Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221

MAR 1 7 2016

RECEIVED
MAR 18 2016
NMED
Hazardous Waste Bureau

Mr. John E. Kieling, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Subject: Information Requested by the New Mexico Environment Department during the November 18, 2015, Inspection of the WIPP Facility, Permit Number NM4890139088-TSDF

Dear Mr. Kieling:

The purpose of this letter is to provide information requested by the New Mexico Environment Department (NMED), Hazardous Waste Bureau during the inspection of the WIPP Facility in Carlsbad, New Mexico, conducted on November 18, 2015. Accompanying this letter is a binder containing the documentation requested by the NMED.

We certify under penalty of law that this document and all attachments were prepared under our direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on our inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate, and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact Mr. George T. Basabilvazo at 575-234-7488.

Sincerely,

Todd Shrader, Manager
Carlsbad Field Office

Philip J. Breidenbach, Project Manager
Nuclear Waste Partnership LLC

Enclosure

cc: (w/o enclosure)
K. Roberts, NMED *ED
R. Maestas, NMED ED
CBFO M&RC
*ED denotes electronic distribution

160320

CBFO:EPD:GTB:ELN:16-0516:UFC 5486.00

bcc: (without enclosure)

G. Basabilvazo, CBFO	*ED
A. Stone, CBFO	ED
A. Ward, CBFO	ED
B. Babb, NWP	ED
Z. Cabrera, NWP	ED
D. Cook, NWP	ED
M. Gonzales, NWP	ED
A. Hill, NWP	ED
B. Hill, NWP	ED
C. Navarrette, NWP	ED
B. Shagula, NWP	ED
K. Day, RES	ED
R. Chavez, RES	ED
J. Haschets, RES	ED
S. Jones, RES	ED
S. Kouba, RES	ED
H. Moore, RES	ED
W. Most, RES	ED
R. Salness, RES	ED
A. Waldram, RES	ED

*ED denotes electronic distribution

2015 WIPP Permit Inspection:
NMED Request Description (5 items)
Date of Inspection: November 18, 2015
Note: WIPP Response Due on March 18, 2016

Compiled by the U. S. Department of Energy
for Submittal to the
New Mexico Environment Department
Hazardous Waste Bureau
March 15, 2016

160320

2015 WIPP Permit Inspection: NMED Request Description (5 Items) **Date of Inspection: November 18, 2015** **Note: WIPP Response Due on March 18, 2016**
1. (a) Information and data regarding any derived waste that has been generated and accumulated in the WHB from December 9, 2014 to November 18, 2015. Permit Condition 2.3.5. (b) Submit all manifests of low level WIPP waste to low level waste depositories from December 9, 2014 to November 18, 2015.
2. Documentation regarding all Occurrence Reports (except counterfeit parts) from December 9, 2014 to November 18, 2015. Permit Condition 1.7.
3. Photocopies of calibration records from December 9, 2014 through March 9, 2015 for all specific types of instruments (one for each instrument of each specific type) used to demonstrate Permit compliance with Attachments E, L, N, N1 and O. Radiological instruments are not considered to be demonstration of Permit compliance. Permit Condition 1.7.10
4. Training records (two individuals from each position title) of the following positions: Hazardous Waste Workers, TRU Mixed Waste Handlers, Facility Shift Engineers, Facility Shift managers, and Central Monitoring Room Operators. Inspector is requesting summary of training records for the time frame of December 9, 2014 through November 18, 2015. Permit Conditions Attachments F, F1 and F2.
5. Generate and provide a histogram from the WWIS database, plotting number of containers versus number of days in storage, demonstrating whether storage times were ever exceeded from December 9, 2014 through February 9, 2015. Permit Conditions Attachments F, F1, and F2.
Site Inspection Walk Through: November 18-19, 2015. **As part of the Inspection the following (but not limited to) items will be viewed by the NMED inspectors:** NOTE: The Site Inspection Walk Through covers a review of information that is included in some Attachments of the Administrative Order (AO) Monthly Reports and include: • Inspection of WIPP Site Inspection Records (Attachment 1) • Inspection of Waste Handling Building: TRU Mixed Waste in storage (Attachment 2) • Inspection of Surface Monitoring Activities (Attachment 3) • Inspection of Waste Handling Building: Derived Waste in storage (Attachment 4) (See numbers 1 through 6 below)
1. Random selection of Inspection data summarized in Attachment 1 of the AO Monthly Report: Underground Openings-Roof Bolts and Travelways.

2. Random selection of Inspection data summarized in Attachment 1 of the AO Monthly Report: Ambulances (Surface) and related emergency supplies and equipment.
3. Random selection of Inspection data summarized in Attachment 1 of the AO Monthly Report: Fire Extinguishers (Surface).
4. Random selection of Inspection data summarized in Attachment 1 of the Administrative Order Monthly Report: Fire Sprinkler Systems.
5. Random selection of Inspection data summarized in Attachment 1 of the Administrative Order Monthly Report: Rescue Trucks (Surface).
6. The NMED Inspectors will also want to visually inspect the following areas: • the less than 90 day storage area, • the surface SAA, • the Waste Handling Building (WHB), • the location of the current Contingency Plan, • the locations of air monitoring devices, • the two SSAs in the habitable underground.
There will be a closing meeting as soon as the NMED inspectors have concluded the 2015 Annual WIPP Permit Inspection.

QUESTION 1A

2015 WIPP Permit Inspection: NMED Request Description (5 items)

1(a) Information and data regarding any derived waste that has been generated and accumulated in the WHB from December 9, 2014 to November 18, 2015. Permit Condition 2.3.5.

- Total Number of Pages: 10

1(b) Submit all manifests of low level WIPP waste to low level waste depositories from December 9, 2014 to November 18, 2015.

Attachment 1 – Waste Container Log Sheet

WASTE CONTAINER LOG SHEET	Page 1 of 4
Shipment Number (1.1.5, 5.1.5): **N/A**	
Container ID (as received) (1.1.6, 5.1.6): **N/A**	
Container ID (to be emplaced) (1.1.7, 5.1.7): **WISD012**	
Waste Stream Profile (WSPF) # (1.1.8, 5.1.8): **See Comments**	
Gross Weight of Bagged Material (if applicable) (2.6, 3.7.1, 6.8): **11.72 kg**	
Origin (2.4, 3.7.1, 4.17, 6.6): **N/A**	
Contents (2.4, 3.7.1, 4.17, 6.6): **1- Tote Bag, 1-2foot x 2 foot x 1 foot Filter, 1- Cardboard Filter Box, 2- Poly Bags**	
Hazardous Waste Numbers (if applicable) (2.4, 3.7.1, 4.17, 6.6): **D004, D005, D006, D007, D008, D009, D010, D011, D018, D019, D021, D022, D026, D027, D028, D029, D030, D032, D033, D034, D035, D036, D037, D038, D039, D040, D043, F001, F002, F003, F004, F005, F006, F007, F009, U133**	
PCB Waste (circle appropriate results) YES (NO) Date (2.4, 3.7.1 , 4.17, 6.6): **03/01/2015**	
Initial pH Level (if applicable) (4.3): **N/A**	
pH Level After Neutralization (if applicable) (4.11): **N/A**	
Date Liquid Waste Solidified (if applicable) (4.24, 6.24): **N/A**	
Container Filter Torque Wrench Serial Number/Calibration Due Date (1.1.11, 5.1.11): **TL0710 / 04/14/2015**	
Date Container was Sealed (2.13, 4.24, 6.16): **03/01/2015**	
Comments: **WSPF# AERHDM, BN510.2, BN510.3, BNINW216, ID-ANLE-S5000, ID-RF-S3114, LA-CIN01.00, LA-MHD01.001, LA-MHD03.001, LA-MHD04.001, LA-MIN02-V.001, SR-221H-PU0X, SR-MD-PAD1, SR-W027-HBL-BOX** ALL WSPF #s will fall under WI-SD2014 TMS 4/9/15	
Performers responsible for each step completion, enter printed name, signature, initials, and date below:	
PAT SASSO [signature] [initials] 3/1/15	

Print Name PAT SASSO	Signature [signature]	Initials [initials]	Date 3/1/15

REVIEW		
PAT SASSO	[signature]	3/1/15
WHE (Print Name)	Signature	Date
VALIDATION		
Craig Suggs	[signature]	3/1/15
WHM (Print Name)	Signature	

COPY

Attachment 2 – Surface Site-Derived Waste Criteria Compliance Tag

WIPP SITE-DERIVED WASTE CRITERIA COMPLIANCE TAG	Page 2 of 4
Shipment Number (1.1.5, 5.1.5): **N/A**	
Container ID (as received) (1.1.6, 5.1.6): **N/A**	
Container ID (to be emplaced) (1.1.7, 5.1.7): **WISD012**	
WSPF # (1.1.8, 5.1.8): **See Attachment 1**	
Radiological Survey Number: 15-0507	
PCB Waste (circle appropriate results) YES (NO) Date (2.4, 4.17, 6.6): **3/1/15**	
Date Sealed (2.13, 4.24, 6.16): **3/1/15**	**CONTAINS NO PROHIBITED MATERIAL**

Pat Jasso		**3/1/15**
WHE (Print Name)	Signature	Date

MAXIMUM CONTACT DOSE RATE			MAXIMUM SURFACE REMOVABLE CONTAMINATION		
β-γ	<0.004	mR/h	a	<20	dpm/100cm^2
ή	<1.0	mR/h	β-γ	<200	dpm/100cm^2

J Cole	JCole	3.1.15
RCT (Printed Name)	Signature	Date

WHB configured for Waste Handling Mode (7.2)	WHE

Performers responsible for each step completion enter printed name, signature, initials, and date below:

Print Name	Signature	Initials	Date
PAT JASSO			3/1/15
Jason Cole	JCole	JC	3.1.15

REWIEW:

Pat Jasso		3/1/15
WHE (Print Name)	Signature	Date

VALIDATION

Craig Suggs		3/1/15
WHM (Print Name)	Signature	Date

COPY

Attachment 3 – WDS/WWIS Input Data Sheet, Surface Site-Derived Waste

WDS/WWIS INPUT DATA SHEET, SURFACE SITE-DERIVED WASTE		Page 3 of 4
FIELDS APPLICABLE TO DERIVED WASTE		
Shipment Number (1.1.5, 5.1.5)	**N/A**	
Container ID (1.1.6, 5.1.6)	Container ID as received ID # **N/A**	Data will be input to waste container comments in the WDS/WWIS
WIPP Site ID (1.1.7, 5.1.7)	Two-digit identification code assigned to WIPP (WI) plus container ID number as received ID # **WISD012**	WI Data will be input to CNTR-NUM in the WDS/WWIS
WSPF Number (1.1.8, 5.1.8)	WSPF for original shipment ID # **SEE COMMENTS ON ATTACHMENT 1**	Data will be input to waste container comments in the WDS/WWIS
Filter Model Number (1.1.13, 5.1.13)	Vendor model number of filter(s) used to vent container	**NUCFIL-013 IN419** **NUCFIL-013 IN420**
Filter Installation Date (1.1.14, 5.1.14)	Data filter was installed in waste container	**03/01/2015**
PCB Waste (2.4, 4.17, 6.6)	Circle appropriate results	YES (NO) Date **03/01/2015**
Fill Factor (2.12, 4.23, 6.14)	Estimated percentage of waste container volume occupied by the waste	**35 %**
Date Sealed (2.13, 4.24, 6.16)	Date waste container was closed	**03/01/2015**
Waste Type Code (2.18, 4.28, 6.20)	Code is "TRU" for nonmixed waste and "MTRU" for mixed waste	**MTRU**
Handling Code (2.18, 4.28, 6.20)	Code is "CH" for contact-handled or "RH" for remote-handled TRU waste	**CH**
Container Type Code (2.18, 4.28, 6.20)	3-digit container type code: 001 - 55-gallon drum; 002 – SWB; 006 – 85-gallon drum	**002**
Liner Type (1.1.2, 2.18, 4.28, 6.20)	Identifies type of container liner, if applicable	**POLY BAG**
Gross Weight (2.20, 4.30, 6.22)	Gross weight of a container	**301.72 kg**
Tare Weight (1.1.15, 5.1.15)	Tare weight of empty container	**290 kg**
Waste Weight (2.21, 4.31, 6.23)	Weight of waste inside container	**11.72 kg**

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Attachment 3 – WDS/WWIS Input Data Sheet, Surface Site-Derived Waste

List of Material Parameters [3, 4]		Page 4 of 4
WDS/WWIS Data Entry Code [2.5, 6.7]	Material Parameter	Material Parameter Weight (kg)
1	Iron-base metals/alloys	**2 kg**
2	Aluminum-base metals/alloys	
3	Other metals/alloys	
4	Other inorganic materials	
5	Cellulosics	**7 kg**
6	Rubber	
7	Plastic	**1.3 kg**
8	Solidified inorganic material	
9	Solidified organic material	
10	Soils	**0.09 kg**
11	Steel container materials	**290 kg**
12	Plastic/liners container materials	**0.69 kg**
13	Cellulosic packaging material	**0.64 kg**
14	Magnesium oxide	
15	Steel emplacement material	
16	Cellulosic emplacement material	
17	Rubber emplacement material	
18	Plastic emplacement material	

Description of Solidified Waste [4.16, 4.23]
N/A

REVIEW

Pat Jasso		3/1/15
WHE (Print Name)	Signature	Date

VALIDATION

Craig Suggs		3/1/15
WHM (Print Name)	Signature	Date

COPY

Report Statistics

Report Version:	**2.5.2**
WDS Instance:	**prd05.wipp.carlsbad.nm.us**
Generated on:	**May 06, 2015 01:23 PM**
Generated by:	**BATCHELDER, TERRY**
Total Pages:	**6**

Selection Criteria

Container Number: **WISD012**

COPY

Container: WISD012
Type: 2 - SWIS

Current Status
Extended Status: APPROVED CERT
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 03/01/2015
Waste Handling Code: CH
Disposal Date:

Current Location Site: WI
Generator Site: WI
Destination Site ID: WI
Certification Program ID: WI
Shipping Program ID: WI

Neutron Dose Rate (mrem/hr): 1.0
Beta Gamma Dose Rate (mrem/hr): 0.004
Total Dose Rate (mrem/hr): 1.004

FGE (g):
FGE Uncertainty (g):
Gross Weight (kg): 301.72
Gross Weight Uncert (kg):
Decay Heat (W):
Decay Heat Uncertainty (W):

Certification Data Values

Waste Stream Profile Code: WI-SD2014
Waste Type Code: MrRU
IDC Code: NONE
Waste Matrix Code: S5400
WAC Revision Number: 7.4
Fill Factor (%): 85.00
Waste Stream BIR ID: NONE
Waste Stream MWIR ID: NONE

TRU Alpha Activity (Ci):
TRU Alpha Activity Uncertainty (Ci):
TRU Alpha Activity Concentration (Ci/g):
PU 239 Equivalent Activity (PEUCi):
Alpha Surface Contamination (dpm/cm^2): 20.0
Beta/Gamma Surface Contamination (dpm/cm^2): 200.0

Transportation Data Values

Closure Date: 03/01/2015
Vent Date: 03/01/2015
Process Knowledge?: Y
TRUCON Code:
Shipping Category:
Aspiration Method: N

Shipment Purpose: DISPOSAL
Machine Compacted?: N
Liner Exists? N
Liner Hole Size (mm):
Liner Lid Present?
Layers of Packaging: 1
Aqueous Material? N

Gas Generation Data Values

Measured FGGR (mol/s)	Measured TGRR (mol/s)	Truncated FGGR Test (Y/N)	Truncated FGGR Test Period (days)

Filters

Filter Model Number	Filter Efficiency (mol/s/mol)	Quantity	Install Date
NF013	3.7E-06	2	03/01/2015

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Container: WISD012

[illegible] SWR

Current Status

Extended Status: APPROVED CERT
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 03/01/2015
Waste Handling Code: CH
Disposal Date:

PCB Waste? N
PCB Mass (kg)
PCB Concentration (ppm):
PCB Out of Service Date
Be Present? N
Be <= 1% by weight?
Be mass <= 100kg?
Segregation OK?
Packing Fraction (compaction level): non-compacted

Certification Comments

This is a site-derived waste container where the debris waste was generated during site recovery activities from an event that occurred on 2/14/14. The waste is comprised of tote bags, filter media, card board and poly bags.

Material Parameters

Material Parameter	Description	Weight (kg)
1	IRON BASE METAL ALLOYS	2.00
6	CELLULOSICS	7.00
8	PLASTICS	1.30
12	SOILS	0.09
13	STEEL CONTAINER MATERIALS	290.00
14	PLASTIC/LINERS CONTAINER MATERIALS	0.69
15	CELLULOSICS PACKAGING MATERIALS	0.64
	Waste Weight:	10.39
	Packaging Weight:	291.33
	Total Material Weight:	301.72

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Container: WISD012

Type: 2 - SWB

Current Status

Extended Status: APPROVED CERT
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 03/01/2015
Waste Handling Code: CH
Disposal Date:

Hazardous Codes

Hazardous Code	Description
D036	NITROBENZENE
D037	PENTACHLOROPHENOL
D038	PYRIDINE
D039	TETRACHLOROETHYLENE
D040	TRICHLOROETHYLENE
D043	VINYL CHLORIDE
F001	SPENT HALOGENATED SOLVENTS
F002	SPENT HALOGENATED SOLVENTS
F003	SPENT NON-HALOGENATED SOLVENTS
F004	SPENT NONHALOGENATED SOLVENTS
F005	SPENT NON-HALOGENATED SOLVENTS
F006	WASTEWATER TREATMENT SLUDGE
F007	SPENT CYANIDE PLATING BATH
F009	SPENT STRIPPING SOLUTION
U133	HYDRAZINE

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Edit Limit Check Results

Evaluation Date: 04/28/2015 09:50:50 Overall Status: FAIL

Evaluation Code	Status	Return Code	Detailed Description
DI_CERT_ALL	FAIL	DI_CERT_AMN	AT LEAST ONE ASSAY METHOD RECORD MUST BE PROVIDED.
DI_CERT_BE	PASS	DI_CERT_CCN	THE TRUCON CODE (CH)/CONTENT CODE (RH) IS NULL OR EMPTY.

Container: WISD012

Type: 2 - SWB

Current Status

Extended Status: APPROVED CERT
Container Status: CERTIFICATION DATA APPROVED
Certification Date: 03/01/2015
Waste Handling Code: CH
Disposal Date:

Edit Limit Check Results

Evaluation Date: 02/28/2015 09:50:50 Overall Status: FAIL

Evaluation Code	Status
DI_CERT_CERT	FAIL
DI_CERT_CHARZ	FAIL
DI_CERT_ED	PASS
DI_CERT_EPA	FAIL
DI_CERT_PCB	PASS
DI_CERT_PERC	PASS
DI_CERT_TRAMPAC	FAIL
DSA	PASS
WAC	FAIL
WAP_CERT	FAIL

Return Code	Detailed Description
DI_CERT_TAAN	THE TRU ALPHA ACTIVITY IS NULL.
DI_CHARZ_NDE	AT LEAST ONE SET OF NDE METHOD DATA MUST BE PROVIDED.
DI_TRAMPAC_DHN	THE DECAY HEAT IS NULL.
DI_TRAMPAC_DHUN	THE DECAY HEAT UNCERTAINTY IS NULL.
DI_TRAMPAC_SCN	THE SHIPPING CATEGORY IS NOT POPULATED.
DI_TRAMPAC_TCN	THE TRUCON CODE IS NOT POPULATED.
WAC_ALL_FGE	THE PU-239 FISSILE GRAM EQUIVALENT IS NULL.
WAC_ALL_FGEU	THE PU-239 FISSILE GRAM EQUIVALENT UNCERTAINTY IS NULL.
WAC_ALL_NUC	NO RADIONCULIDE RECORDS HAVE BEEN PROVIDED FOR THE CONTAINER.
WAC_ALL_PECI	THE PU-239 EQUIVALENT ACTIVITY VALUE IS NULL.
WAP_CERT_NDE	AT LEAST ONE SET OF NDE METHOD DATA MUST BE PROVIDED.

TRAMPAC Evaluation Results

Evaluation Date: Overall Status:

Evaluation Code	Status	Return Code	Detailed Description

COPY

QUESTION 1B

2015 WIPP Permit Inspection: NMED Request Description (5 items)

1(a) Information and data regarding any derived waste that has been generated and accumulated in the WHB from December 9, 2014 to November 18, 2015. Permit Condition 2.3.5.

1(b) Submit all manifests of low level WIPP waste to low level waste depositories from December 9, 2014 to November 18, 2015.

(Total of 17 Manifests)

- L123150 Total Number of Pages: 14
- M12995 Total Number of Pages: 22
- M12994 Total Number of Pages: 18
- L123163 Total Number of Pages: 11
- L123164 Total Number of Pages: 11
- M12999 Total Number of Pages: 18
- L123484 Total Number of Pages: 10
- L123485 Total Number of Pages: 10
- M13060 Total Number of Pages: 12
- M13061 Total Number of Pages: 15
- XL00270 Total Number of Pages: 11
- M13123 Total Number of Pages: 20
- M13124 Total Number of Pages: 21
- M13126 Total Number of Pages: 20
- M13125 Total Number of Pages: 21
- XL00271 Total Number of Pages:11
- M13122 Total Number of Pages: 21

RSR Paperwork Completion

L123150

Arrived	06/01/2015	**Gross Volume (ft)**	1,152 00
Record	9078-01-0006	**Waste Type**	LLRW DOE
Haz Manifest			
Vehicle ID	Q54949		

DC	X
On-Site	X
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

FORM 541

EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

1 MANIFEST TOTALS

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT
1	m3 32 6210 / ft3 1152 0000	kg 1902 3665 / ton 2 0970

SPECIAL NUCLEAR MATERIAL (grams)

U-233	U-235	Pu	Total
NP	1 1910E-05 1 Container	1 1977E-04 1 Container	1 3168E-04

ACTIVITY

	ALL NUCLIDES	TRITIUM	C-14	Tc-99	I 129	SOURCE (kg)	
MBq	7 4750E+01	NP	NP	NP	NP	(kg)	3 1906E-08
mCi	2 0203E+00	NP	NP	NP	NP	(tons)	3 5171E-11

2 MANIFEST NUMBER 9078-0

3 PAGE 1 OF 1 PAGE(S)

4 SHIPPER NAME
Nuclear Waste Partnership, LLC on behalf of USDOE

SHIPMENT ID NUMBER
9078-01-0006

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5 CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6 CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7 VOLUME (m3) / (ft3)	8 WASTE AND CONTAINER WEIGHT (kg) / (ton)	9 SURFACE RADIATION LEVEL (mSv/hr) / (mrem/hr)	10 SURFACE CONTAMINATION (MBq/100 cm2) / (dpm/100cm2) ALPHA	BETA-GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) / (FT3)	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B Class B C-Class C
924167/9078-01	2-E	32 6210	4084 1460	<2 9000E-02	<3 3400E-07	<1 6700E-06	59-AIR FILTRATION FILTERS,39-HIK	32.6210	NA	Oxide/NA	NP	Am-241	9 79000E+02	6 8909E+01	1 8624E+00	AU
		1152.0000	4 5020	<2 9000E+00	<2 0000E+01	<1 0000E+02		1152 0000				Co-60	9 84000E-04	6 9260E-05	1 8719E-06	
												Cs-134	2 28000E-03	1 6048E-04	4 3374E-06	
												Cs-137	2 46000E-03	1 7315E-04	4 6798E-06	
												Pu-238 [6 9950E-09 g]	1 54000E-01	1 0840E-02	2 9296E-04	
												Pu-240 [1 1940E-04 g]	3 55000E+01	2 4988E+00	6 7534E-02	
												Pu-241 [3 6640E-07 g]	4 73000E+01	3 3293E+00	8 9981E-02	
												Sr-90	3 30000E-04	2 3228E-05	6 2778E-07	
												Th-228 [1 9200E-14 kg]	2 03000E-02	1 4289E-03	3 8618E-05	
												Th-230 [6 4300E-12 kg]	1 74000E-04	1 2247E-05	3 3101E-07	
												Th-232 [1 1200E-08 kg]	1 59000E-06	1 1191E-07	3 0247E-09	
												U-235 [1 1910E-05 g]	3 38000E-05	2 3791E-06	6 4300E-08	
												U-238 [2 0700E-06 kg]	9 05000E-06	6 3699E-07	1 7216E-08	
												Y-90	3 30000E-04	2 3228E-05	6 2778E-07	
												Subtotal		7 4750E+01	2 0203E+00	
												Total		7 4750E+01	2 0203E+00	
												SNM [1 3168E-04 g]				
												Source [3 1906E-08 kg]				
Shipment Totals		32 6210	4084.1460									SNM [1 3168E-04 g]		7 4750E+01	2 0203E+00	
		1152.0000	4 5020									Source [3 1906E-08 kg]				

Note 1 Container Description Codes For containers/ waste requiring disposal in approved structural over-packs the numerical code must be followed by " -OP "

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethlene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 6 or additional page

Note 1A Bulk Packaging Description Codes. (Choose one code as may be applicable)

A Gondola
B Intermodal
C End-Dump
D Roll off
E Seavan

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
59 Other Describe in item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

Note3 Solidification and Stabilization Media Codes (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements, the numerical code must be followed by " S " and the media vendor and brand name must also be identified

In Item 13 Code 100=NONE REQUIRED

Solidification
90 Cement
91 Concrete (encapsulation)
92 Bitumen
93 Vinyl Chloride
94 Vinyl Ester Styrene
99 Other Describe in item 13 or additional page
100 None Required

FORM 541 (03-06)

1U211   2160 - CSY999

FORM 540 — EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code): (970) 261-6240 — WIPP # 575-885-6983

ORGANIZATION: EnergySolutions

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT? [✓] YES [ ] NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST: 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? [ ] YES [✓] NO
If "Yes" provide Manifest Number ==>> NA

EPA MANIFEST NUMBER: NA

5 SHIPPER - NAME AND FACILITY
Nuclear Waste Partnership, LLC on b... of USDOE
33 Miles South East
Carlsbad, NM 88220

Utah Generator Site Access Permit No: 1309008242
SHIPMENT NUMBER: 15010

CONTACT: Jeff Casey

6 CARRIER – Name and Address
Hittman Transport
1560 Bear Creek Road
Oak Ridge, TN 37830

CONTACT: Karen Kirby

SIGNATURE – Authorized carrier acknowledging waste receipt: [signature]

SHIPPER ID NUMBER: 9078-01-0006
[ ] COLLECTOR
[ ] PROCESSOR
[✓] GENERATOR TYPE (Specify): G

TELEPHONE NUMBER (Include Area Code): 575-234-8062

EPA I D NUMBER: TNR000034688

SHIPPING DATE: 05/28/2015

TELEPHONE (Include Area Code): 1-800-233-9933

DATE: 5-28-15

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 M... NUMBER (Use ... number on all continuation pages): 9078-01-0006

9 CONSIGNEE Name and Facility
EnergySolutions, LLC
Clive Disposal Site (Bulk Waste Facility)
Interstate 80, Exit 49
Clive, UT 84029

CONTACT: Transportation Compliance

TELEPHONE (Include Area Code): (435)884-0155

SIGNATURE – Authorized consignee acknowledging waste receipt: [signature] 173150

DATE: 5/30/15

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulations.

AUTHORIZED SIGNATURE: [signature]
TITLE: Broker
DATE: 5-28-15

11 U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number and any additional information)	12 DOT LABEL RADIOACTIVE	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321, Radioactive material, low specific activity (LSA-II), 7,Fissile Excepted One Type IP-1 Seavan containing PPE and debris ERG # 162	NA	NA	Solid Oxide	Am-241	Co-60	Cs-134	Cs-137	7 4750E+01	(2 0203E+00)	LSA-II	9004 LBS, 1152 FT3	924167
				Pu-238	Pu-240	Pu-241	Sr-90					
				Th-228	Th-230	Th-232	U-235					
				U-238	Y-90							

FOR CONSIGNEE USE ONLY

____ Record Waste Description Inadequate
____ Contamination or Leakage Detected
____ Unexpected Exposure Rates Detected
____ Labels, Markings, etc Inadequate
____ Container Integrity Inadequate
____ Other
✓ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material __ is (or) ✓ is not a hazardous waste as defined in 40 CFR 261. Where the material is a hazardous waste this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268.1

B TITLE Upon acceptance at the disposal site by EnergySolutions LLC and all appropriate regulatory authorities, title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and EnergySolutions LLC's facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC its officers, employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-06)

TRANSPORTATION [illegible] FOR THE D.O. [illegible], AND THE ACTUAL TOTAL TRANSPORTATION CHARGES PAID TO THE [illegible] BY THE [illegible] ARE ASSIGNED TO, AND [illegible] BY, [illegible]

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions. Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230). A completed and signed copy of this form must also accompany each waste manifest.

Waste Stream ID: 9078-01 Manifest No. 9078-01-0006

1. Check applicable category below for the waste stream:

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2c	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☒	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☐	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste.				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations.

2. Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☒ a. Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1

☒ b. The SNM is homogeneously distributed throughout the waste or the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits. (Based on process knowledge or testing).

☒ c. Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e.g., a pallet of drums, a B-25 box). By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc. do not contain other elements. (Based on process knowledge or testing).

☒ d. Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste. (Based on process knowledge, physical observations, or testing).

☒ e. Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233 If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule. Highly soluble forms of uranium include, but are not limited to: uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate. (Based on process knowledge or testing).

☐ f. For containers of liquid waste with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing). For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6.0 mCi (6.0E+09 pCi) as shown below:

$$10{,}000\frac{pCi}{g} \times 600{,}000\,g = 6.0\times10^{9}\ pCi = 6.0\ mCi\ Pu\text{-}239$$

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. **Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).**

   ☒ a. Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition.

   ☒ b. Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges.

   ☒ c. Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution.

   ☒ d. Describe the methods to be used to determine the concentrations on the manifests. These methods could include direct measurement and the use of scaling factors. Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations.

4. **Generator's certification of compliance with the SNM exemption:** I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing. I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions.

Authorized Signature	Printed Name	Title	Date
	Jeffrey B Craig	ENVIRONMENTAL SCIENTIST	7-18-14

___ Radioactive material, low specific activity (LSA-I), *non fissile or fissile-excepted.*, 7 UN2912
_X_ Radioactive material, low specific activity (LSA-II), *non fissile or fissile-excepted.*, 7 UN3321
___ Radioactive material, low specific activity (LSA-III), *non fissile or fissile-excepted*, 7 UN3322
___ Radioactive material, surface contaminated objects (SCO-I *or* SCO-II) non fissile or fissile-excepted, 7 UN2913

Radioactive Materials (Low to Moderate Level Radiation)

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents Packaging durability is related to potential hazards of material
- Undamaged packages are safe, contents of damaged packages may cause external and/or internal radiation exposure
- Low radiation hazard when material is inside container If material is released from package or bulk container, hazard will vary from low to moderate Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on
- Some material may be released from packages during accidents of moderate severity This poses little risk to people
- Released radioactive materials or contaminated objects usually will be visible if packaging fails
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels Placards, markings, and shipping papers provide identification
- Some packages may have "RADIOACTIVE" label and a second hazard label/ The second hazard is usually greater than the radiation hazard, so follow this Guide as well as the response Guide for the second hazard class label
- Some radioactive materials cannot be detected by commonly available instruments
- Runoff from control of cargo fire may cause low-level pollution

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Uranium and Thorium metal cuttings or granules may ignite spontaneously if exposed to air (see Guide 136)
- Nitrates are oxidizers and may ignite other combustibles (see Emergency Response Guide 141)

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first.**
- **Priorities for rescue, life-saving, first aid, and control of fire and other hazards are higher that the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions, and is usually responsible for radiological decisions
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions Stay upwind Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet)

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not change effectiveness of fire control techniques
- Move containers from fire area if you can do it without risk
- Do not move damaged packages, move undamaged packages out of fire zone

Small Fires

- Dry chemical, CO_2, water spray or regular foam

Large Fires

- Water spray, fog (flooding amounts)
- Dike fire control water for later disposal

SPILL OR LEAK

- Do not touch damaged packages or spilled material

Liquid Spills

- Cover with sand, earth or other noncombustible absorbent material
- Dike to collect large liquid spills
- Cover powder spill with plastic sheet or trap to minimize spreading

- **FIRST AID**
- Medical problems take priority over radiological concerns
- Use first aid treatment according to the nature of the injury
- Do not delay care and transport of a seriously injured person
- Apply artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult
- In case of contact with substance, wipe from skin, immediately flush skin or eyes with running water for at least 20 minutes
- Injured persons who contacted released material may be a minor contamination problem to contacted persons, equipment and facilities
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves

DRIVER'S INSTRUCTIONS FOR EXCLUSIVE USE VEHICLES

Transportation: **Hittman Transport Services**

The Code of Federal Regulations, 49 CFR 173 403, 173 427 and 173 441 requires that specific instructions for maintenance of exclusive use shipments controls be provided by the shipper to the carrier These instructions must be included with the shipment documents

The following instructions shall be complied with for all exclusive use vehicles.

- Do not change out tractor before arrival at the site without notifying shipper
- Do not change the fifth wheel adjustment on the tractor without notifying shipper.
- Do not move or transfer packages within the van or between vans while en route to the site without notifying shipper
- The shipment must be loaded by consignor and unloaded by consignee from the transport vehicle in which originally loaded
- Shipments must be braces so as to prevent leakage or shifting of load under conditions normally incident to transportation.
- The vehicle must be placarded "RADIOACTIVE" on all four sides when applicable until shipment is unloaded.

If the vehicle is involved in an accident or is required to make emergency braking, which could shift the load and change radiation levels, notify the shipper immediately.

In case of an accident, vehicle malfunction, or deviation from the above instructions immediately contact one of the following Energy*Solutions* employees:

Contact	Title/Company	Phone Number
Scott Gowans	**Shipper/Energy Solutions**	**970.201.6240**

Any deviations from these instructions are violations of State and Federal laws and could result in carrier penalty

Driver's Signature

5-28-15

Date

ENERGYSOLUTIONS

CLIVE FACILITY
Scott Gowans 970-201-6240
Jake Gardner 801-838-1555

VEHICLE CONDITION CHECKLIST

Shipment Number 9078-01-0006 Shipment Date 5-28-15

Carrier HTMM Driver's Name Patrick Shorns

Tractor Number 2760 Trailer Number Q54949

Trailer Type Van, Pan Van, Flatbed, Cask, Other Flat bed

	INSPECTION CHECKS	SAT	UNSAT
1	Front Tire Tread at least 4/32 in (no recaps)	✓	
2	Other Tire Tread At least 2/32 in	✓	
3	Service Brakes Good condition and properly attached	✓	
4	Parking Brakes Operational and on while loading	✓	
5	Steering Mechanism Demonstrated Operational	✓	
6	Headlights and Front Reflectors Clean and Operational	✓	
7	Windshield Wipers Demonstrated Operational	✓	
8	Rear Vision Mirrors Functional	✓	
9	Horn(s) Demonstrated Operational	✓	
10	Fire Extinguishers Fully Charged	✓	
11	Trailer Frame and Headboard Free of visual defects	✓	
12	Load Tiedowns Adequate number for load and in good condition	✓	
13	Emergency Kit. Extra Placards, Rad rope, PC's	✓	
14	Brake Lights Demonstrated Operational	✓	
15	Turn Signals Demonstarted Operational	✓	
16	Reflectors At proper locations on trailer	✓	
17	Tractor and Trailer license plates are current	✓	
18	Operator Medical Card and CDL current and on file	✓	
19	Trailer has current FHWA sticker (good for one year after stamped date)	✓	

Operator Signature 5-28-15 Date EnergySolutions Rep Signature 5-28-15 Date

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 – Carrier/Driver Instructions

8 Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander If the on-scene commander is not present request those persons who have been identified to remain at the scene

9 Stand by until assistance arrives

10 **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11 DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment if required These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name Hittman Trans.

MP Shores Jr — MP Shores Jr — 5-28-15

Driver's Name (Printed) — Driver's Signature — Date

Working Copy

Radiological Survey Report

SECTION A				
Survey #	Date	Time	Shipment	Package #
15-1359	5-28-15	1115	15010	Sealand924167

Location: Outside of TMF (SW)

Surveyor's printed name: Zina Jones, Dave Bales

Reason for survey: Receipt ☐ Processing ☐ Emplacement ☐ Special Request ☑ RWP ☐ Weekly ☐ Monthly ☐ Quarterly ☐ Annual Other ☐

Model No	Equipment/ Probe ID#	Eff	Cal Due Date	BKGD (cpm)	MDA (dpm) or DL (mrem/hr)
2360 2	1751/1751	2288	1-30-16	1.6	33
2360 B	1751/1751	32.32	1-30-16	115	129
2350	1129/1130	N/A	2-17-16	N/A	~~N/A~~ 0.004 DB 5/28/15
Tennelec	1604	See report	9-9-15	See	report
	N		N	N	
	A		A		A

Type: Alpha ☑ Beta/Gamma ☑ Neutron ☐ Contamination ☑ Radiation ☑

SECTION B		Radiological Assessment Filter (RAF)
Time	Released (Circle)	Activity if not related (otherwise N/A)
N/A	(N/A) Yes No	N/A

SECTION C	COMMENT
	Survey performed prior to shipping Sealand 924167 OCC site to outside vendor. All smears were <20 dpm/100 cm² α / <200 dpm/100 cm² β/γ. All direct scans were < 100 dpm/100 cm² α < 1000 dpm/100 cm² β/γ. Truck/Trailer Information recorded on survey map. Dose rates are in mR/hr.

Surveyor's Signature/Date: Z Jones, 5-28-15 / D Bales 5/28/15

This survey has been reviewed for accuracy, regulatory compliance, and radiological impacts. This survey contains 3 Pages (including this page)

Manager's Signature/Date: GL C 5-28-15

Working Copy

Radiological Survey Map

SRV- 15-1359

Symbols

O = Contamination Survey

= Large area wipe

(L) **Monitoring Symbol**

☐ = Air sample location

Rate Symbols

✳ = Contact Dose Rate ● = Dose Rate at 30 cm

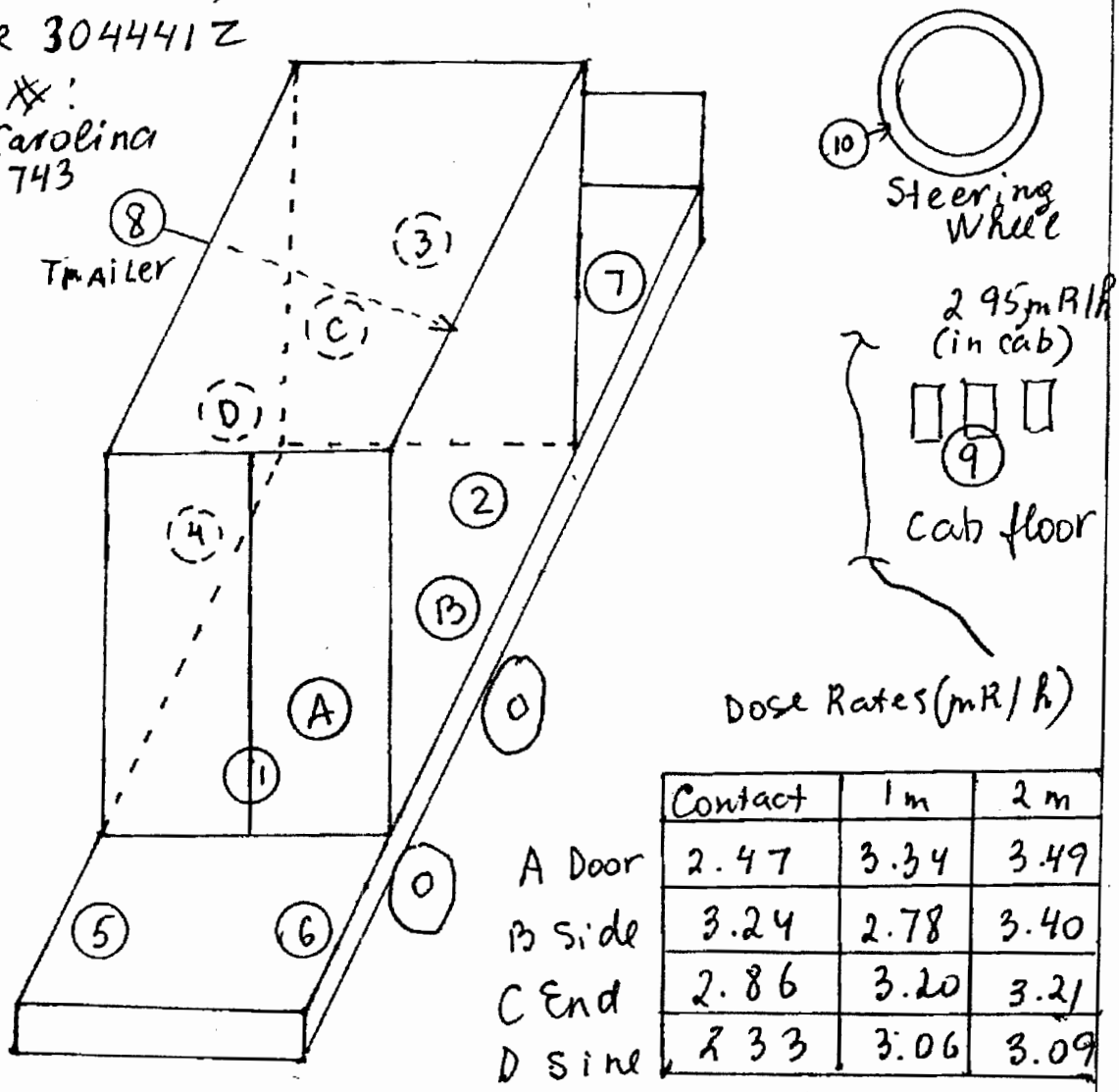
No Symbol = General Area Gamma Dose Rate

Δ = Neutron reading (Distance symbol in triangle and dose rate adjacent)

Dose rates in mrem/hr (mR/hr for MicroR meter and Teletector)

Note Dose rate measurements of TRU waste containers reflect payload assembly measurements and not single waste container measurements

Trailer License #:
Maine 304441Z
Track #:
South Carolina
P 722 743



Dose Rates (mR/h)

	Contact	1 m	2 m
A Door	2.47	3.34	3.49
B Side	3.24	2.78	3.40
C End	2.86	3.20	3.21
D Side	2.33	3.06	3.09

Surveyor's Signature/Date Z Jones 5-28-15 / [signature] 5/28/15

COPY

WIPP Operational Health Physics - Sample Count Report

Date	5/28/2015 10 28 57AM
Counting Unit ID	240-RI-000-1604
Procedure Name	Smear - 201505281028
Count time (min).	1 00
Batch Key	26,049
Survey Number	15-1359

Alpha Efficiency:	0 34
Alpha Background ·	0 10
Beta Efficiency:	0 49
Beta Background:	1 70
High Voltage Setting:	1,410 00

Alpha MDA	Beta MDA
11 06	14 71

Carrier ID	Sample ID	Total Alpha Activity (Fixed&Removable)		Swipe Alpha Activity (Removable Only)		Total Beta Activity (Fixed & Removable)		Removable Only (Swipe Beta Activity)	
		CPM	DPM	CPM	DPM	CPM	DPM	CPM	DPM
1	DOOR	5 4	< MDA	0 00	-0 29	0	< MDA	8 00	12 86
2	SIDE	2.4		0 00	-0 29	0		1 00	-1 43
3	END	0		0 00	-0 29	0		0 00	-3 47
4	SIDE	0		0 00	-0 29	0		3 00	2 65
5	TRAILER	7.4		0 00	-0 29	15		3 00	2 65
6	TRAILER	3.4		0 00	-0 29	19		1 00	-1 43
7	TRAILER	1.4		0 00	-0 29	22		1 00	-1 43
8	TRAILER	6.4		0 00	-0 29	47	1454	4 00	4 70
~~10~~ 9	CAB FLOOR	2.4		0 00	-0 29	86	2661	2 00	0 61
~~9~~ 10	STEERING WHI	3.4		0 00	-0 29	2	< MDA	0 00	-3 47

5-28-15

COPY

Technician (Print and Sign) Zina Jones Zina for D Bailes

Reviewed by:

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RSR Paperwork Completion

M12995

Arrived	05/30/2015	***Gross Volume (ft)***	1,173 00
Record	9078-03-0004	***Waste Type***	MIXW T DOE
Haz Manifest	78779		
Vehicle ID	F480005		

DC	
On-Site	X
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

Rev. 1

FORM 540 — **EnergySolutions, LLC**

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code): (970) 201-6240

ORGANIZATION: EnergySolutions

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT? ☑ YES ☐ NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST =====> 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? ☑ YES ☐ NO
If "Yes" provide Manifest Number =====> EPA MANIFEST NUMBER: 003378779JJK

5 SHIPPER – NAME AND FACILITY
Nuclear Waste Partnership, LLC on behalf of USDOE
33 Miles South East
Carlsbad, NM 88220

Utah Generator Site Access Permit No: 1309008242
SHIPMENT NUMBER: 15011

CONTACT: Jeff Casey

6 CARRIER – Name and Address
Hittman Transport
1560 Bear Creek Road
Oak Ridge TN 37830

CONTACT: Karen Kirby

SIGNATURE – Authorized carrier acknowledging waste receipt

SHIPPER I D NUMBER: 9078-03-0004
☐ COLLECTOR
☐ PROCESSOR
☑ GENERATOR TYPE (Specify) G
TELEPHONE NUMBER (Include Area Code): 575-234-8062
EPA I D NUMBER: TNR000034686
SHIPPING DATE: 05/28/2015
TELEPHONE (Include Area Code): 1 800-233-9933
DATE

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MANIFEST NUMBER (Use this number on all continuation pages): 9078-03-0004

9 CONSIGNEE Name and Facility
EnergySolutions, LLC
Clive Disposal Site (Treatment Facility)
Interstate 80, Exit 49
Clive, UT 84029
M12995

CONTACT: Transportation Compliance
TELEPHONE (Include Area Code): (435)884-0155

SIGNATURE – Authorized consignee acknowledging waste receipt
DATE

10 CERTIFICATION
This is to certify that the herein named materials are properly classified described packaged marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations

