

THIRD QUARTER TRANSPORTATION REPORT FISCAL YEAR 2023

Waste Shipments to and from the Nevada National Security Site,
Radioactive Waste Management Complex

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Nevada Program

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ACRONYMS AND ABBREVIATIONS

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 ³	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
NNSA/NFO	U.S. Department of Energy, National Nuclear Security Administration Nevada Field Office
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

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 third quarter of fiscal year (FY) 2023 and serves as 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 (ft³) of waste generated may vary slightly due to rounding conventions for conversions from cubic meters to ft³. Displayed waste volumes summations may vary between tables due to rounding to whole numbers, especially when compared to other published reports that only display whole numbers.

Commercial motor carriers transporting waste to the NNSS must be identified on the 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 460.2B, *Departmental Materials Transportation and Packaging Management* and the NNSS Radioactive Waste Acceptance Program (RWAP) routinely reviews motor carrier safety and performance to verify compliance with NNSS Waste Acceptance Criteria (NNSSWAC). 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 THIRD QUARTER OF FY 2023

Total LLW and MLLW Received from Offsite Generators

A total of 131,572 ft³ of LLW and MLLW was disposed at the NNSS by 15 approved radioactive waste generators in 154 shipments. These shipments were transported using 10 MCEP-approved motor carriers and government vehicles.

Total LLW and MLLW Received from Onsite NNSS Generators

No onsite transfers were performed in the third quarter of FY23.

Total CNR/CNRH Waste Received

A total of 1,731 ft³ of CNR/CNRH waste was disposed at the NNSS by three approved waste generators in three shipments. These shipments were transported using two MCEP-approved motor carriers.

Table 1 provides a summary of waste shipments and Table 2 provides a list of approved waste generators that shipped to or on the NNSS in the third quarter of FY 2023.

TABLE 1. NNSS INBOUND SHIPMENT SUMMARY FOR THE THIRD QUARTER OF FY 2023

INBOUND	OFFSITE GENERATORS	NNSS GENERATORS	CARRIERS	SHIPMENTS	VOLUME (ft ³)
LLW/MLLW (offsite)	15	0	10 ^{ac}	154 ^b	131,573
LLW/MLLW (onsite)	N/A	0	N/A	0	0
CNR/CNRH	2	1	2 ^c	3 ^b	1,731

^a A Government vehicle was used for the one Lawrence Livermore National Laboratory shipment.

^b The 154 LLW/MLLW and three CNR/CNRH shipments include 18 classified shipments (13 LLW, two MLLW, two CNR and one CNRH).

^c A total of 10 motor carriers (listed in table 3) were utilized between these shipment categories.

TABLE 2. APPROVED GENERATORS SHIPPING WASTE IN THE THIRD QUARTER OF FY 2023

	GENERATOR	GENERATOR CODE
1	Aberdeen Proving Ground	AP
2	DUF6 Conversion Project	DU
3	EnergySolutions	DR
4	Idaho National Laboratory – Advanced Mixed Waste Treatment Project	AM
5	Idaho National Laboratory – Battelle Energy Alliance	NE
6	Idaho National Laboratory – Idaho Environmental Coalition	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	PermaFix	PF
13	Portsmouth Gaseous Diffusion Plant	PO
14	Sandia National Laboratories	SA
15	West Valley	WV
16	Y-12 National Security Complex	BW

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 may 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 THIRD QUARTER OF FY 2023

	APPROVED MOTOR CARRIER	CARRIER CODE
1	Bennett Heavy & Specialized, LLC	BHAV
2	Buffalo Fuel Corporation	BUFI
3	CAST Transportation	COLO
4	Hittman Transport Services, Inc.	HITT
5	Interstate Ventures, Inc.	ITSV
6	M.P. Environmental Services, Inc.	MPES
7	RSB Logistics	RSBJ
8	Specialty Transport, Inc.	MAJH
9	Tri-State Motor Transit Co.	TSMT
10	Turnkey Technical Services, LLC	TNKA
	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 2023. Table 5 provides a summary of NNSS onsite transfers of LLW and MLLW in FY 2023. Table 6 provides a summary of all CNR and CNRH waste shipments received at the NNSS in FY 2023. The three tables include a summary for FY 2023 in the “Total” column.

