



DOE/NV--1453

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



## Fiscal Year 2010

June 2011

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

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# **ANNUAL TRANSPORTATION REPORT FY 2010**

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

**June 2011**

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

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## 1.0 INTRODUCTION

This report satisfies the 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 (NNS) (formerly known as the Nevada Test Site) Radioactive Waste Management Sites (RWMS) at Area 5 and Area 3. This report summarizes the fiscal year (FY) 2010 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 NNS;
- 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.

## 2.0 SUMMARY OF WASTE SHIPMENTS (FY 2010)

### LLW Received from Off-Site Generators

A total of 2,067,731 cubic feet (ft<sup>3</sup>) of LLW was disposed at the NNS in FY 2010, consisting of 2,763 inbound/off-site shipments, from 21 approved generators. This includes thirteen shipments from an approved on-site generator, transporting LLW from an environmental restoration site on the Nevada Test and Training Range. These shipments were transported using 16 approved motor carriers (including government vehicles).

### MLLW Received from Off-Site Generators

A total of 71,036 ft<sup>3</sup> of MLLW was disposed at the NNS in 104 inbound/off-site shipments in FY 2010, from seven approved generators. These shipments were transported using 10 approved motor carriers (including government vehicles).

### Total LLW and MLLW Received from Off-Site Generators

A total of 2,138,767 ft<sup>3</sup> of LLW was disposed at the NNS in FY 2010 by 21 approved generators in 2,867 shipments, transported using 16 approved motor carriers.

### NNS On-Site LLW

Two approved NNS on-site generators disposed 205,949 ft<sup>3</sup> of LLW in 537 on-site transfers. Government (contractor) vehicles were used for these transfers.

### NNS On-Site MLLW

One NNS on-site generator made five on-site transfers that accounted for 2,336

ft<sup>3</sup> of MLLW disposed at the NNSS. Government (contractor) vehicles were used for these transfers.

Total NNSS On-Site LLW/MLLW

A total of 542 NNSS on-site transfers of LLW/MLLW, accounting for 208,285 ft<sup>3</sup> were made by two on-site generators.

Table 1 provides a summary of inbound, outbound, and on-site shipments for FY 2010. Names and codes for approved generators and carriers used in this report are located in Tables 2 and 3, respectively.

**Table 1. FY 2010 NNSS Inbound, Outbound and On-site Summary Information**

Inbound	Off-site Generators	NNSS Generators	Approved Carriers	Shipments	Volume ft <sup>3</sup>
LLW (off-site)	21	0	16	2,763	2,067,731
MLLW (off-site)	7	0	10	104	71,036
LLW (on-site)	0	2	1	537	205,949
MLLW (on-site)	0	1	1	5	2,336
<b>Totals</b>				<b>3,409</b>	<b>2,347,052</b>



**Table 2. List of Approved Generators Shipping To/On the NNSS in FY2010**

	<b>APPROVED GENERATOR, STATE</b>	<b>GENERATOR CODE</b>
1	ADVANCED MIXED WASTE TREATMENT PROJECT, ID	AM
2	ARGONNE NATIONAL LABORATORY, IL	AE
3	BABCOX & WILCOX TECHNICAL SERVICES Y-12, TN	BW
4	BATELLE ENERGY ALLIANCE, ID	NE
5	BROOKHAVEN NATIONAL LABORATORY, NY	BR
6	DURATEK/ENERGYSOLUTIONS, TN	DR
7	ENERGX ARGONNE NATIONAL LABORATORY, IL	EN
8	IDAHO NATIONAL LABORATORY, ID	IN
9	LAWRENCE LIVERMORE NATIONAL LABORATORY, CA	LL
10	LOS ALAMOS NATIONAL LABORATORY, NM	LA
11	NATIONAL SECURITY TECHNOLOGIES, NV	DP
12	NAVARRO-INTERRA LLC, NV	IT
13	NUCLEAR FUEL SERVICES, TN	NF
14	OAK RIDGE RESERVATION, TN	OR
15	PADUCAH GASEOUS DIFFUSION PLANT, KY	PD
16	PANTEX PLANT, TX	PX
17	PERMAFIX (M&EC), TN, WA, CA	PF
18	PORTSMOUTH GASEOUS DIFFUSION PLANT, OH	PO
19	PRINCETON PLASMA PHYSICS LABORATORY, NJ	PL
20	SANDIA NATIONAL LABORATORIES, NM	SA
21	UT-BATTELLE, TN	OL
22	WASTREN ADVANTAGE INC., TN	FW

**Table 3. List of Approved Motor Carriers Utilized in FY 2010**

	<b>APPROVED MOTOR CARRIER</b>	<b>CARRIER CODE</b>
1	AJ METLER	MAJH
2	CAST TRANSPORTATION	COLO
3	FLUID TRANSPORTS	FLAI
4	GOVERNMENT VEHICLE	GT+
5	HITTMAN TRANSPORT	HITT
6	HUBBARD TRUCKING	HTAL
7	LANDSTAR INWAY	LDWY
8	LANDSTAR LIGON	LIGS
9	LANDSTAR RANGER	LRGR
10	MP ENVIRONMENTAL	MPES
11	R & R TRUCKING	RRUK
12	RSB LOGISTICS	RSBI
13	SAVAGE LOGISTICS	SVGH
14	SOUTHERN FREIGHT LOGISITICS	SFLG
15	TRI-STATE MOTOR TRANSIT	TSMT
16	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 LLW and MLLW shipments to the NNS. The NNS did not transport any LLW or MLLW off-site to treatment or disposal facilities in FY 2010. Government trucks were used for on-site transfers of LLW and MLLW.

