

2nd 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:
**Mission Support and Test Services, LLC
Las Vegas, Nevada**

April 2018



**Work performed under contract number:
DE-NA0003624**

Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof.

Available for sale to the public, in paper, from:

U.S. Department of Commerce
National Technical Information Service
5301 Shawnee Road
Alexandria, VA 22312
Phone: 800.553.6847
Fax: 703.605.6900
E-mail: orders@ntis.gov

Available electronically at <http://www.osti.gov/bridge>

Available for a processing fee to the U.S. Department of Energy and its contractors, in paper, from:

U.S. Department of Energy
Office of Scientific and Technical Information
P.O. Box 62
Oak Ridge, TN 37831-0062
Phone: 865.576.8401
Fax: 865.576.5728

Table of Contents

1.0	INTRODUCTION	1
2.0	SUMMARY OF WASTE SHIPMENTS AND VOLUMES DISPOSED.....	1
2.1	Waste Transporters (Motor Carriers).....	3
2.2	Shipments	4
2.3	Transportation Route Reporting.....	5
3.0	INCIDENT/ACCIDENT DATA.....	8
4.0	EVALUATION OF SHIPPING CAMPAIGNS.....	9
5.0	REFERENCES.....	10
6.0	POINTS OF CONTACT	10
7.0	ACRONYM LIST	11
8.0	DISTRIBUTION LIST	11

This page intentionally left blank

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) in Area 5. This report summarizes the following types of shipments during the 2nd quarter of fiscal year (FY) 2018:

- Low-Level Radioactive Waste (LLW)
- Mixed Low-Level Radioactive Waste (MLLW)
- Classified Non-Radioactive Waste (CNR) and
- Classified Non-Radioactive Hazardous Waste (CNRH)

Tabular summaries are provided which include the following:

- Number and external volume of LLW, MLLW and CNR/CNRH shipments;
- Waste Generators for LLW, MLLW and CNR/CNRH shipments to and on the NNS;
- Carriers for LLW, MLLW and CNR/CNRH shipments to and on the NNS;
- Waste Generator shipments by the quarter
- 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 transportation regulations and requirements.

2.0 SUMMARY OF WASTE SHIPMENTS AND VOLUMES DISPOSED

Total LLW and MLLW Received from Offsite Generators

A total of 335,216 ft³ of LLW and MLLW was disposed at the NNS by 18 radioactive waste generators in 403 shipments. These shipments were transported using 11 MCEP motor carriers and government vehicles.

Total NNS Onsite LLW

A total of 2,695 ft³ of LLW was disposed by one NNS onsite radioactive waste generator in 12 onsite shipments. Government vehicles were used for these shipments.

Total CNR/CNRH Received from Offsite Generators

A total of 1,247 ft³ of CNR/CNRH was disposed at the NNSS by three waste generators in four shipments. These shipments were transported using two MCEP listed motor carriers.

Table 1 provides a summary of all shipments for the 2nd quarter of FY2018. Table 2 provides a list of waste generators that shipped to or on the NNSS in the 2nd quarter of FY2018.

**Table 1
Shipment Summary for 2nd Quarter of FY2018**

Inbound	Offsite Generators	NNSS Generators	Carriers	Shipments	Volume ft ³
LLW / MLLW (offsite) ^a	17	1	11	403 ^b	335,216
LLW (onsite) ^a	0	1	N/A	12	2,695
Classified Non-Radioactive	2	1	2	4 ^b	1,247

a – Government vehicles were used for two LLNL LLW shipments and 12 LLW onsite shipments

b – The 403 LLW/MLLW and 4 CNR/CNRH shipments include 18 classified shipments (8 LLW, 6 MLLW, 2 CNR, and 2 CNRH)

**Table 2
Generators Shipping To/On the NNSS in 2nd Quarter of FY2018**

	GENERATOR NAME	GENERATOR CODE
1	Advanced Mixed Waste Treatment Project	AM
2	Battelle Energy Alliance	NE
3	CH2M Hill B&W West Valley, LLC	WV
4	Consolidated Nuclear Security, LLC Pantex	PX
5	Consolidated Nuclear Security, LLC Y-12	BW
6	Duratek / Energy Solutions	DR
7	Fluor Idaho	IN
8	Lawrence Livermore National Laboratory	LL
9	Los Alamos National Laboratory	LA
10	Mission Support and Test Services	DP
11	Navarro	IT
12	Nuclear Fuel Services	NF
13	Oak Ridge Reservation	OR
14	PermaFix	PF
15	Portsmouth Gaseous Diffusion Plant	PO
16	Sandia National Laboratory	SA
17	UT-Battelle / Oak Ridge National Laboratory	OL
18	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 MCEP carriers used to transport LLW, MLLW, CNR and CNRH shipments to the NNSS.