TABLE 4. OFFSITE SHIPMENTS OF LLW AND MLLW TRANSPORTED TO THE NNSS IN FY 2023

OFFSITE INBOUND SHIPMENTS Generator, State(s)	SHIPMENTS BY QUARTER				
	1 st	2 nd	3 rd	4 th	Total
Aberdeen Proving Ground, MD	2	0	2		4
DUF6 Conversion Project,	2	0	2		4
Energy Solutions, TN	5	3	4		12
Idaho National Laboratory – Advanced Mixed Waste Treatment Project, ID	4	6	4		14
Idaho National Laboratory – Battelle Energy Alliance, ID	4	5	5		14
Idaho National Laboratory – Idaho Environmental Coalition, ID	2	1	5		8
Lawrence Livermore National Laboratory, CA	1	2	15		18
Los Alamos National Laboratory, NM	10	6	19		35
Oak Ridge National Laboratory – UT-Battelle, TN	4	2	3		9
Oak Ridge Reservation (UCOR), TN	63	73	34		170
PermaFix, TN, WA, and FL	38	10	17		65
Portsmouth Gaseous Diffusion Plant, OH	18	25	3		46
Sandia National Laboratories, NM	2	0	3		5
TRU Waste Processing Center, TN	2	0	0		2
West Valley, NY	15	5	14		34
Y-12 National Security Complex, TN	16	25	24		65
Total Shipments	188	163	154		505

TABLE 5. NNSS ONSITE TRANSFERS OF LLW IN FY 2023

ONSITE TRANSFERS Generator, State	SHIPMENTS BY QUARTER				
	1 st	2 nd	3 rd	4 th	Total
Mission Support and Test Services, NV	6	17	0		23
Total Shipments	6	17	0		23

TABLE 6. CNR AND CNRH SHIPMENTS TRANSPORTED TO THE NNSS IN FY 2023

OFFSITE INBOUND SHIPMENTS Generator, State	SHIPMENTS BY QUARTER				
	1 st	2 nd	3 rd	4 th	Total
Idaho National Laboratory – Battelle Energy Alliance, ID	0	2	1		3
Mission Support and Test Services, NV	0	0	1		1
PermaFix, TN, WA, and FL	1	0	0		1
Sandia National Laboratory, NM	1	0	1		2
Total Shipments	2	2	3		7

2.3 TRANSPORTATION ROUTE REPORTING

DOE policy is to avoid shipments traveling through the I-15/US-95 interchange. The 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. Section 11.2.1 of the NNSSWAC Administrative Waste Acceptance Criteria states: “The WG shall ensure that the route selected does not traverse the Hoover Dam Bypass Bridge (Mike O’Callaghan – Pat Tillman Memorial Bridge) or central Las Vegas, including the Las Vegas Beltway (I-215) and the Spaghetti Bowl (I-15/U.S.-95 Interchange). This restriction applies to all shipments, including non-DOT regulated and non-placarded waste/material originating outside the Las Vegas valley.”

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.

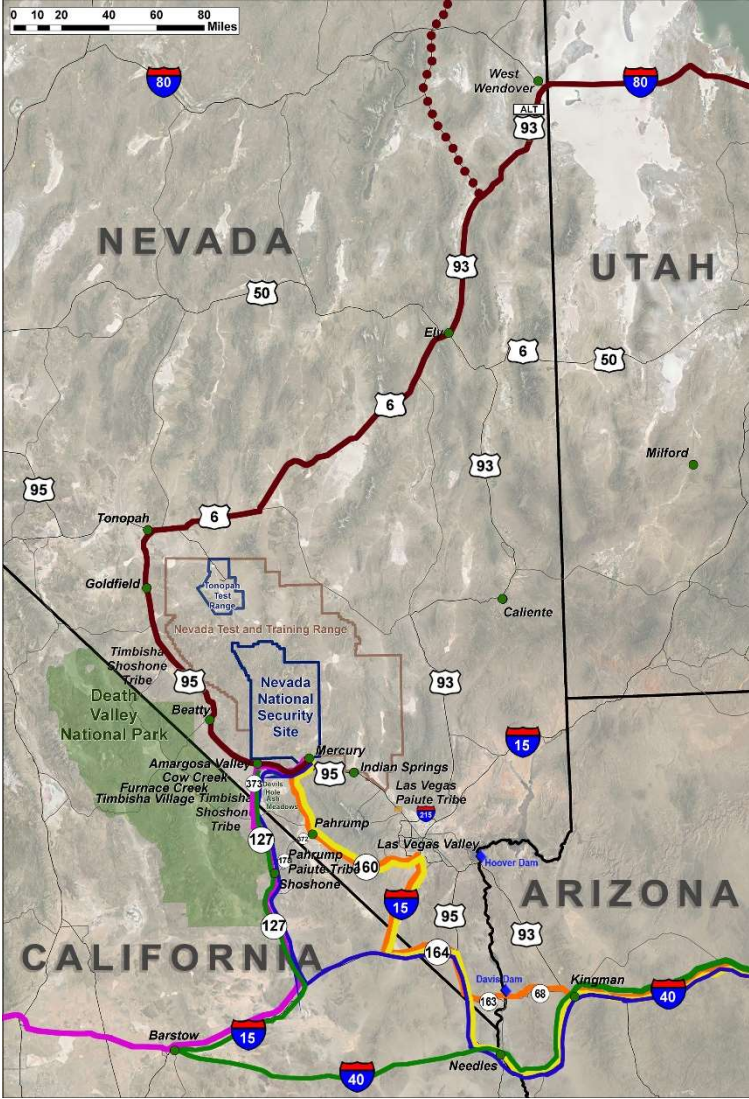
Table 7 provides details of waste shipment routes traveled to the NNSS for the third quarter of FY 2023.