A total of 20 NNS inbound LLW shipments were transported via intermodal (rail/highway) in FY 2010. 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 NNS.

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

CARRIER NAME	BW	DR	FW	IN	PD	PF	SA	TOTALS
A.J. METLER					6			6
CAST TRANSPORTATION						29		29
FLUID TRANSPORTS							3	3
GOVERNMENT TRUCK								0
HITTMAN TRANSPORT		6				4		10
INTERSTATE VENTURES			4					4
R & R TRUCKING						1		1
SAVAGE LOGISTICS						16		16
TRI-STATE MOTOR TRANSIT	8			16				24
VISIONARY SOLUTIONS			11					11
	<b>8</b>	<b>6</b>	<b>15</b>	<b>16</b>	<b>6</b>	<b>50</b>	<b>3</b>	<b>104</b>

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

CARRIER NAME	AE	AM	BR	BW	DR	EN	FW	IN	IT	LA	LL	NE	NF	OL	OR	PD	PF	PL	PO	PX	SA	TOTAL
A.J. METLER	16			312									18		52	34	9		26			467
CAST TRANSPORTATION	6			6	5	304			13				28	1			942		13			1318
FLUID TRANSPORTS																			41	3	3	47
GOVERNMENT TRUCK											7											7
HITTMAN TRANSPORT			28		9									3			9					49
HUBBARD TRUCKING				226											68				16			310
INTERSTATE VENTURES							1															1
LANDSTAR INWAY			4																			4
LANDSTAR LIGON			9								1											10
LANDSTAR RANGER			21																			21
MP ENVIRONMENTAL										2												2
R & R TRUCKING	13										4						3		121			141
RSB LOGISTICS			2																			2
SAVAGE LOGISTICS																	2					2
FREIGHT LOGISTICS													1									1
TRI-STATE MOTOR TRANSIT	16	72		34	3	64		60			10	66			6	37		1				369
VISIONARY SOLUTIONS							12															12
	51	72	64	578	17	368	13	60	13	2	22	66	47	4	126	71	965	1	217	3	3	2763

## 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 2010.

**Table 5a. Shipments and Volumes of LLW Transported to the NNSC (FY 2010)**

Off-site Inbound LLW Shipments Generator, State	Shipments by Quarter					Volume (ft <sup>3</sup> )
	1st	2nd	3rd	4 <sup>th</sup>	Total	
ADVANCED MIXED WASTE TREATMENT PROJECT, ID	15	14	27	16	72	90,238
ARGONNE NATIONAL LABORATORY, IL	16	10	17	8	51	31,543
BABCOX & WILCOX TECHNICAL SERVICES Y-12, TN	97	105	231	145	578	866,011
BATELLE ENERGY ALLIANCE, ID	0	28	18	20	66	51,173
BROOKHAVEN NATIONAL LABORATORY, NY	1	16	37	10	64	40,903
DURATEK/ENERGYSOLUTIONS, TN	3	2	8	4	17	10,372
ENERGX ARGONNE NATIONAL LABORATORY, IL	0	0	64	304	368	186,450
IDAHO NATIONAL LABORATORY, ID	11	5	18	26	60	13,490
LAWRENCE LIVERMORE NATIONAL LABORATORY, CA	7	1	10	4	22	19,798
LOS ALAMOS NATIONAL LABORATORY, NM	0	0	2	0	2	989
NAVARRO-INTERRA LLC, NV	0	0	0	13	13	8,516
NUCLEAR FUEL SERVICES, TN	17	10	12	8	47	56,771
OAK RIDGE RESERVATION, TN	17	10	50	49	126	116,754
PADUCAH GASEOUS DIFFUSION PLANT, KY	1	8	23	39	71	95,423
PANTEX PLANT, TX	0	0	2	1	3	4,080
PERMAFIX (M&EC), TN, WA, CA	347	291	257	70	965	241,019
PORTSMOUTH GASEOUS DIFFUSION PLANT, OH	28	77	63	49	217	218,275
PRINCETON PLASMA PHYSICS LABORATORY, NJ	0	0	0	1	1	469
SANDIA NATIONAL LABORATORIES, NM	0	0	0	3	3	1,840
UT-BATELLE, TN	1	0	2	1	4	1,924
WASTREN ADVANTAGE INC., TN	0	1	4	8	13	11,693
<b>Total Shipments</b>	<b>561</b>	<b>578</b>	<b>845</b>	<b>779</b>	<b>2,763</b>	<b>2,067,731</b>

