

1st QUARTER TRANSPORTATION REPORT FY2018

**Waste Shipments To and From the Nevada National Security
Site (NNS), Radioactive Waste Management Complex**

This report was prepared for:
**U.S. Department of Energy
Office of Environmental Management
Nevada Program**

By:
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1.0 INTRODUCTION

This report satisfies the U.S. Department of Energy (DOE), National Nuclear Security Administration Nevada Field Office (NNSA/NFO) commitment to prepare a quarterly summary report of waste shipments to the Nevada National Security Site (NNS) Radioactive Waste Management Complex (RWMC) at Area 5. This report summarizes the 1st quarter of fiscal year (FY) 2018 low-level radioactive waste (LLW), mixed low-level radioactive waste (MLLW), which includes classified LLW and MLLW, classified non-radioactive (CNR) and classified non-radioactive hazardous (CNRH) shipments. There were no shipments sent for offsite treatment from a NNS facility and returned to the NNS this quarter of FY2018.

Tabular summaries are provided which include the following:

- Sources of and carriers for LLW, MLLW and CNR/CNRH shipments to and from the NNS;
- Number and external volume of LLW, MLLW and CNR/CNRH shipments;
- Highway routes used by carriers; and
- Incident/accident data applicable to LLW, MLLW and CNR/CNRH shipments.

In this report shipments are accounted for upon arrival at the NNS, while disposal volumes are accounted for upon waste burial. Volume reports showing cubic feet (ft³) generated using the Low-Level Waste Information System may vary slightly due to rounding conventions for conversions from cubic meters to cubic feet.

Shipments are transported by motor carriers that are either identified on the “DOE Motor Carrier Evaluation Program (MCEP)” list, have been evaluated in a manner similar to the MCEP process or are government vehicles. Government vehicles are not evaluated using the MCEP process, but are fully compliant with all Department of Transportation requirements.

2.0 SUMMARY OF WASTE SHIPMENTS AND VOLUMES DISPOSED

Total LLW and MLLW Received from Offsite Generators

A total of 357,223 ft³ of LLW and MLLW was disposed at the NNS by 18 approved radioactive waste generators in 317 shipments. These shipments were transported using twelve MCEP approved motor carriers and government vehicles.

Total NNS Onsite LLW

A total of 1,813 ft³ of LLW was disposed by one approved NNS onsite radioactive waste generator in seven onsite transfers. Government vehicles were used for these transfers.

Total CNR/CNRH Received from Offsite Generators

A total of 615 ft³ of CNR/CNRH was disposed at the NNS by two approved waste generators in two shipments.

Table 1 provides a summary of inbound (offsite and onsite) radioactive and non-radioactive classified shipments. Table 2 provides a list of approved waste generators that shipped to or on the NNS in the 1st quarter of FY2018.

Table 1
NNS Inbound, Onsite, and Classified Non-Radioactive Shipment Summary for 1st Quarter of FY2018

Inbound	Offsite Generators	NNS Generators	Approved Carriers	Shipments	Volume ft ³
LLW / MLLW (offsite) ^a	18	2	12	317 ^b	357,223
LLW (onsite) ^a	0	1	N/A	7	1,813
Classified Non-Radioactive	2	0	2	2 ^b	615

a – Government vehicles were used for one LLNL MLLW shipment and seven MSTs onsite transfers

b – The total of 326 shipments includes 67 classified shipments (63 LLW, 2 MLLW, 1 CNR, and 1 CNRH)

Table 2
Approved Generators Shipping To/On the NNS in 1st Quarter of FY2018

	GENERATOR NAME	GENERATOR CODE
1	Aberdeen Proving Ground	AP
2	Advanced Mixed Waste Treatment Project	AM
3	Battelle Energy Alliance	NE
4	BWXT Conversion Services (DUF-6)	DU
5	CH2M Hill B&W West Valley, LLC	WV
6	Consolidated Nuclear Security, LLC Pantex	PX
7	Consolidated Nuclear Security, LLC Y-12	BW
8	Duratek / Energy Solutions	DR
9	Fluor Idaho	IN
10	Lawrence Livermore National Laboratory	LL
11	Los Alamos National Laboratory	LA
12	Mission Support and Test Services / National Security Technologies	DP
13	Navarro	IT
14	Nuclear Fuel Services	NF
15	Oak Ridge Reservation	OR
16	PermaFix	PF
17	Portsmouth Gaseous Diffusion Plant	PO
18	Sandia National Laboratory	SA
19	UT-Battelle / Oak Ridge National Laboratory	OL
20	Wastren Advantage, Inc.	FW

2.1 Waste Transporters (Motor Carriers)

Motor carriers operate in compliance with Title 49 Code of Federal Regulations (CFR), "Transportation," and are selected by the waste generator. Generators often use multiple motor carriers during the year to facilitate their shipments. Table 3 provides a list of the approved carriers used to transport LLW, MLLW and CNR shipments to the NNSS.