Figure 1 provides a graphic depiction of waste shipment routes traveled to the NNSS for the third quarter of FY 2023.

TABLE 7. SHIPMENT ROUTES FOR THE THIRD QUARTER OF FY 2023

LOW-LEVEL, MIXED LOW-LEVEL & CLASSIFIED NON-RADIOACTIVE WASTE SHIPMENTS TO THE NEVADA NATIONAL SECURITY SITE																				
THIRD QUARTER REPORT, FY 2023 (APRIL, MAY, JUNE 2023)																				
RouteType	Route Description	Route Legend	Origin State>>	Total Shipments by Route	CA	ID	ID	ID	MD	NM	NM	NV	NY	OH	OH	TN, WA, FL	TN	TN	TN	TN
					Lawrence Livermore National Laboratory	Idaho National Laboratory - AMWTP	Idaho National Laboratory - Battelle Energy Alliance	Idaho National Laboratory - IEC	Aberdeen Proving Ground	Los Alamos National Laboratory	Sandia National Laboratories	Mission Support and Test Services	West Valley	DUF6 Conversion Project	Portsmouth Gaseous Diffusion Plant	Perma-Fix	Energy Solutions	Oak Ridge Reservation (UCOR)	Oak Ridge National Laboratory - UT Battelle	Y-12 National Security Complex
CALIFORNIA	I-15, CA-127, NV-373, US-95		6	5													1			
CALIFORNIA	I-40, I-15, CA-127, NV-373, US-95		9	6													2		1	
SOUTHERN	I-40, US-95, NV-164, I-15, CA-127, NV-373, US-95		1	1																
SOUTHERN	I-40, US-93, AZ-68, NV-163, US-95, NV-164, I-15, NV-160, US-95		85	1						2	4			2	3	14	1	32	2	24
SOUTHERN	I-40, US-95, NV-164, I-15, NV-160, US-95		23	2				2	17									2		
NORTHERN	I-80, US-93-ALT, US-6, US-95		15									1	14							
NORTHERN	US-93, US-6, US-95		18		4	6	5									3				
Total Shipments by Generator>>>			157	15	4	6	5	2	19	4	1	14	2	3	17	4	34	3	24	
Total Volume (ft ³) by Generator>>>			133,303	25,048	3,846	9,199	3,250	880	8,158	1,941	822	12,349	4,692	818	7,648	1,208	20,843	3,578	29,023	

FIGURE 1. ROUTES TRAVELED TO THE NNSS IN THE THIRD QUARTER OF FY 2023



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3.0 INCIDENT/ACCIDENT DATA

There was one accident and no incidents in the third quarter of FY 2023.

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])

The accident occurred on June 28, 2023, and involved a single tractor/trailer carrying two waste shipments (INL23008 and INM23009). On highway US-6, near the intersection of NV-318, south of Ely, NV at ~1:30am, the tractor/trailer hit an elk. The collision bent the front bumper of the tractor and caused a flat steering tire. There was no damage to the waste packages, nor did the load shift on the trailer. Nevada State Police assisted in obtaining a tire service to repair the flat and the waste shipment arrived at Area 5 on the scheduled delivery date.

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 NNSWAC. 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 NNS 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, a contractor to NNSA/NFO, controls NNS 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

There were no transportation-related findings in the third quarter of FY 2023.

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 regarding all requirements including packaging, routing, and shipping documentation.

The NNSW RWP provides oversight of NNSW waste generators for compliance with DOT regulations and the NNSWAC, including Sections 6-12 of the NNSWAC Administrative Waste Acceptance Criteria, Waste Transportation and Receipt. All RWP-identified findings and observations on waste generator performance are tracked and trended.

Findings are issued by RWP personnel to identify, track, and resolve deficiencies that violate the NNSWAC, including failure to follow DOT requirements. Observations are also issued by RWP 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.

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REFERENCES

- U.S. Department of Energy, Nevada Operations Office, 2013. "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, 2014. "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 Energy, Office of Packaging and Transportation, 2016. Memo establishing notification criteria. Las Vegas, Nevada. October 2016.
- 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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