AUTHORIZED SIGNATURE | TITLE | DATE

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name hazard class UN ID number and any additional information)	12 DOT LABEL "RADIOACTIVE"	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321, Waste, Radioactive material, low specific activity (LSA-II), 7, Fissile Excepted, D006 (Contains Cadmium)	NA	NA	Solid Oxide	Am-241	Co-60	Cs-134	Cs-137	5 2481E+01	(1 4184E+00)	LSA-II	6030 LBS, 1173 FT3	71933
				Pu-238	Pu-240	Pu-241	Sr-90					
One Type IP-1 Seavan containing bags of HEPA Filters and PPE, ERG 162				Th-228	Th-230	Th-232	U-235					
				U-238	Y-90							

FOR CONSIGNEE USE ONLY

____ Record Waste Description Inadequate
____ Contamination or Leakage Detected
____ Unexpected Exposure Rates Detected
____ Labels, Markings, etc Inadequate
____ Container Integrity Inadequate
____ Other
____ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material __ is (or) * is not a hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268 1

B TITLE Upon acceptance at the disposal site by EnergySolutions LLC and all appropriate regulatory authorities title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws rules regulations and EnergySolutions LLC s facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC its officers employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-06)

FORM 541 — EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control Transfer and Disposal of Radioactive Waste

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT
1	m3 33 2157	kg 503 0340
	ft3 1173 0000	ton 0 5545

1 MANIFEST TOTALS

SPECIAL NUCLEAR MATERIAL (grams)			
U-233	U-235	Pu	Total
NP	2 1278E-05 1 Container	2 1366E-04 1 Container	2 3493E-04

ACTIVITY	ALL NUCLIDES	TRITIUM	C 14	Tc 99	I 129	SOURCE (kg)	
MBq	5 2483E+01	NP	NP	NP	NP	(kg)	5 6983E-08
mCi	1 4184E+00	NP	NP	NP	NP	(tons)	6 2813E-11

2 MANIFEST NUMBER 9078-03-0004

3 PAGE 1 OF 1 PAGE(S)

4 SHIPPER NAME Nuclear Waste Partnership, LLC on behalf of USDOE

SHIPMENT ID NUMBER 9078-03-0004

DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										
5 CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6 CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7 VOLUME (m3) / (ft3)	8 WASTE AND CONTAINER WEIGHT (kg) / (ton)	9 SURFACE RADIATION LEVEL (mSv/hr) (mrem/hr)	10 SURFACE CONTAMINATION (MBq/100 cm2) / (dpm/100cm2) ALPHA	BETA-GAMMA	PHYSICAL DESCRIPTION 11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) / (FT3)	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AS Class A Stable AU-Class A Unstable B-Class B C-Class C
71933/9078-03	2 E	33 2157	2735 1622	<2 0000E 02	<3 3400E-07	<1 5700E-06	55-AIR FILTRATION FILTERS,39-HDK	33 2157	NA	Oxide/NA	NP	Am-241	2 62400E+03	4 8840E+01	1 3200E+00	AU
		1173 0000	3 0150	<2 0000E+00	<2 0000E+01	<1 0000E+02		1173 0000				Co-60	2 64000E-03	4 9136E-05	1 3280E-06	
												Cs-134	6 14270E-03	1 1433E-04	3 0900E-06	
												Cs-137	6 61980E-03	1 2321E-04	3 3300E-06	
												Pu-238 [1 2487E-08 g]	4 11500E-01	7 6590E-03	2 0700E-04	
												Pu-240 [2 1299E-04 g]	9 52220E+01	1 7723E+00	4 7900E-02	
												Pu-241 [6 5317E-07 g]	1 00000E+02	1 8612E+00	5 0303E-02	
												Sr-90	8 86620E-04	1 6502E-05	4 4600E-07	
												Th-228 [3 4252E-14 kg]	5 44690E-02	1 0138E-03	2 7400E-05	
												Th-230 [1 1456E-11 kg]	4 67170E-04	8 6950E-06	2 3500E-07	
												Th-232 [1 9991E-08 kg]	4 27400E-06	7 9550E-08	2 1500E-09	
												U-235 [2 1278E-05 g]	9 08490E-05	1 6909E-06	4 5700E-08	
												U-238 [3 6981E-08 kg]	2 44520E-05	4 5510E-07	1 2300E-08	
												Y-90	8 86620E-04	1 6502E-05	4 4600E-07	
												Subtotal		5 2483E+01	1 4184E+00	
												Total		5 2483E+01	1 4184E+00	
												SNM [2 3493E-04 g]				
												Source [5 6983E-08 kg]				
Shipment Totals		33 2157	2735 1622									SNM [2 3493E-04 g]		5 2483E+01	1 4184E+00	
		1173 0000	3 0150									Source [5 6983E-08 kg]				

Note 1 Container Description Codes For containers/ waste requiring disposal in approved structural over packs the numerical code must be followed by " OP

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethlene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 6 or additional page

Note 1A Bulk Packaging Description Codes (Choose one code as may be applicable)

A Gondola
B Intermodal
C End-Dump
D Roll-off
E Seavan

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Glass
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactable Trash
40 Noncompactable Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
59 Other Describe in Item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

Note3 Solidification and Stabilization Media Codes (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements the numerical code must be followed by " S and the media vendor and brand name must also be identified

In Item 13 Code 100=NONE REQUIRED

Solidification

90 Cement
91 Concrete (encapsulation)
92 Bitumen
93 Vinyl Chloride
94 Vinyl Ester Styrene
99 Other Describe in item 13 or additional page
100 None Required

FORM 541 (03-06)

Original T48003

FORM 540 — EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code): (870) 217-6280

ORGANIZATION: EnergySolutions

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT? ☑ YES ☐ NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ====> 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? ☑ YES ☐ NO
If Yes, provide Manifest Number =====>

EPA MANIFEST NUMBER: 003379779JJK

5 SHIPPER – NAME AND FACILITY
Nuclear Waste Partnership, LLC on behalf of USDOE
33 Miles South East
Carlsbad, NM 88220

Utah Generator Site Access Permit No: 1308008242

SHIPMENT NUMBER: 15011

CONTACT: Jeff Casey

6 CARRIER – Name and Address
Hittman Transport
1560 Bear Creek Road
Oak Ridge, TN 37830

CONTACT: Karen Kirby

SIGNATURE – Authorized carrier acknowledging waste receipt: Mark Paulor

SHIPPER ID NUMBER: 9078-03-0004

☐ COLLECTOR
☐ PROCESSOR
☑ GENERATOR TYPE (Specify) G

TELEPHONE NUMBER (Include Area Code): 575-234-8062

EPA ID NUMBER: TNR000034688

SHIPPING DATE: 05/28/2015

TELEPHONE (Include Area Code): 1-800-233-9933

DATE: 05-28-15

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MANIFEST NUMBER (Use this number on all continuation pages): 9078-03-0004

9 CONSIGNEE Name and Facility
EnergySolutions, LLC
Clive Disposal Site (Treatment Facility)
Interstate 80, Exit 49
Clive, UT 84029

CONTACT: Transportation Compliance

TELEPHONE (Include Area Code): (435)884-0155

SIGNATURE – Authorized consignee acknowledging waste receipt

DATE: 5/30/15

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified described packaged marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations

AUTHORIZED SIGNATURE: [signature] TITLE: Broker DATE: 5-28-15

11 U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name hazard class UN ID number and any additional information)	12 DOT LABEL "RADIOACTIVE"	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321, Waste, Radioactive material, low specific activity (LSA-II), 7, Fissile Excepted, D006 (Contains Cadmium)	NA	NA	Solid Oxide	Am-241	Co-60	Cs-134	Cs-137	5 2983E+01	(1 4320E+00)	LSA-II	6030 LBS, 1173 FT3	71933
				Pu-238	Pu-240	Pu-241	Sr-90					
One Type IP-1 Seavan containing bags of HEPA Filters and PPE, ERG 162				Th-228	Th-230	Th-232	U-235					
				U-238	Y-90							

FOR CONSIGNEE USE ONLY

____ Record Waste Description Inadequate
____ Contamination or Leakage Detected
____ Unexpected Exposure Rates Detected
____ Labels, Markings, etc Inadequate
____ Container Integrity Inadequate
____ Other
✓ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material __ is (or) ✓ is not a hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268 1

B TITLE Upon acceptance at the disposal site by EnergySolutions, LLC, and all appropriate regulatory authorities title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions, LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws rules regulations and EnergySolutions LLC s facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC, its officers employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-06)

FORM 541 — EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WAS WEIGHT
1	m3 33 2157 / ft3 1173 0000	kg 503 0340 / ton 0 5545

1 MANIFEST TOTALS — SPECIAL NUCLEAR MATERIAL (grams)

U 233	U 235	Pu	Total
NP	2 1278E-05 / 1 Container	2 1366E-04 / 1 Container	2 3493E-04

ACTIVITY

	ALL NUCLIDES	TRITIUM	C-14	Tc-99	I-129	SOURCE (kg)	
MBq	5 2985E+01	NP	NP	NP	NP	(kg)	5 6983E-08
mCi	1 4320E+00	NP	NP	NP	NP	(tons)	6 2813E-11

2 MANIFEST NUMBER 9078-03-(

3 PAGE 1 OF 1 PAGE(S)

4 SHIPPER NAME Nuclear Waste Partnership, LLC on behalf of USDOE

SHIPMENT ID NUMBER 9078-03-0004

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5 CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6 CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7 VOLUME (m3) / (ft3)	8 WASTE AND CONTAINER WEIGHT (kg) / (ton)	9 SURFACE RADIATION LEVEL (mSv/hr) (mrem/hr)	10 SURFACE CONTAMINATION (MBq/100 cm2) (dpm/100cm2) ALPHA	BETA-GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) / (FT3)	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C
71933/9078-03	2-E	33 2157	2735.1622	<2 0000E-02	<3 3400E-07	<1 6700E-06	69-AIR FILTRATION FILTERS,3E-HIK	33 2157	NA	Oxide/NA	NP	Am-241	2 62400E+03	4.8840E+01	1 3200E+00	AU
		1173 0000	3.0150	<2 0000E+00	<2 0000E+01	<1 0000E+02		1173 0000				Co-60	2 64000E-03	4 9136E-05	1 3280E-06	
												Cs-134	6 14270E-03	1 1433E-04	3 0900E-06	
												Cs-137	6 61980E-03	1 2321E-04	3 3300E-06	
												Pu-238 [1 2487E-08 g]	4 11500E-01	7 6590E-03	2 0700E-04	
												Pu-240 [2 1299E-04 g]	9 52220E+01	1 7723E+00	4 7900E-02	
												Pu-241 [6 5317E-07 g]	1 27000E+02	2 3637E+00	6 3885E-02	
												Sr-90	8 86620E-04	1 6502E-05	4 4600E-07	
												Th-228 [3 4252E-14 kg]	5 44690E-02	1 0138E-03	2 7400E-05	
												Th-230 [1 1456E-11 kg]	4 67170E-04	8 6950E-06	2 3500E-07	
												Th-232 [1 9991E-08 kg]	4 27400E-06	7 9550E-08	2 1500E-09	
												U-235 [2 1278E-05 g]	9 08490E-05	1 6909E-06	4 5700E-08	
												U-238 [3 6981E-08 kg]	2 44520E-05	4 5510E-07	1 2300E-08	
												Y-90	8 86620E-04	1 6502E-05	4 4600E-07	
												Subtotal		5 2985E+01	1 4320E+00	
												Total		5 2985E+01	1 4320E+00	
												SNM [2 3493E-04 g]				
												Source [5 6983E-08 kg]				
Shipment Totals		33 2157	2735 1622									SNM [2 3493E-04 g]		5 2985E+01	1 4320E+00	
		1173 0000	3 0150									Source [5 6983E-08 kg]				

Note 1 Container Description Codes For containers/ waste requiring disposal in approved structural over-packs the numerical code must be followed by " OP "

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethlene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 6 or additional page

Note 1A Bulk Packaging Description Codes (Choose one code as may be applicable)

A Gondola
B Intermodal
C End-Dump
D Roll-off
E Seavan

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
59 Other Describe in item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

Note3 Solidification and Stabilization Media Codes (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements, the numerical code must be followed by "-S" and the media vendor and brand name must also be identified

In Item 13 Code 100=NONE REQUIRED

Solidification

90 Cement
91 Concrete (encapsulation)
92 Bitumen
93 Vinyl Chloride
94 Vinyl Ester Styrene
99 Other Describe in item 13, or additional page
100 None Required

FORM 541 (03-06)

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions. Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230) A completed and signed copy of this form must also accompany each waste manifest.

Waste Stream ID ~~9078-01~~ 907803 Manifest No. ~~9078-01-0066~~ 9078-03-0064

1. Check applicable category below for the waste stream:

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2c	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☒	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☐	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste.				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations.

2. Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☒ a. Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1

☒ b. The SNM is homogeneously distributed throughout the waste or the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits. (Based on process knowledge or testing).

☒ c. Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e.g., a pallet of drums, a B-25 box). By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc. do not contain other elements. (Based on process knowledge or testing).

☒ d. Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste. (Based on process knowledge, physical observations, or testing).

☒ e. Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233 If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule. Highly soluble forms of uranium include, but are not limited to: uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate. (Based on process knowledge or testing).

☐ f. For containers of liquid waste with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing). For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6.0 mCi (6.0E+09 pCi) as shown below:

$$10{,}000\frac{pCi}{g} \times 600{,}000\,g = 6.0X10^{9}\ pCi = 6.0\ mCi\ Pu\text{-}239$$

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table I. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. **Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).**

   ☒ a. Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition.

   ☒ b. Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges.

   ☒ c. Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution.

   ☒ d. Describe the methods to be used to determine the concentrations on the manifests. These methods could include direct measurement and the use of scaling factors. Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations.

4. **Generator's certification of compliance with the SNM exemption:** I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing. I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions.

Authorized Signature	Printed Name	Title	Date
	Jeffrey B Casey	Environmental Scientist	7-18-14
	Jeffrey Casey	Scientist III	5-27-15

Please print or type (Form designed for use on elite (12-pitch) typewriter) — Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator ID Number: NM 4890139088
2 Page 1 of 1
3 Emergency Response Phone: 970-201-6240
4 Manifest Tracking Number: 003378779 JJK

5 Generator's Name and Mailing Address: Nuclear Waste Partnership on behalf of USDOE, PO Box 2078 m/s 492-09, Carlsbad, NM 88221
Generator's Site Address (if different than mailing address): Waste Isolation Pilot Plant, 33 miles South East, Carlsbad, NM 88220
Generator's Phone: 575-234-8062

6 Transporter 1 Company Name: Hittman Transport — U S EPA ID Number: TNR 000034686

7 Transporter 2 Company Name — U S EPA ID Number:

8 Designated Facility Name and Site Address: EnergySolutions LLC, Clive Disposal Site (treatment facility), Interstate 80 Exit 49, Clive UT 84029 — U S EPA ID Number: UTD982598898
Facility's Phone: 435-884-0155

9a HM	9b U S DOT Description (including Proper Shipping Name, Hazard Class ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11 Total Quantity	12 Unit Wt/Vol	13 Waste Codes
X	1 UN 3321, Waste, Radioactive Material low specific activity (LSA-II) 7, Fissile Excepted D006 (contains cadmium)	1	CM	544	KG	D006 D009 D010 F001 U133 D043
	2 one type IP-1 seavan containing bags of hepa filters and PPE solid, oxide, AM 241 PO-241, SP-90, ~~3.04E1 MBq (8.21E-1 mCi)~~ 5-28-15					
	3 5-28 SG ~~5.1484E1 MBq (1.464 mCi)~~ 5.2985E1 (1.4320 mCi) MBq					
	4					

14 Special Handling Instructions and Additional Information
ERG #162, container # 71933
Radiological information 540/541. Exclusive shipment
9078-03-0004
WIPP EMERGENCY RESPONSE 575-885-6893
M129945 Ship# 15011

15 **GENERATOR'S/OFFEROR'S CERTIFICATION** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator/Offeror's Printed/Typed Name: Scott Gowans — Signature — Month 5 Day 28 Year 15

16 International Shipments ☐ Import to U S ☐ Export from U S — Port of entry/exit
Transporter signature (for exports only) — Date leaving U S

17 Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Mark Ward — Signature — Month 5 Day 28 Year 15
Transporter 2 Printed/Typed Name — Signature — Month Day Year

18 Discrepancy
18a Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number
18b Alternate Facility (or Generator) — U S EPA ID Number
Facility's Phone
18c Signature of Alternate Facility (or Generator) — Month Day Year

19 Hazardous Waste Report Management Method Codes (i e, codes for hazardous waste treatment, disposal, and recycling systems)
1 H132 2 3 4

20 Designated Facility Owner or Operator Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Albert Ewns — Signature — Month 5 Day 30 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnersh.p

UHWM Number: 003378779 JJK

Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261 For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory Spent solvent standards are listed on the following page If F039, multi-source leachate applies those constituents must be listed and attached by the generator If D001-D043 requires treatment of the characteristic and meet 268 48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached

REF #	3. US EPA HAZARDOUS WASTE CODE (S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE, SIMPLY CHECK NONE		5 HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
		DESCRIPTION	NONE	
1	D004,D005,D006, D007,D008,D009, D010,D011,D018, D019,D021,D022, D026,D027,D028, D029,D030,D032, D033,D034,D035, D036,D037,D038, D039,D040,D043, F001,F002,F003, F004,F005,F006, F007,F009,U133	Radioactive Debris	☐	A
2			☐	
3			☐	
4			☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐

If HOCs are present in the waste upon its initial generation check here ☐

To list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A1, A2, B1, B2 ,B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268 7) Please understand that if you enter the letter A2, B1, B2, B3, B4, or D you are making the appropriate certification as provided below States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations)

A1 **RESTRICTED WASTE REQUIRES TREATMENT**

This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268 40

☐ For Hazardous Debris "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45 "

A2 **DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**

"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 or 268 49 to remove the hazardous characteristic This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B1 **RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS**

"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR Part 268 40 without impermissible dilution of the prohibited waste I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B2 **CONTAMINATED SOIL TREATED TO PERFORMANCE STANDARDS**

"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in 40 CFR 268 49 without impermissible dilutions of the prohibited wastes I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B3 **GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS**

"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion units as specified in 268 42, Table 1 I have been unable to detect the nonwastewater organic constituents, despite having used best good-faith efforts to analyze for such constituents I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B4 **DECHARACTERIZED WASTE CONTAINING UNDERLYING HAZARDOUS CONSTITUENTS TREATED TO PERFORMANCE STANDARDS**

"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 to remove the hazardous characteristic and that underlying hazardous constituents, as defined in § 268 2(i) have been treated on-site to meet the § 268 48 Universal Treatment Standards I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment

RESTRICTED WASTE SUBJECT TO A VARIANCE

This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension and may be land disposed without further treatment Enter the effective date of prohibition in column 5 above

RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT

"I hereby certify that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D I believe that the information I submitted is true, accurate and complete I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

E **WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS**

This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions

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I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information

Signature _____ Title Broker Date 5-28-15

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV) – REVERSE SIDE

If the waste identified on the first page of this form is described by any of the following USEPA hazardous waste codes F001, F002, F003, F004, F005, and all solvent constituents will not be monitored by the treater, then each constituent MUST be identified below by checking the appropriate box, and this page must accompany the shipment, along with the previous page of this form If the waste code F039 describes this waste, then the corresponding list of constituents must be attached If D001-D043 require treatment to 268 48 standards, then the underlying hazardous constituent(s) must also be attached

SOLVENT WASTE TREATMENT STANDARDS[2]

F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]		F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]	
	Wastewaters	Nonwastewaters		Wastewaters	Nonwastewaters
Acetone (F003)	0 28	160	Methanol (F003)	5 6	0 75 (TCLP)[3]
Benzene (F005)	0 14	10	Methylene chloride (F001, F002)	0 089	30
n-Butanol (n-butyl alcohol) (F003)	5 6	2 6	Methyl ethyl ketone (F005)	0 28	36
Carbon disulfide (F005)	3 8	4 8 (TCLP)[3]	Methyl isobutyl ketone (F003)	0 14	33
Carbon tetrachloride (F001)	0 057	6 0	Nitrobenzene (F004)	0 068	14
Chlorobenzene (F002)	0 057	6 0	2-Nitropropane (F005)	INCIN or ((WETOX or C HOXD) followed by CARBN)	INCIN
o-Cresol (F004)	0 11	5 6	Pyridine (F005)	0 014	16
Cresol (m- and p- isomers) (F004)	0 77	5 6	Tetrachloroethylene (F001, F002)	0 056	6 0
Cyclohexanone (F003)	0 36	0 75 (TCLP)[3]	Toluene (F005)	0 080	10
o-Dichlorobenzene (F002)	0 088	6 0	1,1,1-Trichloroethane (F001, F002)	0 054	6 0
2-Ethoxyethanol (F005) also called ethylene glycol, monoethyl ether	INCIN or BIODG	INCIN	1,1,2-Trichloroethane (F002)	0 054	6 0
Ethyl acetate (F003)	0 34	33	Trichloroethylene (F001, F002)	0 054	6 0
Ethyl benzene (F003)	0 057	10	Trichloromonofluoromethane (F002)	0 020	30
Ethyl ether (F003)	0 12	160	1,1,2-Trichloro-1,2,2-trifluoroethane (F002)	0 057	30
Isobutanol (Isobutyl Alcohol) (F005)	5 6	170	Xylenes (sum of o-, m-, and p-isomers) (F003)	0 32	30

All spent solvent treatment standards are measured through a total waste analysis (TCA), unless otherwise noted Wastewater units are mg/l, nonwastewater are mg/kg

For contaminated soils using the alternative soil treatment standards, the treatment standards for F001-F005 spent solvents must be a 90% reduction of the constituents or less than 10x the standard listed

These solvents require a TCLP standard with units of mg/l

SUBCATEGORY REFERENCE

001

Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems

Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in CWA/CWA-equivalent or Class I SDWA systems

High TOC Ignitable characteristic liquids subcategory based on 40 CFR 261 21(a) (1) – Greater than or equal to 10% total organic carbon

002

Corrosive characteristic wastes that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems

Corrosive characteristic wastes that are managed in CWA, CWA-equivalent, or Class I SWDA systems

F003/UNDERLYING HAZARDOUS CONSTITUENT FORM (UTS)

Generator Name: Nuclear Waste Partnership

UHWM Number: 003378779 OJK

D001-D043 requires treatment to the 40 CRF 268 48 standards, then each underlying hazardous constituent (UHC) present in the waste at the point of generation and at a level above the Universal Treatment Standard (UTS) constituent specific standard must be listed Write the letter (A1, B1, B2, B3, or C that corresponds to the letter on the land disposal form A1) beside each constituent present to properly describe how the constituent(s) must be managed under 40 CFR 268 7 If contaminated soil requires treatment to 40 CFR 268 49 standards, then each UHC in the waste at the point of generation and at a level above 10 times the UTS must be listed Write the appropriate letter which corresponds to the letter on the LDR form

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[2] UTS (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[2] UTS (mg/kg) unless noted
Acenaphthylene		3 4	2-Chloro-1,3-butadiene		0 28[1]
Acenapthene		3 4	Chlorodibromomethane		15
Acetone		160	Chloroethane		6 0
Acetonitrile		38[1]	bis(2-Chloroethoxy)methane		7 2
Acetophenone		9 7	bis(2-Chloroethyl)ether		6 0
2-Acetylaminofluorene		140	Chloroform		6 0
Acrolein	NA	NA	bis(2-Chloroisopropyl)ether		7 2
Acylamide		23[1]	p-Chloro-m-cresol		14
Acrylonitrile		84	2-Chloroethyl vinyl ether	NA	NA[1]
Aldicarb sulfone		0 28[1]	Chloromethane (Methyl chloride)		30
Aldrin		0 066	2-Chloronaphthalene		5 6
4-Aminobiphenyl	NA	NA	2-Chlorophenol		5 7
Aniline		14	3-Chloropropylene		30
Anthracene		3 4	Chrysene		3 4
Aramite	NA	NA	o-Cresol		5 6
alpha-BHC		0 066	m-Cresol		5 6
beta-BHC		0 066	p-Cresol		5 6
delta-BHC		0 066	m-Cumenyl methylcarbamate		1 4[1]
gamma-BHC (Lindane)		0 066	Cyclohexanone		0 75 mg/l[1]
Carbaryl		1 4[1]	o,p'-DDD		0 087
Bendiocarb		1 4[1]	p p'-DDD		0 087
Benomyl		1 4[1]	o,p'-DDE		0 087
Benzene		10	p,p'-DDE		0 087
Benz(a)anthracene		3 4	o,p'-DDT		0 087
Benzal chloride		6 0[1]	p,p'-DDT		0 087
Benzo(b)fluoranthene		6 8	Dibenz(a,h)anthracene		8 2
Benzo(k)fluoranthene		6 8	Dibenz(a,e)pyrene	NA	NA
Benzo (g,h,i)perylene		1 8	1,2-Dibromo-3-chloropropane		15
Benzo(a)pyrene		3 4	1 2-Dibromomethane (Ethylene dibromide)		15
Bromodichloromethane		15	Dibromomethane		15
Bromomethane (Methyl Bromide)		15	m-Dichlorobenzene		6 0
4-Bromophenyl phenyl ether		15	o-Dichlorobenzene		6 0
n-Butyl alcohol		2 6	p-Dichlorobenzene		6 0
Butylate		1 4[1]	Dichlorodifluoromethane		7 2
Butyl benzyl phthalate		28	1,1-Dichloroethane		6 0
2-sec-Butyl-4,6-dinitrophenol (Dinoseb)		2 5	1,2-Dichloroethane		6 0
Carbaryl		0 14[1]	1,1-Dichloroethylene		6 0
Carbenzadim		1 4[1]	trans-1,2-Dichloroethylene		30
Carbofuran		0 14[1]	2,4-Dichlorophenol		14
Carbofuran phenol		1 4[1]	2,6-Dichlorophenol		14
Carbon disulfide		4 8 mg/l TCLP[1]	2,4-Dichlorophenoxyacetic acid (2,4-D)		10
Carbon tetrachloride		6 0	1,2-Dichloropropane		18
Carbosulfan		1 4[1]	cis-1,3-Dichloropropylene		18
Chlordane (alpha and gamma isomers)		0 26	trans-1,3-Dichloropropylene		18
Chloroaniline		16	Dieldrin		0 13
Chlorobenzene		6 0	Diethyl phthalate		28
Chlorobenzilate	NA	NA	p-Dimethylaminoazobenzene	NA	NA

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[3] UTS (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[3] UTS (mg/kg) unless noted
2,4-Dimethyl phenol		14	Isosafrole		2 6
[illegible]methyl phthalate		28	Isobutyl alcohol		170
[illegible]-n-butyl phthalate		28	Isodrin		0 066
1,4-Dinitrobenzene		2 3	Kepone		0 13
4,6-Dinitro-o-cresol		160	Methacrylonitrile		84
2,4-Dinitrophenol		160	Methanol		0 75 mg/l[1]
2,4-Dinitrotoluene		140	Methapyrilene		1 5
2,6-Dinitrotoluene		28	Methiocarb		1 4[1]
Di-n-octyl phthalate		28	Methomyl		0 14[1]
Di-n-propylnitrosamine		14	Methoxychlor		0 18
1,4-Dioxane		170	3-Methylcholanthrene		15
Diphenylamine		13[1]	4,4'-Methylene bis(2-chloroaniline)		30
Diphenylnitrosamine		13[1]	Methylene chloride		30
1,2-Diphenylhydrazine	NA	NA	Methyl ethyl ketone (2-Butanone)		36
Disulfoton		6 2	Methyl isobutyl ketone		33
Dithiocarbamates (total)		28[1]	Methyl methacrylate		160
Endosulfan I		0 066	Methyl methansulfonate	NA	NA
Endosulfan II		0 13	Methyl parathion		4 6
Endosulfan sulfate		0 13	Metolcarb		1 4[1]
Endrin		0 13	Mexacarbate		1 4[1]
Endrin aldehyde		0 13	Molinate		1 4[1]
EPTC		1 4[1]	Naphthalene		5 6
Ethyl acetate		33	2-Naphthylamine	NA	NA
Ethyl benzene		10	o-Nitroaniline		14[1]
Ethyl cyanide (Propanenitrile)		360	p-Nitroaniline		28
Ethyl ether		160	Nitrobenzene		14
Bis(2-Ethylhexyl)phthalate		28[2]	5-Nitro-o-toluidine		28
[illegible]thyl methacrylate		160	o-Nitrophenol		13[1]
[illegible]lene oxide	NA	NA	p-Nitrophenol		29
Famphur		15	N-Nitrosodiethylamine		28
Fluoranthene		3 4	N-Nitrosodimethylamine		2 3[1]
Fluorene		3 4	N-Nitroso-di-n-butylamine		17
Formetanate hydrochloride		1 4[1]	N-Nitrosomethylethylamine		2 3
Heptachlor		0 066	N-Nitrosomorpholine		2 3
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDDD)		0 0025	N-Nitrosopiperidine		35
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)		0 0025	N-Nitrosopyrrolidine		35
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)		0 0025	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)		0 005
Heptachlor epoxide		0 066	1,2,3,4,6,7,8,9-Octachlorodebenzofuran (OCDF)		0 005
Hexachlorobenzene		10	Oxamyl		0 28[1]
Hexachlorobutadiene		5 6	Parathion		4 6
Hexachlorocyclopentadiene		2 4	Total PCBs (sum of all PCB isomers or all Aroclors)		10
HxCDDs (All Hexachrorodibenzo-p-dioxins)		0 001	Pebulate		1 4[1]
HxCDFs (All Hexachlorodibenzofurans)		0 001	Pentachlorobenzene		10[1]
Hexachloroethane		30	PeCDDs (All Pentachlorodibenzo-p-dioxins)		0 001
Hexachloropropylene		30[2]	PeCDFs(All Pentachlorodibenzofurans)		0 001
Indeno(1,2,3-c,d)pyrene		3 4	Pentachloroethane		6 0
Iodomethane		65	Pentachloronitrobenzene		4 8

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[3] UTS (mg/kg) unless noted	INORGANIC CONSTITUENTS	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[3] UTS (mg/kg) unless noted
Pentachloronitrobenzene		4 8	Antimony		1 15 mg/l TCLP
Pentachlorophenol		7 4	Arsenic		5 0 mg/l TCLP
Phenacetin		16	Barium		21 mg/l TCLP
Phenanthrene		5 6	Beryllium		1 22 mg/l TCLP
Phenol		6 2	Cadmium		0 11 mg/l TCLP
Phorate		4 6	Chromium (Total)		0 60 mg/l TCLP
Phthalic acid		28[1]	Cyanides (Total)		590
Phthalic anhydride		28[1]	Cyanides (Amenable)		30[1]
Physostigmine		1 4[1]	Fluoride	NA	NA[2]
Physostigmine salicylate		1 4[1]	Lead		0 75 mg/l TCLP
Promecarb		1 4[1]	Mercury (from Retort)		0 20 mg/l TCLP[1]
Pronamide		1 5	Mercury (All others)		0 025 mg/l TCLP
Propham		1 4[1]	Nickel		11 mg/l TCLP
Propoxur		1 4[1]	Selenium		5 7 mg/l TCLP
Prosulfocarb		1 4[1]	Silver		0 14 mg/l TCLP
Pyrene		8 2	Sulfide	NA	NA[2]
Pyridine		16	Thallium		0 20 mg/l TCLP
Safrole		22	Vanadium	NA	1 6 mg/l TCLP[2]
Silvex (2,4,5-TP)		7 9	Zinc	NA	4 3 mg/l TCLP[1 2]
1,2,4,5-Tetrachlorobenzene		14			
TCDDs (All Tetrachlorodibenzo-p-dioxins)		0 001			
TCDFs (All Tetrachlorodibenzofurans)		0 001			
1,1,1,2-Tetrachloroethane		6 0			
1,1,2,2-Tetrachloroethane		6 0			
Tetrachloroethylene		6 0			
2,3,4,6-Tetrachlorophenol		7 4			
Thiodicarb		1 4[1]			
Thiophanate-methyl		1 4[1]			
Toluene		10			
Toxaphene		2 6			
Triallate		1 4[1]			
Tribromomethane (Bromoform)		15			
1,2,4-Trichlorobenzene		19			
1,1,1-Trichloroethane		6 0			
1,1,2-Trichloroethane		6 0			
Trichloroethylene		6 0			
Trichloromonofluoromethane		30			
2,4,5-Trichlorophenol		7 4			
2,4,5-Trichlorophenoxyacetic acid (2,4 5-T)		7 9			
1,2,3-Trichloropropane		30			
1,1,2-Trichloro-1,2 2-trifluoroethane		30			
Triethylamine		1 5[1]			
Tris-(2,3-Dibromopropyl)phosphate		0 10[1]			
Vernolate		1 4[1]			
Vinyl chloride		6 0			
Xylenes – mixed isomers (sum of o-, m-, and p-xylene concentrations)		30			

These constituents are only applicable as underlying hazardous constituents These constituents are not constituents that require treatment in F039 wastes

Not an underlying hazardous constituent requiring treatment in a D001-D043 waste

These treatment standards are the nonwastewater (NWW) standards See 40 CFR 268 48

DRIVER'S INSTRUCTIONS FOR EXCLUSIVE USE VEHICLES

Transportation: **Hittman Transport Services**

The Code of Federal Regulations, 49 CFR 173 403, 173 427 and 173 441 requires that specific instructions for maintenance of exclusive use shipments controls be provided by the shipper to the carrier These instructions must be included with the shipment documents

The following instructions shall be complied with for all exclusive use vehicles:

- Do not change out tractor before arrival at the site without notifying shipper
- Do not change the fifth wheel adjustment on the tractor without notifying shipper.
- Do not move or transfer packages within the van or between vans while en route to the site without notifying shipper.
- The shipment must be loaded by consignor and unloaded by consignee from the transport vehicle in which originally loaded.
- Shipments must be braces so as to prevent leakage or shifting of load under conditions normally incident to transportation
- The vehicle must be placarded "RADIOACTIVE" on all four sides when applicable until shipment is unloaded

If the vehicle is involved in an accident or is required to make emergency braking, which could shift the load and change radiation levels, notify the shipper immediately.

In case of an accident, vehicle malfunction, or deviation from the above instructions immediately contact one of the following Energy*Solutions* employees:

Contact	Title/Company	Phone Number
Scott Gowans	**Shipper/Energy Solutions**	**970.201.6240**

Any deviations from these instructions are violations of State and Federal laws and could result in carrier penalty.

Driver's Signature

05-28-15

Date

ENERGYSOLUTIONS

CLIVE FACILITY
Scott Gowans 970-201-6240
Jake Gardner 801-838-1555

VEHICLE CONDITION CHECKLIST

Shipment Number: 9078-03-0004 Shipment Date: 5-28-15

Carrier: H. Tillman Driver's Name: Mark Paul

Tractor Number: 106 Trailer Number: F-48005

Trailer Type Van, Pan Van, Flatbed, Cask, Other: Flat bed

	INSPECTION CHECKS	SAT	UNSAT
1	Front Tire Tread at least 4/32 in (no recaps)	✓	
2	Other Tire Tread At least 2/32 in	✓	
3	Service Brakes Good condition and properly attached	✓	
4	Parking Brakes Operational and on while loading	✓	
5	Steering Mechanism Demonstrated Operational	✓	
6	Headlights and Front Reflectors Clean and Operational	✓	
7	Windshield Wipers Demonstrated Operational	✓	
8	Rear Vision Mirrors Functional	✓	
9	Horn(s) Demonstrated Operational	✓	
10	Fire Extinguishers Fully Charged	✓	
11	Trailer Frame and Headboard Free of visual defects	✓	
12	Load Tiedowns Adequate number for load and in good condition	✓	
13	Emergency Kit: Extra Placards, Rad rope, PC s	✓	
14	Brake Lights Demonstrated Operational	✓	
15	Turn Signals Demonstarted Operational	✓	
16	Reflectors At proper locations on trailer	✓	
17	Tractor and Trailer license plates are current	✓	
18	Operator Medical Card and CDL current and on file	✓	
19	Trailer has current FHWA sticker (good for one year after stamped date)	✓	

Operator Signature: [signature] Date: 05-28-15 EnergySolutions Rep Signature: [signature] Date: 5-28-15

___ Radioactive material, low specific activity (LSA-I), *non-fissile or fissile-excepted*; 7 UN2912
X Radioactive material, low specific activity (LSA-II), *non-fissile or fissile-excepted*; 7 UN3321
___ Radioactive material, low specific activity (LSA-III), *non fissile or fissile-excepted*, 7 UN3322
___ Radioactive material, surface contaminated objects (SCO-I *or* SCO-II) non fissile or fissile-excepted, 7 UN2913

Radioactive Materials (Low to Moderate Level Radiation)

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents. Packaging durability is related to potential hazards of material
- Undamaged packages are safe; contents of damaged packages may cause external and/or internal radiation exposure.
- Low radiation hazard when material is inside container If material is released from package or bulk container, hazard will vary from low to moderate. Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on
- Some material may be released from packages during accidents of moderate severity This poses little risk to people
- Released radioactive materials or contaminated objects usually will be visible if packaging fails
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels Placards, markings, and shipping papers provide identification
- Some packages may have "RADIOACTIVE" label and a second hazard label/ The second hazard is usually greater than the radiation hazard, so follow this Guide as well as the response Guide for the second hazard class label
- Some radioactive materials cannot be detected by commonly available instruments
- Runoff from control of cargo fire may cause low-level pollution

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Uranium and Thorium metal cuttings or granules may ignite spontaneously if exposed to air (see Guide 136)
- Nitrates are oxidizers and may ignite other combustibles (see Emergency Response Guide 141)

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first.**
- **Priorities for rescue, life-saving, first aid, and control of fire and other hazards are higher that the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions, and is usually responsible for radiological decisions
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions Stay upwind Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated, delay decontamination and cleanup until instructions are received from Radiation Authority

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet)

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not change effectiveness of fire control techniques
- Move containers from fire area if you can do it without risk
- Do not move damaged packages, move undamaged packages out of fire zone

Small Fires

- Dry chemical, CO_2, water spray or regular foam

Large Fires

- Water spray, fog (flooding amounts)
- Dike fire control water for later disposal

SPILL OR LEAK

- Do not touch damaged packages or spilled material

Liquid Spills

- Cover with sand, earth or other noncombustible absorbent material
- Dike to collect large liquid spills
- Cover powder spill with plastic sheet or trap to minimize spreading

- **FIRST AID**
- Medical problems take priority over radiological concerns
- Use first aid treatment according to the nature of the injury
- Do not delay care and transport of a seriously injured person
- Apply artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult.
- In case of contact with substance, wipe from skin, immediately flush skin or eyes with running water for at least 20 minutes
- Injured persons who contacted released material may be a minor contamination problem to contacted persons, equipment and facilities
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 – Carrier/Driver Instructions

8 Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander If the on-scene commander is not present, request those persons who have been identified to remain at the scene

9 Stand by until assistance arrives

10 **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11 DRIVER CERTIFICATION

A I have received read and understand these driver s instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name Hittman

Mark Paul — Mark Paul — 05/28-15

Driver's Name (Printed) — Driver's Signature — Date

Working Copy

Radiological Survey Report

SECTION A				
Survey #	Date	Time	Shipment	Package #
15-1361	5-28-15	11 15	15011 ~~671933~~ ZJ 5-28-15	Sealand 71933

Location: Outside of TMF (S-W)

Surveyor's printed name: Zina Jones, Dave Bales

Reason for survey: Receipt ☐ Processing ☐ Emplacement ☐ Special Request ☑ RWP ☐ Weekly ☐ Monthly ☐ Quarterly ☐ Annual Other ☐

Model No	Equipment/ Probe ID#	Eff	Cal Due Date	BKGD (cpm)	MDA (dpm) or DL (mrem/hr)
2360 α	1751 / 1751	22.88	1-30-16	1.6	33
2360 β	1751 / 1751	32 32	1-30-16	115	129
2350	1129 / 1130	N/A	2-17-16	N/A	N/A 0.004 DPS/cm²
Tennelec	1031	see report	9-8-15	See	report
	A		A		A

Type: Alpha ☑ Beta/Gamma ☑ Neutron ☐ Contamination ☑ Radiation ☑

SECTION B		Radiological Assessment Filter (RAF)
Time	Released (Circle)	Activity if not related (otherwise N/A)
N/A	(N/A) Yes No	N/A

SECTION C	COMMENT
Survey performed prior to shipping Sealand 71933 off site to outside vendor. All smears were < 20 dpm/100 cm² α / < 200 dpm/100 cm² β/γ. All direct scans were < 100 dpm/100 cm² α / < 1000 dpm/100 cm² β/γ. Truck/Trailer information recorded on survey map. Dose rates are in mR/hr.	