**Table 5b. Shipments and Volumes of MLLW Transported to the NNSC (FY 2010)**

Off-site Inbound MLLW Shipments Generator, State	Shipments by Quarter					Volume (ft <sup>3</sup> )
	1st	2nd	3rd	4 <sup>th</sup>	Total	
BABCOX & WILCOX TECHNICAL SERVICES Y-12, TN	0	0	8	0	8	4,706
DURATEK/ENERGYSOLUTIONS, TN	1	0	1	4	6	12,528
WASTREN ADVANTAGE INC., TN	2	5	5	3	15	25,427
IDAHO NATIONAL LABORATORY, ID	2	0	2	12	16	4,247
PADUCAH GASEOUS DIFFUSION PLANT, KY	0	6	0	0	6	7,001
PERMAFIX (M&EC), TN, WA, CA	19	3	9	19	50	16,045
SANDIA NATIONAL LABORATORIES, NM	0	1	0	2	3	1,082
<b>Total Shipments</b>	<b>24</b>	<b>15</b>	<b>25</b>	<b>40</b>	<b>104</b>	<b>71,036</b>

**Table 5c. Transfers and Volumes of LLW Transported on the NNSS (FY 2010)**

On-site LLW Transfers Generator, State	Shipments by Quarter					Volume (ft3)
	1st	2nd	3rd	4 <sup>th</sup>	Total	
National Security Technologies, NV	6	79	416	35	<b>536</b>	<b>205,868</b>
Navarro-Interra, LLC, NV	0	0	1	0	<b>1</b>	<b>81</b>
<b>Total</b>	<b>6</b>	<b>79</b>	<b>417</b>	<b>35</b>	<b>537</b>	<b>205,949</b>

**Table 5d. Transfers and Volumes of MLLW Transported on the NNSS (FY 2010)**

On-site MLLW Transfers Generator, State	Shipments by Quarter					Volume (ft3)
	1st	2nd	3 <sup>rd</sup>	4 <sup>th</sup>	Total	
National Security Technologies, NV	0	4	0	1	<b>5</b>	<b>2,336</b>
<b>Total</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>5</b>	<b>2,336</b>

### 2.3 Transportation Routes

Twenty-one approved generators shipped LLW and MLLW to the NNSS for disposal in FY 2010. Table 6 provides specific routes utilized by each generator and the number of shipments in FY 2010. Figures 1 and 2 provide graphical interpretations of the general cross country and regional transportation routes, respectively.

**Figure 1 - FY 2010 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 2010**

DESCRIPTION	AE	AM	BR	BW	DR	EN	FW	IN	IT	LA	LL	NE	NF*	OL	OR	PD	PF	PL	PO	PX	SA	TOTAL
I-15 (MESQUITE), I-215, US-95 (NORTH BELTWAY NON APPROVED)	1																	1				2
I-15, CA-127, CA-178, NV-372, NV-160, US-95											3						817					820
I-15, CA-127, NV-373, US-95					1						17						41					59
I-15, NV-160, US-95					1												67					68
I-40, I-15, CA-127, NV-373, US-95				2																		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	1		1	14			5				1				25							47
I-40, US-95, NV-164, I-15, CA-127, CA-178, NV-372, NV-160, US-95													1							1		2
I-40, US-95, NV-164, I-15, CA-127, NV-373, US-95				2	1	2				2												7
I-40, US-95, NV-164, I-15, NV-160, US-95	21		35	567	18	9	23	9			1	28	46	4	101	77	71		215	3	6	1234
I-80, I-80/ALT-95, US-95 (WINNEMUCCA)								2														2
I-80, US-93-ALT, US-6, US-95	28	46	21		1	195		18				29					18					356
I-80, US-95 (RENO)					1			2														3
US-50, US-6/50, US-6, US-95			7			162																169
US-6, US-95 (TTR)									13													13
US-93, US-6, US-95		26						45				9					2					82
	51	72	64	585	23	368	28	76	13	2	22	66	47	4	126	77	1016	1	217	3	6	2867

\* 20 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 substantially decreased since FY 2000.

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

Two LLW/MLLW shipments were transported through the Spaghetti Bowl during FY 2010. The generator was notified, a Corrective Action Request was issued, and the generator was suspended from shipping until corrective actions were implemented. A Corrective Action Plan, including actions to preclude recurrence was submitted by the generator and approved for implementation by the NNSS Radioactive Waste Acceptance Program.

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).

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 2010. 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.

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 paper discrepancies.

#### **4.0 EVALUATION OF SHIPPING CAMPAIGNS**

None of the 2,867 off-site NNSS inbound shipments experienced incidents while in transit to the NNSS. None of the 542 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 RWMS 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, 2010.

#### **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**

<b>ft<sup>3</sup></b>	Cubic Feet
<b>CFR</b>	Code of Federal Regulations
<b>DOE</b>	U.S. Department of Energy
<b>FY</b>	Fiscal Year
<b>LLW</b>	Low-Level Radioactive Waste
<b>MLLW</b>	Mixed Low-Level Radioactive Waste
<b>NNSA/NSO</b>	National Nuclear Security Administration Nevada Site Office
<b>NSTec</b>	National Security Technologies, LLC
<b>NNSS</b>	Nevada National Security Site
<b>RWMS</b>	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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