Eight shipments bound for the NNSS were transported via intermodal (rail/highway) conveyance, also referred to as transloading, in the 1st quarter of FY2018.

Table 3
Approved Motor Carriers Used in 1st Quarter of FY2018

	APPROVED MOTOR CARRIER	CARRIER CODE
1	BOYLE TRANSPORTATION, INC.	BYLE
2	BUFFALO FUEL CORPORATION	BUFI
3	CAST TRANSPORTATION	COLO
4	HITTMAN TRANSPORT	HITT
5	HUBBARD TRUCKING	HTAL
6	INTERSTATE VENTURES	ITSV
7	LANDSTAR INWAY, INC.	LDWY
8	LANDSTAR RANGER, INC.	LRGR
9	M.P. ENVIRONMENTAL SERVICES, INC.	MPES
10	SPECIALTY TRANSPORT, INC.	MAJH
11	TRI-STATE MOTOR TRANSIT	TSMT
12	WILCOX TRUCK LINES, INC.	WCXL
	GOVERNMENT VEHICLE*	GT+

* Government vehicles transporting waste shipments are fully DOT compliant

2.2 Shipments

Table 4 provides a summary of all LLW and MLLW offsite shipments received at NNSS. Table 5 provides a summary of NNSS onsite transfers of LLW and MLLW. Table 6 provides a summary of all CNR shipments received at NNSS. The three tables include a summary for FY2018 in the “Total” column.

Table 4
Offsite Shipments of LLW and MLLW Transported to the NNSS

Offsite Inbound Shipments Generator, State	Shipments by Quarter				Total
	1 st	2 nd	3 rd	4 th	
Aberdeen Proving Ground, MD	9				9
Advanced Mixed Waste Treatment Project, ID	22				22
Battelle Energy Alliance, ID	12				12
BWXT Conversion Services (DUF6), TN	2				2
CH2M Hill West Valley, LLC, NY	13				13
Consolidated Nuclear Security, LLC – Pantex, TX	1				1
Consolidated Nuclear Security, LLC – Y-12 Plant, TN	29				29
Duratek/Energy Solutions, TN	38				38
Fluor Idaho, ID	12				12
Lawrence Livermore National Laboratory, CA	5				6
Los Alamos National Laboratory, NM	10				10
Mission Support and Test Services, NV	2				2
Navarro, NV	6				6
Nuclear Fuel Services, TN	2				2
Oak Ridge Reservation, TN	27				27
PermaFix, TN, WA, FL	60				60
Portsmouth Gaseous Diffusion Plant, OH	52				52
Sandia National Laboratories, NM	2				2
UT-Battelle/Oak Ridge National Laboratory, TN	2				2
Wastren Advantage, Inc., TN	11				11
Total Shipments	317				317

Table 5
NNSS Onsite Transfers of LLW and MLLW

Onsite Transfers	Shipments by Quarter				
Generator, State	1st	2nd	3rd	4th	Total
Mission Support and Test Services LLC / National Security Technologies LLC, NV	7				7
Total Transfers	7				7

Table 6
Classified Non-Radioactive Shipments Transported to the NNSS

Offsite Inbound Shipments	Shipments by Quarter				
Generator, State	1st	2nd	3rd	4th	Total
PermaFix, TN, WA, FL	1				1
Sandia National Laboratories, NM	1				1
Total Transfers	2				2

2.3 Transportation Route Reporting

The longstanding DOE policy is to avoid shipments travelling through the I-15/US-95 interchange. The NNSS Waste Acceptance Criteria (NNSSWAC) includes wording requiring generators to notify their carriers to avoid this area and to select routes which minimize radiological risk.

Shipments continue to be restricted from travel near the Hoover Dam. The NNSSWAC states, "Waste transportation to the NNSS, regardless of DOT classification, shall avoid the Hoover Dam Bypass Bridge."