Surveyor's Signature/Date: ZJones, 5-28-15 / D Bales 5/28/15

This survey has been reviewed for accuracy, regulatory compliance, and radiological impacts. This survey contains 3 Pages (including this page)

Manager's Signature/Date: [signature] 5-28-15

Working Copy

Radiological Survey Map

SRV- 15-1361

Symbols

O = Contamination Survey

= Large area wipe

(1) **Monitoring Symbol**

□ = Air sample location

Rate Symbols

✳ = Contact Dose Rate ● = Dose Rate at 30 cm

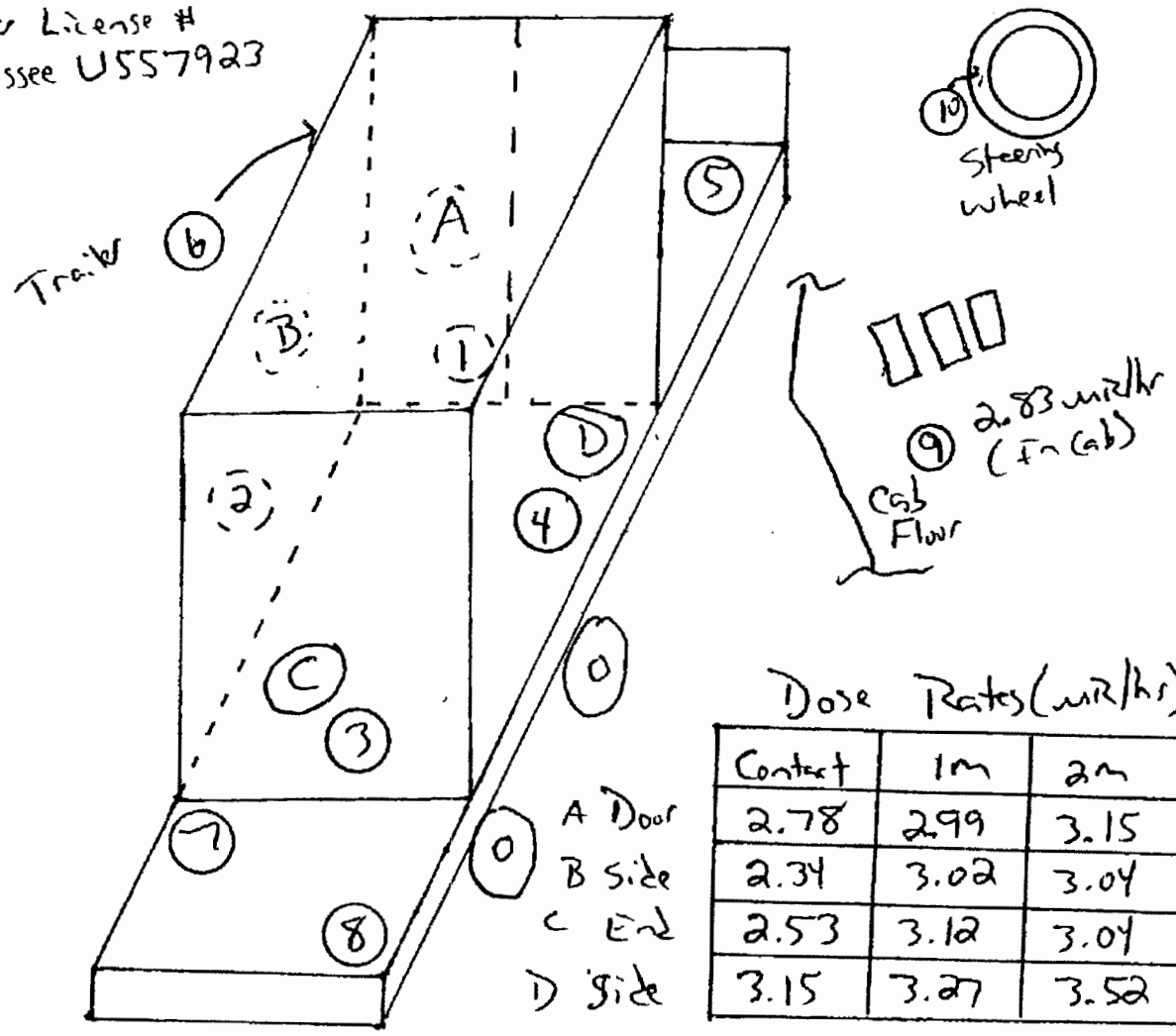
No Symbol = General Area Gamma Dose Rate

Δ = Neutron reading (Distance symbol in triangle and dose rate adjacent)

Dose rates in mrem/hr (mR/hr for MicroR meter and Teletector)

Note Dose rate measurements of TRU waste containers reflect payload assembly measurements and not single waste container measurements

Tractor License #
Tennessee F836HY
Trailer License #
Tennessee U557923



Dose Rates (mR/hr)

Contact	1m	2m
2.78	2.99	3.15
2.34	3.02	3.04
2.53	3.12	3.04
3.15	3.27	3.52

Surveyor's Signature/Date [signature] 5/28/15 / [signature] 5-28-15

COPY

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RSR Paperwork Completion

M12994

Arrived	05/30/2015	***Gross Volume (ft)***	1,173 00
Record	9078-03-0003	***Waste Type***	MIXW T DOE
Haz Manifest	78778		
Vehicle ID	Q54727		

DC	
On-Site	
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

Rec'd

FORM 540 — **EnergySolutions, LLC**

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code): (970) 201-6240

ORGANIZATION: EnergySolutions

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT? [✓] YES [ ] NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ==== 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? [✓] YES [ ] NO
If "Yes" provide Manifest Number ====> EPA MANIFEST NUMBER: 003378778JJK

5 SHIPPER - NAME AND FACILITY
Nuclear Waste Partnership, LLC on behalf of USDOE
33 Miles South East
Carlsbad, NM 88220

SHIPPER I D NUMBER: 9078 03-0003
[ ] COLLECTOR
[ ] PROCESSOR
[✓] GENERATOR TYPE (Specify) G

Utah Generator Site Access Permit No: 1309008242
SHIPMENT NUMBER: 15012

CONTACT: Jeff Casey
TELEPHONE NUMBER (Include Area Code): 575-234-8062

6 CARRIER – Name and Address
Hittman Transport
1560 Bear Creek Road
Oak Ridge TN 37830

EPA I D NUMBER: TNR000034686
SHIPPING DATE: 05/28/2015

CONTACT: Karen Kirby
TELEPHONE (Include Area Code): 1-800-233-9933

SIGNATURE – *Authorized carrier acknowledging waste receipt* — DATE

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MANIFEST NUMBER (Use this number on all continuation pages): 9078-03-0003

9 CONSIGNEE - Name and Facility
EnergySolutions, LLC
Clive Disposal Site (Treatment Facility)
Interstate 80, Exit 49
Clive, UT 84029
M12994

CONTACT: Transportation Compliance
TELEPHONE (Include Area Code): (435)884-0155

SIGNATURE – *Authorized consignee acknowledging waste receipt* — DATE

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified described packaged marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations

AUTHORIZED SIGNATURE — TITLE — DATE

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name hazard class UN ID number and any additional information)	12 DOT LABEL RADIOACTIVE	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321, Waste, Radioactive material, low specific activity (LSA-II), 7, Fissile Excepted, D006, (Contains Cadmium)	NA	NA	Solid Oxide	Am 241	Co-60	Cs-134	Cs-137	4 6834E+01	(1 2658E+00)	LSA-II	6040 LBS, 1173 FT3	200926
				Pu 238	Pu-240	Pu-241	Sr-90					
One Type IP-1 Seavan containing bags of hepa filters and PPE ERG#162				Th-228	Th-230	Th-232	U-235					
				U-238	Y-90							

FOR CONSIGNEE USE ONLY

____ Record Waste Description Inadequate
____ Contamination or Leakage Detected
____ Unexpected Exposure Rates Detected
____ Labels Markings etc Inadequate
____ Container Integrity Inadequate
____ Other
____ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material • is (or) __ is not a hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land disposal restriction notice and/or certification as required by 40 CFR 268 1

B TITLE Upon acceptance at the disposal site by EnergySolutions LLC and all appropriate regulatory authorities title to the Waste Material which conforms to Generator s representations herein shall thereupon transfer from Generator and be vested in EnergySolutions LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws rules regulations and EnergySolutions LLC s facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC its officers employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-06)

Original

W5712

FORM 540 EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code): (970) 201-6240

ORGANIZATION: EnergySolutions

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT? ☑ YES ☐ NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST: ==>

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? ☑ YES ☐ NO
If "Yes" provide Manifest Number ==>

EPA MANIFEST NUMBER: 083378778JJK

5 SHIPPER – NAME AND FACILITY
Nuclear Waste Partnership, LLC on behalf of USDOE
33 Miles South East
Carlsbad, NM 88220

Utah Generator Site Access Permit No: 1309908242

SHIPMENT NUMBER: 16012

CONTACT: Jeff Casey

6 CARRIER – Name and Address
Kitmen Transport
1540 Bear Creek Road
Oak Ridge, TN 37830

CONTACT: Karen Kirby

SIGNATURE – Authorized carrier acknowledging waste receipt: Karen Jones

SHIPPER ID NUMBER: 9078-03-0003
☐ COLLECTOR
☐ PROCESSOR
☑ GENERATOR TYPE (Specify): G

TELEPHONE NUMBER (Include Area Code): 575-234-8062

EPA ID NUMBER: TNR000034888

SHIPPING DATE: 05/28/2015

TELEPHONE (Include Area Code): 1-800-233 8933

DATE: 5/28/15

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MANIFEST NUMBER (Use this number on all continuation pages): 9078-03-0003

9 CONSIGNEE - Name and Facility
EnergySolutions, LLC
Clive Disposal Site (Treatment Facility)
Interstate 80, Exit 49
Clive, UT 84029
M12994

CONTACT: Transportation Compliance

TELEPHONE (Include Area Code): (435)884-0155

SIGNATURE – Authorized consignee acknowledging waste receipt: Chuck Emm

DATE: 5/30/15

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified described packaged marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations

AUTHORIZED SIGNATURE: [signature] TITLE: Broker DATE: 5-28-15

11 U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number and any additional information)	12 DOT LABEL RADIOACTIVE	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321, Waste, Radioactive material, low specific activity (LSA-II), 7, Fissile Excepted, D006, (Contains Cadmium)	NA	NA	Solid Oxide	Am 241	Co-60	Cs-134	Cs-137	4.7139E+01	(1.2740E+00)	LSA-II	6040 LBS, 1173 FT3	200926
				Pu-238	Pu-240	Pu-241	Sr 90					
One Type IP-1 Seavan containing bags of hepa filters and PPE ERG#162				Th-228	Th 230	Th 232	U-235					
				U-238	Y 90							

FOR CONSIGNEE USE ONLY

____ Record Waste Description Inadequate
____ Contamination or Leakage Detected
____ Unexpected Exposure Rates Detected
____ Labels, Markings, etc. Inadequate
____ Container Integrity Inadequate
____ Other
✓ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS: Generator represents & warrants that Waste Material ● is (or) __ is not a hazardous waste as defined in 40 CFR 261. Where the material is a hazardous waste, this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land disposal restriction notice and/or certification as required by 40 CFR 268.1

B TITLE: Upon acceptance at the disposal site by EnergySolutions LLC and all appropriate regulatory authorities, title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions LLC

C WASTE MATERIAL: Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and EnergySolutions LLC's facility license

D INDEMNIFICATION: Generator agrees to indemnify EnergySolutions LLC, its officers, employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-06)

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions. Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230). A completed and signed copy of this form must also accompany each waste manifest.

Waste Stream ID: ~~9078-01~~ 907803 PKS-219

Manifest No. ~~9078-01-0000~~ 9078-03-0003 JCS-270

1. Check applicable category below for the waste stream:

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2c	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☒	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☐	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste				

* A concentration value is used for the minimum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations.

2. Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☒ a. Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1

☒ b. The SNM is homogeneously distributed throughout the waste or the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits. (Based on process knowledge or testing).

☒ c. Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e.g., a pallet of drums, a B-25 box). By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc. do not contain other elements. (Based on process knowledge or testing).

☒ d. Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste. (Based on process knowledge, physical observations, or testing).

☒ e. Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233. If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule. Highly soluble forms of uranium include, but are not limited to: uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate. (Based on process knowledge or testing).

☐ f. For containers of liquid waste with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing). For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6.0 mCi (6.0E+09 pCi) as shown below:

$$10{,}000\frac{pCi}{g} \times 600{,}000\,g = 6.0X10^{9}\ pCi = 6.0\ mCi\ Pu\text{-}239$$

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1 Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).

   ☒ a. Provide a description of how the waste was generated, list the physical forms of the waste, and identify the uranium chemical composition.

   ☒ b. Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges.

   ☒ c. Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution.

   ☒ d. Describe the methods to be used to determine the concentrations on the manifests. These methods could include direct measurement and the use of scaling factors. Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations

4. Generator's certification of compliance with the SNM exemption: I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing. I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions.

Authorized Signature	Printed Name	Title	Date
	Jeffrey B Casey	Environmental Scientist	7-18-14
	Jeffrey Casey	Scientist III	5-22-15

Please print or type (Form designed for use on elite (12-pitch) typewriter) — Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator ID Number: NM4890139088
2 Page 1 of: 1
3 Emergency Response Phone: 970-201-6240
4 Manifest Tracking Number: 003378778 JJK

5 Generator's Name and Mailing Address: Nuclear Waste Partnership on behalf of US DOE, PO Box 2078 m/s 452-09, Carlsbad, NM 88221
Generator's Phone: 575-234-7342
Generator's Site Address (if different than mailing address): Waste Isolation Pilot Program, 33 miles Southeast, Carlsbad, NM 88220

6 Transporter 1 Company Name: Hittman Transport
U S EPA ID Number: TNR 000 346 86

7 Transporter 2 Company Name:
U S EPA ID Number:

8 Designated Facility Name and Site Address: EnergySolutions, LLC, Clive Disposal Site (Treatment facility), Interstate I-80 Exit 49, Clive, UT 84029
Facility's Phone: 435-884-0155
U S EPA ID Number: UTD982598898

9a HM	9b U S DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11 Total Quantity	12 Unit Wt/Vol	13 Waste Codes
X	1 UN 3321, waste, Radioactive material low specific activity (LSA-II) 7, Fissile Excepted D006 (contains Cadmium)	1	CM	4906	KGS	D006 D009 D010 F001 D033 D043
	one seavan containing bags of hepa filters and PPE. Solid, Oxide, AM 241, PU-241, SR-90, ~~5 GAE MRG (0.71E-1 MGH)~~					
	TYPE IP ~~1,472.76 MBq~~ ~~(1.1645 E-0 MC)~~ 5-28-15 4.713 MBq (1.254 MC)					
	4					

14 Special Handling Instructions and Additional Information: ERG #162, Container #200926, Radiological information 540/546 exclusive use shipment 9078-03-0003
Shipment # 15012
w. PP emergency # 575-885-6883

15 **GENERATOR'S/OFFEROR'S CERTIFICATION** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Scott Gonzales — Signature: [signature] — Month 5 Day 29 Year 15

INT'L

16 International Shipments ☐ Import to U S ☐ Export from U S — Port of entry/exit
Transporter signature (for exports only) — Date leaving U S

TRANSPORTER

17 Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Sheri Jones — Signature: Sheri Jones — Month 05 Day 28 Year 15

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

18 Discrepancy

18a Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number

18b Alternate Facility (or Generator) — U S EPA ID Number

Facility's Phone

18c Signature of Alternate Facility (or Generator) — Month — Day — Year

19 Hazardous Waste Report Management Method Codes (i e, codes for hazardous waste treatment, disposal, and recycling systems)

1 H132 — 2 — 3 — 4

20 Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Albert Gurs — Signature: [signature] — Month 5 Day 30 Year 15

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership

UHWM Number: 003378728 JJK

Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261 For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory Spent solvent standards are listed on the following page If F039, multi-source leachate applies those constituents must be listed and attached by the generator If D001-D043 requires treatment of the characteristic and meet 268 48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached

REF #	3 US EPA HAZARDOUS WASTE CODE (S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE, SIMPLY CHECK NONE		5. HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
		DESCRIPTION	NONE	
1	D004,D005,D006, D007,D008,D009, D010,D011,D018, D019,D021,D022, D026,D027,D028, D029,D030,D032, D033,D034,D035, D036,D037,D038, D039,D040,D043, F001,F002,F003, F004,F005,F006, F007,F009,U133	Radioactive Debris	☐	A
2			☐	
3			☐	
4			☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐

If PCBs are present in the waste upon its initial generation check here ☐

To additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A1, A2, B1, B2 ,B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268 7) Please understand that if you enter the letter A2, B1, B2, B3, B4, or D you are making the appropriate certification as provided below States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations)

A1 **RESTRICTED WASTE REQUIRES TREATMENT**

This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268 40

☐ For Hazardous Debris "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45 "

A2 **DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**

"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 or 268 49 to remove the hazardous characteristic This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B1 **RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS**

"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR Part 268 40 without impermissible dilution of the prohibited waste I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B2 **CONTAMINATED SOIL TREATED TO PERFORMANCE STANDARDS**

"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in 40 CFR 268 49 without impermissible dilutions of the prohibited wastes I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B3 **GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS**

"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion units as specified in 268 42, Table 1 I have been unable to detect the nonwastewater organic constituents, despite having used best good-faith efforts to analyze for such constituents I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B4 **DECHARACTERIZED WASTE CONTAINING UNDERLYING HAZARDOUS CONSTITUENTS TREATED TO PERFORMANCE STANDARDS**

"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 to remove the hazardous characteristic and that underlying hazardous constituents, as defined in § 268 2(i) have been treated on-site to meet the § 268 48 Universal Treatment Standards I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment

RESTRICTED WASTE SUBJECT TO A VARIANCE

This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension and may be land disposed without further treatment Enter the effective date of prohibition in column 5 above

RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT

"I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D I believe that the information I submitted is true, accurate and complete I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

E **WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS**

This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions

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I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information

Signature [signature] Title Broker Date 5-28-15

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV) – REVERSE SIDE

If the waste identified on the first page of this form is described by any of the following USEPA hazardous waste codes F001, F002, F003, F004, F005, and all solvent constituents will not be monitored by the treater, then each constituent MUST be identified below by checking the appropriate box and this page must accompany the shipment, along with the previous page of this form If the waste code F039 describes this waste, then the corresponding list of constituents must be attached If D001-D043 require treatment to 268 48 standards, then the underlying hazardous constituent(s) must also be attached

SOLVENT WASTE TREATMENT STANDARDS[2]

F[illegible]rough F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]		F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]	
	Wastewaters	Nonwastewaters		Wastewaters	Nonwastewaters
Acetone (F003)	0 28	160	Methanol (F003)	5 6	0 75 (TCLP)[3]
Benzene (F005)	0 14	10	Methylene chloride (F001, F002)	0 089	30
n-Butanol (n-butyl alcohol) (F003)	5 6	2 6	Methyl ethyl ketone (F005)	0 28	36
Carbon disulfide (F005)	3 8	4 8 (TCLP)[3]	Methyl isobutyl ketone (F003)	0 14	33
Carbon tetrachloride (F001)	0 057	6 0	Nitrobenzene (F004)	0 068	14
Chlorobenzene (F002)	0 057	6 0	2-Nitropropane (F005)	INCIN or {(WETOX or C HOXD) followed by CARBN}	INCIN
o-Cresol (F004)	0 11	5 6	Pyridine (F005)	0 014	16
Cresol (m- and p- isomers) (F004)	0 77	5 6	Tetrachloroethylene (F001, F002)	0 056	6 0
Cyclohexanone (F003)	0 36	0 75 (TCLP)[3]	Toluene (F005)	0 080	10
o-Dichlorobenzene (F002)	0 088	6 0	1,1,1-Trichloroethane (F001, F002)	0 054	6 0
2-Ethoxyethanol (F005) also called ethylene glycol, monoethyl ether	INCIN or BIODG	INCIN	1,1,2-Trichloroethane (F002)	0 054	6 0
Ethyl acetate (F003)	0 34	33	Trichloroethylene (F001, F002)	0 054	6 0
Ethyl benzene (F003)	0 057	10	Trichloromonofluoromethane (F002)	0 020	30
Ethyl ether (F003)	0 12	160	1,1,2-Trichloro-1,2,2-trifluoroethane (F002)	0 057	30
Isobutanol (Isobutyl Alcohol) (F005)	5 6	170	Xylenes (sum of o-, m-, and p-isomers) (F003)	0 32	30

All spent solvent treatment standards are measured through a total waste analysis (TCA), unless otherwise noted Wastewater units are mg/l, nonwastewater are mg/kg

For contaminated soils using the alternative soil treatment standards, the treatment standards for F001-F005 spent solvents must be a 90% reduction of the constituents or less than 10x the standard listed

These solvents require a TCLP standard with units of mg/l

SUBCATEGORY REFERENCE

001

Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems

Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in CWA/CWA-equivalent or Class I SDWA systems

High TOC Ignitable characteristic liquids subcategory based on 40 CFR 261 21(a) (1) – Greater than or equal to 10% total organic carbon

002

Corrosive characteristic wastes that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems

Corrosive characteristic wastes that are managed in CWA, CWA-equivalent, or Class I SWDA systems

F039/UNDERLYING HAZARDOUS CONSTITUENT FORM (UTS)

Generator Name: Nuclear Waste Partnership

UHWM Number: 003378778 OJK

D001-D043 requires treatment to the 40 CRF 268 48 standards, then each underlying hazardous constituent (UHC) present in the waste at the point of generation and at a level above the Universal Treatment Standard (UTS) constituent specific standard must be listed Write the letter (A1, B1, B2, B3, or C that corresponds to the letter on the land disposal form A1) beside each constituent present to properly describe how the constituent(s) must be managed under 40 CFR 268 7 If contaminated soil requires treatment to 40 CFR 268 49 standards, then each UHC in the waste at the point of generation and at a level above 10 times the UTS must be listed Write the appropriate letter which corresponds to the letter on the LDR form

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[2] UTS (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[2] UTS (mg/kg) unless noted
Acenaphthylene		3 4	2-Chloro-1,3-butadiene		0 28[1]
Acenapthene		3 4	Chlorodibromomethane		15
Acetone		160	Chloroethane		6 0
Acetonitrile		38[1]	bis(2-Chloroethoxy)methane		7 2
Acetophenone		9 7	bis(2-Chloroethyl)ether		6 0
2-Acetylaminofluorene		140	Chloroform		6 0
Acrolein	NA	NA	bis(2-Chloroisopropyl)ether		7 2
Acylamide		23[1]	p-Chloro-m-cresol		14
Acrylonitrile		84	2-Chloroethyl vinyl ether	NA	NA[1]
Aldicarb sulfone		0 28[1]	Chloromethane (Methyl chloride)		30
Aldrin		0 066	2-Chloronaphthalene		5 6
4-Aminobiphenyl	NA	NA	2-Chlorophenol		5 7
Aniline		14	3-Chloropropylene		30
Anthracene		3 4	Chrysene		3 4
Aramite	NA	NA	o-Cresol		5 6
alpha-BHC		0 066	m-Cresol		5 6
beta-BHC		0 066	p-Cresol		5 6
delta-BHC		0 066	m-Cumenyl methylcarbamate		1 4[1]
gamma-BHC (Lindane)		0 066	Cyclohexanone		0 75 mg/l[1]
[illegible]an		1 4[1]	o,p'-DDD		0 087
Bendiocarb		1 4[1]	p p'-DDD		0 087
Benomyl		1 4[1]	o,p'-DDE		0 087
Benzene		10	p p'-DDE		0 087
Benz(a)anthracene		3 4	o,p'-DDT		0 087
Benzal chloride		6 0[1]	p,p'-DDT		0 087
Benzo(b)fluoranthene		6 8	Dibenz(a,h)anthracene		8 2
Benzo(k)fluoranthene		6 8	Dibenz(a,e)pyrene	NA	NA
Benzo (g,h,i)perylene		1 8	1,2-Dibromo-3-chloropropane		15
Benzo(a)pyrene		3 4	1,2-Dibromomethane (Ethylene dibromide)		15
Bromodichloromethane		15	Dibromomethane		15
Bromomethane (Methyl Bromide)		15	m-Dichlorobenzene		6 0
4-Bromophenyl phenyl ether		15	o-Dichlorobenzene		6 0
n-Butyl alcohol		2 6	p-Dichlorobenzene		6 0
Butylate		1 4[1]	Dichlorodifluoromethane		7 2
Butyl benzyl phthalate		28	1,1-Dichloroethane		6 0
2-sec-Butyl-4,6-dinitrophenol (Dinoseb)		2 5	1,2-Dichloroethane		6 0
Carbaryl		0 14[1]	1,1-Dichloroethylene		6 0
Carbenzadim		1 4[1]	trans-1,2-Dichloroethylene		30
Carbofuran		0 14[1]	2,4-Dichlorophenol		14
Carbofuran phenol		1 4[1]	2,6-Dichlorophenol		14
Carbon disulfide		4 8 mg/l TCLP[1]	2,4-Dichlorophenoxyacetic acid (2,4-D)		10
Carbon tetrachloride		6 0	1,2-Dichloropropane		18
Carbosulfan		1 4[1]	cis-1,3-Dichloropropylene		18
Chlordane (alpha and gamma isomers)		0 26	trans-1,3-Dichloropropylene		18
[illegible]roaniline		16	Dieldrin		0 13
Chlorobenzene		6 0	Diethyl phthalate		28
Chlorobenzilate	NA	NA	p-Dimethylaminoazobenzene	NA	NA

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[3] UTS (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[3] UTS (mg/kg) unless noted
2,4-Dimethyl phenol		14	Isosafrole		2 6
[illegible]thyl phthalate		28	Isobutyl alcohol		170
[illegible]butyl phthalate		28	Isodrin		0 066
1,4-Dinitrobenzene		2 3	Kepone		0 13
4,6-Dinitro-o-cresol		160	Methacrylonitrile		84
2,4-Dinitrophenol		160	Methanol		0 75 mg/l[1]
2,4-Dinitrotoluene		140	Methapyrilene		1 5
2 6-Dinitrotoluene		28	Methiocarb		1 4[1]
Di-n-octyl phthalate		28	Methomyl		0 14[1]
Di-n-propylnitrosamine		14	Methoxychlor		0 18
1,4-Dioxane		170	3-Methylcholanthrene		15
Diphenylamine		13[1]	4,4'-Methylene bis(2-chloroaniline)		30
Diphenylnitrosamine		13[1]	Methylene chloride		30
1,2-Diphenylhydrazine	NA	NA	Methyl ethyl ketone (2-Butanone)		36
Disulfoton		6 2	Methyl isobutyl ketone		33
Dithiocarbamates (total)		28[1]	Methyl methacrylate		160
Endosulfan I		0 066	Methyl methansulfonate	NA	NA
Endosulfan II		0 13	Methyl parathion		4 6
Endosulfan sulfate		0 13	Metolcarb		1 4[1]
Endrin		0 13	Mexacarbate		1 4[1]
Endrin aldehyde		0 13	Molinate		1 4[1]
EPTC		1 4[1]	Naphthalene		5 6
Ethyl acetate		33	2-Naphthylamine	NA	NA
Ethyl benzene		10	o-Nitroaniline		14[1]
Ethyl cyanide (Propanenitrile)		360	p-Nitroaniline		28
Ethyl ether		160	Nitrobenzene		14
Bis(2-Ethylhexyl)phthalate		28[2]	5-Nitro-o-toluidine		28
Ethyl methacrylate		160	o-Nitrophenol		13[1]
[illegible]ene oxide	NA	NA	p-Nitrophenol		29
Famphur		15	N-Nitrosodiethylamine		28
Fluoranthene		3 4	N-Nitrosodimethylamine		2 3[1]
Fluorene		3 4	N-Nitroso-di-n-butylamine		17
Formetanate hydrochloride		1 4[1]	N-Nitrosomethylethylamine		2 3
Heptachlor		0 066	N-Nitrosomorpholine		2 3
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDDD)		0 0025	N-Nitrosopiperidine		35
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)		0 0025	N-Nitrosopyrrolidine		35
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)		0 0025	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)		0 005
Heptachlor epoxide		0 066	1,2,3,4,6,7,8,9-Octachlorodebenzofuran (OCDF)		0 005
Hexachlorobenzene		10	Oxamyl		0 28[1]
Hexachlorobutadiene		5 6	Parathion		4 6
Hexachlorocyclopentadiene		2 4	Total PCBs (sum of all PCB isomers or all Aroclors)		10
HxCDDs (All Hexachrorodibenzo-p-dioxins)		0 001	Pebulate		1 4[1]
HxCDFs (All Hexachlorodibenzofurans)		0 001	Pentachlorobenzene		10[1]
Hexachloroethane		30	PeCDDs (All Pentachlorodibenzo-p-dioxins)		0 001
Hexachloropropylene		30[2]	PeCDFs(All Pentachlorodibenzofurans)		0 001
Indeno(1,2,3-c,d)pyrene		3 4	Pentachloroethane		6 0
Iodomethane		65	Pentachloronitrobenzene		4 8

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[3] UTS (mg/kg) unless noted	INORGANIC CONSTITUENTS	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[3] UTS (mg/kg) unless noted
Pentachloronitrobenzene		4 8	Antimony		1 15 mg/l TCLP
Pentachlorophenol		7 4	Arsenic		5 0 mg/l TCLP
Phenacetin		16	Barium		21 mg/l TCLP
Phenanthrene		5 6	Beryllium		1 22 mg/l TCLP
Phenol		6 2	Cadmium		0 11 mg/l TCLP
Phorate		4 6	Chromium (Total)		0 60 mg/l TCLP
Phthalic acid		28[1]	Cyanides (Total)		590
Phthalic anhydride		28[1]	Cyanides (Amenable)		30[1]
Physostigmine		1 4[1]	Fluoride	NA	NA[2]
Physostigmine salicylate		1 4[1]	Lead		0 75 mg/l TCLP
Promecarb		1 4[1]	Mercury (from Retort)		0 20 mg/l TCLP[1]
Pronamide		1 5	Mercury (All others)		0 025 mg/l TCLP
Propham		1 4[1]	Nickel		11 mg/l TCLP
Propoxur		1 4[1]	Selenium		5 7 mg/l TCLP
Prosulfocarb		1 4[1]	Silver		0 14 mg/l TCLP
Pyrene		8 2	Sulfide	NA	NA[2]
Pyridine		16	Thallium		0 20 mg/l TCLP
Safrole		22	Vanadium	NA	1 6 mg/l TCLP[2]
Silvex (2,4,5-TP)		7 9	Zinc	NA	4 3 mg/l TCLP[1 2]
1,2,4,5-Tetrachlorobenzene		14			
TCDDs (All Tetrachlorodibenzo-p-dioxins)		0 001			
TCDFs (All Tetrachlorodibenzofurans)		0 001			
1,1,1,2-Tetrachloroethane		6 0			
1,1,2,2-Tetrachloroethane		6 0			
Tetrachloroethylene		6 0			
2,3,4,6-Tetrachlorophenol		7 4			
Thiodicarb		1 4[1]			
Thiophanate-methyl		1 4[1]			
Toluene		10			
Toxaphene		2 6			
Triallate		1 4[1]			
Tribromomethane (Bromoform)		15			
1,2,4-Trichlorobenzene		19			
1,1,1-Trichloroethane		6 0			
1,1,2-Trichloroethane		6 0			
Trichloroethylene		6 0			
Trichloromonofluoromethane		30			
2,4,5-Trichlorophenol		7 4			
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)		7 9			
1,2,3-Trichloropropane		30			
1,1,2-Trichloro-1,2,2-trifluoroethane		30			
Triethylamine		1 5[1]			
Tris-(2,3-Dibromopropyl)phosphate		0 10[1]			
Vernolate		1 4[1]			
Vinyl chloride		6 0			
Xylenes – mixed isomers (sum of o-, m-, and p-xylene concentrations)		30			

These constituents are only applicable as underlying hazardous constituents These constituents are not constituents that require treatment in F039 wastes

Not an underlying hazardous constituent requiring treatment in a D001-D043 waste

These treatment standards are the nonwastewater (NWW) standards See 40 CFR 268 48

___ Radioactive material, low specific activity (LSA-I), *non fissile or fissile-excepted*, 7 UN2912
_X_ ~~Radioactive material, low specific activity (LSA-II), *non fissile or fissile-excepted*, 7 UN3321~~
___ Radioactive material, low specific activity (LSA-III), *non fissile or fissile-excepted*, 7 UN3322
___ Radioactive material, surface contaminated objects (SCO-I *or* SCO-II) non fissile or fissile-excepted, 7 UN2913

Radioactive Materials (Low to Moderate Level Radiation)

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents Packaging durability is related to potential hazards of material
- Undamaged packages are safe, contents of damaged packages may cause external and/or internal radiation exposure
- Low radiation hazard when material is inside container If material is released from package or bulk container, hazard will vary from low to moderate Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on
- Some material may be released from packages during accidents of moderate severity This poses little risk to people
- Released radioactive materials or contaminated objects usually will be visible if packaging fails
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels Placards, markings, and shipping papers provide identification
- Some packages may have "RADIOACTIVE" label and a second hazard label/ The second hazard is usually greater than the radiation hazard, so follow this Guide as well as the response Guide for the second hazard class label
- Some radioactive materials cannot be detected by commonly available instruments
- Runoff from control of cargo fire may cause low-level pollution

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Uranium and Thorium metal cuttings or granules may ignite spontaneously if exposed to air (see Guide 136)
- Nitrates are oxidizers and may ignite other combustibles (see Emergency Response Guide 141)

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first.**
- **Priorities for rescue, life-saving, first aid, and control of fire and other hazards are higher that the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions, and is usually responsible for radiological decisions
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions Stay upwind Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated, delay decontamination and cleanup until instructions are received from Radiation Authority

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet)

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not change effectiveness of fire control techniques
- Move containers from fire area if you can do it without risk
- Do not move damaged packages, move undamaged packages out of fire zone

Small Fires

- Dry chemical, CO_2, water spray or regular foam

Large Fires

- Water spray, fog (flooding amounts)
- Dike fire control water for later disposal

SPILL OR LEAK

- Do not touch damaged packages or spilled material

Liquid Spills

- Cover with sand, earth or other noncombustible absorbent material
- Dike to collect large liquid spills
- Cover powder spill with plastic sheet or trap to minimize spreading

- **FIRST AID**
- Medical problems take priority over radiological concerns
- Use first aid treatment according to the nature of the injury.
- Do not delay care and transport of a seriously injured person
- Apply artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult
- In case of contact with substance, wipe from skin, immediately flush skin or eyes with running water for at least 20 minutes
- Injured persons who contacted released material may be a minor contamination problem to contacted persons, equipment and facilities
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves

ENERGYSOLUTIONS

CLIVE FACILITY
Scott Gowans 970-201-6240
Jake Gardner 801-838-1555

VEHICLE CONDITION CHECKLIST

Shipment Number 9078-03-0003 Shipment Date 5-28-15

Carrier H.Tilman Driver's Name Sheri L Jones

Tractor Number 2761 Trailer Number 054727

Trailer Type Van, Pan Van, Flatbed, Cask, Other Flat bed

	INSPECTION CHECKS	SAT	UNSAT
1	Front Tire Tread at least 4/32 in (no recaps)	X	
2	Other Tire Tread At least 2/32 in	X	
3	Service Brakes Good condition and properly attached	X	
4	Parking Brakes Operational and on while loading	X	
5	Steering Mechanism Demonstrated Operational	X	
6	Headlights and Front Reflectors Clean and Operational	X	
7	Windshield Wipers Demonstrated Operational	X	
8	Rear Vision Mirrors Functional	X	
9	Horn(s) Demonstrated Operational	X	
10	Fire Extinguishers Fully Charged	X	
11	Trailer Frame and Headboard Free of visual defects	X	
12	Load Tiedowns Adequate number for load and in good condition	X	
13	Emergency Kit. Extra Placards, Rad rope, PC s	X	
14	Brake Lights Demonstrated Operational	X	
15	Turn Signals Demonstarted Operational	X	
16	Reflectors At proper locations on trailer	X	
17	Tractor and Trailer license plates are current	X	
18	Operator Medical Card and CDL current and on file	X	
19	Trailer has current FHWA sticker (good for one year after stamped date)	X	

Sheri Jones 5/28/15 [illegible] 5-28-15

Operator Signature Date EnergySolutions Rep Signature Date

DRIVER'S INSTRUCTIONS FOR EXCLUSIVE USE VEHICLES

Transportation: **Hittman Transport Services**

The Code of Federal Regulations, 49 CFR 173 403, 173 427 and 173 441 requires that specific instructions for maintenance of exclusive use shipments controls be provided by the shipper to the carrier These instructions must be included with the shipment documents

The following instructions shall be complied with for all exclusive use vehicles

- Do not change out tractor before arrival at the site without notifying shipper.
- Do not change the fifth wheel adjustment on the tractor without notifying shipper.
- Do not move or transfer packages within the van or between vans while en route to the site without notifying shipper.
- The shipment must be loaded by consignor and unloaded by consignee from the transport vehicle in which originally loaded.
- Shipments must be braces so as to prevent leakage or shifting of load under conditions normally incident to transportation
- The vehicle must be placarded "RADIOACTIVE" on all four sides when applicable until shipment is unloaded

If the vehicle is involved in an accident or is required to make emergency braking, which could shift the load and change radiation levels, notify the shipper immediately.

In case of an accident, vehicle malfunction, or deviation from the above instructions immediately contact one of the following Energy*Solutions* employees:

Contact	Title/Company	Phone Number
Scott Gowans	**Shipper/Energy Solutions**	**970.201.6240**

Any deviations from these instructions are violations of State and Federal laws and could result in carrier penalty.

Driver's Signature

5/22/15

Date

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

8 Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander If the on-scene commander is not present, request those persons who have been identified to remain at the scene

9 Stand by until assistance arrives

10 **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11 DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name _____

Sheri Jones	Sheri Jones	5/28/15
Driver's Name (Printed)	Driver's Signature	Date

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RSR Paperwork Completion

L123163

Arrived	06/03/2015	**Gross Volume (ft)**	1,152 00
Record	9078-01-0007	**Waste Type**	LLRW DOE
Haz Manifest			
Vehicle ID	Q54611		

DC	
On-Site	
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

FORM 540 — EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(970) 201-8380 / 48202 Emergency number 575-393-6993

ORGANIZATION
EnergySolutions

2 IS THIS AN EXCLUSIVE USE SHIPMENT?
☑ YES
☐ NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ==> 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? ☐ YES ☑ NO
If Yes provide Manifest Number ==>

EPA MANIFEST NUMBER
NA

5 SHIPPER – NAME AND FACILITY
Nuclear Waste Partnership, LLC on behalf of USDOE
33 Miles South East
Carlsbad, NM 88220

Utah Generator Site Access Permit No: 1309008342
SHIPMENT NUMBER: 15013

CONTACT: Jeff Casey

6 CARRIER – Name and Address
Hittman Transport
1560 Bear Creek Road
Oak Ridge, TN 37830

CONTACT: Karen Kirby

SIGNATURE – Authorized carrier acknowledging waste receipt: Karen Jones

SHIPPER ID NUMBER: 9078-01-0007
☐ COLLECTOR
☐ PROCESSOR
☑ GENERATOR TYPE (Specify) G
TELEPHONE NUMBER (Include Area Code): 575-234-8062
EPA ID NUMBER: TNR000034696
SHIPPING DATE: 06/01/2015
TELEPHONE (Include Area Code): 1-800 232-8933
DATE: 6-1-15

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MANIFEST NUMBER (Use the number on all continuation pages): 9078-01-0007

9 CONSIGNEE - Name and Facility
EnergySolutions, LLC
Clive Disposal Site (Bulk Waste Facility)
Interstate 80, Exit 49
Clive, UT 84029
L123163

CONTACT: Transportation Compliance
TELEPHONE (Include Area Code): (435)884-0165

SIGNATURE – Authorized consignee acknowledging waste receipt: Albert Sanchez
DATE: 6/3/15

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified, described packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations

AUTHORIZED SIGNATURE: [signature] TITLE: Broker DATE: 6-1-15

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name hazard class UN ID number and any additional information)	12 DOT LABEL *RADIOACTIVE	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321, Radioactive material, low specific activity (LSA-II), 7, Fissile Excepted One Type IP-1 Seavan containing PPE and debris ERG #152 attached	NA	NA	Solid Oxide	Am-241	Co-60	Cs-134	Cs-137	7 1433E+01	(1.9306E+00)	LSA-II	12150 LBS, 1162 FT3	71425
				Pu-238	Pu-240	Pu-241	Sr-90					
				Th-228	Th-230	Th-232	U-235					
				U-238	Y-90							

FOR CONSIGNEE USE ONLY

____ Record Waste Description Inadequate
____ Contamination or Leakage Detected
____ Unexpected Exposure Rates Detected
____ Labels, Markings, etc Inadequate
____ Container Integrity Inadequate
____ Other
✓ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material __ is (or) ✓ is not a hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268 1

B TITLE Upon acceptance at the disposal site by EnergySolutions, LLC, and all appropriate regulatory authorities title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws rules regulations and EnergySolutions LLC's facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC, its officers, employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-06)

TRANSPORTATION SERVICES IS FOR THE U.S. DEPARTMENT OF ENERGY AND WILL BE THE TOTAL TRANSPORTATION CHARGES PAID TO THE CARRIER(S) BY THE CONSIGNOR OR CONSIGNEE AND ASSUMED TO, AND ARE TO BE REIMBURSED BY, THE GOVERNMENT.

FORM 541

EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME		NET WASTE WEIGHT	
1	m3	32 6210	kg	3674 0984
	ft3	1152 0000	ton	4 0500

1 MANIFEST TOTALS

SPECIAL NUCLEAR MATERIAL (grams)

U 233	U-235	Pu	Total
NP	2 7909E-05 1 Container	2 8088E-04 1 Container	3 0878E-04

ACTIVITY

	ALL NUCLIDES	TRITIUM	C-14	Tc 99	I-129	SOURCE (kg)	
MBq	7 1433E+01	NP	NP	NP	NP	(kg)	7 4817E-08
mCi	1 9306E+00	NP	NP	NP	NP	(tons)	8 2472E-11

2 MANIFEST NUMBER 9078-01-0007

3 PAGE 1 OF 1 PAGE(S)

4 SHIPPER NAME Nuclear Waste Partnership, LLC on behalf of USDOE

SHIPMENT ID NUMBER 9078-01-0007

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6 CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7 VOLUME (m3) / (ft3)	8 WASTE AND CONTAINER WEIGHT (kg) / (ton)	9 SURFACE RADIATION LEVEL (mSv/hr) / (mrem/hr)	10 SURFACE CONTAMINATION (MBq/100 cm2) / (dpm/100cm2) ALPHA	BETA-GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) / (FT3)	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C
71426/9078 01	2-E	32 6210	5611 1477	<2 0000E-02	<3 3400E 07	<1 8700E-06	38,39-SOLID,55-OTHER HI	32 6210	NA	Oxide/NA	NP	Am-241	4 84475E+02	6 5860E+01	1 7800E+00	AU
		1152 0000	6 0750	<2 0000E+00	<2 0080E+01	<1 3000E+02		1152 0000				Co-60	4 87197E-04	6 6230E-05	1 7900E-06	
												Cs-134	1 12953E-03	1 5355E-04	4 1500E-06	
												Cs-137	1 21935E-03	1 6578E-04	4 4800E-06	
												Pu-238 [1 6412E-06 g]	7 59374E-02	1 0323E-02	2 7900E-04	
												Pu-240 [2 8000E-04 g]	1 75282E+01	2 3828E+00	6 4400E-02	
												Pu-241 [8 5900E-07 g]	2 33800E+01	3 1783E+00	8 5900E-02	
												Sr-90	1 63034E-04	2 2163E-05	5 9900E-07	
												Th-228 [4 5000E-14 kg]	1 00433E-02	1 3653E-03	3 6900E-05	
												Th-230 [1 5048E-11 kg]	8 60079E-05	1 1692E-05	3 1600E-07	
												Th-232 [2 6273E-08 kg]	7 86592E-07	1 0693E-07	2 8900E-09	
												U-235 [2 7909E-05 g]	1 67117E-05	2 2718E-06	6 1400E-08	
												U-238 [4 8529E-08 kg]	4 49092E-06	6 1050E-07	1 6500E-08	
												Y-90	1 63034E-04	2 2163E-05	5 9900E-07	
												Subtotal		7 1433E+01	1 9306E+00	
												Total		7 1433E+01	1 9306E+00	
												SNM [3 0878E-04 g]				
												Source [7 4817E-08 kg]				
Shipment Totals		32 6210	5611 1477									SNM [3 0878E-04 g]		7 1433E+01	1 9306E+00	
		1152 0000	6 0750									Source [7 4817E-08 kg]				

Note 1 Container Description Codes For containers/ waste requiring disposal in approved structural over-packs the numerical code must be followed by "-OP"

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethlene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 5 or additional page

Note 1A Bulk Packaging Description Codes (Choose one code as may be applicable)

A Gondola
B Intermodal
C End-Dump
D Roll-off
E Seavan

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43. Activated Material
59 Other Describe in item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes.)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

Note3 Solidification and Stabilization Media Codes. (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements, the numerical code must be followed by "-S" and the media vendor and brand name must also be identified

In Item 13 Code 100=NONE REQUIRED

Solidification

90 Cement
91 Concrete (encapsulation)
92 Bitumen
93 Vinyl Chloride
94 Vinyl Ester Styrene
99 Other Describe in item 13 or additional page
100 None Required

FORM 541 (03-06)

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions. Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230). A completed and signed copy of this form must also accompany each waste manifest.

Waste Stream ID: 9078-01 Manifest No. 9078-01-0007

1. Check applicable category below for the waste stream:

✓	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2c	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☒	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☐	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste.				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations.

2. Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☒ a. Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1.

☒ b. The SNM is homogeneously distributed throughout the waste or the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits. (Based on process knowledge or testing).

☒ c. Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e.g., a pallet of drums, a B-25 box). By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc. do not contain other elements. (Based on process knowledge or testing).

☒ d. Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste. (Based on process knowledge, physical observations, or testing).

☒ e. Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233. If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule. Highly soluble forms of uranium include, but are not limited to: uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate. (Based on process knowledge or testing).

☐ f. For containers of liquid waste with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing). For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6.0 mCi (6.0E+09 pCi) as shown below:

$$10{,}000\frac{pCi}{g} \times 600{,}000\,g = 6.0\text{X}10^{9}\ pCi = 6.0\,mCi\ Pu\text{-}239$$

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).

   ☒ a. Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition.

   ☒ b. Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges.

   ☒ c. Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution.

   ☒ d. Describe the methods to be used to determine the concentrations on the manifests. These methods could include direct measurement and the use of scaling factors. Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations.

4. Generator's certification of compliance with the SNM exemption: I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing. I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions.

Authorized Signature	Printed Name	Title	Date
[signature]	Jeffrey B Gray	Environmental Scientist	2-18-14

DRIVER'S INSTRUCTIONS FOR EXCLUSIVE USE VEHICLES

Transportation: **Hittman Transport Services**

The Code of Federal Regulations, 49 CFR 173 403, 173 427 and 173 441 requires that specific instructions for maintenance of exclusive use shipments controls be provided by the shipper to the carrier These instructions must be included with the shipment documents

The following instructions shall be complied with for all exclusive use vehicles.

- Do not change out tractor before arrival at the site without notifying shipper.
- Do not change the fifth wheel adjustment on the tractor without notifying shipper
- Do not move or transfer packages within the van or between vans while en route to the site without notifying shipper.
- The shipment must be loaded by consignor and unloaded by consignee from the transport vehicle in which originally loaded.
- Shipments must be braces so as to prevent leakage or shifting of load under conditions normally incident to transportation.
- The vehicle must be placarded "RADIOACTIVE" on all four sides when applicable until shipment is unloaded.

If the vehicle is involved in an accident or is required to make emergency braking, which could shift the load and change radiation levels, notify the shipper immediately.

In case of an accident, vehicle malfunction, or deviation from the above instructions immediately contact one of the following Energy*Solutions* employees:

Contact	Title/Company	Phone Number
Scott Gowans	Shipper/Energy Solutions	970.201.6240

Any deviations from these instructions are violations of State and Federal laws and could result in carrier penalty

Sheri Jones 6-1-15

Driver's Signature Date

___ Radioactive material, low specific activity (LSA-I), *non fissile or fissile-excepted.*, 7 UN2912
_X_ Radioactive material, low specific activity (LSA-II), *non fissile or fissile-excepted.*, 7 UN3321
___ Radioactive material, low specific activity (LSA-III), *non fissile or fissile-excepted*, 7 UN3322
___ Radioactive material, surface contaminated objects (SCO-I *or* SCO-II) non fissile or fissile-excepted, 7 UN2913

Radioactive Materials (Low to Moderate Level Radiation)

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents Packaging durability is related to potential hazards of material
- Undamaged packages are safe, contents of damaged packages may cause external and/or internal radiation exposure
- Low radiation hazard when material is inside container If material is released from package or bulk container, hazard will vary from low to moderate Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on
- Some material may be released from packages during accidents of moderate seventy This poses little risk to people.
- Released radioactive materials or contaminated objects usually will be visible if packaging fails
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels Placards, markings, and shipping papers provide identification
- Some packages may have "RADIOACTIVE" label and a second hazard label/ The second hazard is usually greater than the radiation hazard, so follow this Guide as well as the response Guide for the second hazard class label
- Some radioactive materials cannot be detected by commonly available instruments.
- Runoff from control of cargo fire may cause low-level pollution

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Uranium and Thorium metal cuttings or granules may ignite spontaneously if exposed to air (see Guide 136)
- Nitrates are oxidizers and may ignite other combustibles (see Emergency Response Guide 141)

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first.**
- **Priorities for rescue, life-saving, first aid, and control of fire and other hazards are higher that the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions, and is usually responsible for radiological decisions
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions Stay upwind Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated, delay decontamination and cleanup until instructions are received from Radiation Authority.

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet)

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not change effectiveness of fire control techniques
- Move containers from fire area if you can do it without risk.
- Do not move damaged packages, move undamaged packages out of fire zone

Small Fires

- Dry chemical, CO_2, water spray or regular foam

Large Fires

- Water spray, fog (flooding amounts)
- Dike fire control water for later disposal

SPILL OR LEAK

- Do not touch damaged packages or spilled material

Liquid Spills

- Cover with sand, earth or other noncombustible absorbent material
- Dike to collect large liquid spills
- Cover powder spill with plastic sheet or trap to minimize spreading.

