

Annual Transportation Report for Radioactive Waste Shipments to and from the Nevada National Security Site



Fiscal Year 2011

June 2012

U.S. Department of Energy
National Nuclear Security Administration
Nevada Site Office

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ANNUAL TRANSPORTATION REPORT FY 2011

**Radioactive Waste Shipments
to and from the Nevada National Security Site (NNSS)**

June 2012

**United States Department of Energy
National Nuclear Security Administration
Nevada Site Office
Las Vegas, Nevada**

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TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
2.0	SUMMARY OF WASTE SHIPMENTS (FY 2011).....	1
	2.1 Waste Transporters (Motor Carriers).....	4
	2.2 Shipments and Volume.....	6
	2.3 Transportation Routes.....	7
	2.4 Transportation Route Reporting.....	11
3.0	INCIDENT/ACCIDENT DATA.....	11
4.0	EVALUATION OF SHIPPING CAMPAIGNS.....	12
5.0	REFERENCES.....	12
6.0	POINTS OF CONTACT.....	12
7.0	ACRONYM LIST.....	13
8.0	DISTRIBUTION LIST.....	13

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1.0 INTRODUCTION

This report satisfies the Department of Energy (DOE), National Nuclear Security Administration Nevada Site Office (NNSA/NSO) commitment to prepare an annual summary report of nuclear waste shipments to and from the Nevada National Security Site (NNSS) (formerly known as the Nevada Test Site) Radioactive Waste Management Sites (RWMSs) at Area 5 and Area 3. This report summarizes the fiscal year (FY) 2011 low-level radioactive waste (LLW) and mixed low-level radioactive waste (MLLW) shipments and was prepared in accordance with Section 4.1.1 (Commitments) of the “Nevada Test Site Environmental Impact Statement, Mitigation Action Plan” (February 1997) specifications.

Tabular summaries are provided which include the following data:

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

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

2.0 SUMMARY OF WASTE SHIPMENTS (FY 2011)

LLW Received from Off-site Generators

A total of 1,654,175 cubic feet (ft³) of LLW was disposed at the NNSS in FY 2011, consisting of 2,279 inbound/off-site shipments, from 25 approved generators. These shipments were transported using 18 approved motor carriers (including government vehicles).

MLLW Received from Off-site Generators

A total of 54,083 ft³ of MLLW was disposed at the NNSS in 109 inbound/off-site shipments in FY 2011, from 8 approved generators. These shipments were transported using 8 approved motor carriers (including government vehicles).

Total LLW and MLLW Received from Off-site Generators

A total of 1,708,258 ft³ of LLW and MLLW was disposed at the NNSS in FY 2011 by 25 approved generators in 2,388 shipments, transported using 18 approved motor carriers.

NNSS On-site LLW

Two approved NNSS on-site generators disposed 55,824 ft³ of LLW in 174 on-site transfers. Government (contractor) vehicles were used for these transfers.

NNSS On-site MLLW

One NNSS on-site generator made 9 on-site transfers that accounted for 2,172 ft³ of MLLW disposed at the NNSS. Government (contractor) vehicles were used for these transfers.

Total NNSS On-site LLW/MLLW

A total of 183 NNSS on-site transfers of LLW/MLLW, accounting for 57,996 ft³ were made by two on-site generators.

Table 1 provides a summary of inbound, outbound, and on-site shipments for FY 2011. Names and codes for approved generators and carriers used in this report are located in Tables 2 and 3, respectively.

Table 1. FY 2011 NNSS Inbound, Outbound and On-site Summary Information

Inbound	Off-site Generators	NNSS Generators	Approved Carriers	Shipments	Volume ft³
LLW (off-site)	25	2	18	2,279	1,654,175
MLLW (off-site)	8	0	8	109	54,083
LLW (on-site)	0	2	1	174	55,824
MLLW (on-site)	0	1	1	9	2,172
Totals				2,571	1,766,254