Quarterly and annual transportation reports may be found on the Internet at <http://www.nnss.gov/pages/programs/RWM/Reports.html>

The following two pages provide details and a graphic depiction of waste shipment routes traveled to the NNSS for the 1st Quarter of FY2018 (October 1, 2017 to December 31, 2017).

LOW-LEVEL, MIXED LOW-LEVEL & CLASSIFIED NON-RADIOACTIVE WASTE SHIPMENTS TO/ON THE NEVADA NATIONAL SECURITY SITE

FIRST QUARTER REPORT, FY 2018 (OCTOBER, NOVEMBER, DECEMBER 2017)

RouteType	Route Description	Route Legend	Total Shipments by Route	Origin State>>	CA	ID	ID	ID	MD	NM	NM	NV	NV	NY	OH	TN	TN	TN, WA, FL	TN	TN	TN	TN	TN	TX
				Lawrence Livermore National Laboratory	Advanced Mixed Waste Treatment Project	Battelle Energy Alliance	Fluor Idaho	Aberdeen Proving Ground	Sandia National Laboratory	Los Alamos National Laboratory	Mission Support and Test Services	Navarro	CH2M Hill BWXT West Valley, LLC	Portsmouth Gaseous Diffusion Plant	BWXT Conversion Services (DUF6)	Consolidated Nuclear Services Y-12 Plant	Materials & Energy Corporation (M&EC) Perma-Fix	Duratek / Energy Solutions	Nuclear Fuel Services	Oak Ridge Reservation (UCOR)	Oak Ridge National Laboratory	Wastren Advantage, Inc.	Consolidated Nuclear Services Pantex Plant	
CALIFORNIA	I-15, CA-127, NV-373, US-95		50		1													49						
CALIFORNIA	I-15, NV-160, US-95		2		2																			
SOUTHERN	I-40, US-93, AZ-68, NV-163, US-95, NV-164, I-15, NV-160, US-95		162				3		8	3					52	1	23	4	37	2	20	1	7	1
SOUTHERN	I-40, US-93, AZ-68, NV-163, US-95, NV-164, I-15, CA-127, NV-373, US-95		2								2													
SOUTHERN	I-40, US-95, NV-164, I-15, NV-160, US-95		39				3				6			8		1	6	5			7		3	
SOUTHERN	I-40, US-95, NV-164, I-15, CA-127, NV-373, US-95		2								2													
SOUTHERN	I-40, I-15, NV-160, US-95		2	2																				
SOUTHERN	I-40, I-15, CA-127, NV-373, US-95		2																1				1	
NORTHERN	US-6, US-95 (TTR)		6										6											
NORTHERN	I-80, US-93-ALT, US-6, US-95		14		1		4	1			2			5								1		
NORTHERN	US-93, US-6, US-95		38		21	6	8											3						
ON-SITE	On-Site Shipments	N/A	7									7												
Total Shipments by Generator>>>			326		5	22	12	12	9	3	10	9	6	13	52	2	29	61	38	2	27	2	11	1
Total Volume (ft ³) by Generator>>>			359,651		5,553	17,862	6,204	4,722	5,737	2,128	8,555	2,608	2,904	15,279	115,016	5,071	37,747	40,656	66,564	1,149	11,849	2,999	5,688	1,360

*There were eight transloaded shipments this quarter



3.0 INCIDENT/ACCIDENT DATA

For the purpose of this report, incidents and accidents are defined as:

- **Incident:** Any unintentional release of hazardous material from a package during transportation, load shift or any occurrence during transportation in which any of the circumstances identified in 49 CFR 171.15(b) occurs. (ANSI N14.27)
- **Accident:** An occurrence involving a commercial motor vehicle operating on a highway in interstate or intrastate commerce which results in a fatality; bodily injury to a person who, as a result of the injury, immediately receives medical treatment away from the scene of the accident; or one or more motor vehicles incurring disabling damage as a result of the accident, requiring the motor vehicles to be transported away from the scene by a tow truck or other motor vehicle. (49 CFR 390.5(1))

The Department of Energy's (DOE) Office of Environmental Management (EM), sites, and carriers are dedicated to ensuring an appropriate response to all offsite transportation events involving DOE radioactive materials. In a memo to EM sites on October 17, 2016, the Director, DOE Office of Packaging and Transportation and the NNSA/NFO Assistant Manager for Environmental Management, established notification criteria to provide additional clarity to the requirements in the NNS Waste Acceptance Criteria. This reporting is consistent with DOE Manual 460.2-1, and will help to ensure:

- Receiving timely notification of all off-site transportation events to assure adequate response resources are assigned;
- Notifying appropriate field response personnel and/or resources (including field sites, RAP teams, and state and tribal contacts) if they have not already been engaged; and
- Having all potentially involved personnel prepared to respond to inquiries from the media, elected officials, or the public.

