

SECOND QUARTER TRANSPORTATION REPORT FISCAL YEAR 2020

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

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Nevada Program

By:
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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, National Nuclear Security Administration Nevada Field Office (NNSA/NFO) commitment to prepare a quarterly summary of waste shipments to the Nevada National Security Site (NNS) Radioactive Waste Management Complex (RWMC) in Area 5. This report summarizes the second quarter of fiscal year (FY) 2020 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 NNS
- Carriers for LLW, MLLW, and CNR/CNRH waste shipments to and on the NNS
- Waste generator shipments by quarter
- Shipment routes used by carriers
- Incident and accident data applicable to LLW, MLLW, and CNR/CNRH waste shipments

In this report, shipments are accounted for upon arrival at the NNS, while disposal volumes are accounted for upon waste burial. 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.

Commercial motor carriers transporting waste to the NNS 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 NNS 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 2020

Total LLW and MLLW Received from Offsite Generators

A total of 165,023 ft³ of LLW and MLLW was disposed at the NNSS by 18 approved radioactive waste generators in 238 shipments. These shipments were transported using 11 MCEP-approved motor carriers and government vehicles.

Total LLW and MLLW Received from Onsite NNSS Generators

A total of 320 ft³ of LLW in four onsite transfers and 38 ft³ of MLLW in one onsite transfer 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 2,261 ft³ of CNR/CNRH waste was disposed at the NNSS by two approved waste generators in three shipments. These shipments were transported using two MCEP-approved motor carriers.

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 2020.

TABLE 1. NNSS INBOUND SHIPMENT SUMMARY FOR THE SECOND QUARTER OF FY 2020

INBOUND	OFFSITE GENERATORS	NNSS GENERATORS	CARRIERS	SHIPMENTS	VOLUME (ft ³)
LLW/MLLW (offsite)	17	1	11 ^a	238 ^b	165,023
LLW (onsite)	0	1 ^a	N/A	5	358
CNR/CNRH	2	0	2	3	2,261

^a Government vehicles were used for the three Mission Support and Test Services, LLC (MSTS), onsite transfers.

^b The 238 LLW/MLLW shipments included 45 classified shipments (39 LLW and six MLLW).

TABLE 2. APPROVED GENERATORS SHIPPING WASTE IN THE SECOND QUARTER OF FY 2020

	GENERATOR	GENERATOR CODE
1	Brookhaven National Laboratory	BR
2	Energy Solutions	DR
3	Idaho National Laboratory – Advanced Mixed Waste Treatment Project	AM
4	Idaho National Laboratory – Battelle Energy Alliance	NE
5	Idaho National Laboratory – Fluor Idaho	IN
6	Lawrence Livermore National Laboratory	LL
7	Los Alamos National Laboratory	LA
8	Mission Support and Test Services, LLC	DP
9	Navarro	IT
10	Nuclear Fuel Services	NF
11	Oak Ridge National Laboratory – UT-Battelle	OL
12	Oak Ridge Reservation (UCOR)	OR
13	Pantex	PX
14	PermaFix	PF
15	Portsmouth Gaseous Diffusion Plant	PO
16	Sandia National Laboratory	SA
17	TRU Waste Processing Center	FW
18	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 2020

	APPROVED MOTOR CARRIER	CARRIER CODE
1	Bennett Secured Transport, LLC	BSTM
2	Buffalo Fuel Corporation	BUFI
3	CAST Transportation	COLO
4	Hittman Transport	HITT
5	Hubbard Trucking	HTAL
6	Interstate Ventures	ITSV
7	Landstar Ranger, Inc.	LRGR
8	M.P. Environmental Services, Inc.	MPES
9	R S B Logistics	RSBI
10	Specialty Transport, Inc.	MAJH
11	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 2020. Table 5 provides a summary of NNSS onsite transfers of LLW and MLLW in

FY 2020. Table 6 provides a summary of all CNR and CNRH waste shipments received at the NNSS in FY 2020. The three tables include a summary for FY 2020 in the “Total” column.

