



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUL 16 1980

MEMORANDUM FOR: Kenneth L. Pierson, FHWA-DOT
Arthur Warren, FAA-DOT
James Shuler, NTB-DOT
Ralph J. Jones, SD-NRC
Richard E. Cunningham, NMSS-NRC
A. W. Grella, IE-NRC

FROM: Marie Janinek, State Relations Officer
Office of State Programs

SUBJECT: THIRD QUARTERLY REPORT (FIRST YEAR) FROM WASHINGTON ON
TRANSPORTATION SURVEILLANCE PROGRAM

Enclosed is the third quarterly progress report (first year) submitted by Washington on its transportation surveillance program under contract with NRC and DOT. The report covers the period, March 10 - June 9, 1980.

Any comments you might have on the report would be appreciated.

A handwritten signature in cursive script that reads "Marie Janinek".

Marie Janinek
State Relations Officer
Office of State Programs

Enclosure:
Report fm E. L. Gronemyer dtd 7/9/80

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Distribution List for Third Quarterly Report (First Year) submitted by
Washington on Transportation Surveillance Program.

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PDR: "Transportation Surveillance"
PDR: "Washington"

ATTACHMENT A

SHIPMENTS RECEIVED

<u>Period</u>	<u>Total Shipments Received</u>	<u>Loads In Noncompliance</u>	<u>Total Non-Compliance Items</u>
March 10-14	27	1	4
March 17-21	20	0	0
March 24-28	32	1	1
March 31-April 4	15	2	1
April 7-11	15	0	0
April 14-18	25	0	0
April 21-25	18	1	1
April 28-May 2	21	5	10
May 5-9	14	0	0
May 12-16	22	7	7
May 19-23	No state inspector at NECo site this week 0		
May 27-30	21	2	2
June 2-6	15	5	15

Waste Volumes

After the start of this quarter it was determined that keeping a tally on the total number of packages arriving at the site would be useful information. Realizing the complications in obtaining a total for packages received during the first part of the quarter, the tally did not start until April 14. From April 14 through June 6, 1980, a total of 14,337 packages of radioactive waste were placed in burial trenches at the NECo site. Additional totals and information regarding cubic feet, curies and kilograms of source material are as follows:

<u>Month</u>	<u>Cubic Feet</u>	<u>Curies</u>	<u>Source Material (Kilograms)</u>
March 1980	86,898.97	3331.876	3642.004
April 1980	61,357.12	521.416	2132.11
May 1980	59,876.74	183.35	4683.4

Site Survey Results

Inspection Dates	Total Loads	Loads In Non-Comp.	Date	Company number	Non-Compliance	Warning Letter Date	Action Taken	
							Suspension Date	Reinstatement Date
March 10-14	27	1	3/12	Company 25	Package deformation		3/13/80	6/19/80*
March 17-21	20	0						
March 24-28	32	1	3/24	Company 25	Leaking drum		3/24/80	6/19/80*
Mar 31-Apr 4	15	2	3/31 3/31	Company 25 Company 18	Leaking drum Surface radiation over limit		3/31/80 3/31/80	6/19/80* 5/9/80
April 4-11	15	0						
April 14-18	25	0						
April 21-25	18	1	4/25	Company 26a	Radiation over limit for 'Exempt' status.	5/7/80		
Apr 28-May 2	21	5	5/2	Company 7b	Shipping papers; defective closure	5/5/80		
			4/29	Company 17a	No 'sole use' instructions	5/5/80		
			4/28	Company 17c	Defective closure		4/28/80	5/14/80
			4/28	Company 20a	Containers not marked 'LSA'	5/5/80		
			4/28	Company 12	No I. D. on 'sole use' instructions.	5/5/80		
May 5-9	14	0						
May 11-16	22	6	5/16	Company 20	Package deformation		5/20/80	5/30/80
			5/13	Company 3h	No 'LSA' marking	5/20/80		
			5/14	Company 27	No certification	5/20/80		
			5/16	Company 5	not indicated 'sole use'	5/20/80		
			5/16	Company 26b	no placarding; not indicated 'sole use'	5/20/80		
			5/12	Company 28	hole in drum	5/20/80		
May 19-23					- No Inspections this week -			
May 27-30	21	2	5/28 5/27	Company 29 Company 17a	No 7A DOT marking on drum Top not secure (Argonne bin)	6/2/80	5/28/80	6/16/80
June 2-6	15	5	6/2	Company 3i	Leaking drum		6/2/80	