- **FIRST AID**
- Medical problems take priority over radiological concerns
- Use first aid treatment according to the nature of the injury
- Do not delay care and transport of a seriously injured person.
- Apply artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, wipe from skin, immediately flush skin or eyes with running water for at least 20 minutes
- Injured persons who contacted released material may be a minor contamination problem to contacted persons, equipment and facilities.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

ENERGYSOLUTIONS

CLIVE FACILITY
Scott Gowans 970-201-6240
Jake Gardner 801-538-1888

VEHICLE CONDITION CHECKLIST

Shipment Number 9078-01-0007 Shipment Date 6-1-15

Carrier H.T. Man Driver's Name Sheri L Jones

Tractor Number 2761 Trailer Number Q54611

Trailer Type Van, Pan Van, Flatbed, Cask, Other Flatbed

INSPECTION CHECKS		SAT	UNSAT
1	Front Tire Tread at least 4/32 in (no recaps)	X	
2	Other Tire Tread At least 2/32 in		
3	Service Brakes Good condition and properly attached		
4	Parking Brakes Operational and on while loading		
6	Steering Mechanism Demonstrated Operational		
6	Headlights and Front Reflectors Clean and Operational		
7	Windshield Wipers Demonstrated Operational		
8	Rear Vision Mirrors Functional		
9	Horn(s) Demonstrated Operational		
10	Fire Extinguishers Fully Charged		
11	Trailer Frame and Headboard Free of visual defects		
12	Load Tiedowns Adequate number for load and in good condition		
13	Emergency Kit: Extra Placards, Rad rope, PC's		
14	Brake Lights Demonstrated Operational		
15	Turn Signals Demonstarted Operational		
16	Reflectors At proper locations on trailer		
17	Tractor and Trailer license plates are current		
18	Operator Medical Card and CDL current and on file	✓	
19	Trailer has current FHWA sticker (good for one year after stamped date)	X	

Sheri Jones 6-1-15 [signature] 6-1-15

Operator Signature Date EnergySolutions Rep Signature Date

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2. Prevent unauthorized personnel from entering the affected area

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 – Carrier/Driver Instructions

8 Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander If the on-scene commander is not present, request those persons who have been identified to remain at the scene

9 Stand by until assistance arrives

10. **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11 DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions.

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name Hittman Transport

Sheri Jones	Sheri Jones	6-1-15
Driver's Name (Printed)	Driver's Signature	Date

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RSR Paperwork Completion

L123164

Arrived	06/03/2015	**Gross Volume (ft)**	1,152 00
Record	9078-01-0008	**Waste Type**	LLRW DOE
Haz Manifest			
Vehicle ID	Q54648		

DC	
On-Site	X
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

FORM 541 EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

1 MANIFEST TOTALS

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WEIGHT	SPECIAL NUCLEAR MATERIAL (grams) U 233	U 235	Pu	Total
1	m3 32 6210	kg 2758 7490	NP	4 4046E-05	4 4485E-04	4 8890E-04
	ft3 1152 0000	ton 3 0410		1 Container	1 Container	

ACTIVITY	ALL NUCLIDES	TRITIUM	C-14	Tc-99	I 129	SOURCE (kg)	
MBq	1 1239E+02	NP	NP	NP	NP	(kg)	1 1795E-07
mCi	3 0375E+00	NP	NP	NP	NP	(tons)	1 3002E-10

2 MANIFEST NUMBER 9078-01

3 PAGE 1 OF 1 PAGE(S)

4 SHIPPER NAME Nuclear Waste Partnership, LLC on behalf of USDOE

SHIPMENT ID NUMBER 9078-01-0008

5 CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6 CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7 VOLUME (m3) (ft3)	8 WASTE AND CONTAINER WEIGHT (kg) (ton)	9 SURFACE RADIATION LEVEL (mSv/hr) (mrem/hr)	10 SURFACE CONTAMINATION (MBq/100 cm2) (dpm/100cm2) ALPHA	BETA-GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) (FT3)	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C
200751/9078-01	2-E	32 6210	4958 6721	<2 0000E-02	<3 3400E-07	<1 6700E-06	69-SOLID,39,OTHER, HIK	32 6210	NA	Oxide/NA	NP	Am-241	1 01496E+03	1 0360E+02	2 8000E+00	AU
		1152 0000	5 4660	<2 0000E+00	<2 0000E+01	<1 0000E+02		1152 0000				Co-60	1 02221E-03	1 0434E-04	2 8200E-06	
												Cs-134	2 37065E-03	2 4198E-04	6 5400E-06	
												Cs-137	2 55914E-03	2 6122E-04	7 0600E-06	
												Pu-238 [2 5824E-08 g]	1 59131E-01	1 6243E-02	4 3900E-04	
												Pu-240 [4 4348E-04 g]	3 69735E+01	3 7740E+00	1 0200E-01	
												Pu-241 [1 3500E-06 g]	4 89355E+01	4 9950E+00	1 3500E-01	
												Sr-90	3 42548E-04	3 4965E-05	9 4500E-07	
												Th-228 [7 0854E-14 kg]	2 10604E-02	2 1497E-03	5 8100E-05	
												Th-230 [2 3714E-11 kg]	1 80518E-04	1 8426E-05	4 9800E-07	
												Th-232 [4 1455E-08 kg]	1 65293E-06	1 6872E-07	4 5600E-09	
												U-235 [4 4046E-05 g]	3 51248E-05	3 5853E-06	9 6900E-08	
												U-238 [7 6471E-08 kg]	9 42461E-06	9 6200E-07	2 6000E-08	
												Y-90	3 42548E-04	3 4965E-05	9 4500E-07	
												Subtotal		1 1239E+02	3 0375E+00	
												Total		1 1239E+02	3 0375E+00	
												SNM [4 8890E-04 g]				
												Source [1 1795E-07 kg]				
Shipment Totals		32 6210	4958 6721									SNM [4 8890E-04 g]		1 1239E+02	3 0375E+00	
		1152 0000	5 4660									Source [1 1795E-07 kg]				

Note 1 Container Description Codes For containers/ waste requiring disposal in approved structural over packs the numerical code must be followed by OP

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethlene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 6, or additional page

Note 1A Bulk Packaging Description Codes. (Choose one code as may be applicable)

A Gondola
B Intermodal
C End-Dump
D Roll-off
E Seaven

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactable Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
59 Other Describe in item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

Note3 Solidification and Stabilization Media Codes (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements, the numerical code must be followed by "-S" and the media vendor and brand name must also be identified

In Item 13 Code 100=NONE REQUIRED

Solidification

90 Cement
91 Concrete (encapsulation)
92 Bitumen
93 Vinyl Chloride
94 Vinyl Ester Styrene
99 Other Describe in item 13 or additional page
100 None Required

FORM 541 (03-06)

FORM 540 — EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(970) 201-8240 / WIPP Emergency # 575-885-6833

ORGANIZATION
EnergySolutions

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT? ☑ YES ☐ NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ==== > 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? ☐ YES ☑ NO
If Yes provide Manifest Number ==== >

EPA MANIFEST NUMBER
NA

5 SHIPPER – NAME AND FACILITY
Nuclear Waste Partnership, LLC on behalf of USDOE
33 Miles South East
Carlsbad, NM 88220

Utah Generator Site Access Permit No: 1309008242
SHIPMENT NUMBER: 15014

CONTACT: Jeff Casey

6 CARRIER – Name and Address
Hittman Transport
1560 Bear Creek Road
Oak Ridge, TN 37830

CONTACT: Karen Kirby

SIGNATURE – Authorized carrier acknowledging waste receipt: Mark Ford

SHIPPER I D NUMBER: 9078-01-0008
☐ COLLECTOR
☐ PROCESSOR
☑ GENERATOR TYPE (Specify) G

TELEPHONE NUMBER (Include Area Code): 575-234-8062

EPA I D NUMBER: TNR000034668

SHIPPING DATE: 06/01/2015

TELEPHONE (Include Area Code): 1-800-233-8933

DATE: 06-01-15

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MA... NUMBER (Use this number on all continuation pages): 9078-01-0008

9 CONSIGNEE - Name and Facility
EnergySolutions, LLC
Clive Disposal Site (Bulk Waste Facility)
Interstate 80, Exit 49
Clive, UT 84029
MP LR23164

CONTACT: Transportation Compliance
TELEPHONE (Include Area Code): (435)884-0155

SIGNATURE – Authorized consignee acknowledging waste receipt

DATE: 6-1-15 6-1-15 6/3/15

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified, described packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged, marked, and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations

AUTHORIZED SIGNATURE: [signature] TITLE: Broker DATE: 6-1-15

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name hazard class UN ID number and any additional information)	12 DOT LABEL RADIOACTIVE"	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321, Radioactive material, low specific activity (LSA-II), 7, Fissile Excepted One Type IP-1 Seavan containing bags of PPE and debris ERG #162 attached	NA	NA	Solid Oxide	Am-241	Co-60	Cs-134	Cs-137	1 1239E+02	(3 0375E+00)	LSA-II	10932 LBS, 1152 FT3	200751
				Pu-238	Pu-240	Pu-241	Sr-90					
				Th-228	Th-230	Th-232	U-235					
				U-238	Y-90							

FOR CONSIGNEE USE ONLY

- ___ Record Waste Description Inadequate
- ___ Contamination or Leakage Detected
- ___ Unexpected Exposure Rates Detected
- ___ Labels, Markings, etc Inadequate
- ___ Container Integrity Inadequate
- ___ Other
- ✓ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material __ is (or) ✓ is not a hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste, this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268 1

B TITLE Upon acceptance at the disposal site by EnergySolutions, LLC and all appropriate regulatory authorities, title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws rules regulations and EnergySolutions LLC s facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC, its officers, employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST,) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-06)

TRANSPORTATION [illegible] IS FOR THE U.S. DEPARTMENT OF ENERGY, AND THE ACTUAL TOTAL TRANSPORTATION CHARGES PAID TO THE CARRIER(S) BY THE CONSIGNOR OR CONSIGNEE ARE ASSIGNABLE TO, AND ARE TO BE REIMBURSED BY THE GOVERNMENT

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions. Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230). A completed and signed copy of this form must also accompany each waste manifest.

Waste Stream ID: 9078-01 **Manifest No.** 9078-01-0008

1. Check applicable category below for the waste stream:

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2e	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☒	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☐	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste.				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations.

2. Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☒ a. Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1.

☒ b. The SNM is homogeneously distributed throughout the waste or the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits. (Based on process knowledge or testing).

☒ c. Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e.g., a pallet of drums, a B-25 box). By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc. do not contain other elements. (Based on process knowledge or testing).

☒ d. Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste. (Based on process knowledge, physical observations, or testing).

☒ e. Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233. If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule. Highly soluble forms of uranium include, but are not limited to: uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate. (Based on process knowledge or testing).

☐ f. For containers of liquid waste with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing). For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6.0 mCi (6.0E+09 pCi) as shown below:

$$10{,}000\,\frac{pCi}{g} \times 600{,}000\,g = 6.0 \times 10^{9}\ pCi = 6.0\ mCi\ Pu\text{-}239$$

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. **Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).**

   ☒ a. Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition.

   ☒ b. Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges.

   ☒ c. Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution.

   ☒ d. Describe the methods to be used to determine the concentrations on the manifests. These methods could include direct measurement and the use of scaling factors. Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations.

4. **Generator's certification of compliance with the SNM exemption:** I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing. I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions.

Authorized Signature	Printed Name	Title	Date
	Jeffrey B Cox	ENVIRONMENTAL SCRUTINY	7-18-14

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g., extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area.

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 – Carrier/Driver Instructions

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9 Stand by until assistance arrives

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11 DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name Hittman Transport

MARK Paul	Mark Paul	06-01-15
Driver's Name (Printed)	Driver's Signature	Date

ENERGYSOLUTIONS

CLIVE FACILITY
Scott Gowans 970-201-6240
Jake Gardner 801-836-1555

VEHICLE CONDITION CHECKLIST

Shipment Number 9078-01-0008 Shipment Date 6-1-15

Carrier H:TMan Driver's Name Mark A. Paul

Tractor Number 106 Trailer Number Q54648

Trailer Type Van, Pan Van, Flatbed, Cask, Other Flatbed

	INSPECTION CHECKS	SAT	UNSAT
1	Front Tire Tread at least 4/32 in (no recaps)	X	
2	Other Tire Tread At least 2/32 in		
3	Service Brakes Good condition and properly attached		
4	Parking Brakes Operational and on while loading		
5	Steering Mechanism Demonstrated Operational		
6	Headlights and Front Reflectors Clean and Operational		
7	Windshield Wipers Demonstrated Operational		
8	Rear Vision Mirrors Functional		
9	Horn(s) Demonstrated Operational		
10	Fire Extinguishers Fully Charged		
11	Trailer Frame and Headboard Free of visual defects		
12	Load Tiedowns Adequate number for load and in good condition		
13	Emergency Kit. Extra Placards, Rad rope, PC's		
14	Brake Lights Demonstrated Operational		
15	Turn Signals Demonstarted Operational		
16	Reflectors At proper locations on trailer		
17	Tractor and Trailer license plates are current		
18	Operator Medical Card and CDL current and on file		
19	Trailer has current FHWA sticker (good for one year after stamped date)	X	

Mark Paul 06-01-15 6-1-15

Operator Signature Date EnergySolutions Rep Signature Date

___ Radioactive material, low specific activity (LSA-I), *non fissile or fissile-excepted*, 7 UN2912
X Radioactive material, low specific activity (LSA-II), *non fissile or fissile-excepted*, 7 UN3321
___ Radioactive material, low specific activity (LSA-III), *non fissile or fissile-excepted*, 7 UN3322
___ Radioactive material, surface contaminated objects (SCO-I *or* SCO-II) non fissile or fissile-excepted, 7 UN2913

Radioactive Materials (Low to Moderate Level Radiation)

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents Packaging durability is related to potential hazards of material
- Undamaged packages are safe, contents of damaged packages may cause external and/or internal radiation exposure
- Low radiation hazard when material is inside container If material is released from package or bulk container, hazard will vary from low to moderate Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on
- Some material may be released from packages during accidents of moderate severity This poses little risk to people
- Released radioactive materials or contaminated objects usually will be visible if packaging fails
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels Placards, markings, and shipping papers provide identification
- Some packages may have "RADIOACTIVE" label and a second hazard label/ The second hazard is usually greater than the radiation hazard, so follow this Guide as well as the response Guide for the second hazard class label
- Some radioactive materials cannot be detected by commonly available instruments
- Runoff from control of cargo fire may cause low-level pollution

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Uranium and Thorium metal cuttings or granules may ignite spontaneously if exposed to air (see Guide 136)
- Nitrates are oxidizers and may ignite other combustibles (see Emergency Response Guide 141)

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first.**
- **Priorities for rescue, life-saving, first aid, and control of fire and other hazards are higher that the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions, and is usually responsible for radiological decisions
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions Stay upwind Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated, delay decontamination and cleanup until instructions are received from Radiation Authority.

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet)

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not change effectiveness of fire control techniques
- Move containers from fire area if you can do it without risk.
- Do not move damaged packages, move undamaged packages out of fire zone

Small Fires

- Dry chemical, CO_2, water spray or regular foam

Large Fires

- Water spray, fog (flooding amounts)
- Dike fire control water for later disposal

SPILL OR LEAK

- Do not touch damaged packages or spilled material

Liquid Spills

- Cover with sand, earth or other noncombustible absorbent material
- Dike to collect large liquid spills
- Cover powder spill with plastic sheet or trap to minimize spreading

- **FIRST AID**
- Medical problems take priority over radiological concerns
- Use first aid treatment according to the nature of the injury
- Do not delay care and transport of a seriously injured person
- Apply artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult
- In case of contact with substance, wipe from skin, immediately flush skin or eyes with running water for at least 20 minutes
- Injured persons who contacted released material may be a minor contamination problem to contacted persons, equipment and facilities
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves

DRIVER'S INSTRUCTIONS FOR EXCLUSIVE USE VEHICLES

Transportation: **Hittman Transport Services**

The Code of Federal Regulations, 49 CFR 173 403, 173 427 and 173 441 requires that specific instructions for maintenance of exclusive use shipments controls be provided by the shipper to the carrier These instructions must be included with the shipment documents

The following instructions shall be complied with for all exclusive use vehicles

- Do not change out tractor before arrival at the site without notifying shipper.
- Do not change the fifth wheel adjustment on the tractor without notifying shipper.
- Do not move or transfer packages within the van or between vans while en route to the site without notifying shipper.
- The shipment must be loaded by consignor and unloaded by consignee from the transport vehicle in which originally loaded.
- Shipments must be braces so as to prevent leakage or shifting of load under conditions normally incident to transportation.
- The vehicle must be placarded "RADIOACTIVE" on all four sides when applicable until shipment is unloaded

If the vehicle is involved in an accident or is required to make emergency braking, which could shift the load and change radiation levels, notify the shipper immediately.

In case of an accident, vehicle malfunction, or deviation from the above instructions immediately contact one of the following Energy*Solutions* employees:

Contact	Title/Company	Phone Number
Scott Gowans	Shipper/Energy Solutions	970.201.6240

Any deviations from these instructions are violations of State and Federal laws and could result in carrier penalty

Driver's Signature

06-01-15

Date

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RSR Paperwork Completion

M12999

Arrived	06/04/2015	***Gross Volume (ft)***	1,173 00
Record	9078-03-0005	***Waste Type***	MIXW T DOE
Haz Manifest	78780		
Vehicle ID	Q55132		

DC	
On-Site	
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

EnergySolutions, LLC

ORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

1 MANIFEST TOTALS

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME		NET WASTE WEIGHT		SPECIAL NUCLEAR MATERIAL (grams) U 233	U 235	Pu	Total
1	m3	33 2157	kg	510 7450	NP	2 0455E-05	2 0586E-04	2 2631E-04
	ft3	1173 0000	ton	0 5630		1 Container	1 Container	

ACTIVITY	ALL NUCLIDES	TRITIUM	C-14	Tc-99	I-129	SOURCE (kg)	
MBq	5 2183E+01	NP	NP	NP	NP	(kg)	5 4872E-08
mCi	1 4103E+00	NP	NP	NP	NP	(tons)	6 0486E-11

2 MANIFEST NUMBER [illegible]-03-0005

3 PAGE 1 OF 1 PAGE(S)

4 SHIPPER NAME
Nuclear Waste Partnership, LLC on behalf of USDOE

SHIPMENT ID NUMBER
8078-03-0005

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5 CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6 CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7 VOLUME (m3) (ft3)	8 WASTE AND CONTAINER WEIGHT (kg) (ton)	9 SURFACE RADIATION LEVEL (mSv/hr) (mrem/hr)	10 SURFACE CONTAMINATION (MBq/100 cm2) (dpm/100cm2) ALPHA	BETA-GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) (FT3)	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C
71378/9078-03	2-E	33 2157	2710 6682	<2 0000E-02	<3 3400E-07	<1 6700E-06	69-AIR FILTRATION FILTERS,38-HIK	33 2157	NA	Oxide/NA	NP	Am-241	2 54531E+03	4 8100E+01	1 3000E+00	AU
		1173 0000	2 9880	<2 0000E+00	<2 0000E+01	<1 0000E+02		1173 0000				Co-60	2 56489E-03	4 8470E-05	1 3100E-06	
												Cs-134	5 95212E-03	1 1248E-04	3 0400E-06	
												Cs-137	6 42202E-03	1 2136E-04	3 2800E-06	
												Pu-238 [1 2000E-08 g]	3 99419E-01	7 5480E-03	2 0400E-04	
												Pu-240 [2 0522E-04 g]	9 24145E+01	1 7464E+00	4 7200E-02	
												Pu-241 [8 2900E-07 g]	1 23154E+02	2 3273E+00	6 2900E-02	
												Sr-90	8 59533E-04	1 6243E-05	4 3900E-07	
												Th-228 [3 2927E-14 kg]	5 28642E-02	9 9900E-04	2 7000E-05	
												Th-230 [1 1000E-11 kg]	4 52283E-04	8 5470E-06	2 3100E-07	
												Th-232 [1 9273E-08 kg]	4 15082E-06	7 8440E-08	2 1200E-09	
												U-235 [2 0455E-05 g]	8 81070E-05	1 6650E-06	4 5000E-08	
												U-238 [3 5588E-08 kg]	2 36910E-05	4 4770E-07	1 2100E-08	
												Y-90	8 59533E-04	1 6243E-05	4 3900E-07	
												Subtotal		5 2183E+01	1 4103E+00	
												Total		5 2183E+01	1 4103E+00	
												SNM [2 2631E-04 g]				
												Source [5 4872E-08 kg]				
Shipment Totals		33 2157	2710 6682									SNM [2 2631E-04 g]		5 2183E+01	1 4103E+00	
		1173 0000	2 9880									Source [5 4872E-08 kg]				

Note 1 Container Description Codes For containers/ waste requiring disposal in approved structural over-packs the numerical code must be followed by "-OP"

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethlene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in item 6 or additional page

Note 1A Bulk Packaging Description Codes. (Choose one code as may be applicable)

A Gondola
B Intermodal
C End-Dump
D Roll-off
E Seaven

NOTE 2 Waste Descriptor Codes. (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
59 Other Describe in item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

Note3 Solidification and Stabilization Media Codes. (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements, the numerical code must be followed by "-S" and the media vendor and brand name must also be identified

In Item 13 Code 100=NONE REQUIRED

Solidification
90 Cement
91 Concrete (encapsulation)
92 Bitumen
93 Vinyl Chloride
94 Vinyl Ester Styrene
99 Other Describe in item 13 or additional page
100 None Required

FORM 541 (03-06)

2160 - CX00152 NA 40343

FORM 540 EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(970) 201-6240 / WIPP Emergency # 575-885-8883

ORGANIZATION
EnergySolutions

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT? ☑ YES ☐ NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST: 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? ☑ YES ☐ NO
If Yes provide Manifest Number ==>> EPA MANIFEST NUMBER 003378760JJK

5 SHIPPER – NAME AND FACILITY
Nuclear Waste Partnership, LLC on behalf of USDOE
33 Miles South East
Carlsbad, NM 88220

Utah Generator Site Access Permit No: 1309008242
SHIPMENT NUMBER: 18015
CONTACT: Jeff Casey

6 CARRIER – Name and Address
Hittman Transport
1560 Bear Creek Road
Oak Ridge, TN 37830

CONTACT: Karen Kirby
SIGNATURE – Authorized carrier acknowledging waste receipt: [signature]

SHIPPER ID NUMBER: 9078-03-0005
☐ COLLECTOR
☐ PROCESSOR
☑ GENERATOR TYPE (Specify) G
TELEPHONE NUMBER (Include Area Code): 575-234-8082
EPA I D NUMBER: TNR000034886
SHIPPING DATE: 06/02/2015
TELEPHONE (Include Area Code): 1-800 233 8933
DATE: 06-02-15

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MANIFEST NUMBER (Use this number on all continuation pages): 9078-03-0005

9 CONSIGNEE - Name and Facility
EnergySolutions, LLC
Clive Disposal Site (Treatment Facility)
Interstate 80, Exit 49
Clive, UT 84029
M12999
SIGNATURE – Authorized consignee acknowledging waste receipt: [signature]

CONTACT: Transportation Compliance
TELEPHONE (Include Area Code): (435)884-0155
DATE: 6/4/15

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified, described, packaged marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations.

AUTHORIZED SIGNATURE: [signature] TITLE: Broker DATE: 6-2-15

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class UN ID number and any additional information)	12 DOT LABEL RADIOACTIVE"	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBc	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321, Waste, Radioactive Material Low Specific Activity (LSA-II), 7, Fissile Excepted, Contains Cadmium One Type IP-II Seavan Containing Filters and PPE, ERG #162	NA	NA	Solid Oxide	Am-241	Co-60	Cs-134	Cs-137	5 2183E+01	(1 4103E+00)	LSA-II	5976 LBS, 1173 FT3	71378
				Pu-238	Pu-240	Pu-241	Sr-90					
				Th-228	Th-230	Th-232	U-235					
				U-238	Y-90							

FOR CONSIGNEE USE ONLY

- ____ Record Waste Description Inadequate
- ____ Contamination or Leakage Detected
- ____ Unexpected Exposure Rates Detected
- ____ Labels, Markings, etc Inadequate
- ____ Container Integrity Inadequate
- ____ Other
- ✓ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material ✓ is (or) ___ is not a hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268 1

B TITLE Upon acceptance at the disposal site by EnergySolutions, LLC, and all appropriate regulatory authorities, title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions, LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws rules regulations and EnergySolutions LLC s facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC, its officers employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-06)

[redacted]

[redacted]

[redacted] The government

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions. Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230). A completed and signed copy of this form must also accompany each waste manifest.

Waste Stream ID: ~~9078-01~~ 907803 Manifest No. ~~9078-01-0006~~ 9078-03-0005

1. Check applicable category below for the waste stream:

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2e	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☒	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☐	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste.				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations.

2. Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☒ a. Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1

☒ b. The SNM is homogeneously distributed throughout the waste or the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits. (Based on process knowledge or testing).

☒ c. Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e.g., a pallet of drums, a B-25 box). By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc. do not contain other elements. (Based on process knowledge or testing).

☒ d. Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste. (Based on process knowledge, physical observations, or testing)

☒ e. Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233. If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule. Highly soluble forms of uranium include, but are not limited to: uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate. (Based on process knowledge or testing).

☐ f. For containers of liquid waste with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing). For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6.0 mCi (6.0E+09 pCi) as shown below:

$$10{,}000\,\frac{pCi}{g} \times 600{,}000\,g = 6.0 \times 10^{9}\ pCi = 6.0\ mCi\ Pu\text{-}239$$

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).

   ☒ a. Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition.

   ☒ b. Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges.

   ☒ c. Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution.

   ☒ d. Describe the methods to be used to determine the concentrations on the manifests. These methods could include direct measurement and the use of scaling factors. Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations.

4. Generator's certification of compliance with the SNM exemption: I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing. I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions.

Authorized Signature	Printed Name	Title	Date
[signature]	Jeffrey B Casey	Environmental Scientist	7-18-14
[signature]	Jeffrey Casey	Scientist III	5-22-15

Please print or type (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator ID Number: NM4890139088

2 Page 1 of: 1

3 Emergency Response Phone: 970-201-6240

4 Manifest Tracking Number: 003378780 JJK

5 Generator's Name and Mailing Address: Nuclear Waste Partnership on Behalf of WIPP, P.O. Box 2078 M/S 452-09, Carlsbad, NM, 88221

Generator's Site Address (if different than mailing address): Waste Isolation Pilot Plant, 33 Miles South East, Carlsbad, NM, 88220

Generator's Phone: 575-234-8062

6 Transporter 1 Company Name: H. Titman Transport

U S EPA ID Number: TNR000034686

7 Transporter 2 Company Name:

U S EPA ID Number:

8 Designated Facility Name and Site Address: Energy Solutions LLC Clive Disposal Site (Treatment facility) Exit 49 I-80, Clive, UT 84029

U S EPA ID Number: UTD982598898

Facility's Phone: 435-884-0155

9a HM	9b U S DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11 Total Quantity	12 Unit Wt/Vol	13 Waste Codes
X	1 UN3321, Waste, Radioactive Material low specific activity, 7, CLSA-1D, 7, Fissile excepted, contains cadmium	1	CM	511	KG	D006 D009 D010 F001 U133 D043
	one Type IP-1 Seavan containing Bags of PPE and HEPA Filters					
	Solid, Oxide, Am-241, PU-238, PU-240, PU-241, 5.2183 MBq (1.4103 mC.)					
	4					

14 Special Handling Instructions and Additional Information: ERG# 162 Attached, Exclusive Use Ship# 15015 Shipment# 9078-03-0005, Container# 71738 w/PP emergency 575-885-6883

15 **GENERATOR'S/OFFEROR'S CERTIFICATION** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262 27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: for NWP — Signature: Scott Gowans — Month 6 Day 2 Year 15

16 International Shipments ☐ Import to U S ☐ Export from U S Port of entry/exit

Transporter signature (for exports only) Date leaving U S

17 Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: M.P. Shores Jr — Signature: M.P. Shores Jr — Month 06 Day 02 Year 15

Transporter 2 Printed/Typed Name — Signature — Month Day Year

18 Discrepancy

18a Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number

18b Alternate Facility (or Generator) U S EPA ID Number

Facility's Phone

18c Signature of Alternate Facility (or Generator) Month Day Year

19 Hazardous Waste Report Management Method Codes (i e , codes for hazardous waste treatment, disposal, and recycling systems)

1 H132 2 3 4

20 Designated Facility Owner or Operator Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Thomas Wright — Signature — Month 06 Day 04 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership

UHWM Number: 00337880 WK

Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261 For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory Spent solvent standards are listed on the following page If F039, multi-source leachate applies those constituents must be listed and attached by the generator If D001-D043 requires treatment of the characteristic and meet 268 48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached

REF #	3. US EPA HAZARDOUS WASTE CODE (S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE, SIMPLY CHECK NONE		5 HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
		DESCRIPTION	NONE	
1	D004,D005,D006, D007,D008,D009, D010,D011,D018, D019,D021,D022, D026,D027,D028, D029,D030,D032, D033,D034,D035, D036,D037,D038, D039,D040,D043, F001,F002,F003, F004,F005,F006, F007,F009,U133	Radioactive Debris	☐	A
2			☐	
3			☐	
4			☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
If no UHCs are present in the waste upon its initial generation check here ☐
To list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A1, A2, B1, B2 ,B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268 7) Please understand that if you enter the letter A2, B1, B2, B3, B4, or D you are making the appropriate certification as provided below (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations)

A1 RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268 40
☐ For Hazardous Debris "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45 "

A2 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 or 268 49 to remove the hazardous characteristic This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR Part 268 40 without impermissible dilution of the prohibited waste I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B2 CONTAMINATED SOIL TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in 40 CFR 268 49 without impermissible dilutions of the prohibited wastes I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion units as specified in 268 42, Table 1 I have been unable to detect the nonwastewater organic constituents, despite having used best good-faith efforts to analyze for such constituents I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

E DECHARACTERIZED WASTE CONTAINING UNDERLYING HAZARDOUS CONSTITUENTS TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 to remove the hazardous characteristic and that underlying hazardous constituents, as defined in § 268 2(i) have been treated on-site to meet the § 268 48 Universal Treatment Standards I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment

C RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension and may be land disposed without further treatment Enter the effective date of prohibition in column 5 above

D RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT

"I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D I believe that the information I submitted is true, accurate and complete I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

E **WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS**

This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions

---

y certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information

Signature _____ Title Broker Date 6-2-15

Form A1
Page 1

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV) – REVERSE SIDE

If the waste identified on the first page of this form is described by any of the following USEPA hazardous waste codes F001, F002, F003, F004, F005, and all solvent constituents will not be monitored by the treater, then each constituent MUST be identified below by checking the appropriate box, and this page must accompany the shipment, along with the previous page of this form If the waste code F039 describes this waste, then the corresponding list of constituents must be attached If D001-D043 require treatment to 268 48 standards, then the underlying hazardous constituent(s) must also be attached

SOLVENT WASTE TREATMENT STANDARDS[2]

F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s).	Treatment Standard[1]		F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s).	Treatment Standard[1]	
	Wastewaters	Nonwastewaters		Wastewaters	Nonwastewaters
Acetone (F003)	0 28	160	Methanol (F003)	5 6	0 75 (TCLP)[3]
Benzene (F005)	0 14	10	Methylene chloride (F001, F002)	0 089	30
n-Butanol (n-butyl alcohol) (F003)	5 6	2 6	Methyl ethyl ketone (F005)	0 28	36
Carbon disulfide (F005)	3 8	4 8 (TCLP)[3]	Methyl isobutyl ketone (F003)	0 14	33
Carbon tetrachloride (F001)	0 057	6 0	Nitrobenzene (F004)	0 068	14
Chlorobenzene (F002)	0 057	6 0	2-Nitropropane (F005)	INCIN or {(WETOX or C HOXD) followed by CARBN}	INCIN
o-Cresol (F004)	0 11	5 6	Pyridine (F005)	0 014	16
Cresol (m- and p- isomers) (F004)	0 77	5 6	Tetrachloroethylene (F001, F002)	0 056	6 0
Cyclohexanone (F003)	0 36	0 75 (TCLP)[3]	Toluene (F005)	0 080	10
o-Dichlorobenzene (F002)	0 088	6 0	1,1,1-Trichloroethane (F001, F002)	0 054	6 0
2-Ethoxyethanol (F005) also called ethylene glycol, monoethyl ether	INCIN or BIODG	INCIN	1,1,2-Trichloroethane (F002)	0 054	6 0
Ethyl acetate (F003)	0 34	33	Trichloroethylene (F001, F002)	0 054	6 0
Ethyl benzene (F003)	0 057	10	Trichloromonofluoromethane (F002)	0 020	30
ther (F003)	0 12	160	1,1,2-Trichloro-1,2,2-trifluoroethane (F002)	0 057	30
Isobutanol (Isobutyl Alcohol) (F005)	5 6	170	Xylenes (sum of o-, m-, and p-isomers) (F003)	0 32	30

[1]All spent solvent treatment standards are measured through a total waste analysis (TCA), unless otherwise noted Wastewater units are mg/l, nonwastewater are mg/kg

[2]For contaminated soils using the alternative soil treatment standards, the treatment standards for F001-F005 spent solvents must be a 90% reduction of the constituents or less than 10x the standard listed

[3]These solvents require a TCLP standard with units of mg/l

SUBCATEGORY REFERENCE

D001

A Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems

B Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in CWA/CWA-equivalent or Class I SDWA systems

C High TOC Ignitable characteristic liquids subcategory based on 40 CFR 261 21(a) (1) – Greater than or equal to 10% total organic carbon

D002

D Corrosive characteristic wastes that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems

E Corrosive characteristic wastes that are managed in CWA, CWA-equivalent, or Class I SWDA systems

F039/UNDERLYING HAZARDOUS CONSTITUENT FORM (UTS)

Generator Name: Nuclear Waste Partnership

UHWM Number: 00 337880 JJK

If D001-D043 requires treatment to the 40 CRF 268 48 standards, then each underlying hazardous constituent (UHC) present in the waste at the point of generation and at a level above the Universal Treatment Standard (UTS) constituent specific standard must be listed Write the letter (A1, B1, B2, B3, or C that corresponds to the letter on the land disposal form A1) beside each constituent present to properly describe how the constituent(s) must be managed under 40 CFR 268 7 If contaminated soil requires treatment to 40 CFR 268 49 standards, then each UHC in the waste at the point of generation and at a level above 10 times the UTS must be listed Write the appropriate letter which corresponds to the letter on the LDR form

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[3] UTS (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[3] UTS (mg/kg) unless noted
Acenaphthylene		3 4	2-Chloro-1,3-butadiene		0 28[1]
Acenapthene		3 4	Chlorodibromomethane		15
Acetone		160	Chloroethane		6 0
Acetonitrile		38[1]	bis(2-Chloroethoxy)methane		7 2
Acetophenone		9 7	bis(2-Chloroethyl)ether		6 0
2-Acetylaminofluorene		140	Chloroform		6 0
Acrolein	NA	NA	bis(2-Chloroisopropyl)ether		7 2
Acylamide		23[1]	p-Chloro-m-cresol		14
Acrylonitrile		84	2-Chloroethyl vinyl ether	NA	NA[1]
Aldicarb sulfone		0 28[1]	Chloromethane (Methyl chloride)		30
Aldrin		0 066	2-Chloronaphthalene		5 6
4-Aminobiphenyl	NA	NA	2-Chlorophenol		5 7
Aniline		14	3-Chloropropylene		30
Anthracene		3 4	Chrysene		3 4
Aramite	NA	NA	o-Cresol		5 6
alpha-BHC		0 066	m-Cresol		5 6
beta-BHC		0 066	p-Cresol		5 6
delta-BHC		0 066	m-Cumenyl methylcarbamate		1 4[1]
gamma-BHC (Lindane)		0 066	Cyclohexanone		0 75 mg/l[1]
Barban		1 4[1]	o,p'-DDD		0 087
Bendiocarb		1 4[1]	p,p'-DDD		0 087
Benomyl		1 4[1]	o,p'-DDE		0 087
Benzene		10	p,p'-DDE		0 087
Benz(a)anthracene		3 4	o,p'-DDT		0 087
Benzal chloride		6 0[1]	p,p'-DDT		0 087
Benzo(b)fluoranthene		6 8	Dibenz(a,h)anthracene		8 2
Benzo(k)fluoranthene		6 8	Dibenz(a,e)pyrene	NA	NA
Benzo (g,h,i)perylene		1 8	1,2-Dibromo-3-chloropropane		15
Benzo(a)pyrene		3 4	1,2-Dibromomethane (Ethylene dibromide)		15
Bromodichloromethane		15	Dibromomethane		15
Bromomethane (Methyl Bromide)		15	m-Dichlorobenzene		6 0
4-Bromophenyl phenyl ether		15	o-Dichlorobenzene		6 0
n-Butyl alcohol		2 6	p-Dichlorobenzene		6 0
Butylate		1 4[1]	Dichlorodifluoromethane		7 2
Butyl benzyl phthalate		28	1,1-Dichloroethane		6 0
2-sec-Butyl-4,6-dinitrophenol (Dinoseb)		2 5	1,2-Dichloroethane		6 0
Carbaryl		0 14[1]	1,1-Dichloroethylene		6 0
Carbenzadim		1 4[1]	trans-1,2-Dichloroethylene		30
Carbofuran		0 14[1]	2,4-Dichlorophenol		14
Carbofuran phenol		1 4[1]	2,6-Dichlorophenol		14
Carbon disulfide		4 8 mg/l TCLP[1]	2,4-Dichlorophenoxyacetic acid (2,4-D)		10
Carbon tetrachloride		6 0	1,2-Dichloropropane		18
Carbosulfan		1 4[1]	cis-1,3-Dichloropropylene		18
Chlordane (alpha and gamma isomers)		0 26	trans-1,3-Dichloropropylene		18
p-Chloroaniline		16	Dieldrin		0 13
Chlorobenzene		6 0	Diethyl phthalate		28
Chlorobenzilate	NA	NA	p-Dimethylaminoazobenzene	NA	NA

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[3] UTS (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[3] UTS (mg/kg) unless noted
l-Dimethyl phenol		14	Isosafrole		2 6
Dimethyl phthalate		28	Isobutyl alcohol		170
Di-n-butyl phthalate		28	Isodrin		0 066
1,4-Dinitrobenzene		2 3	Kepone		0 13
4,6-Dinitro-o-cresol		160	Methacrylonitrile		84
2,4-Dinitrophenol		160	Methanol		0 75 mg/l[1]
2,4-Dinitrotoluene		140	Methapyrilene		1 5
2,6-Dinitrotoluene		28	Methiocarb		1 4[1]
Di-n-octyl phthalate		28	Methomyl		0 14[1]
Di-n-propylnitrosamine		14	Methoxychlor		0 18
1,4-Dioxane		170	3-Methylcholanthrene		15
Diphenylamine		13[1]	4,4'-Methylene bis(2-chloroaniline)		30
Diphenylnitrosamine		13[1]	Methylene chloride		30
1,2-Diphenylhydrazine	NA	NA	Methyl ethyl ketone (2-Butanone)		36
Disulfoton		6 2	Methyl isobutyl ketone		33
Dithiocarbamates (total)		28[1]	Methyl methacrylate		160
Endosulfan I		0 066	Methyl methansulfonate	NA	NA
Endosulfan II		0 13	Methyl parathion		4 6
Endosulfan sulfate		0 13	Metolcarb		1 4[1]
Endrin		0 13	Mexacarbate		1 4[1]
Endrin aldehyde		0 13	Molinate		1 4[1]
EPTC		1 4[1]	Naphthalene		5 6
Ethyl acetate		33	2-Naphthylamine	NA	NA
Ethyl benzene		10	o-Nitroaniline		14[1]
Ethyl cyanide (Propanenitrile)		360	p-Nitroaniline		28
Ethyl ether		160	Nitrobenzene		14
Bis(2-Ethylhexyl)phthalate		28[2]	5-Nitro-o-toluidine		28
Ethyl methacrylate		160	o-Nitrophenol		13[1]
Ethylene oxide	NA	NA	p-Nitrophenol		29
Famphur		15	N-Nitrosodiethylamine		28
Fluoranthene		3 4	N-Nitrosodimethylamine		2 3[1]
Fluorene		3 4	N-Nitroso-di-n-butylamine		17
Formetanate hydrochloride		1 4[1]	N-Nitrosomethylethylamine		2 3
Heptachlor		0 066	N-Nitrosomorpholine		2 3
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDDD)		0 0025	N-Nitrosopiperidine		35
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)		0 0025	N-Nitrosopyrrolidine		35
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)		0 0025	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)		0 005
Heptachlor epoxide		0 066	1,2,3,4,6,7,8,9-Octachlorodebenzofuran (OCDF)		0 005
Hexachlorobenzene		10	Oxamyl		0 28[1]
Hexachlorobutadiene		5 6	Parathion		4 6
Hexachlorocyclopentadiene		2 4	Total PCBs (sum of all PCB isomers or all Aroclors)		10
HxCDDs (All Hexachrorodibenzo-p-dioxins)		0 001	Pebulate		1 4[1]
HxCDFs (All Hexachlorodibenzofurans)		0 001	Pentachlorobenzene		10[1]
Hexachloroethane		30	PeCDDs (All Pentachlorodibenzo-p-dioxins)		0 001
Hexachloropropylene		30[2]	PeCDFs(All Pentachlorodibenzofurans)		0 001
Indeno(1,2,3-c,d)pyrene		3 4	Pentachloroethane		6 0
Iodomethane		65	Pentachloronitrobenzene		4 8

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[3] UTS (mg/kg) unless noted	INORGANIC CONSTITUENTS	HOW MUST THIS CONSTITUENT BE MANAGED?	NWW[3] UTS (mg/kg) unless noted
ntachloronitrobenzene		4 8	Antimony		1 15 mg/l TCLP
ntachlorophenol		7 4	Arsenic		5 0 mg/l TCLP
Phenacetin		16	Barium		21 mg/l TCLP
Phenanthrene		5 6	Beryllium		1 22 mg/l TCLP
Phenol		6 2	Cadmium		0 11 mg/l TCLP
Phorate		4 6	Chromium (Total)		0 60 mg/l TCLP
Phthalic acid		28[1]	Cyanides (Total)		590
Phthalic anhydride		28[1]	Cyanides (Amenable)		30[1]
Physostigmine		1 4[1]	Fluoride	NA	NA[2]
Physostigmine salicylate		1 4[1]	Lead		0 75 mg/l TCLP
Promecarb		1 4[1]	Mercury (from Retort)		0 20 mg/l TCLP[1]
Pronamide		1 5	Mercury (All others)		0 025 mg/l TCLP
Propham		1 4[1]	Nickel		11 mg/l TCLP
Propoxur		1 4[1]	Selenium		5 7 mg/l TCLP
Prosulfocarb		1 4[1]	Silver		0 14 mg/l TCLP
Pyrene		8 2	Sulfide	NA	NA[2]
Pyridine		16	Thallium		0 20 mg/l TCLP
Safrole		22	Vanadium	NA	1 6 mg/l TCLP[2]
Silvex (2,4,5-TP)		7 9	Zinc	NA	4 3 mg/l TCLP[1 2]
1,2,4,5-Tetrachlorobenzene		14			
TCDDs (All Tetrachlorodibenzo-p-dioxins)		0 001			
TCDFs (All Tetrachlorodibenzofurans)		0 001			
1,1,1,2-Tetrachloroethane		6 0			
1,1,2,2-Tetrachloroethane		6 0			
Tetrachloroethylene		6 0			
2,3,4,6-Tetrachlorophenol		7 4			
dicarb		1 4[1]			
Thiophanate-methyl		1 4[1]			
Toluene		10			
Toxaphene		2 6			
Trialiate		1 4[1]			
Tribromomethane (Bromoform)		15			
1,2,4-Trichlorobenzene		19			
1,1,1-Trichloroethane		6 0			
1,1,2-Trichloroethane		6 0			
Trichloroethylene		6 0			
Trichloromonofluoromethane		30			
2,4,5-Trichlorophenol		7 4			
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)		7 9			
1,2,3-Trichloropropane		30			
1,1,2-Trichloro-1,2,2-trifluoroethane		30			
Triethylamine		1 5[1]			
Tris-(2,3-Dibromopropyl)phosphate		0 10[1]			
Vernolate		1 4[1]			
Vinyl chloride		6 0			
Xylenes – mixed isomers (sum of o-, m-, and p-xylene concentrations)		30			

[1] These constituents are only applicable as underlying hazardous constituents These constituents are not constituents that require treatment in F039 wastes

[2] Not an underlying hazardous constituent requiring treatment in a D001-D043 waste

[3] These treatment standards are the nonwastewater (NWW) standards See 40 CFR 268 48

ENERGYSOLUTIONS

CLIVE FACILITY
Scott Gowans 970 201-6240
Jake Gardner 801-838-1559

VEHICLE CONDITION CHECKLIST

Shipment Number 9078-03-0005 Shipment Date 6-2-15

Carrier H.Titman Driver's Name Pat Shores

Tractor Number 2760 Trailer Number Q55132

Trailer Type Van, Pan Van, Flatbed, Cask, Other Flat bed

	INSPECTION CHECKS	SAT	UNSAT
1	Front Tire Tread at least 4/32 in (no recaps)	✓	
2	Other Tire Tread At least 2/32 in	✓	
3	Service Brakes Good condition and properly attached	✓	
4	Parking Brakes Operational and on while loading	✓	
5	Steering Mechanism Demonstrated Operational	✓	
6	Headlights and Front Reflectors Clean and Operational	✓	
7	Windshield Wipers Demonstrated Operational	✓	
8	Rear Vision Mirrors Functional	✓	
9	Horn(s) Demonstrated Operational	✓	
10	Fire Extinguishers Fully Charged	✓	
11	Trailer Frame and Headboard Free of visual defects	✓	
12	Load Tiedowns Adequate number for load and in good condition	✓	
13	Emergency Kit. Extra Placards, Rad rope, PC s	✓	
14	Brake Lights Demonstrated Operational	✓	
15	Turn Signals Demonstarted Operational	✓	
16	Reflectors At proper locations on trailer	✓	
17	Tractor and Trailer license plates are current	✓	
18	Operator Medical Card and CDL current and on file	✓	
19	Trailer has current FHWA sticker (good for one year after stamped date)	✓	

M.L. Shores Jr 06-02-15 6-2-15

Operator Signature Date EnergySolutions Rep Signature Date

DRIVER'S INSTRUCTIONS FOR EXCLUSIVE USE VEHICLES

Transportation: **Hittman Transport Services**

The Code of Federal Regulations, 49 CFR 173 403, 173 427 and 173 441 requires that specific instructions for maintenance of exclusive use shipments controls be provided by the shipper to the carrier These instructions must be included with the shipment documents

The following instructions shall be complied with for all exclusive use vehicles:

- Do not change out tractor before arrival at the site without notifying shipper.
- Do not change the fifth wheel adjustment on the tractor without notifying shipper.
- Do not move or transfer packages within the van or between vans while en route to the site without notifying shipper
- The shipment must be loaded by consignor and unloaded by consignee from the transport vehicle in which originally loaded.
- Shipments must be braces so as to prevent leakage or shifting of load under conditions normally incident to transportation.
- The vehicle must be placarded "RADIOACTIVE" on all four sides when applicable until shipment is unloaded

If the vehicle is involved in an accident or is required to make emergency braking, which could shift the load and change radiation levels, notify the shipper immediately

In case of an accident, vehicle malfunction, or deviation from the above instructions immediately contact one of the following Energy*Solutions* employees:

Contact	Title/Company	Phone Number
Scott Gowans	**Shipper/Energy Solutions**	**970.201.6240**

Any deviations from these instructions are violations of State and Federal laws and could result in carrier penalty

Driver's Signature

6-2-15

Date

___ Radioactive material, low specific activity (LSA-I), *non fissile or fissile-excepted*, 7 UN2912
_X_ Radioactive material, low specific activity (LSA-II), *non fissile or fissile-excepted*, 7 UN3321
___ Radioactive material, low specific activity (LSA-III), *non fissile or fissile-excepted*, 7 UN3322
___ Radioactive material, surface contaminated objects (SCO-I *or* SCO-II) non fissile or fissile-excepted, 7 UN2913

Radioactive Materials (Low to Moderate Level Radiation)

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents Packaging durability is related to potential hazards of material
- Undamaged packages are safe; contents of damaged packages may cause external and/or internal radiation exposure
- Low radiation hazard when material is inside container If material is released from package or bulk container, hazard will vary from low to moderate Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on
- Some material may be released from packages during accidents of moderate severity This poses little risk to people
- Released radioactive materials or contaminated objects usually will be visible if packaging fails
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels Placards, markings, and shipping papers provide identification
- Some packages may have "RADIOACTIVE" label and a second hazard label/ The second hazard is usually greater than the radiation hazard, so follow this Guide as well as the response Guide for the second hazard class label
- Some radioactive materials cannot be detected by commonly available instruments.
- Runoff from control of cargo fire may cause low-level pollution

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Uranium and Thorium metal cuttings or granules may ignite spontaneously if exposed to air (see Guide 136)
- Nitrates are oxidizers and may ignite other combustibles (see Emergency Response Guide 141)

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first.**
- **Priorities for rescue, life-saving, first aid, and control of fire and other hazards are higher that the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions, and is usually responsible for radiological decisions
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions Stay upwind Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated, delay decontamination and cleanup until instructions are received from Radiation Authority

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet)

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not change effectiveness of fire control techniques
- Move containers from fire area if you can do it without risk
- Do not move damaged packages, move undamaged packages out of fire zone

Small Fires

- Dry chemical, CO_2, water spray or regular foam

Large Fires

- Water spray, fog (flooding amounts)
- Dike fire control water for later disposal

SPILL OR LEAK

- Do not touch damaged packages or spilled material

Liquid Spills

- Cover with sand, earth or other noncombustible absorbent material
- Dike to collect large liquid spills
- Cover powder spill with plastic sheet or trap to minimize spreading

- **FIRST AID**
- Medical problems take priority over radiological concerns
- Use first aid treatment according to the nature of the injury
- Do not delay care and transport of a seriously injured person
- Apply artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult
- In case of contact with substance, wipe from skin, immediately flush skin or eyes with running water for at least 20 minutes
- Injured persons who contacted released material may be a minor contamination problem to contacted persons, equipment and facilities
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 – Carrier/Driver Instructions

8 Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander If the on-scene commander is not present, request those persons who have been identified to remain at the scene

9 Stand by until assistance arrives

10 **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11 DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name Hittman Transport

M.P Shores JR — 06-02-15

Driver's Name (Printed) — Driver's Signature — Date

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RSR Paperwork Completion

L123484

Arrived	08/21/2015	**Gross Volume (ft)**	1,152 00
Record	9078-01-0009	**Waste Type**	LLRW DOE
Haz Manifest			
Vehicle ID	Q55893		

DC	
On-Site	
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

744

FORM 540 — **EnergySolutions, LLC**

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(970) 201-6240/, WIPP Emergency # 575-885-8883

ORGANIZATION
EnergySolutions

2 IS THIS AN 'EXCLUSIVE USE' SHIPMENT?
☑ YES
☐ NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST: 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? ☐ YES ☑ NO
If 'Yes' provide Manifest Number

EPA MANIFEST NUMBER: NA

5 SHIPPER - NAME AND FACILITY
Nuclear Waste Partnership, LLC on behalf of USDOE
33 Miles South East
Carlsbad, NM 88220

Utah Generator Site Access Permit No: 1309008242
SHIPMENT NUMBER: 9078 01-0009

CONTACT: Jeff Casey

6 CARRIER – Name and Address
Hittman Transport
1560 Bear Creek Road
Oak Ridge, TN 37830

CONTACT: Karen Kirby

SIGNATURE – Authorized carrier acknowledging waste receipt

SHIPPER I D NUMBER: 9078-01-0009
☐ COLLECTOR
☐ PROCESSOR
☑ GENERATOR TYPE (Specify) G
TELEPHONE NUMBER (Include Area Code): 575 234-8062
EPA I D NUMBER: TNR000034688
SHIPPING DATE: 08/19/2015
TELEPHONE (Include Area Code): 1-800-233-8933
DATE: 8-19-15

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MANIFEST NUMBER (Use this number on all continuation pages): 9078-01-0009

9 CONSIGNEE - Name and Facility
EnergySolutions, LLC
Clive Disposal Site (Bulk Waste Facility)
Interstate 80, Exit 49
Clive, UT 84029

CONTACT: Transportation Compliance
TELEPHONE (Include Area Code): (435)884-0155

SIGNATURE – Authorized consignee acknowledging waste receipt: L123484
DATE: 8/21/15

10 CERTIFICATION
This is to certify that the herein named materials are properly classified described packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations

AUTHORIZED SIGNATURE: Baker
TITLE: Baker
DATE: 8-19-15

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name hazard class UN ID number and any additional information)	12 DOT LABEL RADIOACTIVE	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321,Radioactive material, low specific activity (LSA-II), 7, Fissile Excepted One Seavan containing PPE and DAW	NA	NA	Solid Oxide	Am-241	Co-60	Cs-134	Cs-137	7 1433E+01	(1 9306E+00)	LSA-II	9185 LBS, 1152 FT3	801211
				Pu-238	Pu-240	Pu-241	Sr-90					
				Th-228	Th-230	Th-232	U-235					
				U-238	Y-90							

FOR CONSIGNEE USE ONLY
____ Record Waste Description Inadequate
____ Contamination or Leakage Detected
____ Unexpected Exposure Rates Detected
____ Labels, Markings, etc Inadequate
____ Container Integrity Inadequate
____ Other
✓ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material ___ is (or) ✓ is not a hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste, this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268 1

B TITLE Upon acceptance at the disposal site by EnergySolutions LLC and all appropriate regulatory authorities title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and EnergySolutions LLC's facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC its officers employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-06)

[redacted] IS FOR THE U.S. DEPARTMENT OF ENERGY AND THE ACTUAL TOTAL TRANSPORTATION CHARGES PAID TO THE CARRIER(S) BY THE CONSIGNOR OR CONSIGNEE ARE ASSUMABLE TO, AND ARE TO BE REIMBURSED BY, THE U.S. DEPARTMENT.

WIPP# 15021

FORM 541 EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

1 MANIFEST TOTALS

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME		WASTE WEIGHT		SPECIAL NUCLEAR MATERIAL (grams) U 233	U-235	Pu	Total
1	m3	32 6210	kg	1920 9638	NP	2 8136E-05	2 8088E-04	3 0901E-04
	ft3	1152 0000	ton	2 1175		1 Container	1 Container	

ACTIVITY	ALL NUCLIDES	TRITIUM	C 14	Tc-99	I-129	SOURCE (kg)	
MBq	7 1433E+01	NP	NP	NP	NP	(kg)	7 4817E-08
mCi	1 9306E+00	NP	NP	NP	NP	(tons)	8 2472E-11

2 MANIFEST NUMBER -01-0009

3 PAGE 1 OF 1 PAGE(S)

4 SHIPPER NAME
Nuclear Waste Partnership, LLC on behalf of USDOE

SHIPMENT ID NUMBER
9078-01-0009

DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										
5 CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6 CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7 VOLUME (m3) / (ft3)	8 WASTE AND CONTAINER WEIGHT (kg) / (ton)	9 SURFACE RADIATION LEVEL (mSv/hr) / (mrem/hr)	10 SURFACE CONTAMINATION (MBq/100 cm2) / (dpm/100cm2) ALPHA	BETA GAMMA	PHYSICAL DESCRIPTION 11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) / (FT3)	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C
801211/9078 01	2-E	32 6210	4168 2462	<2 0000E-02	<3 3400E-07	<1 6700E-06	59-SOLID 39,OTHER -HIK	32 6210	NA	Oxide/NA	NP	Am-241	9 26623E+02	8 5860E+01	1 7800E+00	AU
		1152 0000	4 5925	<2 0000E+00	<2 0000E+01	<1 0000E+02		1152 0000				Co-60	9 31829E-04	6 6230E-05	1 7900E-06	
												Cs-134	2 16039E-03	1 5355E-04	4 1500E-06	
												Cs-137	2 33217E-03	1 8576E-04	4 4800E-06	
												Pu-238 [1 6412E-08 g]	1 45240E-01	1 0323E-02	2 7900E-04	
												Pu-240 [2 8000E-04 g]	3 35250E+01	2 3828E+00	6 4400E-02	
												Pu-241 [8 5900E-07 g]	4 47174E+01	3 1783E+00	8 5900E-02	
												Sr-90	3 11824E-04	2 2163E-05	5 9900E-07	
												Th-228 [4 5000E-14 kg]	1 92092E-02	1 3653E-03	3 6900E-05	
												Th-230 [1 5048E-11 kg]	1 64502E-04	1 1692E-05	3 1600E-07	
												Th-232 [2 6273E-08 kg]	1 50446E-06	1 0693E-07	2 8900E-09	
												U-235 [2 8136E-05 g]	3 22236E-05	2 2903E-06	6 1900E-08	
												U-238 [4 8529E-08 kg]	8 58948E-06	6 1050E-07	1 6500E-08	
												Y-90	3 11824E-04	2 2163E-05	5 9900E-07	
												Subtotal		7 1433E+01	1 9306E+00	
												Total		7 1433E+01	1 9306E+00	
												SNM [3 0901E-04 g]				
												Source [7 4817E-08 kg]				
Shipment Totals		32 6210	4168 2462									SNM [3 0901E-04 g]		7 1433E+01	1 9306E+00	
		1152 0000	4 5925									Source [7 4817E-08 kg]				

Note 1 Container Description Codes For containers/ waste requiring disposal in approved structural over packs the numerical code must be followed by "-OP"

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethlene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in item 6 or additional page

Note 1A Bulk Packaging Description Codes (Choose one code as may be applicable)

A Gondola
B Intermodal
C End-Dump
D Roll-off
E Seavan

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
59 Other Describe in item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

Note3 Solidification and Stabilization Media Codes (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements, the numerical code must be followed by "S" and the media vendor and brand name must also be identified

In Item 13 Code 100=NONE REQUIRED

Solidification
90 Cement
91 Concrete (encapsulation)
92 Bitumen
93 Vinyl Chloride
94 Vinyl Ester Styrene
99 Other Describe in item 13 or additional page
100 None Required

FORM 541 (03-06)

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230) **A completed and signed copy of this form must also accompany each waste manifest.**

Waste Stream ID 9078-01 Manifest No 9078-01-0009

1. Check applicable category below for the waste stream:

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2c	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☒	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☐	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations

2 Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☒ a Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1

☒ b The SNM is homogeneously distributed throughout the waste <u>or</u> the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits (Based on process knowledge or testing)

☒ c Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e g , a pallet of drums a B-25 box) By 'pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc do not contain other elements (Based on process knowledge or testing)

☒ d Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste (Based on process knowledge, physical observations, or testing)

☒ e Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233 If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule Highly soluble forms of uranium include, but are not limited to uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate (Based on process knowledge or testing)

☒ f For containers of <u>liquid waste</u> with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing) For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6 0 mCi (6 0E+09 pCi) as shown below

$$10{,}000\frac{pCi}{g} \times 600{,}000\,g = 6\,0X10^{9}\ pCi = 6\,0\,mCi\ Pu\text{-}239$$

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. **Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest)**

   ☒ a Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition

   ☒ b Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges

   ☒ c Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution

   ☒ d Describe the methods to be used to determine the concentrations on the manifests These methods could include direct measurement and the use of scaling factors Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations

4. **Generator's certification of compliance with the SNM exemption:** I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions

Scott Gowans — 5/29/2015

Signature Name — Signature Key — Date

162 (LOW TO MODERATE LEVEL RADIATION)

UN 3321 WASTE RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II)

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents Packaging durability increases as potential hazard of radioactive content increases.
- Undamaged packages are safe. Contents of damaged packages may cause higher external radiation exposure, or both external and internal radiation exposure if contents are released
- Low radiation hazard when material is inside container. If material is released from package or bulk container, hazard will vary from low to moderate Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on
- Some material may be released from packages during accidents of moderate severity but risks to people are not great
- Released radioactive materials or contaminated objects usually will be visible if packaging fails
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels Placards, markings and shipping papers provide identification
- Some packages may have a "RADIOACTIVE" label and a second hazard label. The second hazard is usually greater than the radiation hazard, so follow this GUIDE as well as the response GUIDE for the second hazard class label.
- Some radioactive materials cannot be detected by commonly available instruments
- Runoff from control of cargo fire may cause low-level pollution

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily.
- Uranium and Thorium metal cuttings may ignite spontaneously if exposed to air (see GUIDE 136)
- Nitrates are oxidizers and may ignite other combustibles (see GUIDE 141).

PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions. Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions.
- Stay upwind.
- Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques
- Move containers from fire area if you can do it without risk.
- Do not move damaged packages, move undamaged packages out of fire zone

Small Fire

- Dry chemical, CO_2, water spray or regular foam

Large Fire

- Water spray, fog (flooding amounts)
- Dike fire-control water for later disposal.

SPILL OR LEAK

- Do not touch damaged packages or spilled material
- Cover liquid spill with sand, earth or other non-combustible absorbent material.
- Dike to collect large liquid spills
- Cover powder spill with plastic sheet or tarp to minimize spreading

FIRST AID

- Call 911 or emergency medical service
- Medical problems take priority over radiological concerns
- Use first aid treatment according to the nature of the injury
- Do not delay care and transport of a seriously injured person
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult
- In case of contact with substance, wipe from skin immediately, flush skin or eyes with running water for at least 20 minutes
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities
- Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 -- Carrier/Driver Instructions

8 Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander If the on-scene commander is not present, request those persons who have been identified to remain at the scene

9 Stand by until assistance arrives

10. **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11 DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required. These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name Hittman Transport

David Roberts | [signature] | 8-19-15

Driver's Name (Printed) | Driver's Signature | Date

ENERGYSOLUTIONS

CLIVE FACILITY

Scott Gowans: 970-201-6240

JAKE GARDNER: 801-836-1555

SHIPMENT NUMBER _____9078-01-0009_____

EXCLUSIVE USE INSTRUCTIONS TO CARRIER

*** This shipment is being made in an EXCLUSIVE USE vehicle, loaded by ENERGYSOLUTIONS, LLC (consignor) and must only be unloaded by the consignee. (Any necessary changes must be approved by Consignor)**

*** DO NOT change out the tractor or change the fifth wheel adjustment on the tractor without prior authorization of the Consignor.**

*** Any removal, addition to, or movement of any material in this shipment by anyone other than the consignee shall be authorized by the consignor (prior).**

*** A closed van shipment shall not be opened, nor shall any shipment be changed or modified in any manner, except by consignee, without prior authorization of Consignor.**

*** In the event of a sudden emergency braking, stop and inspect the integrity of the trailer and ensure load is still intact and no leakage has occurred, and notify Consignor.**

DRIVER INSTRUCTIONS IN THE EVENT OF AN ACCIDENT

*** DO NOT LEAVE AREA UNATTENDED, UNTIL LOCAL AUTHORITIES ARRIVE.**
*** TAKE NECESSARY ACTIONS TO SAVE LIFE OR PREVENT THE DESTRUCTION OF PROPERTY.**
*** SET UP WARNING SIGNALS TO PREVENT FURTHER ACCIDENTS. CARE SHOULD BE TAKEN WHEN USING FLAME PRODUCING SIGNALS TO PREVENT POSSIBLE FIRE OR EXPLOSION.**
*** HAVE SOMEONE OBTAIN ASSISTANCE FROM LOCAL AUTHORITIES, SUCH AS FIRE AND RESCUE SQUADS, POLICE, AND STATE AND/OR FEDERAL AUTHORITIES.**
*** OBTAIN THE NAMES AND ADDRESSES OF ANY WITNESSES.**
*** KEEP PEOPLE AND ONLOOKERS AWAY FROM THE AREA, EXCEPT RESCUE WORKERS/ RESPONDERS.**
*** KEEP YOURSELF AND ANY PERSONS PRESENT AWAY FROM SMOKE, MIST, DUST OR OTHER AIRBORNE SUBSTANCES.**
*** DO NOT MAKE ANY STATEMENTS, EXCEPT TO AUTHORITIES.**
*** WHEN AUTHORITIES / RESCUE WORKERS ARRIVE, GIVE THEM SHIPPING PAPERS**
*** ASK AUTHORITIES TO CALL THE EMERGENCY RESPONSE NUMBER ON THE PAPERWORK FIRST. THEN CALL ES CLIVE SHIPPERS (LISTED ABOVE).**

I HAVE READ AND UNDERSTAND THE FOLLOWING INSTRUCTIONS. I AGREE THAT THIS SHIPMENT WILL BE MADE IN FULL ACCORDANCE WITH THESE INSTRUCTIONS.

****NO MISSOURI PERMITS FOR THIS LOAD, DO NOT ENTER FOR ANY REASON****

X [signature] David Roberts 8-19-15

PRINT NAME **SIGNATURE** **DATE**

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RSR Paperwork Completion

L123485

Arrived	08/21/2015	**Gross Volume (ft)**	1,152 00
Record	9078-01-0010	**Waste Type**	LLRW DOE
Haz Manifest			
Vehicle ID	Q55371		

DC	
On-Site	X
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

FORM 541

EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

1 MANIFEST TOTALS

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME		WASTE WEIGHT		SPECIAL NUCLEAR MATERIAL (grams) U-233	U-235	Pu	Total
1	m3	32 6210	kg	1938 5539	NP	2 5773E-05	2 8081E-04	3 0658E-04
	ft3	1152 0000	ton	2 1370		1 Container	1 Container	

ACTIVITY	ALL NUCLIDES	TRITIUM	C 14	Tc-99	I 129	SOURCE (kg)	
MBq	6 6012E+01	NP	NP	NP	NP	(kg)	6 8993E-08
mCi	1 7841E+00	NP	NP	NP	NP	(tons)	7 6061E-11

2 MANIFEST NUMBER 01-0010

3 PAGE 1 OF 1 PAGE(S)

4 SHIPPER NAME
Nuclear Waste Partnership, LLC on behalf of USDOE

SHIPMENT ID NUMBER
9078-01-0010

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5 CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6 CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7 VOLUME (m3) / (ft3)	8 WASTE AND CONTAINER WEIGHT (kg) / (ton)	9 SURFACE RADIATION LEVEL (mSv/hr) / (mrem/hr)	10 SURFACE CONTAMINATION (MBq/100 cm2) / (dpm/100cm2) ALPHA	BETA GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) / (FT3)	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C
300171/9078-01	2-E	32 6210	4183 9363	<2 0000E-02	<3 3400E-07	<1 6700E-06	59-SOLID 39 OTHER -HIK	32 6210	NA	Oxide/NA	NP	Am-241	8 45952E+02	6 0680E+01	1 6400E+00	AU
												Co-60	8 51111E-04	6 1050E-05	1 6500E-06	
												Cs-134	1 97561E-03	1 4171E-04	3 8300E-06	
		1152 0000	4 6120	<2 0000E+00	<2 0000E+01	<1 0000E+02		1152 0000				Cs-137	2 13036E-03	1 5281E-04	4 1300E-06	
												Pu-238 [1 5118E-08 g]	1 32567E-01	9 5090E-03	2 5700E-04	
												Pu-240 [2 8000E-04 g]	3 32191E+01	2 3828E+00	6 4400E-02	
												Pu-241 [7 9400E-07 g]	4 09565E+01	2 9378E+00	7 9400E-02	
												Sr-90	2 85251E-04	2 0461E-05	5 5300E-07	
												Th-228 [4 1463E-14 kg]	1 75380E-02	1 2580E-03	3 4000E-05	
												Th-230 [1 3905E-11 kg]	1 50621E-04	1 0804E-05	2 9200E-07	
												Th-232 [2 4273E-08 kg]	1 37725E-06	9 8790E-08	2 6700E-09	
												U-235 [2 5773E-05 g]	2 92473E-05	2 0979E-06	5 6700E-08	
												U-238 [4 4706E-08 kg]	7 84053E-06	5 6240E-07	1 5200E-08	
												Y-90	2 85251E-04	2 0461E-05	5 5300E-07	
												Subtotal		6 6012E+01	1 7841E+00	
												Total		6 6012E+01	1 7841E+00	
												SNM [3 0658E-04 g]				
												Source [6 8993E-08 kg]				
Shipment Totals		32 6210	4183 9363									SNM [3 0658E-04 g]		6 6012E+01	1 7841E+00	
												Source [6 8993E-08 kg]				
		1152 0000	4 6120													

Note 1 Container Description Codes For containers/ waste requiring disposal in approved structural over packs the numerical code must be followed by -OP

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethlene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 6 or additional page

Note 1A Bulk Packaging Description Codes. (Choose one code as may be applicable)

A Gondola
B Intermodal
C End Dump
D Roll-off
E Seavan

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
59 Other Describe in item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

Note3 Solidification and Stabilization Media Codes (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements, the numerical code must be followed by "-S " and the media vendor and brand name must also be identified

In Item 13 Code 100=NONE REQUIRED

Solidification
90 Cement
91 Concrete (encapsulation)
92 Bitumen
93 Vinyl Chloride
94 Vinyl Ester Styrene
99 Other Describe in item 13 or additional page
100 None Required

FORM 541 (03-06)

Q55871

FORM 540 — EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(970) 201-6240/ WIPP Emergency # 575-885-8883

ORGANIZATION
EnergySolutions

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT? ☑ YES ☐ NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ====> 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? ☑ NO ☐ YES
If Yes provide Manifest Number ====>

EPA MANIFEST NUMBER
NA

5 SHIPPER - NAME AND FACILITY
Nuclear Waste Partnership, LLC on behalf of USDOE
33 Miles South East
Carlsbad NM 88220

Utah Generator Site Access Permit No: 1309008242
SHIPMENT NUMBER: 9078 01-0010

CONTACT: Jeff Casey

6 CARRIER – Name and Address
Hittman Transport
1580 Bear Creek Road
Oak Ridge, TN 37830

CONTACT: Karen Kirby

SIGNATURE – Authorized carrier acknowledging waste receipt

SHIPPER I D NUMBER: 9078-01-0010
☐ COLLECTOR
☐ PROCESSOR
☑ GENERATOR TYPE (Specify) G
TELEPHONE NUMBER (Include Area Code): 678-234-8062
EPA I D NUMBER: TNR000034886
SHIPPING DATE: 08/19/2015
TELEPHONE (Include Area Code): 1-800-233-8933
DATE: 19 Aug 15

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MANIFEST NUMBER (Use this number on all continuation pages)
9078-01-0010

9 CONSIGNEE Name and Facility
EnergySolutions, LLC
Clive Disposal Site (Bulk Waste Facility)
Interstate 80, Exit 49
Clive, UT 84029
L123485

CONTACT: Transportation Compliance
TELEPHONE (Include Area Code): (435)884-0155

SIGNATURE – Authorized consignee acknowledging waste receipt
DATE: 8/21/15

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified described packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation This also certifies that the materials are classified packaged marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations

AUTHORIZED SIGNATURE — TITLE: Broker — DATE: 8-19-15

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name hazard class UN ID number and any additional information)	12 DOT LABEL RADIOACTIVE"	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321,Radioactive material, low specific activity (LSA-II), 7, Fissile Excepted, One Seavan containing PPE and DAW	NA	NA	Solid Oxide	Am-241	Co-60	Cs-134	Cs-137	6 6012E+01	(1 7841E+00)	LSA-II	9224 LBS, 1152 FT3	300171
				Pu-238	Pu-240	Pu-241	Sr-90					
				Th-228	Th-230	Th-232	U-235					
				U-238	Y-90							

FOR CONSIGNEE USE ONLY

- ____ Record Waste Description Inadequate
- ____ Contamination or Leakage Detected
- ____ Unexpected Exposure Rates Detected
- ____ Labels, Markings, etc Inadequate
- ____ Container Integrity Inadequate
- ✓ Other
- ____ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material __ is (or) ✓ is not a hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268 1

B TITLE Upon acceptance at the disposal site by EnergySolutions LLC, and all appropriate regulatory authorities, title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws rules regulations and EnergySolutions LLC s facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC its officers employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-06)

[redacted]RTATION [redacted]ER IS FOR THE U S [redacted] AND [redacted] THE CONSIGNOR [redacted] BY THE GOVERNM[redacted] WIPP#15020

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230) **A completed and signed copy of this form must also accompany each waste manifest.**

Waste Stream ID 9078-01 Manifest No 9078-01-0010

1. Check applicable category below for the waste stream:

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2c	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☒	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☐	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations

2 Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☒ a Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1

☒ b The SNM is homogeneously distributed throughout the waste or the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits (Based on process knowledge or testing)

☒ c Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e g , a pallet of drums, a B-25 box) By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide etc do not contain other elements (Based on process knowledge or testing)

☒ d Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste (Based on process knowledge, physical observations, or testing)

☒ e Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233 If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule Highly soluble forms of uranium include, but are not limited to uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate (Based on process knowledge or testing)

☒ f For containers of liquid waste with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing) For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6 0 mCi (6 0E+09 pCi) as shown below

$$10{,}000\,\frac{pCi}{g} \times 600{,}000\,g = 6\,0 \times 10^{9}\ pCi = 6\,0\ mCi\ Pu\text{-}239$$

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. **Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).**

   ☒ a Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition

   ☒ b Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges

   ☒ c Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution

   ☒ d Describe the methods to be used to determine the concentrations on the manifests These methods could include direct measurement and the use of scaling factors Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations

4. **Generator's certification of compliance with the SNM exemption:** I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions

Scott Gowans 5/29/2015

Signature Name Signature Key Date

ENERGYSOLUTIONS

CLIVE FACILITY

Scott Gowans: 970-201-6240

JAKE GARDNER: 801-836-1555

SHIPMENT NUMBER _____9078-01-0010_____

EXCLUSIVE USE INSTRUCTIONS TO CARRIER

* This shipment is being made in an EXCLUSIVE USE vehicle, loaded by ENERGYSOLUTIONS, LLC (consignor) and must only be unloaded by the consignee. (Any necessary changes must be approved by Consignor)

* DO NOT change out the tractor or change the fifth wheel adjustment on the tractor without prior authorization of the Consignor.

* Any removal, addition to, or movement of any material in this shipment by anyone other than the consignee shall be authorized by the consignor (prior).

* A closed van shipment shall not be opened, nor shall any shipment be changed or modified in any manner, except by consignee, without prior authorization of Consignor.

* In the event of a sudden emergency braking, stop and inspect the integrity of the trailer and ensure load is still intact and no leakage has occurred, and notify Consignor.

DRIVER INSTRUCTIONS IN THE EVENT OF AN ACCIDENT

* DO NOT LEAVE AREA UNATTENDED, UNTIL LOCAL AUTHORITIES ARRIVE
* TAKE NECESSARY ACTIONS TO SAVE LIFE OR PREVENT THE DESTRUCTION OF PROPERTY.
* SET UP WARNING SIGNALS TO PREVENT FURTHER ACCIDENTS. CARE SHOULD BE TAKEN WHEN USING FLAME PRODUCING SIGNALS TO PREVENT POSSIBLE FIRE OR EXPLOSION.
* HAVE SOMEONE OBTAIN ASSISTANCE FROM LOCAL AUTHORITIES, SUCH AS FIRE AND RESCUE SQUADS, POLICE, AND STATE AND/OR FEDERAL AUTHORITIES.
* OBTAIN THE NAMES AND ADDRESSES OF ANY WITNESSES.
* KEEP PEOPLE AND ONLOOKERS AWAY FROM THE AREA, EXCEPT RESCUE WORKERS/ RESPONDERS.
* KEEP YOURSELF AND ANY PERSONS PRESENT AWAY FROM SMOKE, MIST, DUST OR OTHER AIRBORNE SUBSTANCES.
* DO NOT MAKE ANY STATEMENTS, EXCEPT TO AUTHORITIES.
* WHEN AUTHORITIES / RESCUE WORKERS ARRIVE, GIVE THEM SHIPPING PAPERS
* ASK AUTHORITIES TO CALL THE EMERGENCY RESPONSE NUMBER ON THE PAPERWORK FIRST. THEN CALL ES CLIVE SHIPPERS (LISTED ABOVE).

I HAVE READ AND UNDERSTAND THE FOLLOWING INSTRUCTIONS. I AGREE THAT THIS SHIPMENT WILL BE MADE IN FULL ACCORDANCE WITH THESE INSTRUCTIONS.

NO MISSOURI PERMITS FOR THIS LOAD, DO NOT ENTER FOR ANY REASON

Jamar M Powby 19 Aug 15

PRINT NAME SIGNATURE DATE

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 – Carrier/Driver Instructions

8 Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander If the on-scene commander is not present, request those persons who have been identified to remain at the scene

9 Stand by until assistance arrives

10 **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11 DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name H.T Man Transport

Tamara Rowbury Tamara Rowbury 19 Aug 15

Driver's Name (Printed) Driver's Signature Date

GUIDE 162 RADIOACTIVE MATERIALS (LOW TO MODERATE LEVEL RADIATION)

UN 3321 WASTE RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II)

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents. Packaging durability increases as potential hazard of radioactive content increases
- Undamaged packages are safe. Contents of damaged packages may cause higher external radiation exposure, or both external and internal radiation exposure if contents are released.
- Low radiation hazard when material is inside container If material is released from package or bulk container, hazard will vary from low to moderate. Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on.
- Some material may be released from packages during accidents of moderate severity but risks to people are not great.
- Released radioactive materials or contaminated objects usually will be visible if packaging fails.
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels. Placards, markings and shipping papers provide identification
- Some packages may have a "RADIOACTIVE" label and a second hazard label The second hazard is usually greater than the radiation hazard, so follow this GUIDE as well as the response GUIDE for the second hazard class label
- Some radioactive materials cannot be detected by commonly available instruments
- Runoff from control of cargo fire may cause low-level pollution.

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Uranium and Thorium metal cuttings may ignite spontaneously if exposed to air (see GUIDE 136)
- Nitrates are oxidizers and may ignite other combustibles (see GUIDE 141).

PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions. Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies.
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions.
- Stay upwind.
- Keep unauthorized personnel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated, delay decontamination and cleanup until instructions are received from Radiation Authority.

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques
- Move containers from fire area if you can do it without risk.
- Do not move damaged packages, move undamaged packages out of fire zone.

Small Fire

- Dry chemical, CO_2, water spray or regular foam

Large Fire

- Water spray, fog (flooding amounts).
- Dike fire-control water for later disposal

SPILL OR LEAK

- Do not touch damaged packages or spilled material
- Cover liquid spill with sand, earth or other non-combustible absorbent material
- Dike to collect large liquid spills.
- Cover powder spill with plastic sheet or tarp to minimize spreading

FIRST AID

- Call 911 or emergency medical service.
- Medical problems take priority over radiological concerns
- Use first aid treatment according to the nature of the injury
- Do not delay care and transport of a seriously injured person
- Give artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult.
- In case of contact with substance, wipe from skin immediately, flush skin or eyes with running water for at least 20 minutes
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities.
- Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination

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RSR Paperwork Completion

M13060

Arrived	08/21/2015	***Gross Volume (ft)***	1,173 00
Record	9078-03-0006	***Waste Type***	MIXW T DOE
Haz Manifest	78785		
Vehicle ID	Q55132		

DC	
On-Site	X
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

FORM 541

EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control Transfer and Disposal of Radioactive Waste

1 MANIFEST TOTALS

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME		WASTE WEIGHT		SPECIAL NUCLEAR MATERIAL (grams) U 233	U 235	Pu	Total
1	m3	33 2157	kg	505 3019	NP	2 0318E-05	2 0455E-04	2 2487E-04
	ft3	1173 0000	ton	0 5570		1 Container	1 Container	

ACTIVITY	ALL NUCLIDES	TRITIUM	C 14	Tc 99	I 129	SOURCE (kg)	
MBq	5 1787E+01	NP	NP	NP	NP	(kg)	5 4396E-08
mCi	1 3996E+00	NP	NP	NP	NP	(tons)	5 9961E-11

2 MANIFEST NUMBER -0006

3 PAGE 1 OF 1 PAGE(S)

4 SHIPPER NAME
Nuclear Waste Partnership, LLC on behalf of USDOE

SHIPMENT ID NUMBER
9078 03-0006

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5 CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6 CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7 VOLUME (m3) / (ft3)	8 WASTE AND CONTAINER WEIGHT (kg) / (ton)	9 SURFACE RADIATION LEVEL (mSv/hr) / (mrem/hr)	10 SURFACE CONTAMINATION (MBq/100 cm2) / (dpm/100cm2) ALPHA	BETA GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) / (FT3)	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION A8-Class A Stable AU-Class A Unstable B-Class B C-Class C
300323/9078-03	2 E	33 2157	3634 6701	<2 0000E-02	<3 3400E-07	<1 6700E-06	59-AIR FILTRATION FILTERS 39-HIK	33 2157	NA	Oxide/NA	NP	Am-241	2 55294E+03	4 7730E+01	1 2900E+00	AU
		1173 0000	4 2270	<2 0000E+00	<2 0000E+01	<1 0000E+02		1173 0000				Co-60	2 57273E-03	4 8100E-05	1 3000E-06	
												Cs-134	5 97866E-03	1 1174E-04	3 0200E-06	
												Cs-137	6 45162E-03	1 2062E-04	3 2600E-06	
												Pu-238 [1 1941E-08 g]	4 01742E 01	7 5110E-03	2 0300E-04	
												Pu-240 [2 0391E-04 g]	9 28163E+01	1 7353E+00	4 6900E-02	
												Pu-241 [6 2500E-07 g]	1 23689E+02	2 3125E+00	6 2500E-02	
												Sr-90	8 62855E-04	1 6132E-05	4 3600E-07	
												Th-228 [3 2683E-14 kg]	5 30379E 02	9 9160E 04	2 6800E-05	
												Th-230 [1 0952E 11 kg]	4 55176E-04	8 5100E-06	2 3000E-07	
												Th-232 [1 9091E 08 kg]	4 15595E-06	7 7700E 08	2 1000E-09	
												U-235 [2 0318E-05 g]	8 84624E-05	1 6539E-06	4 4700E-08	
												U-238 [3 5294E-08 kg]	2 37483E-05	4 4400E-07	1 2000E-08	
												Y 90	8 62855E-04	1 6132E-05	4 3600E-07	
												Subtotal		5 1787E+01	1 3996E+00	
												Total		5 1787E+01	1 3996E+00	
												SNM [2 2487E-04 g]				
												Source [5 4396E-08 kg]				
Shipment Totals		33 2157	3634 6701									SNM [2 2487E-04 g]		5 1787E+01	1 3996E+00	
		1173 0000	4 2270									Source [5 4396E-08 kg]				

Note 1 Container Description Codes For containers/ waste requiring disposal in approved structural over packs the numerical code must be followed by "-OP"

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethlene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in item 6 or additional page

Note 1A Bulk Packaging Description Codes. (Choose one code as may be applicable)

A Gondola
B Intermodal
C End Dump
D Roll-off
E Seavan

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
69 Other Describe in item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

Note3 Solidification and Stabilization Media Codes (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements the numerical code must be followed by "-S." and the media vendor and brand name must also be identified

In item 13 Code 100=NONE REQUIRED

Solidification
90 Cement
91 Concrete (encapsulation)
92 Bitumen
93 Vinyl Chloride
94 Vinyl Ester Styrene
99 Other Describe in item 13 or additional page
100 None Required

FORM 541 (03-06)

Q55

FORM 540 — EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(970) 201-6240 / WIPP Emergency # 575-885-8883

ORGANIZATION
EnergySolutions

2 IS THIS AN EXCLUSIVE USE SHIPMENT? ☑ YES ☐ NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST: 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? ☑ YES ☐ NO
If Yes provide Manifest Number ==>

EPA MANIFEST NUMBER: 003376755JJK

5 SHIPPER – NAME AND FACILITY
Nuclear Waste Partnership LLC on behalf of USDOE
33 Miles South East
Carlsbad NM 88220

Utah Generator Site Access Permit No: 1300008342
SHIPMENT NUMBER: 9078-03-0006

CONTACT: Jeff Casey

6 CARRIER Name and Address
Hittesan Transport
1640 Bear Creek Road
Oak Ridge TN 37830

CONTACT: Karen Kirby

SIGNATURE – Authorized carrier acknowledging waste receipt: R Dale Lyman
DATE: 8/19/15

SHIPPER ID NUMBER: 9078-03-0006
☐ COLLECTOR
☐ PROCESSOR
☑ GENERATOR TYPE (Specify) G
TELEPHONE NUMBER (Include Area Code): 575 234-8062
EPA ID NUMBER: TNR000034658
SHIPPING DATE: 08/19/2015
TELEPHONE (Include Area Code): 1-800-233-8933

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MANIFEST NUMBER (Use this number on all continuation pages): 9078-03-0006

9 CONSIGNEE Name and Facility
EnergySolutions, LLC
Clive Disposal Site (Treatment Facility)
Interstate 80, Exit 49
Clive, UT 84029
M 13060

CONTACT: Transportation Compliance
TELEPHONE (Include Area Code): (435)884-0155

SIGNATURE – Authorized consignee acknowledging waste receipt: Albert Ewen
DATE: 8/21/15

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified described packaged marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations

AUTHORIZED SIGNATURE: [signature] TITLE: Broker DATE: 8-19-15

11 U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name hazard class UN ID number and any additional information)	12 DOT LABEL RADIOACTIVE	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321,Waste, Radioactive material, low specific activity (LSA II), 7, Fissile Excepted, D006 (contains Cadmium) One Seaven containing used filtern and PPE	NA	NA	Solid Oxide	Am 241	Co-60	Cs 134	Cs 137	5 1787E+01	(1 3996E+00)	LSA-II	8454 LBS, 1173 FT3	300323
				Pu-238	Pu-240	Pu-241	Sr-90					
				Th 228	Th 230	Th 232	U-235					
				U 238	Y 90							

FOR CONSIGNEE USE ONLY
____ Record Waste Description Inadequate
____ Contamination or Leakage Detected
____ Unexpected Exposure Rates Detected
____ Labels Markings etc Inadequate
____ Container Integrity Inadequate
____ Other
✓ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material ✓ is (or) __ is not a hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268 1

B TITLE Upon acceptance at the disposal site by EnergySolutions LLC and all appropriate regulatory authorities title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws rules regulations and EnergySolutions LLC s facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC its officers employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-06)

TRANSPORTATION HEREUNDER IS FOR THE U.S. DEPARTMENT OF ENERGY AND THE TOTAL TRANSPORTATION CHARGES PAID TO THE CARRIER(S) BY THE CONSIGNOR OR CONSIGNEE ARE ASSIGNABLE TO AND ARE TO BE REIMBURSED BY GOVERNMENT

WIPP 15019

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions. Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230). A completed and signed copy of this form must also accompany each waste manifest.

Waste Stream ID 9078-03 7/18/14 Manifest No. 9078-03-0006

1. Check applicable category below for the waste stream:

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2e	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☒	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☐	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations.

2. Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☒ a Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1

☒ b The SNM is homogeneously distributed throughout the waste or the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits. (Based on process knowledge or testing)

☒ c. Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e g., a pallet of drums, a B-25 box). By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc. do not contain other elements. (Based on process knowledge or testing).

☒ d. Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste (Based on process knowledge, physical observations, or testing)

☒ e Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233 If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule Highly soluble forms of uranium include, but are not limited to uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate (Based on process knowledge or testing)

☐ f. For containers of liquid waste with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing). For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6 0 mCi (6 0E+09 pCi) as shown below

$$10{,}000\,\frac{pCi}{g} \times 600{,}000\,g = 6\,0\times10^{9}\ pCi = 6\,0\ mCi\ Pu\text{-}239$$

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).

   ☒ a. Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition.

   ☒ b. Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges.

   ☒ c. Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution.

   ☒ d. Describe the methods to be used to determine the concentrations on the manifests. These methods could include direct measurement and the use of scaling factors. Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations.

4. Generator's certification of compliance with the SNM exemption: I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing. I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions.

Authorized Signature	Printed Name	Title	Date
[signature]	JEFFREY B CASEY	ENVIRONMENTAL SCIENTIST	7-8-14

SW 123

Please print or type (Form designed for use on elite (12 pitch) typewriter)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator ID Number: NM 4890139088

2 Page 1 of: 1

3 Emergency Response Phone: 970-201-6240

4 Manifest Tracking Number: 003378785 JJK

5 Generator's Name and Mailing Address: Nuclear Waste Partnership on behalf of USDOE, PO Box 2078 m/s 452-09, Carlsbad, NM 88221

Generator's Site Address (if different than mailing address): Waste Isolation Pilot Plant, 32 Louis Whitlock Rd, Carlsbad, NM 88220

Generator's Phone: 575-234-8062

6 Transporter 1 Company Name: Hittman Transport

U S EPA ID Number: TNR000034686

7 Transporter 2 Company Name:

U S EPA ID Number:

8 Designated Facility Name and Site Address: Energy Solutions LLC, Clive disposal site (treatment facility), Interstate 80 Exit 99, Clive Ut 84029

U S EPA ID Number: UTD982598898

Facility's Phone: 435-884-0155

9a HM	9b U S DOT Description (including Proper Shipping Name Hazard Class ID Number and Packing Group (if any))	10 Containers No	10 Containers Type	11 Total Quantity	12 Unit Wt /Vol	13 Waste Codes
X	1 UN3321, Waste Radioactive Material low-specific activity (LSA-II), 7, Fissile Excepted, D006 (contains Cadmium)	1	CM	3842	K	D006 D009 D010 F001 U133 D043
	* one type IP-1 Seavan containing bags of hepa filters and PPE, Solid, oxide AM241, Pu-241, Sr-90 5.7787 E1 MBq					
	3					
	4					

TRANSPORTATION REQUIRED FOR THE U.S. DEPARTMENT OF ENERGY AND CONSIGNOR OR CONSIGNEE ARE ASSUMED TO BE THE CARRIER(S) BY THE ... TO PAYMENT

14 Special Handling Instructions and Additional Information: ERG #162, Radiological information 540/541. Exclusive Shipment USE 4 digits M13060
NWP Emergency Response # 575-885-6883
Container # 300323, Shipment # 9078-03-0006 #15019

15 **GENERATOR S/OFFEROR S CERTIFICATION** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified packaged marked and labeled/placarded and are in all respects in proper condition for transport according to applicable international and national governmental regulations If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Scott Gowans

Signature:

Month 8 Day 19 Year 15

16 International Shipments ☐ Import to U S ☐ Export from U S Port of entry/exit

Transporter signature (for exports only) Date leaving U S

17 Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Bobby Myers

Signature:

Month 08 Day 19 Year 15

Transporter 2 Printed/Typed Name

Signature

Month Day Year

18 Discrepancy

18a Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number

18b Alternate Facility (or Generator) U S EPA ID Number

Facility s Phone

18c Signature of Alternate Facility (or Generator) Month Day Year

19 Hazardous Waste Report Management Method Codes (i e codes for hazardous waste treatment disposal and recycling systems)

1	2	3	4
H132			

20 Designated Facility Owner or Operator Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Albert Evans

Signature:

Month 8 Day 21 Year 15

GENERATOR / INTL / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700 22 (Rev 3 05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership

UHWM Number: 003378785 JJK

Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261 For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory Spent solvent standards are listed on the following page If F039 multi source leachate applies those constituents must be listed and attached by the generator If D001 D043 requires treatment of the characteristic and meet 268 48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached

REF #	3 US EPA HAZARDOUS WASTE CODE (S)	4 SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE, SIMPLY CHECK NONE		5 HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
		DESCRIPTION	NONE	
1	D004		☐	A1
2	D005		☐	↓
3	D006		☐	↓
4	D007		☐	A1

To identify F039 or D001 D043 underlying hazardous constituent (s), use the F039/Underlying Hazardous Constituent Form provided (Form B1) and check here ☐
If no UHCs are present in the waste upon its initial generation check here ☐
To list additional USEPA waste code(s) and subcategone(s), use the supplemental sheet provided (Form A2) and check here ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above enter the letter (A1 A2 B1 B2 B3 B4 C D or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268 7) Please understand that if you enter the letter A2 B1 B2 B3 B4 or D you are making the appropriate certification as provided below (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations)

A1 RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268 40
☐ For Hazardous Debris This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45 "

A2 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 or 268 49 to remove the hazardous characteristic This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards I am aware that there are significant penalties for submitting a false certification including the possibility of fine and imprisonment

B1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based on my inquiry of those individuals immediately responsible for obtaining this information I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR Part 268 40 without impermissible dilution of the prohibited waste I am aware there are significant penalties for submitting a false certification including the possibility of fine and imprisonment

B2 CONTAMINATED SOIL TREATED TO PERFORMANCE STANDARDS
I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in 40 CFR 268 49 without impermissible dilutions of the prohibited wastes I am aware there are significant penalties for submitting a false certification including the possibility of fine and imprisonment

B3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion units as specified in 268 42, Table 1 I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents I am aware there are significant penalties for submitting a false certification including the possibility of fine and imprisonment

B4 DECHARACTERIZED WASTE CONTAINING UNDERLYING HAZARDOUS CONSTITUENTS TREATED TO PERFORMANCE STANDARDS
I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 to remove the hazardous characteristic and that underlying hazardous constituents as defined in § 268 2(i) have been treated on-site to meet the § 268 48 Universal Treatment Standards I am aware that there are significant penalties for submitting a false certification including the possibility of fine and imprisonment.

C RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance a treatability variance or a case by-case extension and may be land disposed without further treatment Enter the effective date of prohibition in column 5 above

D RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D I believe that the information I submitted is true accurate and complete I am aware that there are significant penalties for submitting a false certification including the possibility of fine and imprisonment

E WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions

I hereby certify that all information submitted in this and all associated documents is complete and accurate to the best of my knowledge and information

Signature [signature] Title Broker Date 8-19-15

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV) – REVERSE SIDE

If the waste identified on the first page of this form is described by any of the following USEPA hazardous waste codes F001 F002 F003 F004 F005 and all solvent constituents will not be monitored by the treater then each constituent MUST be identified below by checking the appropriate box, and this page must accompany the shipment, along with the previous page of this form If the waste code F039 describes this waste then the corresponding list of constituents must be attached If D001 D043 require treatment to 268 48 standards, then the underlying hazardous constituent(s) must also be attached

SOLVENT WASTE TREATMENT STANDARDS[2]

F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]		F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s).	Treatment Standard[1]	
	Wastewaters	Nonwastewaters		Wastewaters	Nonwastewaters
Acetone (F003)	0 28	160	Methanol (F003)	5 6	0 75 (TCLP)[3]
Benzene (F005)	0 14	10	Methylene chloride (F001 F002)	0 089	30
n-Butanol (n butyl alcohol) (F003)	5 6	2 6	Methyl ethyl ketone (F005)	0 28	36
Carbon disulfide (F005)	3 8	4 8 (TCLP)[3]	Methyl isobutyl ketone (F003)	0 14	33
Carbon tetrachloride (F001)	0 057	6 0	Nitrobenzene (F004)	0 068	14
Chlorobenzene (F002)	0 057	6 0	2 Nitropropane (F005)	INCIN or {(WETOX or C HOXD) followed by CARBN}	INCIN
o-Cresol (F004)	0 11	5 6	Pyridine (F005)	0 014	16
Cresol (m and p isomers) (F004)	0 77	5 6	Tetrachloroethylene (F001 F002)	0 056	6 0
Cyclohexanone (F003)	0 36	0 75 (TCLP)[3]	Toluene (F005)	0 080	10
o-Dichlorobenzene (F002)	0 088	6 0	1,1,1 Trichloroethane (F001, F002)	0 054	6 0
2-Ethoxyethanol (F005) also called ethylene glycol monoethyl ether	INCIN or BIODG	INCIN	1 1 2 Trichloroethane (F002)	0 054	6 0
Ethyl acetate (F003)	0 34	33	Trichloroethylene (F001, F002)	0 054	6 0
Ethyl benzene (F003)	0 057	10	Trichloromonofluoromethane (F002)	0 020	30
Ethyl ether (F003)	0 12	160	1 1 2 Trichloro-1 2 2 trifluoroethane (F002)	0 057	30
Isobutanol (Isobutyl Alcohol) (F005)	5 6	170	Xylenes (sum of o- m , and p isomers) (F003)	0 32	30

[1]All spent solvent treatment standards are measured through a total waste analysis (TCA) unless otherwise noted Wastewater units are mg/l nonwastewater are mg/kg

[2]For contaminated soils using the alternative soil treatment standards, the treatment standards for F001 F005 spent solvents must be a 90% reduction of the constituents or less than 10x the standard listed

[3]These solvents require a TCLP standard with units of mg/l

SUBCATEGORY REFERENCE

D001

A Ignitable characteristic wastes except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in non CWA/non-CWA equivalent/non-Class I SDWA systems

B Ignitable characteristic wastes except for the 40 CFR 261 21(a) (1) High TOC subcategory that are managed in CWA/CWA-equivalent or Class I SDWA systems

C High TOC Ignitable characteristic liquids subcategory based on 40 CFR 261 21(a) (1) – Greater than or equal to 10% total organic carbon

D002

D Corrosive characteristic wastes that are managed in non CWA/non CWA-equivalent/non Class I SDWA systems

E Corrosive characteristic wastes that are managed in CWA CWA-equivalent, or Class I SWDA systems

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership

UHWM Number: 003378785 JJK

This form is a continuation from form A1 for a waste identified by more than five USEPA waste code/subcategory groups This page by itself IS NOT an acceptable Land Disposal Notification and Certification Form

Continue (from form A1, Page 1) to identify ALL USEPA hazardous wastes that apply to this waste shipment (as defined by 40 CFR 261) For each waste number identify the corresponding subcategory (write in the description from 40 CFR 268 40 or check NONE if the waste does not have a subcategory) Also identify in column 5 how the waste must be managed Spent solvents are listed on Form A1, Page 2 F039 constituent(s) and underlying hazardous constituent(s) if applicable must be listed and attached

REF #	3 US EPA HAZARDOUS WASTE CODE (S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE, SIMPLY CHECK NONE		5 HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM FORM A1, PAGE 1
		DESCRIPTION	NONE	
5	D008		☐	A1
6	D009		☐	
7	D010		☐	
8	D011		☐	
9	D018		☐	
10	D019		☐	
11	D021		☐	
12	D022		☐	
13	D026		☐	
14	D027		☐	
15	D028		☐	
16	D029		☐	
17	D030		☐	
18	D032		☐	
19	D033		☐	
20	D034		☐	
21	D035		☐	
22	D036		☐	
23	D037		☐	
24	D038		☐	
25	D039		☐	
26	D040		☐	
27	D043		☐	
28	F001		☐	
29	F002		☐	
30	F003		☐	
31	F004		☐	
32	F005		☐	
33	F006		☐	
34	F007		☐	
35	F009		☐	A1

I by certify that all information submitted in this and all associated documents is complete and accurate to the best of my knowledge and information

Signature [signature] Title Broker Date 8-19-15

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership

UHWM Number: 003378785 JJK

This form is a continuation from form A1 for a waste identified by more than five USEPA waste code/subcategory groups This page by itself IS NOT an acceptable Land Disposal Notification and Certification Form

Continue (from form A1 Page 1) to identify ALL USEPA hazardous wastes that apply to this waste shipment (as defined by 40 CFR 261) For each waste number, identify the corresponding subcategory (write in the description from 40 CFR 268 40, or check NONE if the waste does not have a subcategory) Also identify in column 5 how the waste must be managed Spent solvents are listed on Form A1 Page 2 F039 constituent(s) and underlying hazardous constituent(s) if applicable, must be listed and attached

REF #	3 US EPA HAZARDOUS WASTE CODE (S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE, SIMPLY CHECK NONE		5 HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM FORM A1, PAGE 1
		DESCRIPTION	NONE	
36	U133		X	A I
37			☐	
38			☐	
39			☐	
40			☐	
41			☐	
42			☐	
43			☐	
44			☐	
45			☐	
46			☐	
47			☐	
48			☐	
49			☐	
50			☐	
51			☐	
52			☐	
53			☐	
54			☐	
55			☐	
56			☐	
57			☐	
58			☐	
59			☐	
60			☐	
61			☐	
62			☐	
63			☐	
64			☐	
65			☐	
66			☐	

by certify that all information submitted in this and all associated documents is complete and accurate to the best of my knowledge and information

Signature [signature] Title Broker Date 8-19-15

GUIDE 162

RADIOACTIVE MATERIALS (LOW TO MODERATE LEVEL RADIATION)

ERG2012

UN 3321, WASTE RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II)

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents Packaging durability increases as potential hazard of radioactive content increases
- Undamaged packages are safe Contents of damaged packages may cause higher external radiation exposure, or both external and internal radiation exposure if contents are released
- Low radiation hazard when material is inside container If material is released from package or bulk container, hazard will vary from low to moderate Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on
- Some material may be released from packages during accidents of moderate severity but risks to people are not great
- Released radioactive materials or contaminated objects usually will be visible if packaging fails
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels Placards, markings and shipping papers provide identification
- Some packages may have a "RADIOACTIVE" label and a second hazard label The second hazard is usually greater than the radiation hazard, so follow this GUIDE as well as the response GUIDE for the second hazard class label
- Some radioactive materials cannot be detected by commonly available instruments
- Runoff from control of cargo fire may cause low-level pollution

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Uranium and Thorium metal cuttings may ignite spontaneously if exposed to air (see GUIDE 136)
- Nitrates are oxidizers and may ignite other combustibles (see GUIDE 141)

PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels**
- Radiation Authority must be notified of accident conditions Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions
- Stay upwind
- Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated, delay decontamination and cleanup until instructions are received from Radiation Authority

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet)

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions

RADIOACTIVE MATERIALS (LOW TO MODERATE LEVEL RADIATION)

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques
- Move containers from fire area if you can do it without risk
- Do not move damaged packages, move undamaged packages out of fire zone

Small Fire

- Dry chemical, CO_2, water spray or regular foam

Large Fire

- Water spray, fog (flooding amounts)
- Dike fire-control water for later disposal

SPILL OR LEAK

- Do not touch damaged packages or spilled material
- Cover liquid spill with sand, earth or other non-combustible absorbent material
- Dike to collect large liquid spills
- Cover powder spill with plastic sheet or tarp to minimize spreading

FIRST AID

- Call 911 or emergency medical service
- Medical problems take priority over radiological concerns
- Use first aid treatment according to the nature of the injury
- Do not delay care and transport of a seriously injured person
- Give artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult
- In case of contact with substance, wipe from skin immediately, flush skin or eyes with running water for at least 20 minutes
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities
- Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination

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RSR Paperwork Completion

M13061

Arrived	08/21/2015	**Gross Volume (ft)**	1,173 00
Record	9078-03-0007	**Waste Type**	MIXW T DOE
Haz Manifest	78786		
Vehicle ID	Q54727		

DC	
On-Site	
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

Q54727

FORM 540 — EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code): (970) 201 6240 / WIPP Emergency # 575-885-6883

ORGANIZATION: EnergySolutions

2 IS THIS AN EXCLUSIVE USE SHIPMENT? [x] YES [ ] NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST: 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? [x] YES [ ] NO
If Yes provide Manifest Number ====> EPA MANIFEST NUMBER: 003378786JJK

5 SHIPPER NAME AND FACILITY
Nuclear Waste Partnership LLC on behalf of USDOE
33 Miles South East
Carlsbad NM 88220

Utah Generator Site Access Permit No: 1309008242
SHIPMENT NUMBER: 9078-03-0007
CONTACT: Jeff Casey
TELEPHONE NUMBER (Include Area Code): 575 234-8062

SHIPPER ID NUMBER: 9078 03 0007
[ ] COLLECTOR
[ ] PROCESSOR
[x] GENERATOR TYPE (Specify) G

6 CARRIER Name and Address
Hittman Transport
1560 Bear Creek Road
Oak Ridge TN 37830

CONTACT: Karen Kirby
TELEPHONE (Include Area Code): 1-800 233 0933
EPA I D NUMBER: TNR000034666
SHIPPING DATE: 08/19/2015

SIGNATURE – Authorized carrier acknowledging waste receipt: [signature]
DATE: 8-19-15

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MANIFEST NUMBER (Use this number on all continuation pages): 9078-03 0007

9 CONSIGNEE Name and Facility
EnergySolutions, LLC
Clive Disposal Site
Interstate 80, Exit 49
Clive, UT 84029
M13061 (Treatment Facility)

CONTACT: Transportation Compliance
TELEPHONE (Include Area Code): (435)884-0155

SIGNATURE – Authorized consignee acknowledging waste receipt: [signature]
DATE: 8/21/15

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified described packaged marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation This also certifies that the materials are classified packaged marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations

AUTHORIZED SIGNATURE: [signature]
TITLE: Brokers
DATE: 8-19-15

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name hazard class UN ID number and any additional information)	12 DOT LABEL RADIOACTIVE	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321,Waste, Radioactive material, low specific activity (LSA II), 7, Fissile Excepted, D006, (contains Cadmium) One Seavan containing filters and PPE)	NA	NA	Solid Oxide	Am-241	Co-60	Cs 134	Cs 137	5 2982E+01	(1 4319E+00)	LSA II	5784 LBS, 1173 FT3	924167
				Pu 238	Pu 240	Pu 241	Sr-90					
				Th 228	Th 230	Th 232	U 235					
				U 238	Y-90							

FOR CONSIGNEE USE ONLY

- ____ Record Waste Description Inadequate
- ____ Contamination or Leakage Detected
- ____ Unexpected Exposure Rates Detected
- ____ Labels Markings etc Inadequate
- ____ Container Integrity Inadequate
- ____ Other
- ✓ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material __ is (or) ✓ is not a hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste the shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land disposal restriction notice and/or certification as required by 40 CFR 268 1

B TITLE Upon acceptance at the disposal site by EnergySolutions LLC and all appropriate regulatory authorities title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws rules regulations and EnergySolutions LLC s facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC its officers employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-06)

FORM 541 — EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control Transfer and Disposal of Radioactive Waste

1 MANIFEST TOTALS

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT
1	m3 33 2167 / ft3 1173 0000	kg 423 6553 / ton 0 4670

SPECIAL NUCLEAR MATERIAL (grams)

U 233	U 235	Pu	Total
NP	2 0773E-05 1 Container	2 0891E-04 1 Container	2 2968E-04

ACTIVITY

	ALL NUCLIDES	TRITIUM	C 14	Tc-99	I 129	SOURCE (kg)	
MBq	5 2982E+01	NP	NP	NP	NP	(kg)	5 5439E-08
mCi	1 4319E+00	NP	NP	NP	NP	(tons)	6 1111E-11

2 MANIFEST NUMBER 9078 03-

3 PAGE 1 OF 1 PAGE(S)

4 SHIPPER NAME Nuclear Waste Partnership, LLC on behalf of USDOE

SHIPMENT ID NUMBER 9078-03-0007

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5 CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6 CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7 VOLUME (m3) / (ft3)	8 WASTE AND CONTAINER WEIGHT (kg) / (ton)	9 SURFACE RADIATION LEVEL (mSv/hr) / (mrem/hr)	10 SURFACE CONTAMINATION (MBq/100 cm2) / (dpm/100cm2) ALPHA	BETA GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) / (FT3)	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AS Class A Stable AU Class A Unstable B-Class B C Class C
924187/9078 03	2-E	33 2167	2623 5784	<2 0000E-02	<3 3400E-07	<1 6700E-06	59 AIR FILTRATION FILTERS 39 HIK	33 2167	NA	Oxide/NA	NP	Am 241	3 11576E+03	4 8840E+01	1 3200E+00	AU
		1173 0000	2 8920	<2 0000E+00	<2 0000E+01	<1 0000E+02		1173 0000				Co-60	3 13936E-03	4 9210E 05	1 3300E-06	
												Cs 134	7 27010E-03	1 1396E-04	3 0800E-06	
												Cs-137	7 86021E-03	1 2321E 04	3 3300E 06	
												Pu-238 [1 2177E-08 g]	4 88607E 01	7 6590E-03	2 0700E 04	
												Pu-240 [2 0826E-04 g]	1 13064E+02	1 7723E+00	4 7900E-02	
												Pu 241 [6 3800E-07 g]	1 50595E+02	2 3606E+00	6 3800E-02	
												Sr-90	1 05039E-03	1 6465E 05	4 4500E 07	
												Th 228 [3 3415E 14 kg]	8 46756E-02	1 0138E-03	2 7400E-05	
												Th 230 [1 1191E-11 kg]	5 54699E-04	8 6950E 06	2 3500E 07	
												Th 232 [1 9546E-08 kg]	5 07491E-06	7 9550E 08	2 1500E-09	
												U-235 [2 0773E-05 g]	1 07871E-04	1 6909E 06	4 5700E-08	
												U-238 [3 5882E-08 kg]	2 87971E-05	4 5140E-07	1 2200E-08	
												Y-90	1 05039E-03	1 6465E-05	4 4500E-07	
												Subtotal		5 2982E+01	1 4319E+00	
												Total		5 2982E+01	1 4319E+00	
												SNM [2 2968E-04 g]				
												Source [5 5439E-08 kg]				
Shipment Totals		33 2167	2623 5784									SNM [2 2968E 04 g]		5 2982E+01	1 4319E+00	
		1173 0000	2 8920									Source [5 5439E-08 kg]				

Note 1 Container Description Codes For containers/ waste requiring disposal in approved structural over packs the numerical code must be followed by OP "

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethlene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 6 or additional page

Note 1A Bulk Packaging Description Codes. (Choose one code as may be applicable)

A Gondola
B Intermodal
C End Dump
D Roll-off
E Seaven

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
59 Other Describe in item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

Note3 Solidification and Stabilization Media Codes (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements the numerical code must be followed by S " and the media vendor and brand name must also be identified

In item 13 Code 100=NONE REQUIRED

Solidification

90 Cement
91 Concrete (encapsulation)
92 Bitumen
93 Vinyl Chloride
94 Vinyl Ester Styrene
99 Other Describe in item 13 or additional page
100 None Required

FORM 541 (03-06)

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230) A completed and signed copy of this form must also accompany each waste manifest.

Waste Stream ID 9078-~~02~~ 03 7/18/14 Manifest No. 9078-03-0007

1. Check applicable category below for the waste stream:

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2c	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☒	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☐	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste.				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations.

2. Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid

☒ a. Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1

☒ b The SNM is homogeneously distributed throughout the waste or the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits. (Based on process knowledge or testing).

☒ c. Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e.g., a pallet of drums, a B-25 box) By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc. do not contain other elements. (Based on process knowledge or testing)

☒ d. Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste (Based on process knowledge, physical observations, or testing)

☒ e. Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233 If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule Highly soluble forms of uranium include, but are not limited to uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate (Based on process knowledge or testing)

☐ f. For containers of liquid waste with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing). For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6 0 mCi (6 0E+09 pCi) as shown below:

$$10{,}000\,\frac{pCi}{g} \times 600{,}000\,g = 6\,0X10^{9}\ pCi = 6\,0\ mCi\ Pu\text{-}239$$

ENERGYSOLUTIONS

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).

   ☒ a. Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition.

   ☒ b Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges.

   ☒ c Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution.

   ☒ d Describe the methods to be used to determine the concentrations on the manifests These methods could include direct measurement and the use of scaling factors Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations.

4. Generator's certification of compliance with the SNM exemption: I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing. I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions.

Authorized Signature	Printed Name	Title	Date
	JEFFREY B CASEY	ENVIRONMENTAL SCIENTIST	7-10-14

Please print or type (Form designed for use on elite (12 pitch) typewriter)

Form Approved OMB No 2050 0039

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator ID Number: NM4890139088

2 Page 1 of: 1

3 Emergency Response Phone: 970-201-6240

4 Manifest Tracking Number: 003378786 JJK

5 Generator's Name and Mailing Address: Nuclear Waste Partnership on behalf of USDOE, PO Box 2078 M/S 452-09, Carlsbad, NM 88220

Generator's Site Address (if different than mailing address): Waste Isolation Pilot Plant, 32 Louis Whitlock Rd, Carlsbad, NM 88220

Generator's Phone: 575-234-8062

6 Transporter 1 Company Name: Hittman Transport

U S EPA ID Number: TNR000034686

7 Transporter 2 Company Name:

U S EPA ID Number:

8 Designated Facility Name and Site Address: Energy Solutions LLC, Clive disposal site (treatment facility), Interstate 80 Exit 49 Clive, UT 84029

U S EPA ID Number: UTD982598898

Facility's Phone: 435-884-0155

9a HM	9b U S DOT Description (including Proper Shipping Name Hazard Class ID Number and Packing Group (if any))	10 Containers No	10 Containers Type	11 Total Quantity	12 Unit Wt/Vol	13 Waste Codes
X	1 UN3321, Waste, Radioactive Material, low specific activity (LSA-II), 7, Fissile Excepted D006 (contains Cadmium)	1	CM	2629	K	D006 D009 D010 F001 U133 D043
	2 one type IP-1 Seavan containing bags of hepa filters and PPE, solid, oxides Am-241, Pu-241, Sr-90 5.29851 MBq					
	3					
	4					

14 Special Handling Instructions and Additional Information: ERG # 162, Radiological information 540/541, Exclusive Use Shipment, WIPP Emergency Response # 575-885-6883, Container # 924167, Shipment # 9078-03-0007, WIPP # 15018

M13061

15 **GENERATOR'S/OFFEROR'S CERTIFICATION** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified packaged marked and labeled/placarded and are in all respects in proper condition for transport according to applicable international and national governmental regulations If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent
I certify that the waste minimization statement identified in 40 CFR 262 27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Scott Gowans

Signature:

Month 8 Day 19 Year 15

16 International Shipments ☐ Import to U S ☐ Export from U S Port of entry/exit

Transporter signature (for exports only) Date leaving U S

17 Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Michael T. Campbell

Signature:

Month 8 Day 19 Year 15

Transporter 2 Printed/Typed Name

Signature

Month Day Year

18 Discrepancy

18a Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number

18b Alternate Facility (or Generator)

U S EPA ID Number

Facility's Phone

18c Signature of Alternate Facility (or Generator)

Month Day Year

19 Hazardous Waste Report Management Method Codes (i e codes for hazardous waste treatment disposal and recycling systems)

1 H132 2 3 4

20 Designated Facility Owner or Operator Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Albert Gans

Signature:

Month 8 Day 21 Year 15

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700 22 (Rev 3 05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership

UHWM Number: 003378785 JJK

Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261 For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory Spent solvent standards are listed on the following page If F039, multi-source leachate applies those constituents must be listed and attached by the generator If D001-D043 requires treatment of the characteristic and meet 268 48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached

REF #	3 US EPA HAZARDOUS WASTE CODE (S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE, SIMPLY CHECK NONE		5 HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
		DESCRIPTION	NONE	
1	D004		☐	A1
2	D005		☐	↓
3	D006		☐	↓
4	D007		☐	A1

To identify F039 or D001 D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
If no UHCs are present in the waste upon its initial generation check here ☐
To list additional USEPA waste code(s) and subcategone(s) use the supplemental sheet provided (Form A2) and check here ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A1 A2 B1 B2 B3 B4 C D or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268 7) Please understand that if you enter the letter A2 B1 B2 B3 B4 or D you are making the appropriate certification as provided below (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations)

A1 **RESTRICTED WASTE REQUIRES TREATMENT**
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268 40
☒ For Hazardous Debris This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45

A2 **DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**
I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 or 268 49 to remove the hazardous characteristic This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment

B1 **RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS**
I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based on my inquiry of those individuals immediately responsible for obtaining this information I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR Part 268 40 without impermissible dilution of the prohibited waste I am aware there are significant penalties for submitting a false certification including the possibility of fine and imprisonment.

B2 **CONTAMINATED SOIL TREATED TO PERFORMANCE STANDARDS**
I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in 40 CFR 268 49 without impermissible dilutions of the prohibited wastes I am aware there are significant penalties for submitting a false certification including the possibility of fine and imprisonment

B3 **GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS**
I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based upon my inquiry of those individuals immediately responsible for obtaining this information I believe that the nonwastewater organic constituents have been treated by combustion units as specified in 268 42 Table 1 I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment

B4 **DECHARACTERIZED WASTE CONTAINING UNDERLYING HAZARDOUS CONSTITUENTS TREATED TO PERFORMANCE STANDARDS**
I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 to remove the hazardous characteristic and that underlying hazardous constituents, as defined in § 268 2(i) have been treated on site to meet the § 268 48 Universal Treatment Standards I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment

C **RESTRICTED WASTE SUBJECT TO A VARIANCE**
This waste is subject to a national capacity variance a treatability variance, or a case by-case extension and may be land disposed without further treatment Enter the effective date of prohibition in column 5 above

D **RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT**
I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D I believe that the information I submitted is true accurate and complete I am aware that there are significant penalties for submitting a false certification including the possibility of fine and imprisonment.

E **WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS**
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions

I / certify that all information submitted in this and all associated documents is complete and accurate to the best of my knowledge and information

Signature [signature] Title Broker Date 8-19-15

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV) – REVERSE SIDE

If the waste identified on the first page of this form is described by any of the following USEPA hazardous waste codes F001 F002, F003, F004 F005 and all solvent constituents will not be monitored by the treater then each constituent MUST be identified below by checking the appropriate box and this page must accompany the shipment along with the previous page of this form If the waste code F039 describes this waste then the corresponding list of constituents must be attached If D001 D043 require treatment to 268 48 standards then the underlying hazardous constituent(s) must also be attached

SOLVENT WASTE TREATMENT STANDARDS[2]

F[illegible]rough F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]		F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s).	Treatment Standard[1]	
	Wastewaters	Nonwastewaters		Wastewaters	Nonwastewaters
Acetone (F003)	0 28	160	Methanol (F003)	5 6	0 75 (TCLP)[3]
Benzene (F005)	0 14	10	Methylene chloride (F001 F002)	0 089	30
n Butanol (n butyl alcohol) (F003)	5 6	2 6	Methyl ethyl ketone (F005)	0 28	36
Carbon disulfide (F005)	3 8	4 8 (TCLP)[3]	Methyl isobutyl ketone (F003)	0 14	33
Carbon tetrachloride (F001)	0 057	6 0	Nitrobenzene (F004)	0 068	14
Chlorobenzene (F002)	0 057	6 0	2 Nitropropane (F005)	INCIN or {(WETOX or C HOXD) followed by CARBN}	INCIN
o Cresol (F004)	0 11	5 6	Pyridine (F005)	0 014	16
Cresol (m and p isomers) (F004)	0 77	5 6	Tetrachloroethylene (F001 F002)	0 056	6 0
Cyclohexanone (F003)	0 36	0 75 (TCLP)[3]	Toluene (F005)	0 080	10
o-Dichlorobenzene (F002)	0 088	6 0	1 1 1-Trichloroethane (F001 F002)	0 054	6 0
2 Ethoxyethanol (F005) also called ethylene glycol, monoethyl ether	INCIN or BIODG	INCIN	1,1 2 Trichloroethane (F002)	0 054	6 0
Ethyl acetate (F003)	0 34	33	Trichloroethylene (F001, F002)	0 054	6 0
Ethyl benzene (F003)	0 057	10	Trichloromonofluoromethane (F002)	0 020	30
Ethyl ether (F003)	0 12	160	1,1,2 Trichloro 1 2 2 trifluoroethane (F002)	0 057	30
Is[illegible]ol (Isobutyl Alcohol) (F005)	5 6	170	Xylenes (sum of o- m- and p isomers) (F003)	0 32	30

[1]All spent solvent treatment standards are measured through a total waste analysis (TCA), unless otherwise noted Wastewater units are mg/l, nonwastewater are mg/kg

[2]For contaminated soils using the alternative soil treatment standards the treatment standards for F001 F005 spent solvents must be a 90% reduction of the constituents or less than 10x the standard listed

[3]These solvents require a TCLP standard with units of mg/l

SUBCATEGORY REFERENCE

D001

A Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory that are managed in non CWA/non CWA equivalent/non Class I SDWA systems

B Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory that are managed in CWA/CWA-equivalent or Class I SDWA systems

C High TOC Ignitable characteristic liquids subcategory based on 40 CFR 261 21(a) (1) – Greater than or equal to 10% total organic carbon

D002

D Corrosive characteristic wastes that are managed in non CWA/non CWA-equivalent/non Class I SDWA systems

E Corrosive characteristic wastes that are managed in CWA CWA-equivalent or Class I SWDA systems

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership

UHWM Number: 003378786 JJK

is form is a continuation from form A1 for a waste identified by more than five USEPA waste code/subcategory groups This page by itself IS NOT an acceptable Land sposal Notification and Certification Form

Continue (from form A1, Page 1) to identify ALL USEPA hazardous wastes that apply to this waste shipment (as defined by 40 CFR 261) For each waste number, identify the corresponding subcategory (write in the description from 40 CFR 268 40, or check NONE if the waste does not have a subcategory) Also identify in column 5 how the waste must be managed Spent solvents are listed on Form A1, Page 2 F039 constituent(s) and underlying hazardous constituent(s) if applicable must be listed and attached

REF #	3- US EPA HAZARDOUS WASTE CODE (S)	4 SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE, SIMPLY CHECK NONE		5 HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM FORM A1, PAGE 1
		DESCRIPTION	NONE	
5	D008		☐	A1
6	D009		☐	
7	D010		☐	
8	D011		☐	
9	D018		☐	
10	D019		☐	
11	D021		☐	
12	D022		☐	
13	D026		☐	
14	D027		☐	
15	D028		☐	
16	D029		☐	
17	D030		☐	
18	D032		☐	
19	D033		☐	
20	D034		☐	
21	D035		☐	
22	D036		☐	
23	D037		☐	
24	D038		☐	
25	D039		☐	
26	D040		☐	
27	D043		☐	
28	F001		☐	
29	F002		☐	
30	F003		☐	
31	F004		☐	
32	F005		☐	
33	F006		☐	
34	F007		☐	
35	F009		☐	A1

I hereby certify that all information submitted in this and all associated documents is complete and accurate to the best of my knowledge and information

Signature [signature] Title Broker Date 8-19-15

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership

UHWM Number: 003378786 JJK

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REF #	3 US EPA HAZARDOUS WASTE CODE (S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE, SIMPLY CHECK NONE		5 HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM FORM A1, PAGE 1
		- DESCRIPTION -	NONE	
36	U133		X	A1
37				
38				
39				
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I hereby certify that all information submitted in this and all associated documents is complete and accurate to the best of my knowledge and information

Signature [signature] Title Broker Date 8-19-75

GUIDE 162 RADIOACTIVE MATERIALS (LOW TO MODERATE LEVEL RADIATION)

ERG2012

UN 3321 WASTE RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II)

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents Packaging durability increases as potential hazard of radioactive content increases
- Undamaged packages are safe Contents of damaged packages may cause higher external radiation exposure, or both external and internal radiation exposure if contents are released
- Low radiation hazard when material is inside container If material is released from package or bulk container, hazard will vary from low to moderate Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on
- Some material may be released from packages during accidents of moderate severity but risks to people are not great
- Released radioactive materials or contaminated objects usually will be visible if packaging fails
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels Placards, markings and shipping papers provide identification
- Some packages may have a "RADIOACTIVE" label and a second hazard label The second hazard is usually greater than the radiation hazard, so follow this GUIDE as well as the response GUIDE for the second hazard class label
- Some radioactive materials cannot be detected by commonly available instruments
- Runoff from control of cargo fire may cause low level pollution

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Uranium and Thorium metal cuttings may ignite spontaneously if exposed to air (see GUIDE 136)
- Nitrates are oxidizers and may ignite other combustibles (see GUIDE 141)

PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels**
- Radiation Authority must be notified of accident conditions Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions
- Stay upwind
- Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated, delay decontamination and cleanup until instructions are received from Radiation Authority

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet)

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions

RADIOACTIVE MATERIALS (LOW TO MODERATE LEVEL RADIATION)

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques
- Move containers from fire area if you can do it without risk
- Do not move damaged packages, move undamaged packages out of fire zone

Small Fire

- Dry chemical, CO_2, water spray or regular foam

Large Fire

- Water spray, fog (flooding amounts)
- Dike fire-control water for later disposal

SPILL OR LEAK

- Do not touch damaged packages or spilled material
- Cover liquid spill with sand, earth or other non-combustible absorbent material
- Dike to collect large liquid spills
- Cover powder spill with plastic sheet or tarp to minimize spreading

FIRST AID

- Call 911 or emergency medical service
- Medical problems take priority over radiological concerns
- Use first aid treatment according to the nature of the injury
- Do not delay care and transport of a seriously injured person
- Give artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult
- In case of contact with substance, wipe from skin immediately, flush skin or eyes with running water for at least 20 minutes
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities
- Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 – Carrier/Driver Instructions

8 Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander If the on-scene commander is not present, request those persons who have been identified to remain at the scene

9 Stand by until assistance arrives

10 **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11 DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name A Hittman Trans

Michael T. Campbell 8-19-15

Driver's Name (Printed) Driver's Signature Date

ENERGYSOLUTIONS

CLIVE FACILITY

Scott Gowans: 970-201-6240

JAKE GARDNER 801-836-1555

SHIPMENT NUMBER 9078-03-0007

EXCLUSIVE USE INSTRUCTIONS TO CARRIER

*** This shipment is being made in an EXCLUSIVE USE vehicle, loaded by ENERGYSOLUTIONS, LLC (consignor) and must only be unloaded by the consignee. (Any necessary changes must be approved by Consignor)**

*** DO NOT change out the tractor or change the fifth wheel adjustment on the tractor without prior authorization of the Consignor.**

*** Any removal, addition to, or movement of any material in this shipment by anyone other than the consignee shall be authorized by the consignor (prior).**

*** A closed van shipment shall not be opened, nor shall any shipment be changed or modified in any manner, except by consignee, without prior authorization of Consignor.**

*** In the event of a sudden emergency braking, stop and inspect the integrity of the trailer and ensure load is still intact and no leakage has occurred, and notify Consignor.**

DRIVER INSTRUCTIONS IN THE EVENT OF AN ACCIDENT

*** DO NOT LEAVE AREA UNATTENDED, UNTIL LOCAL AUTHORITIES ARRIVE**
*** TAKE NECESSARY ACTIONS TO SAVE LIFE OR PREVENT THE DESTRUCTION OF PROPERTY**
*** SET UP WARNING SIGNALS TO PREVENT FURTHER ACCIDENTS CARE SHOULD BE TAKEN WHEN USING FLAME PRODUCING SIGNALS TO PREVENT POSSIBLE FIRE OR EXPLOSION**
*** HAVE SOMEONE OBTAIN ASSISTANCE FROM LOCAL AUTHORITIES, SUCH AS FIRE AND RESCUE SQUADS, POLICE, AND STATE AND/OR FEDERAL AUTHORITIES**
*** OBTAIN THE NAMES AND ADDRESSES OF ANY WITNESSES**
*** KEEP PEOPLE AND ONLOOKERS AWAY FROM THE AREA, EXCEPT RESCUE WORKERS/ RESPONDERS**
*** KEEP YOURSELF AND ANY PERSONS PRESENT AWAY FROM SMOKE, MIST, DUST OR OTHER AIRBORNE SUBSTANCES**
*** DO NOT MAKE ANY STATEMENTS, EXCEPT TO AUTHORITIES**
*** WHEN AUTHORITIES / RESCUE WORKERS ARRIVE, GIVE THEM SHIPPING PAPERS**
*** ASK AUTHORITIES TO CALL THE EMERGENCY RESPONSE NUMBER ON THE PAPERWORK FIRST THEN CALL ES CLIVE SHIPPERS (LISTED ABOVE)**

I HAVE READ AND UNDERSTAND THE FOLLOWING INSTRUCTIONS I AGREE THAT THIS SHIPMENT WILL BE MADE IN FULL ACCORDANCE WITH THESE INSTRUCTIONS

****NO MISSOURI PERMITS FOR THIS LOAD, DO NOT ENTER FOR ANY REASON****

Michael T. Campbell 8-19-15

PRINT NAME **SIGNATURE** **DATE**

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RSR Paperwork Completion

XL00270

Arrived	08/24/2015	**Gross Volume (ft)**	389 01
Record	9078-05-0001	**Waste Type**	XL
Haz Manifest			
Vehicle ID	W11508		

DC	
On-Site	X
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

1-11508

FORM 540 — **EnergySolutions, LLC**

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(970) 201 6240/ WIPP Emergency # 575-885-6583

ORGANIZATION
EnergySolutions

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT?
☐ YES
☑ NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ==>: 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? ☐ YES ☑ NO
If "Yes" provide Manifest Number ==>

EPA MANIFEST NUMBER
NA

5 SHIPPER – NAME AND FACILITY
Nuclear Waste Partnership, LLC on behalf of USDOE
33 Miles South East
Carlsbad, NM 88220

SHIPPER ID NUMBER: 9078-05-0001
☐ COLLECTOR
☐ PROCESSOR
☑ GENERATOR TYPE (Specify) G

Utah Generator Site Access Permit No: 1399008242
SHIPMENT NUMBER: 18-023

CONTACT: Jeff Casey
TELEPHONE NUMBER (Include Area Code): 575 234-8062

6 CARRIER – Name and Address
Hittman Transport
1560 Bear Creek Road
Oak Ridge, TN 37830

EPA I D NUMBER: TNR000034666
SHIPPING DATE: 08/20/2015

CONTACT: Karen Kirby
TELEPHONE (Include Area Code): 1-800-233-9933

SIGNATURE – Authorized carrier acknowledging waste receipt: Mark Paul 08
DATE: 08-20-15

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MAN. NUMBER (Use this number on all continuation pages): 9078-05-0001

9 CONSIGNEE Name and Facility
EnergySolutions, LLC
Clive Disposal Site (Treatment Facility)
Interstate 80, Exit 49
Clive, UT 84029
MP XL00270

CONTACT: Transportation Compliance
TELEPHONE (Include Area Code): (435)884-0155

SIGNATURE – Authorized consignee acknowledging waste receipt
DATE: 8/24/15

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified described packaged marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation This also certifies that the materials are classified packaged marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations

AUTHORIZED SIGNATURE
TITLE: Broker
DATE: 8-20-15

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name hazard class UN ID number and any additional information)	12 DOT LABEL "RADIOACTIVE"	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
Non-Regulated Material per USDOT 49CFR, Contains an Exempt quantity of Radioactive Nuclides One Van trailer containing 12 Totes of Non-regulated water	NA	NA	Liquid Oxide	Am-241	Co-60	Cs-137	K-40	3 0062E-01	(8 1250E-03)	NA	43870 LBS, 2910 GAL	W11508
				Pu-238	Pu 240							

FOR CONSIGNEE USE ONLY

- ____ Record Waste Description Inadequate
- ____ Contamination or Leakage Detected
- ____ Unexpected Exposure Rates Detected
- ____ Labels, Markings, etc Inadequate
- ____ Container Integrity Inadequate
- ____ Other
- ✓ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material __ is (or) ✓ is not a hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268 1

B TITLE Upon acceptance at the disposal site by EnergySolutions LLC and all appropriate regulatory authorities title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions, LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws rules regulations and EnergySolutions LLC's facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC, its officers employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-06)

[illegible]PORTATION [illegible] IS FOR THE U[illegible]
[illegible] TOTAL TRANSPORTATION CHARGES PAID TO THE CARRIER(S) B[illegible]
[illegible] TO, AND [illegible] TO BE REIMBURSED [illegible]
[illegible]

[illegible] TO, AND [illegible] TO BE REIMBURSED BY

FORM 541 — EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME		NET WASTE WEIGHT	
1	m3	11 0155	kg	13185 9311
	ft3	389 0104	ton	14 5360

1 MANIFEST TOTALS

SPECIAL NUCLEAR MATERIAL (grams)

U-233	U-235	Pu	Total
NP	NP	8 1882E-10 1 Container	8 1882E-10

ACTIVITY	ALL NUCLIDES	TRITIUM	C 14	Tc-99	I-129	SOURCE (kg)	
MBq	3 0062E-01	NP	NP	NP	NP	(kg)	NA
mCi	8 1250E-03	NP	NP	NP	NP	(tons)	NA

2 MANIFEST NUMBER 9078-05-0

3 PAGE 1 OF 1 PAGE(S)

4 SHIPPER NAME Nuclear Waste Partnership, LLC on behalf of USDOE

SHIPMENT ID NUMBER 9078-05-0001

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5 CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6 CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7 VOLUME (m3) / (ft3)	8 WASTE AND CONTAINER WEIGHT (kg) / (ton)	9 SURFACE RADIATION LEVEL (mSv/hr) / (mrem/hr)	10 SURFACE CONTAMINATION (MBq/100 cm2) / (dpm/100cm2) ALPHA	BETA-GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) / (FT3)	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION A5-Class A Stable AU-Class A Unstable B-Class B C-Class C
W11506/9078	19 OTHER	11 0155	19899 0986	<2 0000E 02	<3 3400E-07	<3 3400E-06	25,59-LLW Water-J	11 0155	NA	Oxide/NP	NP	Am-241	5 36939E-04	2 6196E-04	7 0800E-06	AU
		389 0104	21 9350	<2 0000E+00	<2 0000E+01	<2 0000E+02		389 0104				Co-60	2 07040E-03	1 0101E-03	2 7300E-05	
												Cs-137	1 52436E-03	7 4370E-04	2 0100E-05	
												K-40	6 12019E-01	2 9859E-01	8 0700E-03	
												Pu-238 [1 8824E-11 g]	2 42684E-05	1 1840E-05	3 2000E-07	
												Pu-240 [8 0000E-10 g]	1 39543E-05	6 8080E-06	1 8400E-07	
												Subtotal		3 0062E-01	8 1250E-03	
												Total		3 0062E-01	8 1250E-03	
												SNM [8 1882E-10 g]				
Shipment Totals		11 0155	19899 0986									SNM [8 1882E-10 g]		3 0062E-01	8 1250E-03	
		389 0104	21 9350													

Note 1 Container Description Codes For containers/ waste requiring disposal in approved structural over-packs the numerical code must be followed by "-OP"

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethlene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 5, or additional page

Note 1A Bulk Packaging Description Codes (Choose one code as may be applicable)

A Gondola
B Intermodal
C End-Dump
D Roll-off
E Seaven

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
59 Other Describe in item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

Note3 Solidification and Stabilization Media Codes (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements, the numerical code must be followed by "-S" and the media vendor and brand name must also be identified

in Item 13 Code 100=NONE REQUIRED

Solidification
90 Cement
91 Concrete (encapsulation)
92 Bitumen
93 Vinyl Chloride
94 Vinyl Ester Styrene
99 Other Describe in item 13 or additional page
100 None Required

FORM 541 (03-06)

Rev. 1

FORM 540 — **EnergySolutions LLC**

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(970) 201 6240/ WIPP Emergency # 575 885-6683

ORGANIZATION
EnergySolutions

2 IS THIS AN EXCLUSIVE USE SHIPMENT?
☐ YES
☑ NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ====> 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? ☐ YES ☑ NO
If Yes provide Manifest Number =====>

EPA MANIFEST NUMBER
NA

5 SHIPPER NAME AND FACILITY
Energysolutions LLC on behalf of USDOE
33 Miles South East
Carlsbad NM 88220

Utah Generator Site Access Permit No: 1309068242
SHIPMENT NUMBER: 15-023

CONTACT: Jeff Casey

6 CARRIER Name and Address
Hittman Transport
1560 Bear Creek Road
Oak Ridge TN 37830

CONTACT: Karen Kirby

SIGNATURE – Authorized carrier acknowledging waste receipt

SHIPPER ID NUMBER: 9078 05-0001
☐ COLLECTOR
☐ PROCESSOR
☑ GENERATOR TYPE (Specify) G

TELEPHONE NUMBER (Include Area Code): 575 234-8862

EPA ID NUMBER: TNR000034686

SHIPPING DATE: 08/20/2015

TELEPHONE (Include Area Code): 1 800 233 8933

DATE

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MANIFEST NUMBER (Use the number on all continuation pages)
9078 05 0001

9 CONSIGNEE Name and Facility
EnergySolutions LLC
Clive Disposal Site (Treatment Facility)
Interstate 80, Exit 49
Clive, UT 84029
XL00270

CONTACT: Transportation Compliance
TELEPHONE (Include Area Code): (435)884-0155

SIGNATURE – Authorized consignee acknowledging waste receipt

DATE

10 CERTIFICATION
This is to certify that the herein named materials are properly classified described packaged marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations.

