

# SECOND QUARTER TRANSPORTATION REPORT FISCAL YEAR 2021

**Waste Shipments to and on the Nevada National Security Site,  
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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Las Vegas, Nevada**

**April 2021**



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

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## **ACRONYMS AND ABBREVIATIONS**

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CFR	Code of Federal Regulations
CNR	Classified Non-Radioactive
CNRH	Classified Non-Radioactive Hazardous
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EM	Environmental Management
ft <sup>3</sup>	Cubic Foot (Feet)
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
NNSS	Nevada National Security Site
NNSSWAC	Nevada National Security Site Waste Acceptance Criteria
RWAP	Radioactive Waste Acceptance Program
RWMC	Radioactive Waste Management Complex

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## 1.0 INTRODUCTION

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This report satisfies the U.S. Department of Energy (DOE) commitment to prepare a quarterly summary of waste shipments to the Nevada National Security Site (NNSS) Radioactive Waste Management Complex (RWMC) in Area 5. This report summarizes the second quarter of fiscal year (FY) 2021 and serves as a quarterly report for the following types of shipments:

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

Tabular summaries are provided that include the following:

- Number and external volume of LLW, MLLW, and CNR/CNRH waste shipments
- Waste generators for LLW, MLLW, and CNR/CNRH waste shipments to and on the NNSS
- Carriers for LLW, MLLW, and CNR/CNRH waste shipments to and on the NNSS
- Waste generator shipments by quarter
- Shipment routes used by carriers
- Incident and accident data applicable to LLW, MLLW, and CNR/CNRH waste shipments

Volume reports using the Low-Level Waste Information System showing cubic feet (ft<sup>3</sup>) of waste generated may vary slightly due to rounding conventions for conversions from cubic meters to ft<sup>3</sup>.

Displayed waste volumes summations may vary between tables due to rounding to whole numbers.

Commercial motor carriers transporting waste to the NNSS must be identified on the U.S. Department of Energy (DOE) Motor Carrier Evaluation Program (MCEP) Evaluated Carrier List or be evaluated in a manner similar to the MCEP process. DOE contractors who transport waste to the NNSS as private motor carriers have their motor carrier operations evaluated by DOE as part of the Transportation Safety and Operations Compliance Assurance Program. In addition, periodic self-assessments are required per DOE Order 460.2A, *Departmental Materials Transportation and Packaging Management*. Because commercial motor carriers and DOE contractors are commercial entities, their operations are also subject to periodic facility and over-the-road inspection by the U.S. Department of Transportation (DOT).

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## 2.0 SUMMARY OF WASTE SHIPMENTS AND VOLUMES DISPOSED FOR THE SECOND QUARTER OF FY 2021

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### Total LLW and MLLW Received from Offsite Generators

A total of 208,100 ft<sup>3</sup> of LLW and MLLW was disposed at the NNSS by 15 approved radioactive waste generators in 197 shipments. These shipments were transported using nine MCEP-approved motor carriers.

### Total LLW and MLLW Received from Onsite NNSS Generators

A total of 120 ft<sup>3</sup> of LLW in two onsite transfers was disposed by one approved NNSS onsite radioactive waste generator. Onsite government vehicles were used for these transfers.

### Total CNR/CNRH Waste Received from Offsite Generators

A total of 1,337 ft<sup>3</sup> of CNR/CNRH waste was disposed at the NNSS by one approved waste generator in two shipments. These shipments were transported using one MCEP-approved motor carrier.

Table 1 provides a summary of waste shipments. Table 2 provides a list of approved waste generators that shipped to or on the NNSS in the second quarter of FY 2021.

**TABLE 1. NNSS INBOUND SHIPMENT SUMMARY FOR THE SECOND QUARTER OF FY 2021**

INBOUND	OFFSITE GENERATORS	NNSS GENERATORS	CARRIERS	SHIPMENTS	VOLUME (ft <sup>3</sup> )
LLW/MLLW (offsite)	15	0	9	197 <sup>b</sup>	208,100
LLW (onsite)	0	1 <sup>a</sup>	N/A	2	120
CNR/CNRH	1	0	1	2 <sup>b</sup>	1,337

<sup>a</sup> Government vehicles were used for the two Mission Support and Test Services, LLC (MSTS) onsite transfers.

<sup>b</sup> The 197 LLW/MLLW and two CNR/CNRH shipments included 42 classified shipments (40 LLW, 0 MLLW, two CNR and 0 CNRH).