Sites Survey Results

Inspection Dates	Total Loads	Loads In Non-Comp.	Date	Company Number	Non-Compliance	Warning Letter Date	Action Taken	
							Suspension Date	Reinstatement Date
(con't)			6/3	Company 30	Multiple violations, marking labeling, and transportation. Hole in drum; no bracing. Hole in drum; ring closure bolt missing. Drums leaking upon arrival; weld seam not liquid-tight.		6/3/80	
			6/5	Company 20		6/16/80		
			6/5	Company 8		6/27/80		
			6/6	Company 5		6/24/80		

BROKERS AND COMPANIES

Company Number

1	AWC, Inc. (broker) for 1(a)
1a	Aerojet Ordance
2	Burroughs Wellcome (broker for 2a)
2a	University of Kentucky
3	Nuclear Engineering Company (broker for 3a-3i)
3a	Michael Reese Hospital & Medical Center
3b	Amersham
3c	Abbott Labs
3d	Upjohn Company
3e	William Beaumont Hospital
3f	University of Toledo
3g	Lafayette Clinic
3h	Exxon
3i	Research Triangle Institute
4	Smith, Kline & French Labs, Inc.
5	Radiac Research
6	Nebraska Public Power (Cooper Nuclear)
7a	Southwest Nuclear Company
7b	Southwest Nuclear Company, Eastern Division
8	Nuclear Diagnostic Labs
9	Wyoming Mineral Corporation
10	University of Montana
11	University of Minnesota

Company Number

12	Teledyne Isotopes
13	TMI - Metro Edison
14	Northern States Power
15	NEN
16	VA Medical Center, Nashville
17a	Commonwealth Edison, Quad Cities
17b	Commonwealth Edison, Zion
17c	Commonwealth Edison, Dresden
18	Three M Company
19	Ralph Baltzo & Associates
20	Atomic Disposal
20a	Honeywell, Inc.
21	(Bio Science Lab) Thomas Gray & Associates
22	Vermont Yankee
23	EAD Metallurgical, Inc.
24	Nuclear Sources & Services
25	ICN, CA
26	Department of Army
26a	Defense Depot, Ogden, Utah
26b	Letterman Army Institute
27	GE Medical Systems Division
28	University of Illinois, Urbana
29	State University of New York at Buffalo
30	National Jewish Hospital

ATTACHMENT B

Shipments of radioactive waste received at the Neco site during the week of May 19, 1980 through May 23, 1980 were from the following:

<u>Date Received</u>	<u>Shipper/Broker</u>	<u>Carrier</u>	<u>Packages</u>
5/20/80	Zion	Home	70
5/20/80	CWE Cordova	TSMT	45
5/20/80	Trojan	TSMT	3 casks
5/20/80	Teledyne	TSMT	167
5/20/80	Atomic Disposal	TSMT	152
5/20/80	Army VA (Virginia) Cameron	C.F.	1 box
5/20/80	Interex	TSMT	198
5/20/80	CWE Dresden	TSMT	75
5/21/80	CWE Dresden	TSMT	75
5/22/80	Hazelton Laboratories Southwest Nuclear	SW NucS	153
5/22/80	Palisades	TSMT	133 & 1 box
5/23/80	Southwest Nuclear	Home	184
5/23/80	Carolina Power & Light	TSMT Chem Nuclear	150

ATTACHMENT C

I. This section of Attachment C identifies the facilities contacted in the state for determination of potential radiological hazards to handlers of radioactive materials. Follow-up inspections are planned during the next quarter on a selected number of facilities contacted.

A. Hospitals Contacted (telephone)

1. Allenmore Hospital - Tacoma, Washington
2. Highline Community College - Edmonds, Washington
3. Kadlec Hospital - Richland, Washington
4. Our Lady of Lourdes Hospital - Kennewick, Washington
5. St. Frances Xavier Cabrini Hospital - Seattle, Washington
6. St. Lukes Hospital - Spokane, Washington
7. Walla Walla College - Walla Walla, Washington
8. Walla Walla General Hospital - Walla Walla, Washington
9. St. Mary Hospital - Walla Walla, Washington

B. Shipping Ports Contacted (telephone)

1. Port of Olympia - Olympia, Washington
2. Port of Bellingham - Bellingham, Washington
3. Port of Vancouver - Vancouver, Washington

C. Burlington Northern Railway - Seattle, Washington

1. Truck Division
2. Rail Division
3. South Seattle Piggy Back Division

D. Puget Sound Naval Shipyard - Bremerton, Washington

II. This section identifies facilities visited and/or inspected during the third quarter period. Initial inspections and return visits were made to some of the air cargo carriers operating in and around the Seattle-Tacoma area. Area, vehicle, and package surveys were accomplished as appropriate for the facilities visited. Additional details are as follows:

<u>A. Air Cargo Carriers</u>	<u>Visits</u>
Airport Drayage Company, Inc.	3
Alaska Airlines	2
Burlington Northern Air Freight	1
Eastern Air Cargo	3
Emery Air Freight	1
Flying Tiger Lines	2
Hughes Air West	3
Northwest Air Freight	1
Wein Air Alaska	1
Western Air Cargo	1

Surveillance visits to Burlington Northern Air Freight, Emery Air Freight and Wein Air Alaska, indicates no material handling to very low volumes of radioactive materials being handled. Initial contacts were made and it was determined that potential radiological exposure problems to cargo handling personnel were very minimal. Routine revisits to the three above mentioned freight handlers are not planned for the immediate future. The companies will be scheduled for contacts or revisits on a semiannual basis for further determination of quantities of radioactive materials being handled.

Surveillance visits to other air cargo carriers listed above found minimal quantities of radioactive materials being handled by some companies with other companies handling RAM packages on a routine basis. Details from our findings and/or observations at the other cargo handling facilities are outlined below.

1. Airport Drayage Company, Inc.

This company handles a large amount of packages containing radioactive materials. A greater portion of their packages are shipments coming from Mallinckrodt Company, St. Louis, Missouri. Airport Drayage operates as a private carrier for radioactive materials received. The following conditions were noted during this investigation.

- a. Radioactive material (R.A.M.) packages were found in the open bed of a pickup truck. Packages were labeled yellow II and yellow III. No placards had been placed on the trucks exterior, however, signs stating "radioactive" were located within the truck.

- b. Holding area for RAM or restricted articles not defined. Packages containing RAM were mixed with other packages without regard to hazard.
- c. A stack of empty cardboard containers displaying various RAM labels were noted to be stacked in the package handling area.
- d. Two packages from Mallinckrodt Diagnostics were surveyed.
 - (1) Air bill #2480-3100 package contained 143 millicuries of ^{131}I . The yellow III label indicated a 1.4 T.I.
 - (2) Air bill #2665-6593 package contained 1 millicurie of ^{131}I . The yellow II label indicated a 0.1 T.I.

Both packages (1 and 2) were in compliance with D.O.T. and state regulations. An independent survey of the packages supported the labeling information.

2. Alaska Air Lines

Alaska Air has frequent shipments of radioactive materials (RAM) to key cities in Alaska, mainly, Fairbanks, Juneau and Anchorage. Generally, all RAM packages are handled in the mornings, on a daily basis, between 6:30 a.m. and 8:00 a.m.

A survey of one RAM package labeled yellow III containing 2.393 curies of Molybdenum 99 showed no violations of DOT packaging requirements.

3. Eastern Air Cargo

Eastern Air receives a constant flow of radioactive material packages. Most of the packages arrive early in the morning between 5:00 a.m. and 6:30 a.m.

A general area radiation survey was made with no indications of readings in excess of background. Other surveys of packages with no violations detected or observed included the following:

- a. Yellow III package containing 5 curies of Molybdenum 99 with label showing a T.I. of 4.4.
- b. Yellow II package containing 0.031 curies of ^{131}I and a T.I. of 0.6.

4. Flying Tiger Lines

No radioactive materials were being handled or stored at the time of the survey. It was determined that a significant quantity of packages are handled during the month. Continued visits are planned in order to develop the data needed.

5. Hughes Air West

Surveys were made on four packages of radioactive material with no violations observed or detected.

- a. A yellow II labeled package containing Iodine ¹³¹ with a T.I. of 0.1.
- b. A yellow II package containing Gallium 67 with a T.I. of 0.1.
- c. A yellow III package containing Mo99 with a T.I. of 2.3.
- d. A second yellow III package containing Mo99 with a T.I. of 2.3.

6. Northwest Air Freight

From information obtained during this visit their radioactive materials handling activities have been very limited. Packages are received as regular freight and treated accordingly. Labeling and packaging are considered by Northwest Air Freight to be correct since the shippers are required to know the regulations. The state inspector was advised by a representative of Northwest Air Freight that they are responsible only to F.A.A. regarding the proper handling of restricted articles.