Waste generators are instructed to notify the Nevada Field Office whenever a discrepancy, non-compliance, or inadequate performance is identified; or if a transportation incident or emergency situation occurs.

NSTec, a contractor to the NNSA/NFO, controls NNS waste receipt and disposal activities and is responsible for notifying appropriate personnel regarding shipping discrepancies, incidents or accidents.

There were no transportation incidents or accidents in the 1st quarter of FY18.

4.0 EVALUATION OF SHIPPING CAMPAIGNS

This section contains an evaluation summary of the annual shipping campaigns with respect to the significance of the packaging or transportation incidents/accidents reported in Section 3.0. Waste generators must ensure that waste is packaged and transported in a safe and compliant manner as detailed in the NNSWAC and U.S. Department of Transportation regulations. Generators and their contracted shipping carriers must be diligent with regard to all requirements including packaging, routing, and shipping documentation.

The NNSWAC Radioactive Waste Acceptance Program (RWAP) provides oversight of NNSWAC waste generators for compliance with Department of Transportation regulations and the NNSWAC including Section 6.0, Waste Transportation and Receipt Information. All RWAP identified findings and observations on waste generator performance are tracked and trended.

Findings are issued by RWAP personnel to identify, track, and resolve deficiencies that violate the NNSWAC Revision 16-00 — including failure to follow Department of Transportation requirements. Observations are also issued by RWAP personnel for conditions that represent a weakness in a waste generator's quality assurance or waste certification program that, if left uncorrected, could result in a condition adverse to quality. For the purposes of this report, only transportation and packaging related Findings will be reported.

There was one transportation related findings or observation in the 1st quarter of FY2018.

- On December 18, 2017, waste shipment ITL18004 was delivered to the Area 5 RWMC for offload. During preparation for off-loading, one of the two soft sided packages on the shipment was noted to have a separated seam of approximately five inches near a support loop for the lifting strap. There was no breach of containment and the package was successfully offloaded. RWAP issued Finding I-2310 for this incident.

5.0 REFERENCES

Shipment information is recorded at the NNSWAC Area 5 Radioactive Waste Management Site by NSTec Waste Management Program personnel. These records provide detailed information on each LLW, MLLW and CNR shipment, including the date received, generator, package number and type, volume, weight, carrier, discrepant conditions and final disposition.

The following source documents are incorporated by reference:

- U.S. Department of Energy, Nevada Operations Office, "Final Site-Wide Environmental Impact Statement for the Continued Operation of the Department of Energy/National Nuclear Security Administration Nevada National Security Site and Offsite Locations in the State of Nevada," DOE/EIS-0426, Las Vegas, Nevada, February 2013.
- U.S. Department of Energy, Nevada Operations Office, "Record of Decision (ROD) for the Continued Management, Operations, and Activities of the Nevada National Security Site (NNSS) and Offsite Locations in the State of Nevada," EIS-0426 Record of Decision, Las Vegas, Nevada, December 2014.
- U.S. Department of Transportation Regulations, 49 CFR, "Transportation," *Code of Federal Regulations*, Office of the Federal Register, National Archives and Records Administration, U.S. Government Printing Office, Washington, DC, 2012.

6.0 POINT OF CONTACT

Please contact the following person with questions regarding waste transportation or waste management.

Robert Boehlecke, Program Manager
U.S. Department of Energy
EM Nevada Program
P.O. Box 98518
Las Vegas, NV 89193-8518
(702) 295-2099

7.0 ACRONYM LIST

ft³	Cubic Feet
CFR	Code of Federal Regulations
CNR	Classified Non-Radioactive
CNRH	Classified Non-Radioactive Hazardous
DOE	U.S. Department of Energy
FY	Fiscal Year
LLW	Low-Level Radioactive Waste
MLLW	Mixed Low-Level Radioactive Waste
NNSA/NFO	National Nuclear Security Administration, Nevada Field Office
NSSWAC	Nevada National Security Site Waste Acceptance Criteria
NSTec	National Security Technologies, LLC
NSS	Nevada National Security Site
RWMC	Radioactive Waste Management Complex

8.0 DISTRIBUTION LIST

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