Table 2. List of Approved Generators Shipping To/On the NNSS in FY 2011

	APPROVED GENERATOR, STATE	GENERATOR CODE
1	ABERDEEN PROVING GROUND, MD	AP
2	ADVANCED MIXED WASTE TREATMENT PROJECT, ID	AM
3	ARGONNE NATIONAL LABORATORY, IL	AE
4	BABCOX & WILCOX TECHNICAL SERVICES Y-12, TN	BW
5	BATELLE ENERGY ALLIANCE, ID	NE
6	BOEING COMPANY, CA	BN
7	BROOKHAVEN NATIONAL LABORATORY, NY	BR
8	DURATEK/ENERGYSOLUTIONS, TN	DR
9	ENERGX ARGONNE NATIONAL LABORATORY, IL	EN
10	IDAHO NATIONAL LABORATORY, ID	IN
11	LAWRENCE LIVERMORE NATIONAL LABORATORY, CA	LL
12	LOS ALAMOS NATIONAL LABORATORY, NM	LA
13	NATIONAL SECURITY TECHNOLOGIES, NV	DP
14	NAVARRO-INTERA LLC, NV	IT
15	NUCLEAR FUEL SERVICES, TN	NF
16	OAK RIDGE RESERVATION, TN	OR
17	PADUCAH GASEOUS DIFFUSION PLANT, KY	PD
18	PANTEX PLANT, TX	PX
19	PERMA-FIX (M&EC), TN, WA, CA	PF
20	PORTSMOUTH GASEOUS DIFFUSION PLANT, OH	PO
21	PRINCETON PLASMA PHYSICS LABORATORY, NJ	PL
22	SANDIA NATIONAL LABORATORIES, NM	SA
23	SAVANNAH RIVER SITE, SC	SR
24	WASTREN ADVANTAGE INC., TN	FW
25	WEST VALLEY ENVIRONMENTAL SERVICES, NY	WV

Table 3. List of Approved Motor Carriers Utilized in FY 2011

	APPROVED MOTOR CARRIER	CARRIER CODE
1	AJ METLER	MAJH
2	BUFFALO FUEL CORPORATION	BUFI
3	CAST TRANSPORTATION	COLO
4	FEDEX CUSTOM CRITICAL	FDCC
5	FLUID TRANSPORTS	FLAI
6	GOVERNMENT VEHICLE	GT+
7	HITTMAN TRANSPORT	HITT
8	HUBBARD TRUCKING	HTAL
9	INTERSTATE VENTURES	ITSV
10	LANDSTAR LIGON	LIGS
11	LANDSTAR RANGER	LRGR
12	MP ENVIRONMENTAL	MPES
13	R & R TRUCKING	RRUK

14	RSB LOGISTICS	RSBI
15	SAVAGE LOGISTICS	SVGH
16	SOUTHERN FREIGHT LOGISITICS	SFLG
17	TRI-STATE MOTOR TRANSIT	TSMT
18	VISIONARY SOLUTIONS	VSOL

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 generator. Generators often use more than one motor carrier to facilitate their shipments. Table 4a and Table 4b identify each generator and the corresponding carrier(s) used to transport off-site MLLW and LLW shipments to the NNSS, respectively. The NNSS did not transport any LLW or MLLW off-site to treatment or disposal facilities in FY 2011. Government trucks were used for on-site transfers of LLW and MLLW.

A total of 16 NNSS inbound LLW shipments were transported via intermodal (rail/highway) in FY 2011. These shipments were transported from their origination point at Nuclear Fuel Services, Tennessee via rail to a rail siding in Parker, Arizona where they were offloaded and transported via approved motor carrier (COLO) to the NNSS.

Table 4a. Waste Transporters Utilized by Generators for Inbound/Off-site MLLW Shipments (number of shipments).

CARRIER NAME	AM	BW	DR	FW	IN	PD	PF	SA	TOTALS
A.J. METLER		5							5
CAST TRANSPORTATION							46		46
FLUID TRANSPORTS						1		3	4
HITTMAN TRANSPORT			5	2		1	4		12
R & R TRUCKING							2		2
SAVAGE LOGISTICS							7		7
TRI-STATE MOTOR TRANSIT	9				16				25
VISIONARY SOLUTIONS				8					8
TOTALS	9	5	5	10	16	2	59	3	109

Table 4b. Waste Transporters Utilized by Generators for Inbound/Off-site LLW Shipments (number of shipments).

