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2nd QUARTER TRANSPORTATION REPORT FY2017

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

This report was prepared for:
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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 (NNSS) Radioactive Waste Management Complex (RWMC) at Area 5. This report summarizes the 2nd quarter of fiscal year (FY) 2017 low-level radioactive waste (LLW), mixed low-level radioactive waste (MLLW), which includes classified LLW and MLLW, and classified non-radioactive (CNR) shipments. There were no shipments sent for offsite treatment from a NNSS facility and returned to the NNSS this quarter of FY2017.

Tabular summaries are provided which include the following:

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

In this report shipments are accounted for upon arrival at the NNSS, while disposal volumes are accounted for upon waste burial. Volume reports showing cubic feet (ft^3) generated using the Low-Level Waste Information System may vary slightly due to rounding conventions for volumetric 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 200,920 ft^3 of LLW and MLLW was disposed at the NNSS by 17 approved radioactive waste generators in 197 shipments. These shipments were transported using eight MCEP approved motor carriers and government vehicles.

Total NNSS Onsite LLW

A total of 2,261 ft^3 of LLW was disposed by two approved NNSS onsite radioactive waste generators in five onsite transfers. Government vehicles were used for these transfers.

Total CNR Received from Offsite Generators

A total of 163 ft^3 of CNR was disposed at the NNSS by one approved waste generator in one shipment. This shipment was transported using an approved motor carrier.

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 NNSS in the 2nd quarter of FY2017.

Table 1

NNSS Inbound, Onsite, and Classified Non-Radioactive Shipment Summary for 2nd Quarter of FY2017

Inbound	Offsite Generators	NNSS Generators	Approved Carriers	Shipments	Volume ft^3
LLW / MLLW (offsite)	15	0	8	197[a]	200,920
LLW (onsite)	0	2	*	5	2,261
Classified Non-Radioactive	1	0	1	1	163

a – The total of 197 shipments includes 8 LLW and 1 MLLW classified shipments

***** Government vehicles were used for the 5 onsite transfers

Table 2

Approved Generators Shipping To/On the NNSS in 2nd Quarter of FY2017

	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	National Security Technologies	DP
11	Navarro	IT
12	Oak Ridge Reservation	OR
13	PermaFix	PF
14	Portsmouth Gaseous Diffusion Plant	PO
15	Sandia National Laboratory	SA
16	UT-Battelle / Oak Ridge National Laboratory	OL
17	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. Government trucks were used for the onsite transfers.

No shipments bound for the NNSS were transported via intermodal (rail/highway) conveyance, also referred to as transloading, in the 2nd quarter of FY2017.

Table 3

Approved Motor Carriers Used in 2nd Quarter of FY2017

	APPROVED MOTOR CARRIER	CARRIER CODE
1	AJ METLER (dba SPECIALTY TRANSPORT, INC.)	MAJH
2	BUFFALO FUEL CORPORATION	BUFI
3	CAST TRANSPORTATION	COLO
4	FLUID TRANSPORTS, INC.	FLAI
5	HITTMAN TRANSPORT	HITT
6	HUBBARD TRUCKING	HTAL
7	INTERSTATE VENTURES	ITSV
8	TRI-STATE MOTOR TRANSIT	TSMT
	GOVERNMENT VEHICLE*	GT+

* Government vehicles used for 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 FY2017 in the "Total" column.

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

Offsite Inbound Shipments	Shipments by Quarter				
Generator, State	1st	2nd	3rd	4th	Total
Aberdeen Proving Ground, MD	2	0			2
Advanced Mixed Waste Treatment Project, ID	14	21			35
Battelle Energy Alliance, ID	15	9			24
Ch2M Hill West Valley, LLC, NY	4	4			8
Consolidated Nuclear Security, LLC – Pantex, TX	1	2			3
Consolidated Nuclear Security, LLC – Y-12 Plant, TN	23	36			59
Duratek/Energy Solutions, TN	1	5			6
Fluor Idaho, ID	16	18			34
General Atomics, CA	1	0			1
Lawrence Livermore National Laboratory, CA	4	2			6
Los Alamos National Laboratory, NM	13	12			25
National Security Technologies, NV	1	0			1
Oak Ridge Reservation, TN	17	33			50
PermaFix, TN, WA, FL	9	11			20
Portsmouth Gaseous Diffusion Plant, OH	31	36			67
Sandia National Laboratories, NM	1	2			3
UT-Battelle/Oak Ridge National Laboratory, TN	1	2			3
Wastren Advantage, Inc., TN	0	4			4
Total Shipments	154	197			351

Table 5
NNSS Onsite Transfers of LLW and MLLW

Onsite Transfers	Shipments by Quarter				
Generator, State	1st	2nd	3rd	4th	Total
National Security Technologies LLC, NV	1	1			2
Navarro, NV	0	4			4
Total Transfers	1	5			6

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	2	0			2
Sandia National Laboratories	0	1			1
Total Transfers	2	1			3

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.