**TABLE 2. APPROVED GENERATORS SHIPPING WASTE IN THE SECOND QUARTER OF FY 2021**

	GENERATOR	GENERATOR CODE
1	Aberdeen Proving Ground	AP
2	DUF6 Conversion Project	DU
3	Energy Solutions	DR
4	Idaho National Laboratory – Advanced Mixed Waste Treatment Project	AM
5	Idaho National Laboratory – Battelle Energy Alliance	NE
6	Idaho National Laboratory – Fluor Idaho	IN
7	Lawrence Livermore National Laboratory	LL
8	Los Alamos National Laboratory	LA
9	Mission Support and Test Services, LLC	DP
10	Oak Ridge National Laboratory – UT-Battelle	OL
11	Oak Ridge Reservation (UCOR)	OR
12	Pantex Plant	PX
13	PermaFix	PF
14	Portsmouth Gaseous Diffusion Plant	PO
15	TRU Waste Processing Center	FW
16	West Valley	WV

**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/CNRH waste shipments to the NNSS.

**TABLE 3. APPROVED MOTOR CARRIERS USED IN THE SECOND QUARTER OF FY 2021**

	APPROVED MOTOR CARRIER	CARRIER CODE
1	Bennett Heavy & Specialized, LLC	BHAV
2	Buffalo Fuel Corporation	BUFI
3	CAST Transportation	COLO
4	Hittman Transport	HITT
5	Interstate Ventures	ITSV
6	Landstar Ranger, Inc.	LRGR
7	M.P. Environmental Services, Inc.	MPES
8	Specialty Transport, Inc.	MAJH
9	Tri-State Motor Transit	TSMT
	Government Vehicle*	GT+

\* Government vehicles transporting waste shipments are fully compliant with DOT.

## 2.2 SHIPMENTS

Table 4 provides a summary of all offsite shipments of LLW and MLLW received at the NNSS in FY 2021. Table 5 provides a summary of NNSS onsite transfers of LLW and MLLW in FY 2021. Table 6 provides a summary of all CNR and CNRH waste shipments received at the NNSS in FY 2021. The three tables include a summary for FY 2021 in the “Total” column.

**TABLE 4. OFFSITE SHIPMENTS OF LLW AND MLLW TRANSPORTED TO THE NNSS IN FY 2021**

OFFSITE INBOUND SHIPMENTS Generator, State(s)	SHIPMENTS BY QUARTER				
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	Total
Aberdeen Proving Ground, MD	3	1			4
DUF6 Conversion Project, TN	0	3			3
Energy Solutions, TN	4	2			6
Idaho National Laboratory – Advanced Mixed Waste Treatment Project, ID	2	6			8
Idaho National Laboratory – Battelle Energy Alliance, ID	19	35			54
Idaho National Laboratory – Fluor Idaho, ID	3	3			6
Lawrence Livermore National Laboratory, CA	7	5			12
Los Alamos National Laboratory, NM	5	7			12
Nuclear Fuel Services, TN	1	0			1
Oak Ridge National Laboratory – UT-Battelle, TN	2	1			3
Oak Ridge Reservation (UCOR), TN	34	38			72
Pantex Plant, TX	0	1			1
PermaFix, TN, WA, and FL	18	59			77
Portsmouth Gaseous Diffusion Plant, OH	7	34			41
Sandia National Laboratory, NM	2	0			2
TRU Waste Processing Center, TN	0	1			1
West Valley, NY	4	1			5
<b>Total Shipments</b>	111	197			308

**TABLE 5. NNSS ONSITE TRANSFERS OF LLW AND MLLW IN FY 2021**

ONSITE TRANSFERS Generator, State	SHIPMENTS BY QUARTER				
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	Total
Mission Support and Test Services, NV	8	2			10
<b>Total Shipments</b>	8	2			10

**TABLE 6. CNR AND CNRH SHIPMENTS TRANSPORTED TO THE NNSS IN FY 2021**

OFFSITE INBOUND SHIPMENTS Generator, State	SHIPMENTS BY QUARTER				
	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	Total
Idaho National Laboratory – Battelle Energy Alliance, ID	1	2			3
PermaFix, TN, WA, and FL	1	0			1
Sandia National Laboratory, NM	1	0			1
<b>Total Shipments</b>	3	2			5

### **2.3 TRANSPORTATION ROUTE REPORTING**

DOE policy is to avoid shipments traveling through the I-15/US-95 interchange. The Nevada National Security Site 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 (Mike O’Callaghan – Pat Tillman Memorial Bridge).”

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

Older reports may be obtained by contacting the Office of Scientific and Technical Information at <https://www.osti.gov>, or by phone at (865) 576-8401.

Table 7 provides details of waste shipment routes traveled to the NNSS for the second quarter of FY 2021. Figure 1 provides a graphic depiction of waste shipment routes traveled to the NNSS for the second quarter of FY 2021.