CARRIER NAME	AE	AM	AP	BN	BR	BW	DP	DR	EN	FW	IN	IT	LA	LL	NE	NF	OR	PD	PF	PL	PO	PX	SA	SR	WV	TOTALS
A.J. METLER						262			1				8			24	110	2			3					410
BUFFALO FUEL CORPORATION																									30	30
CAST TRANSPORTATION			2				4	311	198			1	225			16				38		4			141	940
FEDEX CUSTOM CRITICAL													1													1
FLUID TRANSPORTS																		1				4	4			9
GOVERNMENT TRUCK														5												5
HITTMAN TRANSPORT					2		4	12							2			8	2							30
HUBBARD TRUCKING						26											9				56					91
INTERSTATE VENTURES							10			1																11
LANDSTAR LIGON														6												6
LANDSTAR RANGER					1		1	2																250		254
MP ENVIRONMENTAL				2									19													21
R & R TRUCKING	3		4																3		117					127
RSB LOGISTICS					4																					4
SAVAGE LOGISTICS																			1							1
SOUTHERN FREIGHT LOGISTICS																1										1
TRI-STATE MOTOR TRANSIT	17	47	3			46			85		39			11	52			22		1	1					324
VISIONARY SOLUTIONS										14																14
TOTALS	20	47	9	2	7	334	19	325	284	15	39	1	253	22	54	41	119	33	44	1	181	4	4	391	30	2279

2.2 Shipments and Volume

Table 5 (a.-d.) provides a summary of all LLW and MLLW shipments, including volume, to and from the NNSC during FY 2011. Note in Table 5a, Nevada generators National Security Technologies and Navarro-Interra performed offsite shipments from Texas and Nevada, respectively.

Table 5a. Shipments and Volumes of Off-site LLW Transported to the NNSC

Off-site Inbound LLW Shipments Generator, State	Shipments by Quarter					Volume (ft ³)
	1st	2nd	3rd	4 th	Total	
ABERDEEN PROVING GROUND, MD	2	4	0	3	9	4,463
ADVANCED MIXED WASTE TREATMENT PROJECT, ID	23	11	5	8	47	63,798
ARGONNE NATIONAL LABORATORY, IL	10	1	3	6	20	20,394
BABCOX & WILCOX TECHNICAL SERVICES Y-12, TN	107	62	110	55	334	445,480
BATELLE ENERGY ALLIANCE, ID	11	9	14	20	54	48,800
BOEING COMPANY, CA	0	2	0	0	2	575
BROOKHAVEN NATIONAL LABORATORY, NY	2	1	4	0	7	12,354
DURATEK/ENERGYSOLUTIONS, TN	1	82	199	43	325	190,872
ENERGX ARGONNE NATIONAL LABORATORY, IL	242	12	2	28	284	159,100
IDAHO NATIONAL LABORATORY, ID	22	8	5	4	39	12,664
LAWRENCE LIVERMORE NATIONAL LABORATORY, CA	3	3	6	10	22	33,206
LOS ALAMOS NATIONAL LABORATORY, NM	0	0	55	198	253	177,119
NATIONAL SECURITY TECHNOLOGIES, NV	7	0	0	12	19	28,383
NAVARRO-INTERRA LLC, NV	1	0	0	0	1	50
NUCLEAR FUELS SERVICES, TN	12	14	6	9	41	45,550
OAK RIDGE RESERVATION, TN	11	35	55	18	119	105,341
PADUCAH GASEOUS DIFFUSION PLANT, KY	6	1	3	23	33	30,142
PANTEX PLANT, TX	2	0	1	1	4	5,440
PERMAFIX (M&EC), TN, WA, CA	14	16	7	7	44	10,280
PORTSMOUTH GASEOUS DIFFUSION PLANT, OH	84	72	0	25	181	60,032
PRINCETON PLASMA PHYSICS LABORATORY, NJ	0	0	0	1	1	721
SANDIA NATIONAL LABORATORIES, NM	0	0	2	2	4	1,479
SAVANNAH RIVER SITE, SC	0	85	235	71	391	137,728
WASTREN ADVANTAGE INC., TN	1	6	4	4	15	18,706
WEST VALLEY ENVIRONMENTAL SERVICES, NY	14	0	2	14	30	41,498
Total Shipments	575	424	718	562	2,279	1,654,175

