamination Radiation

Type	Serial No.	Response Check
RM 14	2071	ES20
Sat	Sat	323

Surveyor: Chapman
Reviewed by: _____

Wednesday, July 25, 1979

Beatty nuclear dump site reopened

CARSON CITY (AP) — A controversial nuclear dump at Beatty, one of three in the nation, was reopened Tuesday by Gov. Robert List after he was assured of tougher federal controls to stop problems such as leaky waste containers.

List issued an executive order spelling out strict new conditions for shipments of the low-level radioactive materials from industries, hospitals and other generators of such waste.

He added that the Nuclear Regulatory Commission and federal Department of Transportation promised to improve controls over packaging and transport of the wastes and to strictly enforce existing requirements.

The Beatty dump, operated by Nuclear Engineering Co. Inc., was closed July 2. The other states with such dumps are South Carolina and Washington.

List closed the dump after the discovery of leaking waste containers on a truck which had come from Con-

sumer's Power, Palisades Plant, Covert, Mich.

There was also a May 13 fire at the Beatty plant, about 150 miles north of Las Vegas, involving a truck carrying wastes from firms and hospitals in Southern California.

Spokesmen for Nevada, South Carolina and Washington recently urged the NRC and Department of Transportation to upgrade their controls. List said Nevada had made such requests on "numerous" occasions before but got no action until the Beatty shutdown was ordered.

List and Arizona Gov. Bruce Babbitt also joined in a recent call for tougher rules, saying nuclear mishaps in both those states underscored bureaucratic confusion.

In Arizona's case, radioactive tritium was released from a firm making materials for luminous wrist watches. The firm, American Atomics, recently agreed to abandon the plant and move out of Arizona.

The firm is expressing interest in opening a plant in North Las Vegas' industrial area.

Both governors were critical of the NRC, but an NRC official countered that a major reason for lax enforcement has been understaffed, undertrained state agencies which have taken over regulation of wastes.

List's executive order states that any generator of nuclear wastes must get a compliance certificate from Nevada if the wastes are headed for Beatty, and shipments must be inspected before entering Nevada.

He said any broker shipping the wastes must inspect the loads and make sure there are no violations of rules. And any truckers hauling the loads must make sure warning signs are posted on their rigs and that the loads are secured properly.

The NRC already has agreed to send an inspection team to make regular site inspections at both source generators and collectors of nuclear wastes.

The federal agency also promised strong enforcement action against violators, and said reports of the inspection team would be made available to states involved.

POOR
ORIGINAL

— ANNEX C —

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