**TABLE 7. SHIPMENT ROUTES FOR THE SECOND QUARTER OF FY 2021**

LOW-LEVEL, MIXED LOW-LEVEL & CLASSIFIED NON-RADIOACTIVE WASTE SHIPMENTS TO/ON THE NEVADA NATIONAL SECURITY SITE																			
SECOND QUARTER REPORT, FY 2021 (JANUARY, FEBRUARY, MARCH 2021)																			
RouteType	Route Description	Route Legend	Origin State>>	CA	ID	ID	ID	MD	NM	NV	NY	OH	TN, WA, FL	TN	TN	TN	TN	TX	
			Total Shipments by Route	Lawrence Livermore National Laboratory	Idaho National Laboratory - AMWTP	Idaho National Laboratory - Battelle Energy Alliance	Idaho National Laboratory - Fluor Idaho	Aberdeen Proving Ground	Los Alamos National Laboratory	Mission Support and Test Services	West Valley	Portsmouth Gaseous Diffusion Plant	Perma-Fix	DUF6 Conversion Project	Energy Solutions	Oak Ridge Reservation (UCOR)	Oak Ridge National Laboratory - UT Battelle	TRU Waste Processing Center	Pantex Plant
CALIFORNIA	I-15, CA-127, NV-373, US-95		42	3									39						
SOUTHERN	I-40, US-93, AZ-68, NV-163, US-95, NV-164, I-15, NV-160, US-95		79						1			34		3	1	37	1	1	1
SOUTHERN	I-40, US-95, NV-164, I-15, NV-160, US-95		13			5		1	6							1			
SOUTHERN	I-40, I-15, NV-160, US-95		3	1									2						
SOUTHERN	I-40, I-15, CA-127, NV-373, US-95		1	1															
SOUTHERN	I-40, I-15, CA-127, CA-178, NV-372, NV-160, US-95		2										1		1				
NORTHERN	I-80, US-50 ALT, US-50, US-95 (Reno)		5																
NORTHERN	I-80, US-93-ALT, US-6, US-95		6			5					1								
NORTHERN	US-93, US-6, US-95		48		6	27	3						12						
ON-SITE	On-Site Shipments	N/A	2							2									
Total Shipments by Generator>>>			201	5	6	37	3	1	7	2	1	34	59	3	2	38	1	1	1
Total Volume (ft³) by Generator>>>			209,557	10,772	7,046	26,686	2,423	437	4,593	120	1,442	41,636	86,529	7,039	711	14,695	2,097	1,972	1,360

FIGURE 1. ROUTES TRAVELLED TO THE NNSS IN THE SECOND QUARTER OF FY 2021



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### 3.0 INCIDENT/ACCIDENT DATA

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**There were no transportation incidents or accidents in the second quarter of FY 2021.**

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

- **Incident:** An 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 (American National Standards Institute N14.27)
- **Accident:** An occurrence involving a commercial motor vehicle operating on a highway in interstate or intrastate commerce that 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 vehicle(s) to be transported away from the scene by a tow truck or other motor vehicle (49 CFR 390.5[1])

Waste generators and carriers are dedicated to ensuring an appropriate response to all offsite transportation events involving DOE radioactive materials. In a memo to all waste generator sites on October 17, 2016, notification criteria was established to provide additional clarity to the requirements in the NNSSWAC. This reporting is consistent with DOE Manual 460.2-1, and will help to ensure the following:

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

Waste generators are instructed to notify NNSS Operations Command Center (OCC) whenever a discrepancy, non-compliance, or inadequate performance or if a transportation incident (including law enforcement directives requiring rerouting) or emergency situation occurs. OCC must be notified no later than one hour after the route deviation/incident with specific details.

MSTS, the NNSS Management and Operating contractor, controls NNSS waste receipt and disposal activities and is responsible for notifying appropriate personnel regarding shipping discrepancies, incidents, or accidents.



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## **4.0 EVALUATION OF SHIPPING CAMPAIGNS**

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This section contains a summary of the annual shipping campaigns with respect to the significance of the packaging or transportation incidents or accidents reported in Section 3.0 of this report. Waste generators must ensure that waste is packaged and transported in a safe and compliant manner as detailed in the NNSWAC and DOT 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 DOT regulations and the NNSWAC, including Section 6.0 of the NNSWAC, Waste Transportation and Receipt. 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, including failure to follow DOT 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 findings are reported.

**There were no transportation-related findings in the second quarter of FY 2021.**

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## REFERENCES

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- U.S. Department of Transportation Regulations, 2012. 49 CFR, “Transportation,” Code of Federal Regulations, Office of the Federal Register, National Archives and Records Administration. U.S. Government Printing Office. Washington, D.C. 2012.

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