Table 5b. Shipments and Volumes of Off-site MLLW Transported to the NNSC

Off-site Inbound MLLW Shipments Generator, State	Shipments by Quarter					Volume (ft ³)
	1st	2nd	3rd	4 th	Total	
ADVANCED MIXED WASTE TREATMENT PROJECT, ID	0	0	7	2	9	2,560
BABCOX & WILCOX TECHNICAL SERVICES Y-12, TN	0	0	0	5	5	9,365
DURATEK/ENERGYSOLUTIONS, TN	0	0	4	1	5	1,920
WASTREN ADVANTAGE INC., TN	0	5	4	1	10	17,505
IDAHO NATIONAL LABORATORY, ID	5	2	6	3	16	4,226
PADUCAH GASEOUS DIFFUSION PLANT, KY	0	0	1	1	2	295
PERMAFIX (M&EC), TN, WA, CA	15	21	16	7	59	17,733
SANDIA NATIONAL LABORATORIES, NM	0	0	2	1	3	479
Total Shipments	20	28	40	21	109	54,083

Table 5c. Transfers and Volumes of On-site LLW Transfers on the NNSS

On-site LLW Transfers Generator, State	Shipments by Quarter					Volume (ft3)
	1st	2nd	3rd	4 th	Total	
National Security Technologies, NV	14	145	5	3	167	53,168
Navarro-Intera, LLC, NV	0	0	5	2	7	2,656
Total	14	145	10	5	174	55,824

Table 5d. Transfers and Volumes of On-site MLLW Transfers on the NNSS

On-site MLLW Transfers Generator, State	Shipments by Quarter					Volume (ft3)
	1st	2nd	3 rd	4 th	Total	
National Security Technologies, NV	3	1	4	1	9	2,172
Total	3	1	4	1	9	2,172

2.3 Transportation Routes

Twenty-five approved generators shipped LLW and MLLW to the NNSS for disposal in FY 2011. Table 6 provides specific routes utilized by each generator and the number of shipments in FY 2011. Figures 1 and 2 provide graphical interpretations of the general cross country and regional transportation routes, respectively.

**Figure 1 - FY 2011 National
Low-Level and Mixed Low-Level Waste General Transportation Routes
to/from the Nevada National Security Site**



Table 6. Shipment Summary of Off-site, Inbound Regional Routes for FY 2011

ROUTE DESCRIPTION	AE	AM	AP	BN	BR	BW	DP	DR	EN	FW	IN	IT	LA	LL	NE	NF	OR	PD	PF	PL	PO	PX	SA	SR	WV	TOTALS
I-15, CA-127, CA-178, NV-372, NV-160, US-95					1			248						4												253
I-15, CA-127, NV-373, US-95				2		1		14	1					13							3					34
I-15, NV-160, US-95								49						1				1						1		52
I-40, I-15, CA-127, CA-178, NV-372, NV-160, US-95					1				1																	2
I-40, I-15, NV-160, US-95																								1		1
I-40, US-93, AZ-68, NV-163, US-95, NV-164, I-15, NV-160, US-95	2					8			2	2							1					1		48		64
I-40, US-95, NV-164, I-15, CA-127, CA-178, NV-372, NV-160, US-95						1										1								2		4
I-40, US-95, NV-164, I-15, CA-127, NV-373, US-95								1	8				7													16
I-40, US-95, NV-164, I-15, NV-160, US-95	6		9			328	15	14	121	23			246	4	8	40	118	33	94		178	3	7	339		1586
I-80, US-93-ALT, US-6, US-95	12	26			1	1	3	2	71		25				36				8	1					30	216
I-80, US-95 (RENO)								2			4															6
US-50, US-6/50, US-6, US-95					4		1		79									1								85
US-6, US-95 (TTR)												1														1
US-93, US-6, US-95		30							1		26				10				1							68
TOTALS	20	56	9	2	7	339	19	330	284	25	55	1	253	22	54	41	119	35	103	1	181	4	7	391	30	2388

* 16 shipments were shipped via rail to Parker, AZ then transported via motor carrier to the NNSS.