TABLE 4. OFFSITE SHIPMENTS OF LLW AND MLLW TRANSPORTED TO THE NNSS IN FY 2020

OFFSITE INBOUND SHIPMENTS	SHIPMENTS BY QUARTER				
Generator, State(s)	1 st	2 nd	3 rd	4 th	Total
Aberdeen Proving Ground, MD	3	0			3
Brookhaven National Laboratory, NY	0	1			1
DUF6 Conversion Project, TN	1	0			1
Energy Solutions, TN	0	2			2
Idaho National Laboratory – Advanced Mixed Waste Treatment Project, ID	5	9			14
Idaho National Laboratory – Battelle Energy Alliance, ID	7	10			17
Idaho National Laboratory – Fluor Idaho, ID	10	2			12
Lawrence Livermore National Laboratory, CA	4	7			11
Los Alamos National Laboratory, NM	3	6			9
Mission Support and Test Services, LLC, NV	2	0			2
Navarro, NV	1	1			2
Nuclear Fuel Services, TN	4	2			6
Oak Ridge National Laboratory – UT-Battelle, TN	2	3			5
Oak Ridge Reservation (UCOR), TN	141	107			248
Paducah Gaseous Diffusion Plant, KY	1	0			1
Pantex, TX	0	2			2
PermaFix, TN, WA, and FL	4	56			60
Portsmouth Gaseous Diffusion Plant, OH	6	20			26
Sandia National Laboratory, NM	0	3			3
TRU Waste Processing Center, TN	1	1			2
West Valley, NY	13	6			19
Total Shipments	208	238			446

TABLE 5. NNSS ONSITE TRANSFERS OF LLW AND MLLW IN FY 2020

ONSITE TRANSFERS	SHIPMENTS BY QUARTER				
Generator, State	1 st	2 nd	3 rd	4 th	Total
Mission Support and Test Services, NV	3	5			8
Total Shipments	3	5			8

TABLE 6. CNR AND CNRH SHIPMENTS TRANSPORTED TO THE NNSS IN FY 2020

OFFSITE INBOUND SHIPMENTS	SHIPMENTS BY QUARTER				
Generator, State	1 st	2 nd	3 rd	4 th	Total
Idaho National Laboratory – Battelle Energy Alliance, ID	0	2			2
Sandia National Laboratory, NM	0	1			1
Total Shipments	0	3			3

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 2020. Figure 1 provides a graphic depiction of waste shipment routes traveled to the NNSS for the second quarter of FY 2020.

TABLE 7. SHIPMENT ROUTES FOR THE SECOND QUARTER OF FY 2020

LOW-LEVEL, MIXED LOW-LEVEL & CLASSIFIED NON-RADIOACTIVE WASTE SHIPMENTS TO/ON THE NEVADA NATIONAL SECURITY SITE																						
SECOND QUARTER REPORT, FY 2020 (JANUARY, FEBRUARY, MARCH 2020)																						
Route Type	Route Description	Route Legend	Origin State>>	CA	ID	ID	ID	NM	NM	NV	NV	NY	NY	OH	TN, WA, FL	TN	TN	TN	TN	TX		
																					Total Shipments by Route	Lawrence Livermore National Laboratory
CALIFORNIA	I-15, CA-127, NV-373, US-95			5											48							
SOUTHERN	I-40, US-93, AZ-68, NV-163, US-95, NV-164, I-15, NV-160, US-95						1	4							20	5	2	2	104	2	1	2
SOUTHERN	I-40, US-93, AZ-68, NV-163, US-95, NV-164, I-15, CA-127, NV-373, US-95						3															
SOUTHERN	I-40, US-95, NV-164, I-15, NV-160, US-95					1													3			
SOUTHERN	I-40, US-95, NV-164, I-15, CA-127, NV-373, US-95						2															
SOUTHERN	I-40, I-15, NV-160, US-95			2																		
SOUTHERN	I-40, I-15, CA-127, NV-373, US-95																			1		
NORTHERN	US-50, US-6/50, US-6, US-95												1									
NORTHERN	US-6, US-95 (TTR)										1											
NORTHERN	I-80, US-93-ALT, US-6, US-95					2								6								
NORTHERN	US-93, US-6, US-95				9	9	2								3							
ON-SITE	On-Site Shipments	N/A								5												
Total Shipments by Generator>>>				246	7	9	12	2	6	4	5	1	1	6	20	56	2	2	107	3	1	2
Total Volume (ft ³) by Generator>>>				167,642	8,336	6,644	7,362	1,589	3,514	1,630	358	1,280	482	5,543	15,886	43,512	866	1,397	59,960	4,591	1,972	2,720

FIGURE 1. ROUTES TRAVELLED TO THE NNSS IN THE SECOND QUARTER OF FY 2020



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3.0 INCIDENT/ACCIDENT DATA

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 DOE 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, the Director of DOE Office of Packaging and Transportation and the NNSA/NFO Assistant Manager for EM established notification criteria 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 personnel whenever a discrepancy, non-compliance, or inadequate performance is identified, or if a transportation incident or emergency situation occurs.

MSTS, a contractor to 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 second quarter of FY 2020.

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4.0 EVALUATION OF SHIPPING CAMPAIGNS

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 NNSSWAC and DOT regulations. Generators and their contracted shipping carriers must be diligent with regard to all requirements including packaging, routing, and shipping documentation.

The NNSW Radioactive Waste Acceptance Program (RWAP) provides oversight of NNSW 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 2020.

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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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