7. Western Air Cargo

Only limited numbers of radioactive material (RAM) packages are received. Packages are handled as restricted articles in holding area designated by a sign. No security for RAM packages is provided. Survey equipment on hand at Western Air Cargo had been supplied by FAA, but apparently Western Air personnel do not routinely use the meters. Packages containing RAM are usually loaded for transport shortly after receipt. No RAM packages were available for surveying during this inspection.

B. Hospitals Inspected

The nuclear medicine departments of the hospitals listed as 1 through 3 below were surveyed and inspected with no labeling, shipping or packaging violations being observed or detected.

1. Auburn General Hospital - Auburn, Washington
2. Swedish Hospital - Seattle, Washington
3. University of Washington Hospital - Seattle, Washington

C. University of Washington - Radioactive Waste Procedures

During an inspection at the U of W, two items were observed that required corrective measures. The University has a rad waste compactor located in a building near central campus with their rad waste storage area approximately two miles away. In order to transfer rad waste from the compactor to the storage area the material is moved over public streets. The University vehicle transferring the waste has not routinely been placarded. The placarding deficiency has been corrected.

In addition, the University transports all of their generated rad waste to the Nuclear Engineering Company site in Richland for burial. The University has been negligent in the past in not designating their L.S.A. shipments as sole use. The University agreed to adding the sole use designation to their RSR as future shipments are prepared.

D. Highway Patrol Weigh Station

The weigh station at Plymouth, Washington and the station on I-90 east of Spokane, Washington, were visited this quarter. During our visits we discussed procedures followed by the patrolmen while surveying trailers transporting radioactive materials and methods for documenting survey information. The use and care of civil defense type survey meters was also discussed. At both stations the highway patrolmen had available for use the CD700 and CD715 survey meters furnished by the Department of Emergency Services. The meters were checked and appeared to be operating properly at the time of our visit.

The weigh stations at Plymouth and Spokane are the only two stations available for checking radioactive material (RAM) shipments coming to Washington from out of state. All vehicles hauling RAM have to be inspected at one of the weigh stations prior to being accepted at the NECo site. The vehicle driver produces the inspection certificate upon arrival at the site as part of the shipments preacceptance procedure.

E. Shipping Ports

During this quarter the Port of Seattle and three piers were visited. It was determined that radioactive materials (RAM) were so rarely loaded and unloaded at any of the Port of Seattle piers that dock workers were not being exposed to excessive quantities of radiation. No RAM packages or containers were being handled or stored at any pier inspected during this quarter. Revisits for the purpose of data gathering and/or surveillance purposes is planned during the next quarter. Dock areas visited:

1. Terminal 18
2. Terminal 20
3. Pier 115

F. Ralph Baltzo and Associates (Broker)

A shipment of radioactive waste being transported from Seattle to the NECo Richland site by Ralph Baltzo was inspected prior to leaving the highway patrol operations office east of Seattle on I-90. Radiation measurements were obtained while using a Technical Associates Model CP-5 survey meter and wipe samples were measured with a Johnson GSM-5 end window Geiger counter. Of the 30 drums on the load, none were reading in excess of 12 mR/hr at 3" from the side of any drum positioned for surveying. At six feet from the sides of the trailer a maximum radiation reading of 0.5 mR/hr was obtained. A radiation reading of 0.5 mR/hr was measured in the truck cab. No smearable contamination (100c/m) was detected on wipe samples taken from 10 different drums.

In addition, drum labeling, vehicle placarding, and radiation shipment records were inspected. No violations of DOT or Washington State radiation control regulations were observed. Mr. Baltzo's shipment of radioactive waste was permitted to proceed to Richland after passing a vehicle safety check performed by State Patrol.

G. Uranium Mills

Inspections were made at both uranium mills in the State to determine radiation readings and labeling on drums of yellow cake. Our findings are as follows:

1. Dawn Mining Company - Ford, Washington

Dawn Mining Company had on hand and ready for shipping 52 drums of yellow cake at the time of this inspection. Our observations and survey indicated proper labeling and no single 55 gallon drum reading in excess of 5 mR/hr on drum surface. No violations were observed.

A stockpile of empty drums awaiting filling were examined. It appears that Dawn Mining does not specify a certain type drum required when order is placed with supplier. Drums on hand were noted to be type 17-H; 7-A; 7J; or drums with no visible markings. All 55 gallon drums inspected appeared to be in excellent shape.

2. Western Nuclear Company - Wellpinit, Washington

Packaged yellow cake in 55 gallon drums were inspected at Western Nuclear Company. Our findings and observations indicated that all labeling requirements were being met and radiation readings at the drum surfaces were not in excess of 5 mR/hr. No violations were observed.