AUTHORIZED SIGNATURE | TITLE | DATE

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name hazard class UN ID number and any additional information)	12 DOT LABEL RADIOACTIVE	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
Non Regulated Material per USDOT 49CFR, Contains an Exempt quantity of Radioactive Nuclides One Van trailer containing 12 Totes of Non regulated water	NA	NA	Liquid Oxide	Am 241 Pu 238	Co-60 Pu 240	Cs 137	K-40	3 0062E-01	(8 1250E-03)	NA	43870 LBS 2910 GAL	W11508

FOR CONSIGNEE USE ONLY

____ Record Waste Description Inadequate
____ Contamination or Leakage Detected
____ Unexpected Exposure Rates Detected
____ Labels Markings etc Inadequate
____ Container Integrity Inadequate
____ Other
____ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material __ is (or) * is not a hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land disposal restriction notice and/or certification as required by 40 CFR 268 1

B TITLE Upon acceptance at the disposal site by EnergySolutions LLC and all appropriate regulatory authorities title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws rules regulations and EnergySolutions LLC's facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC its officers employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-06)

FORM 541 — EnergySolutions LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control Transfer and Disposal of Radioactive Waste

1 MANIFEST TOTALS

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT	SPECIAL NUCLEAR MATERIAL (grams) U 233	U 235	Pu	Total
1	m3 11 0155	kg 13185 9311	NP	NP	8 1882E 10	8 1882E 10
	ft3 389 0104	ton 14 5350			1 Container	

ACTIVITY	ALL NUCLIDES	TRITIUM	C 14	Tc 99	I 129	SOURCE (kg)	
MBq	3 0062E 01	NP	NP	NP	NP	(kg)	NA
mCi	8 1250E 03	NP	NP	NP	NP	(tons)	NA

2 MANIFEST NUMBER 9078 05-0001

3 PAGE 1 OF 1 PAGE(S)

4 SHIPPER NAME Energysolutions, LLC on behalf of USDOE

SHIPMENT ID NUMBER 9078 05 0001

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5 CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6 CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7 VOLUME (m3) (ft3)	8 WASTE AND CONTAINER WEIGHT (kg) (ton)	9 SURFACE RADIATION LEVEL (mSv/hr) (mrem/hr)	10 SURFACE CONTAMINATION (MBq/100 cm2) (dpm/100cm2) ALPHA	BETA GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) (FT3)	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C Class C
W11508/9078	19 OTHER	11 0155	19899 0986	<2 0000E-02	<3 1480E-07	<3 3400E-06	25 99-LLW Water J	11 0155	NA	Oxide/NP	NP	Am-241	5 36939E 04	2 6196E 04	7 0800E 06	AU
												Co 60	2 07840E 03	1 0101E-03	2 7300E 05	
												Cs-137	1 52436E 03	7 4370E 04	2 0100E 05	
												K 40	6 12019E 01	2 9859E 01	8 0700E 03	
		389 0104	21 9350	<2 0000E+00	<2 8006E+01	<2 0000E+02		389 0164				Pu-238 [1 8824E 11 g]	2 42684E 05	1 1840E 05	3 2000E 07	
												Pu-240 [8 0000E 10 g]	1 39543E 05	6 8080E 06	1 8400E 07	
												Subtotal		3 0062E 01	8 1250E 03	
												Total		3 0062E 01	8 1250E 03	
												SNM [8 1882E 10 g]				
Shipment Totals		11 0155	19899 0986									SNM [8 1882E 10 g]		3 0062E 01	8 1250E 03	
		389 0104	21 9350													

Note 1 Container Description Codes For containers/ waste requiring disposal in approved structural over packs the numerical code must be followed by "-OP"

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethlene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 6 or additional page

Note 1A Bulk Packaging Description Codes (Choose one code as may be applicable)

A Gondola
B Intermodal
C End Dump
D Roll off
E Seavan

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
59 Other Describe in item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Dewatered
H Solid
I Combustible
J Non combustible
K Air Filtration Filters
L Asbestos

Note3 Solidification and Stabilization Media Codes (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements the numerical code must be followed by "-S" and the media vendor and brand name must also be identified in Item 13 Code 100=NONE REQUIRED

Solidification

90 Cement
91 Concrete (encapsulation)
92 Bitumen
93 Vinyl Chloride
94 Vinyl Ester Styrene
99 Other Describe in item 13 or additional page
100 None Required

FORM 541 (03 06)

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230) **A completed and signed copy of this form must also accompany each waste manifest.**

Waste Stream ID 9078-05 Manifest No 9078-05-0001

1 **Check applicable category below for the waste stream:**

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2c	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☐	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☐	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☒	Not Applicable - Enriched U-235 is not present in the waste				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations

2. **Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid·**

☒ a Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1

☒ b The SNM is homogeneously distributed throughout the waste <u>or</u> the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits (Based on process knowledge or testing)

☒ c Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e g , a pallet of drums, a B-25 box) By ' pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc do not contain other elements (Based on process knowledge or testing)

☒ d Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium or graphite above one percent of the total weight of the waste (Based on process knowledge, physical observations, or testing)

☒ e Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233 If the waste contains mixtures of U-233 and U-235 the waste meets the sum of the fractions rule Highly soluble forms of uranium include, but are not limited to uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate (Based on process knowledge or testing) ·

☒ f For containers of <u>liquid waste</u> with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing) For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6 0 mCi (6 0E+09 pCi) as shown below

$$10{,}000\frac{pCi}{g} \times 600{,}000\,g = 6\,0X10^{9}\ pCi = 6\,0\ mCi\ Pu\text{-}239$$

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. **Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest)**

   ☒ a Provide a description of how the waste was generated list the physical forms in the waste, and identify the uranium chemical composition

   ☒ b Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges

   ☒ c Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution

   ☒ d Describe the methods to be used to determine the concentrations on the manifests These methods could include direct measurement and the use of scaling factors Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations

4. **Generator's certification of compliance with the SNM exemption:** I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions

Jeff Casey		8/12/2015
Signature Name	Signature Key	Date

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 – Carrier/Driver Instructions

8 Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander If the on-scene commander is not present, request those persons who have been identified to remain at the scene

9 Stand by until assistance arrives

10 **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11. DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name Hittman Transport

Mark Paul	Mark Paul	08-20-18
Driver's Name (Printed)	Driver's Signature	Date

GUIDE 161

RADIOACTIVE MATERIALS (LOW LEVEL RADIATION)

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents Packaging durability increases as potential hazard of radioactive content increases
- Very low levels of contained radioactive materials and low radiation levels outside packages result in low risks to people. Damaged packages may release measurable amounts of radioactive material, but the resulting risks are expected to be low
- Some radioactive materials cannot be detected by commonly available instruments.
- Packages do not have RADIOACTIVE I, II, or III labels. Some may have EMPTY labels or may have the word "Radioactive" in the package marking.

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Many have cardboard outer packaging, content (physically large or small) can be of many different physical forms
- Radioactivity does not change flammability or other properties of materials.

PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions.
- Stay upwind
- Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated, delay decontamination and cleanup until instructions are received from Radiation Authority

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions

RADIOACTIVE MATERIALS (LOW LEVEL RADIATION)

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques.
- Move containers from fire area if you can do it without risk.
- Do not move damaged packages, move undamaged packages out of fire zone

Small Fire

- Dry chemical, CO_2, water spray or regular foam.

Large Fire

- Water spray, fog (flooding amounts).

SPILL OR LEAK

- Do not touch damaged packages or spilled material.
- Cover liquid spill with sand, earth or other non-combustible absorbent material
- Cover powder spill with plastic sheet or tarp to minimize spreading.

FIRST AID

- Call 911 or emergency medical service.
- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the nature of the injury.
- Do not delay care and transport of a seriously injured person.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities
- Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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RSR Paperwork Completion

M13123

Arrived	11/16/2015	***Gross Volume (ft)***	1,280 00
Record	9078-03-0010	***Waste Type***	MIXW T DOE
Haz Manifest	26518		
Vehicle ID	Q54611		

DC	
On-Site	X
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

Office of Management and Budget, Washington, DC 20503 If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor and a person is not required to respond to, the information collection

FORM 540 — **Clive Disposal Site - Treatment Facility**

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

5 SHIPPER - NAME AND FACILITY
EnergySolutions on behalf of Nuclear Waste [illegible]ership, LLC
on behalf of US DOE
WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad
Carlsbad, NM 88220

SHIPMENT ID NUMBER 15-033

COLLECTOR
PROCESSOR
X GENERATOR TYPE (Specify) G

7 FORM 540 AND 540A PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A 2 PAGE(S)
FORM 542 AND 542A 1 PAGE(S)
ADDITIONAL INFORMATION 1 PAGE(S)

8 MANIFE[illegible]ER (Use this [illegible]r on all continuation pages) 9078-03-0010

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(865) 220-1555 / (575) 885-6803

ORGANIZATION
EnergySolutions / Brad Melton / WIPP

UTAH DISPOSAL PERMIT NUMBER 0711004560
SHIPMENT NUMBER 9078-03-0010

CONTACT Jeff Casey
TELEPHONE NUMBER (Include Area Code) (575) 234-8062

9 CONSIGNEE - Name and Facility Address
Clive Disposal Site - Treatment Facility
Operated By EnergySolutions, LLC
Interstate 80, Exit 49
Clive UT 84029 M13123 B.H

CONTACT Shipping and Receiving Dept
TELEPHONE NUMBER (Include Area Code) (435) 884-0155

SIGNATURE - Authorized consignee acknowledging waste receipt [signature]
DATE 11/16/15

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT?
[X] YES
[ ] NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 1

6 CARRIER - Name and Address
Hittman Transport Services
1560 Bear Creek Road
Oak Ridge, TN 37830
Truck # 415B
Trailer # Q54611

EPA I D NUMBER TNR-00-003-4686
SHIPPING DATE 11/13/2015

CONTACT Karen Kirby
TELEPHONE NUMBER (Include Area Code) 800-233-9933

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? [X] YES [ ] NO
If "Yes", provide Manifest Number ==> 009926516 JJK

EPA MANIFEST NUMBER

SIGNATURE - Authorized carrier acknowledging waste receipt Bruce Howe
DATE 11-13-15

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified described packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation This also certifies that the materials are classified packaged marked and labeled and in proper condition for transportation and disposal in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulation

AUTHORIZED SIGNATURE [signature] **TITLE** Senior Broke **DATE** 11/13/15

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)	12 DOT LABEL "RADIOACTIVE"	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES	16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321, WASTE RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II) 7 FISSILE EXCEPTED AIR FILTERS, DAW 1 - 20' SEAVAN EL	NA	NA	SOLID/OXIDES	AM-241 , BA-137M , CO-60 , CS-134 CS-137 , PU-238 , PU-239 , PU-241 , SR-90 TH-228 TH-230 , TH-232 , U-235 , U-238 , Y-90	5 2579E+01	(1 4210E+00)	LSA II	1280 00 ft³	WNKU071425

[illegible] TO THE U S. DEPARTMENT OF ENER[illegible]GY, AND
[illegible] TOTAL T[illegible]TATION CHARGES PAID TO THE CARRIER(S) BY THE
[illegible] ARE ASSIGNABLE TO, AND ARE TO BE REIMBURSED BY
[illegible]

order# 93294
TK# 415B TR# Q54611

FOR CONSIGNEE USE ONLY
- ___ Record Waste Description Inadequate
- ___ Contamination or Leakage Detected
- ___ Unexpected Exposure Rates Detected
- ___ Labels, Markings, etc Inadequate
- ___ Container Integrity Inadequate
- ___ Other
- ✓ No Violations Detected on this Shipment

TERMS AND CONDITIONS

A. HAZARDOUS MATERIALS Generator represents & warrants that Waste Material ___ is (or) ✓ is not hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste, this shipment is also accompanied by a separate and completed hazardous waste manifest, along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268 1

B. TITLE Upon acceptance at the disposal site by EnergySolutions, Inc. and all appropriate regulatory authorities title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolution Inc.

C WASTE MATERIAL Generator represents and warrants that all data set forth in this UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST are true and correct in all respects and in accordance with all applicable governmental laws rules and regulations and Environcare of Utah Inc.'s facility license.

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions, Inc , its officers, employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

Office of Management and Budget, Washington, DC 20503 If a means used to impose an information collection does not display currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

ORM 541

Clive Disposal Site - Treatment Facility

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME		NET WASTE WEIGHT	
1	m³	17 67004	kg	624 35005
	ft³	624 00000	ton	0 57800

MANIFEST TOTALS

SPECIAL NUCLEAR MATERIAL (grams)

U 233	U-235	Pu	TOTAL
NP	2 0976E 05 g (1 pkg)	7 6705E 04 g (1 pkg)	7 6803E 04 g (1 pkg)

ACTIVITY (MBq/mCi) (LLD UNITS IN uCi/cc)

	ALL NUCLIDES	TRITIUM	C-14	Tc-99	I-129
MBq	5 2579E+01	NP	NP	NP	NP
mCi	1 4210E+00	NP	NP	NP	NP

SOURCE

kg	5 5482E-08
ton	6 1159E-11

2 MANIFEST NUMBER

9078 03-0010

3

PAGE 1 OF 2 PAGE(S)

4 SHIPPER NAME

EnergySolutions on behalf of Nuclear Waste Pa

SHIPMENT ID NUMBER

15-033

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

CONTAINER IDENTIFICATION NUMBER	6 CONTAINER DESCRIPTION (See Note 1 & 1A)	7 VOLUME m³ ft³	8 WASTE AND CONTAINER WEIGHT kg ton	9 SURFACE RADIATION LEVEL mSv/hr mrem/hr	10 SURFACE CONTAMINATION MBq/100 cm² dpm/100 cm² ALPHA	BETA-GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER m³ ft³	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION (INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT) RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AS - Class A Stable AU - Class A Unstable B Class B C - Class C
- Innerpack Container																
WNKU071425 (WNKU071425)	2-E	36 24625	2724 26171	0 005	< 0 00000334	< 0 00000334	K	17 67004	100	SOLID OXIDES / NP	NP	AM-241	2 4983E+03	4 8470E+01	1 3100E+00	AU
Origin NM Nuclear Waste Partnership LLC on behalf of US DOE WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad Carlsbad NM 88220		1280 00000	3 00300	0 5	< 20	< 200	H 39 26	624 00000				BA-137M	5 9502E-03	1 1544E 04	3 1200E-08	
												CO 60	2 5174E-03	4 8840E-05	1 3200E-08	
												CS-134	5 8358E-03	1 1322E-04	3 0600E-08	
												CS-137	6 2935E-03	1 2210E 04	3 3000E-08	
												PU-238	3 9096E-01	7 5850E-03 [1 1987E 08 g]	2 0500E-04	
												PU-239	9 0588E+01	1 7575E+00 [7 6643E 04 g]	4 7500E-02	
												PU-241	1 2072E+02	2 3421E+00 [6 1510E-07 g]	6 3300E-02	
												SR 90	8 4294E-04	1 6354E 05	4 4200E-07	
												TH 228	5 1873E-02	1 0064E-03 [3 3220E-14 kg]	2 7200E-05	
												TH 230	4 4436E-04	8 6210E-06 [1 1315E-11 kg]	2 3300E-07	
												TH 232	4 0622E-06	7 8810E-08 [1 9441E 08 kg]	2 1300E-09	
												U 235	8 6392E-05	1 6761E 06 [2 0976E-05 g]	4 5300E 08	
												U 238	2 3076E-05	4 4770E 07 [3 6029E 08 kg]	1 2100E 08	
												Y-90	8 4294E-04	1 6354E 05	4 4200E 07	
												Sub Total	2 7101E+03	5 2579E+01 [7 6803E-04 g] [5 5482E-08 kg]	1 4210E+00	
Package Total													2 7101E+03	5 2579E+01 [7 6803E-04 g]	1 4210E+00	

NOTE 1 Container Description Codes For containers/waste requiring disposal in approved structural overpacks, the numerical code must be followed by "-OP"

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethylene Tank or Liner
8 Fiberglass Tank or Liner
9 Dewaterer
10 Gas Cylinder
11 Bulk, Unpacked Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 9, or additional page

NOTE 1A. Bulk Packaging Description Codes (Choose one code as may be applicable)

A. Gondola
B Intermodal
C End-dump
D Roll-off
E Beaver

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23. Gas
24. Oil
25. Aqueous Liquid
26. Filter Media
27 Mechanical Filter
28. EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Grease or Lubricant
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
99 Other Describe in Item 11, or additional page

NOTE 2A. Specific Waste Descriptions (Choose all applicable codes.)

G Gasolated
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

NOTE 3 Solidification and Stabilization Media Codes (Choose up to three which predominate by volume) For media meeting disposal site structral stability requirements, the numerical code must be followed by "-S" and the media vendor and brand name must also be identified in Item 15 Code 100=None Required

Solidification

90 Cement
91 Concrete (emergentation)
92 Bitumen
93 Vinyl Chloride
94. Vinyl Ester Styrene
99 Other Describe in Item 15 or additional page
100 None Required

Form 541 (10-96)

* - Indicates Cross Contamination

Office of Management and Budget, Washington, DC 20503 If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection

FORM 541A

Clive Disposal Site - Treatment Facility

2 MANIFEST

-3-0010

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

3 PAGE 2 OF 2 PAGE(S)

DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER									
							PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15 RADIOLOGICAL DESCRIPTION				16 WASTE CLASSIFICATION
5 CONTAINER IDENTIFICATION NUMBER	6 CONTAINER DESCRIPTION (See Note 1 & 1A)	7 VOLUME m³ ft³	8 WASTE AND CONTAINER WEIGHT kg ton	9 SURFACE RADIATION LEVEL mSv/hr mrem/hr	10 SURFACE CONTAMINATION MBq/100 cm² dpm/100 cm² ALPHA	BETA GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER m³ ft³	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT (F > 0 1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT RADIONUCLIDES	pCi/gm	MBq	mCi	AS - Class A Stable AU Class A Unstable B Class B C Class C
# Innerpack Container																
														[5 5482E 08 kg]		
Shipment Total		36 24625 1280 00000	2724 26171 3 00300											5 2579E+01 [7 8603E-04 g] [5 5482E-08 kg]	1 4210E+00	

Form 541A (10-96) * - Indicates Cross Contamination

Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

RM 542

Clive Disposal Site - Treatment Facility

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

MANIFEST INDEX AND REGIONAL COMPACT TABULATION

List all original "PROCESSED WASTE" generators (if any) before "COLLECTED WASTE" generators

1 WASTE COLLECTOR/PROCESSOR

NAME: EnergySolutions on behalf of Nuclear Waste Partnership LLC

SHIPPER USE ONLY

SHIPPING DATE: 11/13/2015

2 MANIFEST NUMBER: 9078 03-0010

3 PAGE 1 OF 1 PAGE(S)

5 GENERATOR NAME AND TELEPHONE NUMBER	6 GENERATOR FACILITY ADDRESS	6A. WASTE DESCRIPTION (NOMENCLATURE)	7 PREPROCESSED WASTE (OR MATERIAL) VOLUME m³	ft³	8 MANIFEST NUMBER(S) UNDER WHICH WASTE (OR MATERIAL) RECEIVED AND DATE OF RECEIPT	9 WASTE CODE P=PROCESSED C=COLLECTED	10 ORIGINATING COMPACT REGION OR STATE	11 AS PROCESSED/COLLECTED TOTAL A. SOURCE MATERIAL (kg)	(lb)	B. SNM (g)	C. ACTIVITY MBq	mCi	D. VOLUME m³	ft³	E. WEIGHT (lb)	F. MAXIMUM PACKAGE RADIATION LEVEL (mrem/hr)
Nuclear Waste Partnership, LLC on behalf of US DOE (575) 234-8062	WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad Carlsbad, NM 88220	Air Filtration Filters Compactible Trash EPA or State Hazardous Solid	17 67005	624 00000	Onsite Generation 11/13/2015	C	NM	5 5482E-08	1 2232E-07	7 8803E-04	5 2578E+01	1.4216E+00	17 67004	624.00000	1158 00000	0 5
TOTALS OF ALL PAGES (FORMS 542 AND 542A)								5 5482E-08	1 2232E-07	7 8803E-04	5 2578E+01	1 4216E+00	17 67004	624 00000	1158 00000	N/A

Form 542 (10-96)

ISOTOPIC SUMMARY

For Manifest # 9078-03-0010

Clive Disposal Site - Treatment Facility

Isotope	Total Activity (MBq)	(mCi)	(Ci)	Total SNM (gm)	Total Source (lb)
AM-241	4 8470E+01	1 3100E+00	1 3100E-03	0000E+00	0000E+00
BA-137M	1 1544E-04	3 1200E-06	3 1200E-09	0000E+00	0000E+00
CO-60	4 8840E-05	1 3200E-06	1 3200E-09	0000E+00	0000E+00
CS-134	1 1322E-04	3 0600E-06	3 0600E-09	0000E+00	0000E+00
CS-137	1 2210E-04	3 3000E-06	3 3000E-09	0000E+00	0000E+00
PU-[illegible]	7 5850E-03	2 0500E-04	2 0500E-07	1 1967E-06	0000E+00
P[illegible]	1 7575E+00	4 7500E-02	4 7500E-05	7 6643E-04	0000E+00
PL[illegible]	2 3421E+00	6 3300E-02	6 3300E-05	6 1510E-07	0000E+00
SR-90	1 6354E-05	4 4200E-07	4 4200E-10	0000E+00	0000E+00
TH-228	1 0064E-03	2 7200E-05	2 7200E-08	0000E+00	7 3237E-14
TH-230	8 6210E-06	2 3300E-07	2 3300E-10	0000E+00	2 4944E-11
TH-232	7 8610E-08	2 1300E-09	2 1300E-12	0000E+00	4 2861E-08
U-235	1 6761E-06	4 5300E-08	4 5300E-11	2 0976E-05	0000E+00
U-238	4 4770E-07	1 2100E-08	1 2100E-11	0000E+00	7 9431E-08
Y-90	1 6354E-05	4 4200E-07	4 4200E-10	0000E+00	0000E+00
Totals	5 2579E+01	1 4210E+00	1 4210E-03	7 8803E-04	1 2232E-07

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230) **A completed and signed copy of this form must also accompany each waste manifest.**

Waste Stream ID 9078-03 Manifest No 0010

1. Check applicable category below for the waste stream:

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2c	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☐	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☑	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations

2. Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☑ a Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1

☒ b The SNM is homogeneously distributed throughout the waste <u>or</u> the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits (Based on process knowledge or testing)

☑ c Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e g , a pallet of drums, a B-25 box) By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc do not contain other elements (Based on process knowledge or testing)

☑ d Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste (Based on process knowledge, physical observations, or testing)

☑ e Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233 If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule Highly soluble forms of uranium include, but are not limited to uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate (Based on process knowledge or testing)

N/A ☐ f For containers of <u>liquid waste</u> with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing) For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6 0 mCi (6 0E+09 pCi) as shown below

(No liquid waste)

$$10{,}000\frac{pCi}{g} \times 600{,}000\,g = 6\ 0X10^{9}\ pCi = 6\ 0\ mCi\ Pu\text{-}239$$

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. **Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).**

   ☑ a. Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition

   ☑ b Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges

   ☑ c Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution

   ☑ d Describe the methods to be used to determine the concentrations on the manifests These methods could include direct measurement and the use of scaling factors Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations

4. **Generator's certification of compliance with the SNM exemption:** I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions

Authorized Signature	Printed Name	Title	Date
[signature]	Tim Stout	Senior Broker	11/13/15

Order# 93294 TR#415B TR# 054611

Please print or type (Form designed for use on elite (12 pitch) typewriter)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator ID Number: NM4890139088

2 Page 1 of 1

3 Emergency Response Phone: (865)220-1555

4 Manifest Tracking Number: 009926518 JJK

5 Generator's Name and Mailing Address: Nuclear Waste Partnership, LLC on behalf of US D.O.E. P.O. Box 2078, MS 452-09 Carlsbad, NM 88221

Generator's Phone: (575) 234-8062

Generator's Site Address (if different than mailing address): WIPP Site / JAL Highway 30 miles Southeast of Carlsbad Carlsbad, NM 88220

6 Transporter 1 Company Name: Hittman Transport Services, Inc.

U S EPA ID Number: TNR000034686

7 Transporter 2 Company Name:

U S EPA ID Number:

8 Designated Facility Name and Site Address: Energy Solutions - Clive Disposal Site Treatment Facility Interstate 80, Exit 49 Clive, UT 84029

Facility's Phone: (435) 884-0155

U S EPA ID Number: UTD982598898

9a HM	9b U S DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11 Total Quantity	12 Unit Wt/Vol	13 Waste Codes
X	1 UN3321, waste radioactive material, low specific activity (LSA-II), 7, fissile excepted	1	CM	524	K	D004 D007 D009 D043 F001 U133
	2					
	3					
	4					

14 Special Handling Instructions and Additional Information: ERG#162. Exclusive Use Shipment. Shipment # 9078-03-0010, Solid/Oxidizer. 52,579 MBq.

See attached Uniform Low-Level Radioactive Waste Manifest for D.O.T. shipping papers.

15 **GENERATOR'S/OFFEROR'S CERTIFICATION** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified packaged marked and labeled/placarded and are in all respects in proper condition for transport according to applicable international and national governmental regulations If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent
I certify that the waste minimization statement identified in 40 CFR 262 27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Tim Stout for Nuclear Waste Partnership, LLC

Signature: [signature]

Month 11 Day 13 Year 15

16 International Shipments ☐ Import to U S ☐ Export from U S

Port of entry/exit

Transporter signature (for exports only)

Date leaving U S

17 Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Bruce HALL

Signature: [signature]

Month 11 Day 13 Year 15

Transporter 2 Printed/Typed Name

Signature

Month Day Year

18 Discrepancy

18a Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number

18b Alternate Facility (or Generator)

U S EPA ID Number

Facility's Phone

18c Signature of Alternate Facility (or Generator)

Month Day Year

19 Hazardous Waste Report Management Method Codes (i e , codes for hazardous waste treatment disposal and recycling systems)

1 H132 2 3 4

20 Designated Facility Owner or Operator Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Albert Evans

Signature: [signature]

Month 11 Day 16 Year 15

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926518 JJK
Profile No	9078-03-0010	State Manifest No	N/A

1 Is this waste a non-wastewater or wastewater? (See 40 CFR 268 2) Check ONE Non-wastewater ☒ Wastewater ☐
Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261 For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory Spent solvent standards are listed on the following page If F039, multi-source leachate applies those constituents must be listed and attached by the generator If D001-D043 requires treatment of the characteristic and meet 268 48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached

REF #	3 US EPA HAZARDOUS WASTE CODE (S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE, SIMPLY CHECK NONE		5 HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
		DESCRIPTION	NONE	
WNKU 071425	D007,D009, F001,U133,D043, D004,D005,D006, D008,D010,D011, D018,D019,D021, D022,D026,D027, D028,D029,D030, D032,D033,D034, D035,D036,D037, D038,D039,D040, F002,F003,F004, F005,F006,F007, F009	Radioactive Debris	☐	A
			☐	
			☐	
			☐	
			☐	
			☐	

Identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
UHCs are present in the waste upon its initial generation check here ☒ (SEE NOTE)
To list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268 7) Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations

A RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268 40
☒ For Hazardous Debris "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45 "

B 1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the alternative treatment standards for hazardous debris in 40 CFR Part 268 45 without impermissible dilution of the prohibited waste I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B 3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268 42 Table 1 I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B 4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 or 268 49, to remove the hazardous characteristic This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

C RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension Enter the effective date of prohibition in column 5 above
☐ For hazardous debris "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45 "

D RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D I believe that the information I submitted is true, accurate and complete I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment "

WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information

Signature [signature] Title SCIENTIST III Date 11-13-15

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926518 JJK
Profile No	9078-03-0010	State Manifest No	N/A

Form A1

Page 1

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV) – REVERSE SIDE

If the waste identified on the first page of this form is described by any of the following USEPA hazardous waste codes F001, F002, F003, F004, F005, and all solvent constituents will not be monitored by the treater, then each constituent MUST be identified below by checking the appropriate box, and this page must accompany the shipment, along with the previous page of this form If the waste code F039 describes this waste, then the corresponding list of constituents must be attached If D001-D043 require treatment to 268 48 standards, then the underlying hazardous constituent(s) must also be attached

SOLVENT WASTE TREATMENT STANDARDS[2]

F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]		F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]	
	Wastewaters	Nonwastewaters		Wastewaters	Nonwastewaters
Acetone (F003)	0 28	160	Methanol (F003)	5 6	0 75 (TCLP)[3]
Benzene (F005)	0 14	10	Methylene chloride (F001, F002)	0 089	30
n-Butanol (n-butyl alcohol) (F003)	5 6	2 6	Methyl ethyl ketone (F005)	0 28	36
Carbon disulfide (F005)	3 8	4 8 (TCLP)[3]	Methyl isobutyl ketone (F003)	0 14	33
Carbon tetrachloride (F001)	0 057	6 0	Nitrobenzene (F004)	0 068	14
Chlorobenzene (F002)	0 057	6 0	2-Nitropropane (F005)	INCIN or {(WETOX or C HOXD) followed by CARBN}	INCIN
o-Cresol (F004)	0 11	5 6	Pyridine (F005)	0 014	16
l (m- and p- isomers) (F004)	0 77	5 6	Tetrachloroethylene (F001, F002)	0 056	6 0
Cyclohexanone (F003)	0 36	0 75 (TCLP)[3]	Toluene (F005)	0 080	10
o-Dichlorobenzene (F002)	0 088	6 0	1,1,1-Trichloroethane (F001, F002)	0 054	6 0
2-Ethoxyethanol (F005) also called ethylene glycol, monoethyl ether	INCIN or BIODG	INCIN	1,1,2-Trichloroethane (F002)	0 054	6 0
Ethyl acetate (F003)	0 34	33	Trichloroethylene (F001, F002)	0 054	6 0
Ethyl benzene (F003)	0 057	10	Trichloromonofluoromethane (F002)	0 020	30
Ethyl ether (F003)	0 12	160	1,1,2-Trichloro-1,2,2-trifluoroethane (F002)	0 057	30
Isobutanol (Isobutyl Alcohol) (F005)	5 6	170	Xylenes (sum of o-, m-, and p-isomers) (F003)	0 32	30

[1]All spent solvent treatment standards are measured through a total waste analysis (TCA), unless otherwise noted Wastewater units are mg/l, nonwastewater are mg/kg

[2]For contaminated soils using the alternative soil treatment standards, the treatment standards for F001-F005 spent solvents must be a 90% reduction of the constituents or less than 10x the standard listed

[3]These solvents require a TCLP standard with units of mg/l

SUBCATEGORY REFERENCE

D001

A Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems

B Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in CWA/CWA-equivalent or Class I SDWA systems

C High TOC Ignitable characteristic liquids subcategory based on 40 CFR 261 21(a) (1) – Greater than or equal to 10% total organic carbon

D002

D Corrosive characteristic wastes that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems

E Corrosive characteristic wastes that are managed in CWA, CWA-equivalent, or Class I SWDA systems

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926518 JJK
Profile No	9078-03-0010	State Manifest No	N/A

Form A1

Page 2

If D001-D043 requires treatment to the 40 CRF 268 48 standards, then each underlying hazardous constituent (UHC) present in the waste at the point of generation and at a level above the Universal Treatment Standard (UTS) constituent specific standard must be listed Write the letter (A, B1, B2, B3, or C that corresponds to the letter on the land disposal form A1) beside each constituent present to properly describe how the constituent(s) must be managed under 40 CFR 268 7 If contaminated soil requires treatment to 40 CFR 268 49 standards, then each UHC in the waste at the point of generation and at a level above 10 times the UTS must be listed Write the appropriate letter which corresponds to the letter on the LDR form

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
Acenaphthylene		0 059	3 4	2-Chloro-1,3-butadiene		0 057	0 28[1]
Acenapthene		0 059	3 4	Chlorodibromomethane		0 057	15
Acetone		0 28	160	Chloroethane		0 27	6 0
Acetonitrile		5 6	38[1]	bis(2-Chloroethoxy)methane		0 036	7 2
Acetophenone		0 010	9 7	bis(2-Chloroethyl)ether		0 033	6 0
2-Acetylaminofluorene		0 059	140	Chloroform		0 046	6 0
Acrolein		0 29	NA	bis(2-Chloroisopropyl)ether		0 055	7 2
Acylamide		19[1]	23[1]	p-Chloro-m-cresol		0 018	14
Acrylonitrile		0 24	84	2-Chloroethyl vinyl ether		0 062[1]	NA[1]
Aldicarb sulfone		0 056[1]	0 28[1]	Chloromethane/Methyl chloride		0 19	30
Aldrin		0 021	0 066	2-Chloronaphthalene		0 055	5 6
4-Aminobiphenyl		0 13	NA	2-Chlorophenol		0 044	5 7
Aniline		0 81	14	3-Chloropropylene		0 036	30
Anthracene		0 059	3 4	Chrysene		0 059	3 4
Aramite		0 36	NA	o-Cresol		0 11	5 6
alpha-(BHC)		0 00014	0 066	m-Cresol		0 77	5 6
beta-(BHC)		0 00014	0 066	p-Cresol		0 77	5 6
delta-(BHC)		0 023	0 066	m-Cumenyl methylcarbamate		0 056[1]	1 4[1]
gamma-(BHC)		0 0017	0 066	Cyclohexanone		0 36	0 75 mg/l[1]
Barban		0 056[1]	1 4[1]	o,p'-DDD		0 023	0 087
Bendiocarb		0 056[1]	1 4[1]	p,p'-DDD		0 023	0 087
Benomyl		0 056[1]	1 4[1]	o,p'-DDE		0 031	0 087
Benzene		0 14	10	p,p'-DDE		0 031	0 087
Benz(a)anthracene		0 059	3 4	o,p'-DDT		0 0039	0 087
Benzal chloride		0 055[1]	6 0[1]	p,p'-DDT		0 0039	0 087
Benzo(b)fluoranthene[3]		0 11	6 8	Dibenz(a,h)anthracene		0 055	8 2
Benzo(k)fluoranthene[3]		0 11	6 8	Dibenz(a,e)pyrene		0 061	NA
Benzo (g,h,i)perylene		0 0055	1 8	1,2-Dibromo-3-chloropropane		0 11	15
Benzo(a)pyrene		0 061	3 4	1 2-Dibromomethane/ Ethylene dibromide		0 028	15
Bromodichloromethane		0 35	15	Dibromomethane		0 11	15
Bromomethane/Methyl Bromide		0 11	15	m-Dichlorobenzene		0 036	6 0
4-Bromophenyl phenyl ether		0 055	15	o-Dichlorobenzene		0 088	6 0
n-Butyl alcohol		5 6	2 6	p-Dichlorobenzene		0 090	6 0
Butylate		0 042[1]	1 4[1]	Dichlorodifluoromethane		0 23	7 2
Butyl benzyl phthalate		0 017	28	1,1-Dichloroethane		0 059	6 0
2-sec-Butyl-4,6-dinitrophenol/Dinoseb		0 066	2 5	1,2-Dichloroethane		0 21	6 0
Carbaryl		0 006[1]	0 14[1]	1,1-Dichloroethylene		0 025	6 0
Carbenzadim		0 056[1]	1 4[1]	trans-1,2-Dichloroethylene		0 054	30
Carbofuran		0 006[1]	0 14[1]	2,4-Dichlorophenol		0 044	14
Carbofuran phenol		0 056[1]	1 4[1]	2 6-Dichlorophenol		0 044	14
Carbon disulfide		3 8	4 8 mg/l TCLP[1]	2,4-Dichlorophenoxyacetic acid/2,4-D		0 72	10
Carbon tetrachloride		0 057	6 0	1,2-Dichloropropane		0 85	18
Carbosulfan		0 028[1]	1 4[1]	cis-1,3-Dichloropropylene		0 036	18
Chlordane (alpha and gamma isomers)		0 0033	0 26	trans-1,3-Dichloropropylene		0 036	18
p-Chloroaniline		0 46	16	Dieldrin		0 017	0 13
Chlorobenzene		0 057	6 0	Diethyl phthalate		0 20	28
Chlorobenzilate		0 10	NA	p-Dimethylaminoazobenzene		0 13[1]	NA

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership, LLC
Profile No: 9078-03-0010
Manifest Doc No: 009926518 JJK
State Manifest No: N/A

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) Unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
2,4-Dimethyl phenol		0 036	14	Methylene chloride		0 089	30
Dimethyl phthalate		0 047	28	Methyl ethyl ketone		0 28	36
Di-n-butyl phthalate		0 057	28	Methyl isobutyl ketone		0 14	33
1,4-Dinitrobenzene		0 32	2 3	Methyl methacrylate		0 14	160
4,6-Dinitro-o-cresol		0 28	160	Methyl methansulfonate		0 018	NA
2,4-Dinitrophenol		0 12	160	Methyl parathion		0 014	4 6
2,4-Dinitrotoluene		0 32	140	Metolcarb		0 056[1]	1 4[1]
2,6-Dinitrotoluene		0 55	28	Mexacarbate		0 056[1]	1 4[1]
Di-n-octyl phthalate		0 017	28	Molinate		0 042[1]	1 4[1]
Di-n-propylnitrosamine		0 40	14	Naphthalene		0 059	5 6
1,4-Dioxane		12 0	170	2-Naphthylamine		0 52	NA
Diphenylamine[3]		0 92	13[1]	o-Nitroaniline		0 27[1]	14[1]
Diphenylnitrosamine[3]		0 92	13[1]	p-Nitroaniline		0 028	28
1 2-Diphenylhydrazine		0 087	NA	Nitrobenzene		0 068	14
Disulfoton		0 017	6 2	5-Nitro-o-toluidine		0 32	28
Dithiocarbamates (total)		0 028	28[1]	o-Nitrophenol		0 028[1]	13[1]
Endosulfan I		0 023	0 066	p-Nitrophenol		0 12	29
Endosulfan II		0 029	0 13	N-Nitrosodiethylamine		0 40	28
Endosulfan sulfate		0 029	0 13	N-Nitrosodimethylamine		0 40	2 3[1]
Endrin		0 0028	0 13	N-Nitroso-di-n-butylamine		0 40	17
Endrin aldehyde		0 025	0 13	N-Nitrosomethylethylamine		0 40	2 3
EPTC		0 042[1]	1 4[1]	N-Nitrosomorpholine		0 40	2 3
Ethyl acetate		0 34	33	N-Nitrosopiperidine		0 013	35
Ethyl benzene		0 057	10	N-Nitrosopyrrolidine		0 013	35
Ethyl cyanide/Propanenitrile		0 24	360	Oxamyl		0 056[1]	0 28[1]
Ethyl ether		0 12	160	Parathion		0 014	4 6
Bis(2-Ethylhexyl)phthalate		0 28	28	Total PCBs (sum of all PCB isomers or all Aroclors)		0 10	10
Ethyl methacrylate		0 14	160	Pebulate		0 042[1]	1 4[1]
Ethylene oxide		0 12	NA	Pentachlorobenzene		0 055[1]	10[1]
Famphur		0 017	15	PeCDDs (All Pentachlorodibenzo-p-dioxins)		0 000035	0 001
Fluoranthene		0 068	3 4	PeCDFs(All Pentachlorodibenzofurans)		0 000035	0 001
Fluorene		0 059	3 4	Pentachloroethane		0 055	6 0
Formetanate hydrochloride		0 056[1]	1 4[1]	Pentachloronitrobenzene		0 055	4 8
Heptachlor		0 0012	0 066	Pentachlorophenol		0 089	7 4
Heptachlor epoxide		0 016	0 066	Phenacetin		0 081	16
Hexachlorobenzene		0 055	10	Phenanthrene		0 059	5 6
Hexachlorobutadiene		0 055	5 6	Phenol		0 039	6 2
Hexachlorocyclopentadiene		0 057	2 4	Phorate		0 021	4 6
HxCDDs (All Hexachrorodibenzo-p-dioxins)		0 000063	0 001	Phthalic acid		0 055[1]	28[1]
HxCDFs (All Hexachlorodibenzofurans)		0 000063	0 001	Phthalic anhydride		0 055	28[1]
Hexachloroethane		0 055	30	Physostigmine		0 056[1]	1 4[1]
Hexachloropropylene		0 035	30	Physostigmine salicylate		0 056[1]	1 4[1]
Indeno(1,2,3-c,d)pyrene		0 0055	3 4	Promecarb		0 056[1]	1 4[1]
Iodomethane		0 19	65	Pronamide		0 093	1 5
Isobutyl alcohol		5 6	170	Propham		0 056[1]	1 4[1]
Isodrin		0 021	0 066	Propoxur		0 056[1]	1 4[1]
Isosafrole		0 081	2 6	Prosulfocarb		0 042[1]	1 4[1]
Kepone		0 0011	0 13	Pyrene		0 067	8 2
Methacrylonitrile		0 24	84	Pyridine		0 014	16
Methanol		5 6	0 75 mg/l[1]	Safrole		0 081	22
Methapyrilene		0 081	1 5	Silvex/2 4,5-TP		0 72	7 9
Methiocarb		0 056[1]	1 4[1]	1,2,4,5-Tetrachlorobenzene		0 055	14
Methomyl		0 028[1]	0 14[1]	TCDDs (All Tetrachlorodibenzo-p-dioxins)		0 000063	0 001
Methoxychlor		0 25	0 18	TCDFs (All Tetrachlorodibenzo-furans)		0 000063	0 001

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926518 JJK
Profile No	9078-03-0010	State Manifest No	N/A

3-Methylcholanthrene		0 0055	15	1,1,1,2-Tetrachloroethane		0 057	6 0
4'-Methylene bis(2-chloroaniline)		0 50	30	1,1,2,2-Tetrachloroethane		0 057	6 0

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
Tetrachloroethylene		0 056	6 0	INORGANIC CONSTITUENTS			
2,3,4,6-Tetrachlorophenol		0 030	7 4	Antimony		1 9	2 1 mg/l TCLP
Thiodicarb		0 019[1]	1 4[1]	Antimony		1 9	1 15 mg/l TCLP[4]
Thiophanate-methyl		0 056[1]	1 4[1]	Arsenic		1 4	5 0 mg/l TCLP
Toluene		0 080	10	Barium		1 2	7 6 mg/l TCLP
Toxaphene		0 0095	2 6	Barium		1 2	21 mg/l TCLP[4]
Triallate		0 042[1]	1 4[1]	Beryllium		0 82	0 014 mg/l TCLP
Tribromomethane/Bromoform		0 63	15	Beryllium		0 82	1 22 mg/l TCLP[4]
2,4,6-Tribromophenol		0 035	7 4	Cadmium		0 69	0 19 mg/l TCLP
1,2,4-Trichlorobenzene		0 055	19	Cadmium		0 69	0 11 mg/l TCLP[4]
1,1,1-Trichloroethane		0 054	6 0	Chromium (Total)		2 77	0 86mg/l TCLP
1 1,2-Trichloroethane		0 054	6 0	Chromium (Total)		2 77	0 60 mg/l TCLP[4]
Trichloroethylene		0 054	6 0	Cyanides (Total)		1 2	590
Trichloromonofluoromethane		0 020	30	Cyanides (Amenable)		0 86	30[1]
2,4,5-Trichlorophenol		0 18	7 4	Fluoride		35	NA[4]
2,4,6-Trichlorophenol		0 035	7 4	Lead		0 69	0 37 mg/l
2,4,5-Trichlorophenoxyacetic acid/2,4,5-T		0 72	7 9	Lead		0 69	0 75 mg/l[4] TCLP
1,2,3-Trichloropropane		0 85	30	Mercury (Nonwastewater from Retort)		NA	0 20 mg/l TCLP
1,1,2-Trichloro-1,2,2-trifluoroethane		0 057	30	Mercury (All others)		0 15	0 025 mg/l TCLP
Triethylamine		0 081[1]	1 5[1]	Nickel		3 98	5 0 mg/l TCLP
Tris-(2,3-Dibromopropyl)phosphate		0 11	0 10[1]	Nickel		3 98	11 mg/l TCLP[4]
Vernolate		0 042[1]	6 0[1]	Selenium		0 82	0 16 mg/l TCLP
Vinyl chloride		0 27	6 0	Selenium		0 82	5 7 mg/l TCLP[5]
Xylenes – mixed isomers (sum of o-,m-, and p-xylene concentrations)		0 32	30	Silver		0 43	0 30 mg/l TCLP
Lindane(CAS # 58-89-9)		NA	0 066	Silver		0 43	0 14 mg/l TCLP[4]
				Sulfide		14	NA[2]
				Thallium		1 4	0 078 mg/l TCLP
				Thallium		1 4	0 20 mg/l TCLP[4]
				Vanadium		4 3[2]	1 6 mg/l TCLP[2]
				Zinc		2 61	4 3 mg/l TCLP[2]

[1] These constituents are only applicable as underlying hazardous constituents These constituents are not constituents that require treatment in F039 wastes

[2] Not an underlying hazardous constituent requiring treatment in a D001-D043 waste

[3] These compounds are regulated by the sum of their concentration instead of as individual constituents

[4] These constituents are effective in authorized states or states with no LDR program on 8/24/99 These concentrations are effective in all other states upon adoption by the state

[5] Effective 8/24/98 in unauthorized states or states with no LDR program Selenium at 5 7 mg/l is not an underlying hazardous constituent in D001-D043 waste This becomes effective in authorized states upon adoption by the state

Final En Route Shipment Inspection Checklist

Form CP-SR-PR-204-F12
Rev. 2

Shipment 9078-03-0010 Date Shipped 11/13/15

This checklist is to be completed by the driver when the final shipment inspection is conducted before arrival to the Consignee This checklist shall be returned to Energy Solutions with the transportation invoice

Inspection Date _____ Location _____

Driver's Name _____

Signature _____

		SAT	UNSAT
1	Shoring inspected – Load locks secure, all shoring in place and snug against the package		
2	Packages checked to ensure that		
	Drums/Boxes		
	a Rings and Bolts are not loose		
	b Clips or bolts in boxes have not come off or vibrated loose		
	Liners or Casks		
	a Lid closure is tight and ratchets or closures have not loosened		
	b Tie down mechanisms are tight and all bolts are secure		
3	Placards are still applied to four sides of the trailer and, ~~if applied, the front bumper of the tractor~~ 4 sides of Seaload 11/13/15 11/13/15		
4	No package markings or lables have fallen off – Radioactive – LSA Class A Unstable Hazardous Waste		
5	No visible package damage		
6	Seal # N/A applied to the rear trailer door or package		

This shipment shall not enter the burial site if driver finds any problems during inspection If problems are found, contact one of the following individuals

Fred Schulz, Section Leader, Shipping and Receiving	8 a m – 5 p m	Office	(865) 220-1589
	After normal business hours		(865) 414-2941
Emergency Duty Officer, Energy Solutions	8 a m – 5 p m	Mobile	(865)806-4704
	After normal business hours		

Energy Solutions staff member contacted _____

Date _____ Time _____

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 – Carrier/Driver Instructions

8 Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander If the on-scene commander is not present, request those persons who have been identified to remain at the scene

9 Stand by until assistance arrives

10 **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11 DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name Hittman

Bruce HALL	Bruce Hall	11-13-15
Driver's Name (Printed)	Driver's Signature	Date

Vehicle Condition Checklist

Form CP-SR-PR-204-F7
Rev. 4

Shipment Number: 9078-03-0010
Shipment Date: 11/13/15
Carrier: Hittman Transport Services
Driver's Name: Bruce HALL
Tractor Number: 415B
Trailer Number: Q54611
TRAILER TYPE Van, Open Top Van, Flatbed, Cask, Other: Flatbed

INSPECTION CHECKS TRUCK/TRAILER

		SAT	UNSAT
1	**Front tire tread** At least 4/32-in tread (no recaps), 49 CFR 393 75(b)	✓	
2	**Other tire tread** At least 2/32-in tread, 49CFR 393 75(c)	✓	
3	**Windshield,** • Defects and Unobstructed View, 49CFR 393 60 • Wipers, 49 CFR 393 78	✓	
4	**Headlamps**, Operational & Unobstructed, 49 CFR 393 9, 393 11 & 393 24	✓	
5	**Turn Signals Front and Rear**, Operational & Unobstructed, 49 CFR 393 11, 393 19 & 393 25	✓	
6	**Tail lamps and Stop lamps**, Operational & Unobstructed, 49 CFR 393 9, 393 11 & 393 25	✓	
7	**Other Required Lamps** (Running and Parking Lamps), Operational & Unobstructed, 49 CFR 393 9, 393 11 & 393 25	✓	
8	**Reflectors**, 49 CFR 393 9, 393 11 & 393 26	✓	
9	**Rear Vision Mirrors,** 49 CFR 393 80	✓	
10	**Fire extinguisher/Fuses/Warning Devices,** 49 CFR 393 95	✓	
11	**Horn,** 49 CFR 393 81	✓	
12	**Trailer Frame, Headboard, Decking** Excessive Rust/Damage	✓	
13	**Fifth Wheel/King Pin/Plate Coupling Device,** 49 CFR 393 70	✓	
14	**Truck & Trailer License Plates,** Current	✓	
15.	**Tractor Periodic Inspection,** Current for Duration of Shipment, Hard Copy Report and Sticker Match, 49 CFR 396 17, 396 21, 393 23	✓	
16	**Trailer Periodic Inspection,** Current for Duration of Shipment, Hard Copy Report and Sticker Match, 49 CFR 396 17, 396 21, 393 23	✓	
17	**Load Tiedowns,** Good Condition, ISO locks Operable, No Counterfeit Bolts, Tiedowns rated for load, 49 CFR Subpart I	✓	
18	**Placards and Placard Holders,** Visible, Unobstructed and Durable, 49 CFR 172 516, 172 519	✓	

Inspected by/Date: Bruce Hall 11/13/15
Driver's Signature & Date

Reviewed by/Date: 11/13/15
Energy Solutions Representative Signature & Date

Electronic documents, once printed, are uncontrolled and may become outdated Refer to the intranet or the document control authority for the current revision

Radioactive Material Shipment **Exclusive Use Instructions**	**Form CP-SR-PR-204-F8** **Rev. 5**

Shipment 9078-03-0010 Date 11/13/2015

Carrier: Hittman Transport Services

Consignor EnergySolutions for NWP @ WIPP

Consignee: EnergySolutions
Treatment Facility
Interstate 80, Exit 49
Clive, UT 84029

Attn Shipping and Receiving Department Telephone (435) 884-0155

1 This shipment of radioactive material has been designated by EnergySolutions as an exclusive use shipment as defined in 49 CFR 173 403 You are advised per these instructions to transport the items described on the attached shipping documents under "Exclusive Use Provisions" Title 49 CFR 173 427(a)(6)(iv) requires that specific instructions for maintenance of Exclusive Use shipments be provided by the Shipper to the carrier

2 As an exclusive use shipment, all initial, intermediate, and final loading and unloading are carried out in accordance with the direction of the consignor or consignee

3 Do not move the 5th wheel from the original position at release or change tractors without notifying EnergySolutions at one of the following phone numbers on Page 2 of these instructions

4 If deviations to the below-prescribed routing or arrival date are necessary, contact EnergySolutions

Scheduled Arrival 11/16/2015

Routing Major Highways

5 Placards shall be applied on the transportation conveyance and packaging as follows

- ☒ 4 placards visible from each direction on van, flatbed or cask trailer
- ☒ Placards on opposing sides of package (4 on Bulk Packages >640 ft^3, 2 on Bulk Packages <640)
- ☐ 4 placards visible from each direction on van, flatbed or cask with a 5th on tractor front
- ☐ 3 placards visible from sides and back of van, flatbed or cask and the 4th on tractor front
- ☐ Extra placards have been supplied to driver

6 The carrier is responsible for maintaining the placards as prescribed above Placards shall be replaced if any are lost or damaged

7 Seals have been attached to the following locations N/A

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8 Except as provided in 49 CFR 173 443(d) each transport vehicle used for transporting Class 7 materials as an exclusive use shipment that utilizes the provisions of 49 CFR 173 443(b) must be surveyed with appropriate radiation detection instruments after each use

A vehicle may not be **returned to service** until the radiation dose rate at each accessible surface is 0 005 mSv per hour(0 5 mrem per hour) or less, and there is no significant removable (non-fixed) radioactive surface contamination as specified in 49 CFR 173 443 (a)

9 Contact EnergySolutions concerning any of these requirements as follows

During regular business hours, 8 00 am – 5 00 pm, Monday – Friday, call the EnergySolutions administrative offices at (865) 481-0222

At other times, call the persons listed below in the order listed

Brad Melton, Manager Shipping and Receiving, Certified Broker	Office	(865) 220-1563
	Mobile	(865) 805-1377
Fred Schulz, Director of Logistics Certified Broker	Office	(865) 220-1589
	Home	(865) 376-3588
	Mobile	(865) 414-2941

10 In case of an emergency or accident, contact the Emergency Duty Officer by calling EnergySolutions at **(865) 220-1555**, and follow General Emergency Response Instructions provided with paperwork The drivers North American Emergency Response Guidebook may also be used as a reference

11 This shipment contains a Reportable Quantity of the following

- ☐ Radionuclides
- ☐ Asbestos
- ☐ Other _____
- ☒ None

I have read and understand the requirements of these exclusive use instructions

Driver Signature: Bruce Hall Date 11/13/2015

Electronic documents, once printed, are uncontrolled and may become outdated Refer to the intraweb or the document control authority for the current revision

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RSR Paperwork Completion

M13124

Arrived	11/16/2015	***Gross Volume (ft)***	1,280 00
Record	9078-03-0008	***Waste Type***	MIXW T DOE
Haz Manifest	26516		
Vehicle ID	F480039		

DC	
On-Site	
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

Office of Management and Budget, Washington, DC 20503 If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FORM 540

Clive Disposal Site - Treatment Facility

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(865) 220-1555 / (575) 885-6883

ORGANIZATION
EnergySolutions / Brad Melton / WIPP

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT?
[X] YES
[ ] NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? [X] YES [ ] NO
If "Yes", provide Manifest Number ==>

EPA MANIFEST NUMBER
009926516 JJK

5 SHIPPER - NAME AND FACILITY
EnergySolutions on behalf of Nuclear Waste Partnership, LLC
on behalf of US DOE
WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad
Carlsbad, NM 88220

UTAH DISPOSAL PERMIT NUMBER 0711004560
SHIPMENT NUMBER 9078-03-0008

CONTACT Jeff Casey

6 CARRIER - Name and Address
Hittman Transport Services
1560 Bear Creek Road
Oak Ridge, TN 37830
Truck # 184A
Trailer # F480039

CONTACT Karen Kirby

SIGNATURE - Authorized carrier acknowledging waste receipt Douglas E Werne
DATE 11/13/15

SHIPMENT ID NUMBER 15-036
COLLECTOR
PROCESSOR
X GENERATOR TYPE (Specify) G

TELEPHONE NUMBER (Include Area Code) (575) 234-8062

EPA I D NUMBER TNR-00-003-4686
SHIPPING DATE 11/13/2015

TELEPHONE NUMBER (Include Area Code) 800-233-8933

7 FORM 540 AND 540A PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A 2 PAGE(S)
FORM 542 AND 542A 1 PAGE(S)
ADDITIONAL INFORMATION 1 PAGE(S)

8 MANIFEST NUMBER (Use this number on all continuation pages) 9078-03-0008

9 CONSIGNEE - Name and Facility Address
Clive Disposal Site - Treatment Facility DEW
Operated By EnergySolutions, LLC
Interstate 80, Exit 49
Clive, UT 84029 M13124

CONTACT Shipping and Receiving Dept

TELEPHONE NUMBER (Include Area Code) (435) 884-0155

SIGNATURE - Authorized consignee acknowledging waste receipt

DATE 11/16/15

10 CERTIFICATION

This is to certify that the herein-named materials are properly classified described, packaged marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged marked and labeled and in proper condition for transportation and disposal in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulation.