Table 3
Carriers Used in 2nd Quarter of FY2018

	MOTOR CARRIER
1	BUFFALO FUEL CORPORATION
2	CAST TRANSPORTATION
3	HITTMAN TRANSPORT
4	HUBBARD TRUCKING
5	INTERSTATE VENTURES
6	LANDSTAR INWAY, INC.
7	M.P. ENVIRONMENTAL SERVICES, INC.
8	SPECIALTY TRANSPORT, INC.
9	TLI FREIGHT SERVICES, LLC
10	TRI-STATE MOTOR TRANSIT
11	WILCOX TRUCK LINES, INC.
	GOVERNMENT VEHICLE*

* 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 shipments of LLW and MLLW. Table 6 provides a summary of all CNR and CNRH 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				
	1 st	2 nd	3 rd	4 th	Total
Aberdeen Proving Ground, MD	9	0			9
Advanced Mixed Waste Treatment Project, ID	22	22			44
Battelle Energy Alliance, ID	12	11			23
BWXT Conversion Services (DUF6), TN	2	0			2
CH2M Hill West Valley, LLC, NY	13	55			68
Consolidated Nuclear Security, LLC – Pantex, TX	1	1			2
Consolidated Nuclear Security, LLC – Y-12 Plant, TN	29	29			58
Duratek/Energy Solutions, TN	38	2			40
Fluor Idaho, ID	12	28			40
Lawrence Livermore National Laboratory, CA	5	6			11
Los Alamos National Laboratory, NM	10	8			18
Mission Support and Test Services / National Security Technologies LLC, NV	2	1			3
Navarro, NV	6	105			111
Nuclear Fuel Services, TN	2	3			5
Oak Ridge Reservation, TN	27	47			74
PermaFix, TN, WA, FL	60	32			92
Portsmouth Gaseous Diffusion Plant, OH	52	43			95
Sandia National Laboratories, NM	2	3			5
UT-Battelle/Oak Ridge National Laboratory, TN	2	6			8
Wastren Advantage, Inc., TN	11	1			12
Total Shipments	317	403			720

**Table 5
NNSS Onsite Shipments of LLW and MLLW**

Onsite Shipments	Shipments by Quarter				
Generator, State	1 st	2 nd	3 rd	4 th	Total
Mission Support and Test Services LLC / National Security Technologies LLC, NV	7	12			19
Total Shipments	7	12			19

**Table 6
Classified Non-Radioactive Shipments Transported to the NNSS**

Offsite Inbound Shipments	Shipments by Quarter				
Generator, State	1 st	2 nd	3 rd	4 th	Total
Battelle Energy Alliance, ID	0	1			1
Mission Support and Test Services LLC / National Security Technologies LLC, NV	0	2			2
PermaFix, TN, WA, FL	1	0			1
Sandia National Laboratories, NM	1	1			2
Total Shipments	2	4			6

2.3 Transportation Route Reporting

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 approved routes.

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>

Table 7 provides details of waste shipment routes traveled to the NNSS for the 2nd Quarter of FY2018. Table 8 provides a graphic depiction of waste shipment routes traveled to the NNSS for the 2nd Quarter of FY2018.