Due to the events of September 11, 2001, tractor trailers 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 from January 1, 2017 to March 31, 2017.

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

SECOND QUARTER REPORT, FY 2017 (JANUARY, FEBRUARY, MARCH 2017)

RouteType	Route Description	Route Legend	Total Shipments by Route	Lawrence Livermore National Laboratory	Advanced Mixed Waste Treatment Project	Battelle Energy Alliance	Fluor Idaho	Sandia National Laboratory	Los Alamos National Laboratory	CH2M Hill BWXT West Valley, LLC	Portsmouth Gaseous Diffusion Plant	Consolodated Nuclear Services Y-12 Plant	Materials & Energy Corporation (M&EC) Perma-Fix	Duratek / Energy Solutions	Oak Ridge Reservation (UCOR)	Oak Ridge National Laboratory	Wastren Advantage, Inc.	Consolodated Nuclear Services Pantex Plant
		Origin State>>		CA	ID	ID	ID	NM	NM	NY	OH	TN	TN, WA, FL	TN	TN	TN	TN	TX
CALIFORNIA	I-15, CA-127, NV-373, US-95		6	1									5					
CALIFORNIA	I-15, CA-127, CA-178, NV-372, NV-160, US-95		1	1														
CALIFORNIA	I-15, NV-160, US-95		4											4				
SOUTHERN	I-40, US-93, AZ-68, NV-163, US-95, NV-164, I-15, NV-160, US-95		88						1		36	31			19		1	
SOUTHERN	I-40, US-95, NV-164, I-15, NV-160, US-95		47			3		3	11			5	6		14		3	2
NORTHERN	I-80, US-93-ALT, US-6, US-95		31		16	1	7			4				1		2		
NORTHERN	US-93, US-6, US-95		21		5	5	11											
	Total Shipments by Generator>>>		198	2	21	9	18	3	12	4	36	36	11	5	33	2	4	2
	Total Volume (ft^3) by Generator>>>		201,083	5,368	15,461	5,062	5,629	815	8,748	5,553	67,661	43,840	4,334	94	30,690	114	4,995	2,720

*There were no transloaded shipments this quarter


80
80
WEST
WENDOVER
93
50
UTAH
ELY
NEVADA
6
6
50
93
MILFORD
TONOPAH
6
GOLDFIELD
95
Tonopah
Test
Range
Nevada
Test and
Training Range
CALIENTE
Nevada
National
Security
Site
BEATTY
93
INDIAN
SPRINGS
AMARGOSA
VALLEY
373
95
15
PAHRUMP
372
LAS VEGAS
VALLEY
127
178
160
SHOSHONE
Hoover Dam
ARIZONA
95
93
127
164
SEARCHLIGHT
15
BAKER
CALIFORNIA
163
68
40
Davis Dam
KINGMAN
BARSTOW
15
40
NEEDLES

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 NNSS 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 NNSS 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 2nd quarter of FY2017.

- On the morning of March 20, 2017 a truck delivering waste from Portsmouth broke down near the I-15 / Blue Diamond Highway interchange. The driver remained in control of the shipment until another driver arrived, picked up the trailer and completed delivery of the shipment. The shipment was offloaded the same day with no further issues. This does not meet the criteria to be considered an incident.

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 NNSSWAC 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 NNSS Radioactive Waste Acceptance Program (RWAP) provides oversight of NNSS waste generators for compliance with Department of Transportation regulations and the NNSSWAC 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 NNSSWAC 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 were no transportation or packaging related Findings issued in this reporting period.

5.0 REFERENCES

Shipment information is recorded at the NNSS 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. In addition, incident and accident information is collected from NSTec and NNSA/NFO correspondence and personal communications with NNSA/NFO managers, NSTec personnel, waste generators, and carrier personnel. Route information is collected from the NNSA/NFO quarterly routing reports published by NNSA/NFO and DOE EM Nevada Program Managers.

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, waste management, or NNSA/NFO operations.

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7.0 ACRONYM LIST

ft^3	Cubic Feet
CFR	Code of Federal Regulations
CNR	Classified Non-Radioactive
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
NNSSWAC	Nevada National Security Site Waste Acceptance Criteria
NSTec	National Security Technologies, LLC
NNSS	Nevada National Security Site
RWMC	Radioactive Waste Management Complex

8.0 DISTRIBUTION LIST

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