2.4 Transportation Route Reporting

As a result of obligations made by former DOE Secretary Richardson, the transportation of NNSS inbound radioactive waste shipments through the Las Vegas I-15 and US-95 Interchange (Spaghetti Bowl) has essentially ceased since FY 2000.

The DOE, NNSA/NSO continues to engage in discussions with nuclear waste generators regarding avoiding the Las Vegas Metropolitan Area. The NNSS Waste Acceptance Criteria includes wording requiring generators, who ship to the NNSS, to notify their carriers to avoid this area.

Due to the events of September 11, 2001, tractor trailers continue to be restricted from travel near the Hoover Dam. Radioactive waste transportation to the NNSS, regardless of DOT classification, shall avoid the O'Callaghan-Tillman Memorial Bridge (i.e., Hoover Dam bypass bridge).

There were no LLW/MLLW shipments transported through the Spaghetti Bowl and none on the O'Callaghan-Tillman Memorial Bridge during FY 2011.

NNSA/NSO also continues to prepare quarterly reports disclosing which routes transporters use to reach the NNSS. These reports may be found on the Internet at <http://www.nv.doe.gov/emprograms/transportationreports.aspx>.

3.0 INCIDENT/ACCIDENT DATA

There were no U.S. Department of Transportation reportable transportation incidents involving LLW or MLLW being transported to the NNSS in FY 2011. For the purpose of this report, an incident is defined as a traffic-related accident, a load shift, or a reported leaking/breached package which occurs during transportation.

Nuclear waste generators are instructed to notify the NNSA/NSO Assistant Manager of Environmental Management whenever a discrepancy, non-compliance, or inadequate performance is identified; or if a transportation incident or emergency situation occurs.

National Security Technologies (NSTec) personnel control NNSA/NSO waste receipt and disposal activities at the NNSS and are responsible for notifying appropriate personnel regarding any non-compliant or refused radioactive waste shipments. NSTec personnel also immediately notify generators in the event of any shipping discrepancies.

4.0 EVALUATION OF SHIPPING CAMPAIGNS

None of the 2,388 off-site NNSS inbound shipments experienced incidents, as defined in Section 3, while in transit to the NNSS. None of the 183 on-site transfers experienced incidents while being transported on the NNSS.

5.0 REFERENCES

The primary sources of shipment information in this report are records kept by the NSTec Waste Management Program, who manages the NNSS RWMSs at Area 3 and Area 5. These records provide detailed information on each shipment of LLW and MLLW (dates received, generators, number and type of waste packages, volumes, weight, carrier, and final disposition of shipments). In addition, incident and accident information is gathered from other NSTec and NNSA/NSO correspondence and through personal communication with NNSA/NSO managers, NSTec management and program personnel, representatives from the waste generator facilities, and carrier personnel. Route information is gathered from quarterly routing reports generated by NNSA/NSO.

The following source documents are incorporated by reference:

- U.S. Department of Energy, Nevada Operations Office, "Final Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada" DOE/EIS 0243, Las Vegas, Nevada, August 1996.
- U.S. Department of Energy, Nevada Operations Office, "Mitigation Action Plan - Final Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada" DOE/EIS 0243, Las Vegas, Nevada, February 1997.
- 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, 2011.

6.0 POINTS OF CONTACT

Please contact the following personnel for questions concerning the transportation of radioactive waste at the NNSS or for requests for information relating to waste management and NNSA/NSO operations.

WASTE MANAGEMENT

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7.0 ACRONYM LIST

ft³	Cubic Feet
CFR	Code of Federal Regulations
DOE	U.S. Department of Energy
FY	Fiscal Year
LLW	Low-Level Radioactive Waste
MLLW	Mixed Low-Level Radioactive Waste
NNSA/NSO	National Nuclear Security Administration, Nevada Site Office
NSTec	National Security Technologies, LLC
NNSS	Nevada National Security Site
RWMS	Radioactive Waste Management Sites

A list of generator and carrier codes can be found on page 3.

8.0 DISTRIBUTION LIST

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