**Table 7
Shipment Routes**

LOW-LEVEL, MIXED LOW-LEVEL & CLASSIFIED NON-RADIOACTIVE WASTE SHIPMENTS TO/ON THE NEVADA NATIONAL SECURITY SITE																						
SECOND QUARTER REPORT, FY 2018 (JANUARY, FEBRUARY, MARCH 2018)																						
RouteType	Route Description	Route Legend	Total Shipments by Route	Origin State>>	CA	ID	ID	ID	NM	NM	NV	NV	NY	OH	TN	TN, WA, FL	TN	TN	TN	TN	TN	TX
				Lawrence Livermore National Laboratory	Advanced Mixed Waste Treatment Project	Battelle Energy Alliance	Fluor Idaho	Sandia National Laboratory	Los Alamos National Laboratory	Mission Support and Test Services	Navarro	CH2M Hill BWXT West Valley, LLC*	Portsmouth Gaseous Diffusion Plant	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		29	4												25						
CALIFORNIA	I-15, NV-160, US-95	●●●	1													1						
SOUTHERN	I-40, US-93, AZ-68, NV-163, US-95, NV-164, I-15, NV-160, US-95	■	173						2		3		40	43	24	2	1	3	47	6	1	1
SOUTHERN	I-40, US-95, NV-164, I-15, NV-160, US-95	■	19						2	8					5	4						
SOUTHERN	I-40, I-15, NV-160, US-95	■	2	2																		
NORTHERN	US-6, US-95 (TTR)	■	105									105										
NORTHERN	I-80, US-93-ALT, US-6, US-95	■	36				20						15				1					
NORTHERN	US-93, US-6, US-95	●●●	42		22	12	8															
ON-SITE	On-Site Shipments	N/A	12								12											
Total Shipments by Generator>>>			419	6	22	12	28	4	8	15	105	55	43	29	32	2	3	47	6	1	1	
Total Volume (ft ³) by Generator>>>			339,158	9,013	20,146	7,106	4,990	2,049	3,673	2,825	50,822	58,201	72,125	32,571	23,877	250	2,031	28,845	17,190	2,085	1,360	

*There were forty transloaded shipments this quarter

Table 8
Graphic Representation of Routes Travelled to the NNSS



3.0 INCIDENT/ACCIDENT DATA

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

- **Incident:** Any unintentional release of a 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.
- **Accident:** An occurrence involving a 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 NNSW 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.

Mission Support and Test Services (MSTS), a contractor to the NNSA/NFO, controls NNSW waste receipt and disposal activities and is responsible for notifying appropriate personnel regarding shipping discrepancies, incidents or accidents.

There was one transportation incident during the 2nd quarter of fiscal year 2018.

- Finding I-2320 was issued to West Valley Demonstration Project because four intermodals were found to arrive with issues at the transload facility in Kingman, AZ. Section 4.0 describes each issue in detail. The four shipments were all non-regulated waste and no contamination was detected or measured on the outside of the intermodal(s). The issues were corrected and all four intermodals were transported to the Area 5 RWMC and offloaded with no issues.

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 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 finding in the 2nd quarter of FY2018.

- Finding I-2320 was issued to West Valley Demonstration Project because during inspection of containers transported by rail from West Valley, New York, to the transload facility in Kingman, Arizona, four (4) intermodal containers were found breached.
 - One intermodal was pierced by the waste, one had a small hole in the floor, and the other two were not fully sealed at the top of the door
 - All four intermodals contained non-regulated waste*
 - No contamination was detected or measured on the outside of the intermodals
 - Repairs were made to the two damaged intermodals and the doors of the other two were closed properly
 - All four intermodals were transported by truck to the NNSWAC Area 5 disposal facility and offloaded with no issues

5.0 REFERENCES

- 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.
- U.S. Department of Energy, Office of Packaging and Transportation, Memo establishing notification criteria, Las Vegas, Nevada, October 2016.

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
DOT	Department of Transportation
FY	Fiscal Year
LLW	Low-Level Radioactive Waste
MCEP	Motor Carrier Evaluation Program
MLLW	Mixed Low-Level Radioactive Waste
MSTS	Mission Support and Test Services, LLC
NNSA/NFO	National Nuclear Security Administration, Nevada Field Office
NNSS	Nevada National Security Site
NSSWAC	Nevada National Security Site Waste Acceptance Criteria
RWMC	Radioactive Waste Management Complex

8.0 DISTRIBUTION LIST

U.S. Department of Energy
National Nuclear Security Administration
Nevada Field Office
Public Reading Facility
c/o Nuclear Testing Archive
P.O. Box 98521
Las Vegas, NV 89193-8521

U.S. Department of Energy
Office of Scientific and Technical Information
P.O. Box 62
Oak Ridge, TN 37831-0062