AUTHORIZED SIGNATURE **TITLE** Senior Broker **DATE** 11/13/15

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class, UN ID number, and any additional information)	12 DOT LABEL "RADIOACTIVE"	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES	16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321, WASTE RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), 7, FISSILE EXCEPTED AIR FILTERS, DAW 1 - 20' SEAVAN EL	NA	NA	SOLID/OXIDES	AM-241 , BA-137M , CO-60 CS-134 CS-137 , PU-238 , PU-239 , PU-241 , SR-90 , TH-228 , TH-230 , TH-232 , U-235 , U-238 , Y-90	3 1263E+01	(8 4495E-01)	LSA II	1280 00 ft³	WNKU071769

FOR CONSIGNEE USE ONLY

___ Record Waste Description Inadequate
___ Contamination or Leakage Detected
___ Unexpected Exposure Rates Detected
___ Labels, Markings, etc Inadequate
___ Container Integrity Inadequate
___ Other
✓ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A. HAZARDOUS MATERIALS Generator represents & warrants that Waste Material ✓ is (or) ___ is not hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste, this shipment is also accompanied by a separate and completed hazardous waste manifest, along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268.1

B TITLE Upon acceptance at the disposal site by EnergySolutions Inc. and all appropriate regulatory authorities, title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions, Inc.

C WASTE MATERIAL Generator represents and warrants that all data set forth in this UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST are true and correct in all respects and in accordance with all applicable governmental laws rules and regulations and Environmental Utah, Inc a facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions Inc. its officers employees, and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

Office of Management and Budget, Washington, DC 20503 If a means need to impose an information collection that does not display

ORM 541

Clive Disposal Site - Treatment Facility

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT
1	m³ 14 72503 ft³ 520 00000	kg 437 71437 ton 0 48250

MANIFEST TOTALS

SPECIAL NUCLEAR MATERIAL (grams)			
U-233	U 235	Pu	TOTAL
NP	1 2458E-06 g (1 pkg)	4 5539E-04 g (1 pkg)	4 6784E 04 g (1 pkg)

ACTIVITY (MBq/mCi) (LLD UNITS IN uCi/cc)						SOURCE	
	ALL NUCLIDES	TRITIUM	C-14	Tc-99	I 129		
MBq	3 1263E+01	NP	NP	NP	NP	kg	3 3097E 08
mCi	8 4495E-01	NP	NP	NP	NP	ton	3 8483E 11

2 MANIFEST NUMBER
9078-03-0008

3
PAGE 1 OF 2 PAGE(S)

4 SHIPPER NAME
EnergySolutions on behalf of Nuclear Waste Pa

SHIPMENT ID NUMBER
15-036

DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER									18 WASTE CLASSIFICATION
							PHYSICAL DESCRIPTION			14 CHEMICAL DESCRIPTION		15 RADIOLOGICAL DESCRIPTION				
CONTAINER IDENTIFICATION NUMBER	6 CONTAINER DESCRIPTION (See Note 1 & 1A)	7 VOLUME m³ ft³	8 WASTE AND CONTAINER WEIGHT kg ton	9 SURFACE RADIATION LEVEL mSv/hr mrem/hr	10 SURFACE CONTAMINATION MBq/100 cm² dpm/100 cm² ALPHA	BETA-GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER m³ ft³	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				A Stable AU Class A Unstable B Class B C Class C
1 - Innerpack Container												RADIONUCLIDES	pCi/gm	MBq	mCi	
WNKU071759 (WNKU071759) Origin NM Nuclear Waste Partnership LLC on behalf of US DOE WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad Carlsbad NM 88220	2-E	36 24625	2637 62602	0 005	< 0 000000334	< 0 00000334	K H 39 28	14 72503	100	SOLID OXIDES / NP	NP	AM-241	1 7797E+03	2 8823E+01	7 7900E 01	AU
		1280 00000	2 90750	0 5	< 20	< 200		520 00000				BA-137M	4 2265E 03	6 8450E-05	1 8500E 06	
												CO-60	1 7888E-03	2 8971E-05	7 8300E 07	
												CS 134	4 1579E-03	6 7340E 05	1 8200E-06	
												CS-137	4 4778E-03	7 2520E 05	1 9600E 06	
												PU-238	2 7872E-01	4 5140E 03 [7 1337E-09 g]	1 2200E-04	
												PU-239	6 4425E+01	1 0434E+00 [4 5501E-04 g]	2 8200E-02	
												PU 241	8 5900E+01	1 3912E+00 [3 8537E-07 g]	3 7900E 02	
												SR-90	6 0065E-04	9 7310E-06	2 8300E 07	
												TH 228	3 6782E-02	5 9570E-04 [1 9663E-14 kg]	1 6100E-05	
												TH-230	3 1527E-04	5 1080E-06 [6 7013E-12 kg]	1 3800E-07	
												TH 232	2 9014E-06	4 6990E-08 [1 1582E-08 kg]	1 2700E-09	
												U-235	6 1455E-05	9 9530E-07 [1 2458E-05 g]	2 6900E-08	
												U-238	1 8495E 05	2 6714E-07 [2 1498E-08 kg]	7 2200E-09	
												Y 90	6 0065E 04	9 7310E-06	2 6300E-07	
												Sub Total	1 9303E+03	3 1263E+01 [4 6784E-04 g] [3 3097E-08 kg]	8 4495E-01	
Package Total													1 9303E+03	3 1263E+01 [4 6784E 04 g]	8 4495E-01	

NOTE 1 Container Description Codes For containers/waste requiring disposal in approved structural overpacks the numerical code must be followed by "-OP"

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethylene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk, Unpacked Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 6 or additional page

NOTE 1A. Bulk Packaging Description Codes (Choose one code as may be applicable)

A Dendels
B Intermodal
C End-dump
D Roll-off
E Seacan

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22. Soil
23. Gas
24. Oil
25. Aqueous Liquid
26. Filter Media
27 Mechanical Filter
28. EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34. Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Combustible Trash
40 Noncombustible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43. Activated Material
99 Other Describe in Item 11, or additional page

NOTE 2A. Specific Waste Descriptions (Choose all applicable codes)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

NOTE 3 Solidification and Stabilization Media Codes. (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements, the numerical code must be followed by "-S" and the media vendor and brand name must also be identified in Item 13 Code 100=None Required

Solidification

30 Cement
31 Concrete (encapsulation)
32 Bitumen
33 Vinyl Chloride
34. Vinyl Ester Styrene
99 Other Describe in Item 13 or additional page
100 None Required

Form 541 (10-96) * - Indicates Cross Contamination

Office of Management and Budget, Washington, DC 20503 If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection

FORM 541A

Clive Disposal Site - Treatment Facility

2 MANIFEST
.3-0008

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PAGE 2 OF 2 PAGE(S)

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER									
							PHYSICAL DESCRIPTION			14 CHEMICAL DESCRIPTION		15 RADIOLOGICAL DESCRIPTION				16 WASTE CLASSIFICATION
5 CONTAINER IDENTIFICATION NUMBER	6 CONTAINER DESCRIPTION (See Note 1 & 1A)	7 VOLUME m³ ft³	8 WASTE AND CONTAINER WEIGHT kg ton	9 SURFACE RADIATION LEVEL mSv/hr mrem/hr	10 SURFACE CONTAMINATION MBq/100 cm² dpm/100 cm² ALPHA	BETA GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER m³ ft³	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT (IF > 0.1%)	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				AS Class A Stable All Class A Unstable B Class B C - Class C
* Innerpack Container												RADIONUCLIDES	pCi/gm	MBq	mCi	
														[3 3097E-06 kg]		
Shipment Total		36 24625 1280 00000	2637 82602 2 90750											3 1263E+01 [4 6784E-04 g] [3 3097E-06 kg]	8 4495E-01	

Form 541A (10-96)

* - Indicates Cross Contamination

Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond.

DRM 542

Clive Disposal Site - Treatment Facility

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

MANIFEST INDEX AND REGIONAL COMPACT TABULATION

List all original "PROCESSED WASTE" generators (if any) before "COLLECTED WASTE" generators

1 WASTE COLLECTOR/PROCESSOR

NAME: EnergySolutions on behalf of Nuclear Waste Partnership LLC

SHIPPER USE ONLY

SHIPPING DATE: 11/13/2015

2 MANIFEST NUMBER: 9078-03-0008

3 PAGE 1 OF 1 PAGE(S)

5 GENERATOR NAME AND TELEPHONE NUMBER	6 GENERATOR FACILITY ADDRESS	6A WASTE DESCRIPTION (NOMENCLATURE)	7 PREPROCESSED WASTE (OR MATERIAL) VOLUME m³	ft³	8 MANIFEST NUMBER(S) UNDER WHICH WASTE (OR MATERIAL) RECEIVED AND DATE OF RECEIPT	9 WASTE CODE P=PROCESSED C=COLLECTED	10 ORIGINATING COMPACT REGION OR STATE	11 AS PROCESSED/COLLECTED TOTAL A. SOURCE MATERIAL (kg)	(lb)	B. SNM (g)	C. ACTIVITY MBq	mCi	D. VOLUME m³	ft³	E. WEIGHT (lb)	F. MAXIMUM PACKAGE RADIATION LEVEL (mrem/hr)
Nuclear Waste Partnership, LLC on behalf of US DOE (575) 234-8062	WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad Carlsbad, NM 88220	Air Filtration Filters Compactible Trash EPA or State Hazardous Solid	14.72584	520.00000	Onsite Generation 11/13/2015	C	NM	3.3067E-06	7.2966E-06	4.6784E-04	3.1263E+01	8.4485E-01	14.72583	520.00000	965.00000	0.5
TOTALS OF ALL PAGES (FORMS 542 AND 542A)								3.3067E-06	7.2966E-06	4.6784E-04	3.1263E+01	8.4485E-01	14.72583	520.00000	965.00000	N/A

Form 542 (10-96)

ISOTOPIC SUMMARY

For Manifest # 9078-03-0008

Clive Disposal Site - Treatment Facility

Isotope	Total Activity (MBq)	(mCi)	(Ci)	Total SNM (gm)	Total Source (lb)
AM-241	2 8823E+01	7 7900E-01	7 7900E-04	0000E+00	0000E+00
BA-137M	6 8450E-05	1 8500E-06	1 8500E-09	0000E+00	0000E+00
CO-60	2 8971E-05	7 8300E-07	7 8300E-10	0000E+00	0000E+00
CS-134	6 7340E-05	1 8200E-06	1 8200E-09	0000E+00	0000E+00
CS-137	7 2520E-05	1 9600E-06	1 9600E-09	0000E+00	0000E+00
PU[illegible]	4 5140E-03	1 2200E-04	1 2200E-07	7 1337E-09	0000E+00
F	1 0434E+00	2 8200E-02	2 8200E-05	4 5501E-04	0000E+00
P[illegible]	1 3912E+00	3 7600E-02	3 7600E-05	3 6537E-07	0000E+00
SR-90	9 7310E-06	2 6300E-07	2 6300E-10	0000E+00	0000E+00
TH-228	5 9570E-04	1 6100E-05	1 6100E-08	0000E+00	4 3350E-14
TH-230	5 1060E-06	1 3800E-07	1 3800E-10	0000E+00	1 4774E-11
TH-232	4 6990E-08	1 2700E-09	1 2700E-12	0000E+00	2 5558E-08
U-235	9 9530E-07	2 6900E-08	2 6900E-11	1 2456E-05	0000E+00
U-238	2 6714E-07	7 2200E-09	7 2200E-12	0000E+00	4 7396E-08
Y-90	9 7310E-06	2 6300E-07	2 6300E-10	0000E+00	0000E+00
Totals	3 1263E+01	8 4495E-01	8 4495E-04	4 6784E-04	7 2966E-08

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230) **A completed and signed copy of this form must also accompany each waste manifest.**

Waste Stream ID 9078-03 Manifest No 0008

1. Check applicable category below for the waste stream:

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2c	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☐	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☑	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations

2. Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☑ a Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1

☒ b The SNM is homogeneously distributed throughout the waste <u>or</u> the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits (Based on process knowledge or testing)

☑ c Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e g , a pallet of drums, a B-25 box) By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc do not contain other elements (Based on process knowledge or testing)

☑ d Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste (Based on process knowledge, physical observations, or testing)

☑ e Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233 If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule Highly soluble forms of uranium include, but are not limited to uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate (Based on process knowledge or testing)

N/A ☐ f For containers of <u>liquid waste</u> with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing) For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6 0 mCi (6 0E+09 pCi) as shown below

(No liquid waste.)

$$10{,}000\,\frac{pCi}{g} \times 600{,}000\,g = 6\ 0X10^{9}\ pCi = 6\ 0\ mCi\ Pu\text{-}239$$

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. **Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).**

   ☑ a Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition

   ☑ b Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges

   ☑ c Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution

   ☑ d Describe the methods to be used to determine the concentrations on the manifests These methods could include direct measurement and the use of scaling factors Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations

4. **Generator's certification of compliance with the SNM exemption:** I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions

Authorized Signature	Printed Name	Title	Date
[signature]	Tim Stout	Senior Broker	11/13/15

Please print or type (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator ID Number: NM4890139088

2 Page 1 of: 1

3. Emergency Response Phone: (865)220-1555

4 Manifest Tracking Number: 009926516 JJK

5 Generator's Name and Mailing Address: Nuclear Waste Partnership, LLC on behalf of US D.O.E. P.O. Box 2078, MS 452-09 Carlsbad, NM 88221

Generator's Site Address (if different than mailing address): WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad Carlsbad, NM 88220

Generator's Phone: (575)234-8062

6 Transporter 1 Company Name: Hittman Transport Services, Inc.

U S EPA ID Number: TNR000034686

7 Transporter 2 Company Name:

U S EPA ID Number:

8 Designated Facility Name and Site Address: Energy Solutions - Clive Disposal Site Treatment Facility Interstate 80, Exit 49 Clive, UT 84029

U S EPA ID Number: UTD982598898

Facility's Phone: (436)884-0165

9a HM	9b U S DOT Description (including Proper Shipping Name Hazard Class, ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11 Total Quantity	12 Unit Wt/Vol	13 Waste Codes
X	1 UN3321, Waste radioactive material, low specific activity (LSA-II), 7, fissile excepted	1	CM	438	K	D004 D007 D009 D043 F001 U133
	2					
	3					
	4					

14 Special Handling Instructions and Additional Information

ERG# 162. Exclusive Use Shipment. Shipment# 9078-03-000B MB124
Solid/Oxides. 31.263 MBq.
See attached Uniform Low-Level Radioactive Waste Manifest for D.O.T. shipping papers

15 **GENERATOR'S/OFFEROR'S CERTIFICATION** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent
I certify that the waste minimization statement identified in 40 CFR 262 27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Tim Stout for Nuclear Waste Partnership, LLC

Signature: [signature]

Month 11 Day 13 Year 15

16 International Shipments ☐ Import to U S ☐ Export from U S

Port of entry/exit

Transporter signature (for exports only)

Date leaving U S

17 Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Douglas E. Werner

Signature: Douglas E Werner

Month 11 Day 13 Year 15

Transporter 2 Printed/Typed Name

Signature

Month Day Year

18 Discrepancy

18a Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number

18b Alternate Facility (or Generator)

U S EPA ID Number

Facility's Phone

18c Signature of Alternate Facility (or Generator)

Month Day Year

19 Hazardous Waste Report Management Method Codes (i e , codes for hazardous waste treatment disposal, and recycling systems)

1 H132 2 3 4

20 Designated Facility Owner or Operator Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Thomas Wright

Signature: [signature]

Month 11 Day 16 Year 15

GENERATOR

INTL

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926516 JJK
Profile No	9078-03-0008	State Manifest No	N/A

1 Is this waste a non-wastewater or wastewater? (See 40 CFR 268 2) Check ONE Non-wastewater ☒ Wastewater ☐
Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261 For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory Spent solvent standards are listed on the following page If F039, multi-source leachate applies those constituents must be listed and attached by the generator If D001-D043 requires treatment of the characteristic and meet 268 48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached

REF #	3 US EPA HAZARDOUS WASTE CODE (S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE, SIMPLY CHECK NONE DESCRIPTION	NONE	5 HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
WNKU 071759	D007,D009, F001,U133,D043, D004,D005,D006, D008,D010,D011, D018,D019,D021, D022,D026,D027, D028,D029,D030, D032,D033,D034, D035,D036,D037, D038,D039,D040, F002,F003,F004, F005,F006,F007, F009	Radioactive Debris	☐	A
			☐	
			☐	
			☐	
			☐	
			☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
UHCs are present in the waste upon its initial generation check here ☒ (SEE NOTE)
List additional USEPA waste code(s) and subcategone(s), use the supplemental sheet provided (Form A2) and check here ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268 7) Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations

A **RESTRICTED WASTE REQUIRES TREATMENT**
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268 40
☒ For Hazardous Debris "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45"

B 1 **RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the alternative treatment standards for hazardous debris in 40 CFR Part 268 45 without impermissible dilution of the prohibited waste I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment"

B 3 **GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268 42 Table 1 I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B 4 **DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 or 268 49, to remove the hazardous characteristic This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment"

C **RESTRICTED WASTE SUBJECT TO A VARIANCE**
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension Enter the effective date of prohibition in column 5 above
☐ For hazardous debris "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45"

D **RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT**
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D I believe that the information I submitted is true, accurate and complete I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment"

WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information

Signature [signature] Title SCIENTIST III Date 11-13-15

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926516 JJK
Profile No	9078-03-0008	State Manifest No	N/A

Form A1

Page 1

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV) – REVERSE SIDE

If the waste identified on the first page of this form is described by any of the following USEPA hazardous waste codes F001, F002, F003, F004, F005, and all solvent constituents will not be monitored by the treater, then each constituent MUST be identified below by checking the appropriate box, and this page must accompany the shipment, along with the previous page of this form If the waste code F039 describes this waste, then the corresponding list of constituents must be attached If D001-D043 require treatment to 268 48 standards, then the underlying hazardous constituent(s) must also be attached

SOLVENT WASTE TREATMENT STANDARDS[2]					
F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]		F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]	
	Wastewaters	Nonwastewaters		Wastewaters	Nonwastewaters
Acetone (F003)	0 28	160	Methanol (F003)	5 6	0 75 (TCLP)[3]
Benzene (F005)	0 14	10	Methylene chloride (F001, F002)	0 089	30
n-Butanol (n-butyl alcohol) (F003)	5 6	2 6	Methyl ethyl ketone (F005)	0 28	36
Carbon disulfide (F005)	3 8	4 8 (TCLP)[3]	Methyl isobutyl ketone (F003)	0 14	33
Carbon tetrachloride (F001)	0 057	6 0	Nitrobenzene (F004)	0 068	14
Chlorobenzene (F002)	0 057	6 0	2-Nitropropane (F005)	INCIN or {(WETOX or C HOXD) followed by CARBN}	INCIN
o-Cresol (F004)	0 11	5 6	Pyridine (F005)	0 014	16
C[illegible]ol (m- and p- isomers) (F004)	0 77	5 6	Tetrachloroethylene (F001, F002)	0 056	6 0
Cyclohexanone (F003)	0 36	0 75 (TCLP)[3]	Toluene (F005)	0 080	10
o-Dichlorobenzene (F002)	0 088	6 0	1,1,1-Trichloroethane (F001, F002)	0 054	6 0
2-Ethoxyethanol (F005) also called ethylene glycol, monoethyl ether	INCIN or BIODG	INCIN	1,1,2-Trichloroethane (F002)	0 054	6 0
Ethyl acetate (F003)	0 34	33	Trichloroethylene (F001, F002)	0 054	6 0
Ethyl benzene (F003)	0 057	10	Trichloromonofluoromethane (F002)	0 020	30
Ethyl ether (F003)	0 12	160	1,1,2-Trichloro-1,2,2-trifluoroethane (F002)	0 057	30
Isobutanol (Isobutyl Alcohol) (F005)	5 6	170	Xylenes (sum of o-, m-, and p-isomers) (F003)	0 32	30

[1]All spent solvent treatment standards are measured through a total waste analysis (TCA), unless otherwise noted Wastewater units are mg/l, nonwastewater are mg/kg

[2]For contaminated soils using the alternative soil treatment standards, the treatment standards for F001-F005 spent solvents must be a 90% reduction of the constituents or less than 10x the standard listed

[3]These solvents require a TCLP standard with units of mg/l

SUBCATEGORY REFERENCE

D001

A Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems

B Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in CWA/CWA-equivalent or Class I SDWA systems

C High TOC Ignitable characteristic liquids subcategory based on 40 CFR 261 21(a) (1) – Greater than or equal to 10% total organic carbon

D002

D Corrosive characteristic wastes that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems

E Corrosive characteristic wastes that are managed in CWA, CWA-equivalent, or Class I SWDA systems

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926516 JJK
Profile No	9078-03-0008	State Manifest No	N/A

Form A1

Page 2

If D001-D043 requires treatment to the 40 CRF 268 48 standards, then each underlying hazardous constituent (UHC) present in the waste at the point of generation and at a level above the Universal Treatment Standard (UTS) constituent specific standard must be listed Write the letter (A, B1, B2, B3, or C that corresponds to the letter on the land disposal form A1) beside each constituent present to properly describe how the constituent(s) must be managed under 40 CFR 268 7 If contaminated soil requires treatment to 40 CFR 268 49 standards, then each UHC in the waste at the point of generation and at a level above 10 times the UTS must be listed Write the appropriate letter which corresponds to the letter on the LDR form

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
Acenaphthylene		0 059	3 4	2-Chloro-1,3-butadiene		0 057	0 28[1]
Acenapthene		0 059	3 4	Chlorodibromomethane		0 057	15
Acetone		0 28	160	Chloroethane		0 27	6 0
Acetonitrile		5 6	38[1]	bis(2-Chloroethoxy)methane		0 036	7 2
Acetophenone		0 010	9 7	bis(2-Chloroethyl)ether		0 033	6 0
2-Acetylaminofluorene		0 059	140	Chloroform		0 046	6 0
Acrolein		0 29	NA	bis(2-Chloroisopropyl)ether		0 055	7 2
Acylamide		19[1]	23[1]	p-Chloro-m-cresol		0 018	14
Acrylonitrile		0 24	84	2-Chloroethyl vinyl ether		0 062[1]	NA[1]
Aldicarb sulfone		0 056[1]	0 28[1]	Chloromethane/Methyl chloride		0 19	30
Aldrin		0 021	0 066	2-Chloronaphthalene		0 055	5 6
4-Aminobiphenyl		0 13	NA	2-Chlorophenol		0 044	5 7
Aniline		0 81	14	3-Chloropropylene		0 036	30
Anthracene		0 059	3 4	Chrysene		0 059	3 4
Aramite		0 36	NA	o-Cresol		0 11	5 6
alpha-(BHC)		0 00014	0 066	m-Cresol		0 77	5 6
beta-(BHC)		0 00014	0 066	p-Cresol		0 77	5 6
delta-(BHC)		0 023	0 066	m-Cumenyl methylcarbamate		0 056[1]	1 4[1]
gamma-(BHC)		0 0017	0 066	Cyclohexanone		0 36	0 75 mg/l[1]
Barban		0 056[1]	1 4[1]	o,p'-DDD		0 023	0 087
Bendiocarb		0 056[1]	1 4[1]	p,p'-DDD		0 023	0 087
Benomyl		0 056[1]	1 4[1]	o,p'-DDE		0 031	0 087
Benzene		0 14	10	p,p'-DDE		0 031	0 087
Benz(a)anthracene		0 059	3 4	o,p'-DDT		0 0039	0 087
Benzal chloride		0 055[1]	6 0[1]	p,p'-DDT		0 0039	0 087
Benzo(b)fluoranthene[3]		0 11	6 8	Dibenz(a,h)anthracene		0 055	8 2
Benzo(k)fluoranthene[3]		0 11	6 8	Dibenz(a,e)pyrene		0 061	NA
Benzo (g,h,i)perylene		0 0055	1 8	1,2-Dibromo-3-chloropropane		0 11	15
Benzo(a)pyrene		0 061	3 4	1,2-Dibromomethane/ Ethylene dibromide		0 028	15
Bromodichloromethane		0 35	15	Dibromomethane		0 11	15
Bromomethane/Methyl Bromide		0 11	15	m-Dichlorobenzene		0 036	6 0
4-Bromophenyl phenyl ether		0 055	15	o-Dichlorobenzene		0 088	6 0
n-Butyl alcohol		5 6	2 6	p-Dichlorobenzene		0 090	6 0
Butylate		0 042[1]	1 4[1]	Dichlorodifluoromethane		0 23	7 2
Butyl benzyl phthalate		0 017	28	1,1-Dichloroethane		0 059	6 0
2-sec-Butyl-4,6-dinitrophenol/Dinoseb		0 066	2 5	1,2-Dichloroethane		0 21	6 0
Carbaryl		0 006[1]	0 14[1]	1,1-Dichloroethylene		0 025	6 0
Carbenzadim		0 056[1]	1 4[1]	trans-1,2-Dichloroethylene		0 054	30
Carbofuran		0 006[1]	0 14[1]	2,4-Dichlorophenol		0 044	14
Carbofuran phenol		0 056[1]	1 4[1]	2 6-Dichlorophenol		0 044	14
Carbon disulfide		3 8	4 8 mg/l TCLP[1]	2,4-Dichlorophenoxyacetic acid/2,4-D		0 72	10
Carbon tetrachloride		0 057	6 0	1,2-Dichloropropane		0 85	18
Carbosulfan		0 028[1]	1 4[1]	cis-1,3-Dichloropropylene		0 036	18
Chlordane (alpha and gamma isomers)		0 0033	0 26	trans-1,3-Dichloropropylene		0 036	18
p-Chloroaniline		0 46	16	Dieldrin		0 017	0 13
Chlorobenzene		0 057	6 0	Diethyl phthalate		0 20	28
Chlorobenzilate		0 10	NA	p-Dimethylaminoazobenzene		0 13[1]	NA

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership, LLC Manifest Doc No: 009926516 JJK
Profile No: 9078-03-0008 State Manifest No: N/A

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) Unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
2 4-Dimethyl phenol		0 036	14	Methylene chloride		0 089	30
Dimethyl phthalate		0 047	28	Methyl ethyl ketone		0 28	36
Di-n-butyl phthalate		0 057	28	Methyl isobutyl ketone		0 14	33
1,4-Dinitrobenzene		0 32	2 3	Methyl methacrylate		0 14	160
4,6-Dinitro-o-cresol		0 28	160	Methyl methansulfonate		0 018	NA
2,4-Dinitrophenol		0 12	160	Methyl parathion		0 014	4 6
2,4-Dinitrotoluene		0 32	140	Metolcarb		0 056[1]	1 4[1]
2,6-Dinitrotoluene		0 55	28	Mexacarbate		0 056[1]	1 4[1]
Di-n-octyl phthalate		0 017	28	Molinate		0 042[1]	1 4[1]
Di-n-propylnitrosamine		0 40	14	Naphthalene		0 059	5 6
1,4-Dioxane		12 0	170	2-Naphthylamine		0 52	NA
Diphenylamine[3]		0 92	13[1]	o-Nitroaniline		0 27[1]	14[1]
Diphenylnitrosamine[3]		0 92	13[1]	p-Nitroaniline		0 028	28
1,2-Diphenylhydrazine		0 087	NA	Nitrobenzene		0 068	14
Disulfoton		0 017	6 2	5-Nitro-o-toluidine		0 32	28
Dithiocarbamates (total)		0 028	28[1]	o-Nitrophenol		0 028[1]	13[1]
Endosulfan I		0 023	0 066	p-Nitrophenol		0 12	29
Endosulfan II		0 029	0 13	N-Nitrosodiethylamine		0 40	28
Endosulfan sulfate		0 029	0 13	N-Nitrosodimethylamine		0 40	2 3[1]
Endrin		0 0028	0 13	N-Nitroso-di-n-butylamine		0 40	17
Endrin aldehyde		0 025	0 13	N-Nitrosomethylethylamine		0 40	2 3
EPTC		0 042[1]	1 4[1]	N-Nitrosomorpholine		0 40	2 3
Ethyl acetate		0 34	33	N-Nitrosopipendine		0 013	35
Ethyl benzene		0 057	10	N-Nitrosopyrrolidine		0 013	35
hyl cyanide/Propanenitrile		0 24	360	Oxamyl		0 056[1]	0 28[1]
ethyl ether		0 12	160	Parathion		0 014	4 6
Bis(2-Ethylhexyl)phthalate		0 28	28	Total PCBs (sum of all PCB isomers or all Aroclors)		0 10	10
Ethyl methacrylate		0 14	160	Pebulate		0 042[1]	1 4[1]
Ethylene oxide		0 12	NA	Pentachlorobenzene		0 055[1]	10[1]
Famphur		0 017	15	PeCDDs (All Pentachlorodibenzo-p-dioxins)		0 000035	0 001
Fluoranthene		0 068	3 4	PeCDFs(All Pentachlorodibenzofurans)		0 000035	0 001
Fluorene		0 059	3 4	Pentachloroethane		0 055	6 0
Formetanate hydrochloride		0 056[1]	1 4[1]	Pentachloronitrobenzene		0 055	4 8
Heptachlor		0 0012	0 066	Pentachlorophenol		0 089	7 4
Heptachlor epoxide		0 016	0 066	Phenacetin		0 081	16
Hexachlorobenzene		0 055	10	Phenanthrene		0 059	5 6
Hexachlorobutadiene		0 055	5 6	Phenol		0 039	6 2
Hexachlorocyclopentadiene		0 057	2 4	Phorate		0 021	4 6
HxCDDs (All Hexachrorodibenzo-p-dioxins)		0 000063	0 001	Phthalic acid		0 055[1]	28[1]
HxCDFs (All Hexachlorodibenzofurans)		0 000063	0 001	Phthalic anhydride		0 055	28[1]
Hexachloroethane		0 055	30	Physostigmine		0 056[1]	1 4[1]
Hexachloropropylene		0 035	30	Physostigmine salicylate		0 056[1]	1 4[1]
Indeno(1,2,3-c,d)pyrene		0 0055	3 4	Promecarb		0 056[1]	1 4[1]
Iodomethane		0 19	65	Pronamide		0 093	1 5
Isobutyl alcohol		5 6	170	Propham		0 056[1]	1 4[1]
Isodrin		0 021	0 066	Propoxur		0 056[1]	1 4[1]
Isosafrole		0 081	2 6	Prosulfocarb		0 042[1]	1 4[1]
Kepone		0 0011	0 13	Pyrene		0 067	8 2
Methacrylonitrile		0 24	84	Pyridine		0 014	16
ethanol		5 6	0 75 mg/l[1]	Safrole		0 081	22
Methapyrilene		0 081	1 5	Silvex/2,4,5-TP		0 72	7 9
Methiocarb		0 056[1]	1 4[1]	1,2,4,5-Tetrachlorobenzene		0 055	14
Methomyl		0 028[1]	0 14[1]	TCDDs (All Tetrachlorodibenzo-p-dioxins)		0 000063	0 001
Methoxychlor		0 25	0 18	TCDFs (All Tetrachlorodibenzo-furans)		0 000063	0 001

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926516 JJK
Profile No	9078-03-0008	State Manifest No	N/A

3-Methylcholanthrene		0 0055	15	1,1,1,2-Tetrachloroethane		0 057	6 0
4'-Methylene bis(2-chloroaniline)		0 50	30	1,1,2,2-Tetrachloroethane		0 057	6 0

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
Tetrachloroethylene		0 056	6 0	INORGANIC CONSTITUENTS			
2,3,4,6-Tetrachlorophenol		0 030	7 4	Antimony		1 9	2 1 mg/l TCLP
Thiodicarb		0 019[1]	1 4[1]	Antimony		1 9	1 15 mg/l TCLP[4]
Thiophanate-methyl		0 056[1]	1 4[1]	Arsenic		1 4	5 0 mg/l TCLP
Toluene		0 080	10	Barium		1 2	7 6 mg/l TCLP
Toxaphene		0 0095	2 6	Barium		1 2	21 mg/l TCLP[4]
Triallate		0 042[1]	1 4[1]	Beryllium		0 82	0 014 mg/l TCLP
Tribromomethane/Bromoform		0 63	15	Beryllium		0 82	1 22 mg/l TCLP[4]
2,4,6-Tribromophenol		0 035	7 4	Cadmium		0 69	0 19 mg/l TCLP
1,2,4-Trichlorobenzene		0 055	19	Cadmium		0 69	0 11 mg/l TCLP[4]
1,1,1-Trichloroethane		0 054	6 0	Chromium (Total)		2 77	0 86mg/l TCLP
1,1,2-Trichloroethane		0 054	6 0	Chromium (Total)		2 77	0 60 mg/l TCLP[4]
Trichloroethylene		0 054	6 0	Cyanides (Total)		1 2	590
Trichloromonofluoromethane		0 020	30	Cyanides (Amenable)		0 86	30[1]
2,4,5-Trichlorophenol		0 18	7 4	Fluoride		35	NA[4]
2,4,6-Trichlorophenol		0 035	7 4	Lead		0 69	0 37 mg/l
2,4,5-Trichlorophenoxyacetic acid/2,4,5-T		0 72	7 9	Lead		0 69	0 75 mg/l[4] TCLP
1,2,3-Trichloropropane		0 85	30	Mercury (Nonwastewater from Retort)		NA	0 20 mg/l TCLP
1,1,2-Trichloro-1,2,2-trifluoroethane		0 057	30	Mercury (All others)		0 15	0 025 mg/l TCLP
Triethylamine		0 081[1]	1 5[1]	Nickel		3 98	5 0 mg/l TCLP
Tris-(2,3-Dibromopropyl)phosphate		0 11	0 10[1]	Nickel		3 98	11 mg/l TCLP[4]
[illegible]molate		0 042[1]	6 0[1]	Selenium		0 82	0 16 mg/l TCLP
[illegible]nyl chloride		0 27	6 0	Selenium		0 82	5 7 mg/l TCLP[5]
Xylenes – mixed isomers (sum of o-,m-, and p-xylene concentrations)		0 32	30	Silver		0 43	0 30 mg/l TCLP
Lindane(CAS # 58-89-9)		NA	0 066	Silver		0 43	0 14 mg/l TCLP[4]
				Sulfide		14	NA[2]
				Thallium		1 4	0 078 mg/l TCLP
				Thallium		1 4	0 20 mg/l TCLP[4]
				Vanadium		4 3[2]	1 6 mg/l TCLP[2]
				Zinc		2 61	4 3 mg/l TCLP[2]

[1] These constituents are only applicable as underlying hazardous constituents These constituents are not constituents that require treatment in F039 wastes

[2] Not an underlying hazardous constituent requiring treatment in a D001-D043 waste

[3] These compounds are regulated by the sum of their concentration instead of as individual constituents

[4] These constituents are effective in authorized states or states with no LDR program on 8/24/99 These concentrations are effective in all other states upon adoption by the state

[5] Effective 8/24/98 in unauthorized states or states with no LDR program Selenium at 5 7 mg/l is not an underlying hazardous constituent in D001-D043 waste This becomes effective in authorized states upon adoption by the state

Final En Route Shipment Inspection Checklist

Form CP-SR-PR-204-F12
Rev. 2

Shipment 9078-03-0008 Date Shipped 11/13/15

This checklist is to be completed by the driver when the final shipment inspection is conducted before arrival to the Consignee This checklist shall be returned to Energy Solutions with the transportation invoice

Inspection Date 11/16/15 Location Exit 49 - I 80

Driver's Name Doug Werner

Signature Douglas E Werner

		SAT	UNSAT
1	Shoring inspected – Load locks secure, all shoring in place and snug against the package	N/A	
2	Packages checked to ensure that		
	Drums/Boxes		
	a Rings and Bolts are not loose	N/A	
	b Clips or bolts in boxes have not come off or vibrated loose	N/A	
	Liners or Casks		
	a Lid closure is tight and ratchets or closures have not loosened	N/A	
	b Tie down mechanisms are tight and all bolts are secure	N/A	
3	Placards are still applied to four sides of the trailer and, ~~if applied, the front bumper of the tractor~~ 4 sides of Scoland	✓	
4	No package markings or lables have fallen off – Radioactive - LSA, Class A Unstable, Hazardous Waste	✓	
5	No visible package damage	✓	
6	Seal # N/A applied to the rear trailer door or package	N/A	

This shipment shall not enter the burial site if driver finds any problems during inspection If problems are found, contact one of the following individuals

Fred Schulz, Section Leader, Shipping and Receiving	8 a m – 5 p m	Office	(865) 220-1589
	After normal business hours		(865) 414-2941
Emergency Duty Officer, Energy Solutions	8 a m – 5 p m	Mobile	(865)806-4704
	After normal business hours		

Energy Solutions staff member contacted

Date Time

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 – Carrier/Driver Instructions

8 Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander If the on-scene commander is not present, request those persons who have been identified to remain at the scene

9 Stand by until assistance arrives

10 **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11 DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name ~~Douglas E. Werner~~ 11/13/15 DEW Hilltop Transport

DOUGLAS E. WERNER 11/13/15

Driver's Name (Printed) Driver's Signature Date

Vehicle Condition Checklist

Form CP-SR-PR-204-F7
Rev. 4

Shipment Number	9078-03-0008	Shipment Date	11/13/15
Carrier	Hittman Transport Services	Driver's Name	Douglas E. Werner
Tractor Number	184A	Trailer Number	F480033

TRAILER TYPE Van, Open Top Van, Flatbed, Cask, Other — Flatbed

INSPECTION CHECKS TRUCK/TRAILER

		SAT	UNSAT
1	**Front tire tread** At least 4/32-in tread (no recaps), 49 CFR 393 75(b)	✓	
2	**Other tire tread** At least 2/32-in tread, 49CFR 393 75(c)	✓	
3	**Windshield,** • Defects and Unobstructed View, 49CFR 393 60 • Wipers, 49 CFR 393 78	✓	
4	**Headlamps**, Operational & Unobstructed, 49 CFR 393 9, 393 11 & 393.24	✓	
5	**Turn Signals Front and Rear**, Operational & Unobstructed, 49 CFR 393 11, 393 19 & 393 25	✓	
6	**Tail lamps and Stop lamps**, Operational & Unobstructed, 49 CFR 393 9, 393 11 & 393 25	✓	
7	**Other Required Lamps** (Running and Parking Lamps), Operational & Unobstructed, 49 CFR 393 9, 393 11 & 393 25	✓	
8	**Reflectors**, 49 CFR 393 9, 393 11 & 393 26	✓	
9	**Rear Vision Mirrors,** 49 CFR 393 80	✓	
10	**Fire extinguisher/Fuses/Warning Devices,** 49 CFR 393 95	✓	
11	**Horn,** 49 CFR 393 81	✓	
12	**Trailer Frame, Headboard, Decking** Excessive Rust/Damage	✓	
13	**Fifth Wheel/King Pin/Plate Coupling Device,** 49 CFR 393 70	✓	
14	**Truck & Trailer License Plates,** Current	✓	
15	**Tractor Periodic Inspection,** Current for Duration of Shipment, Hard Copy Report and Sticker Match, 49 CFR 396 17, 396 21, 393 23	✓	
16	**Trailer Periodic Inspection,** Current for Duration of Shipment, Hard Copy Report and Sticker Match, 49 CFR 396 17, 396.21, 393.23	✓	
17	**Load Tiedowns,** Good Condition, ISO locks Operable, No Counterfeit Bolts, Tiedowns rated for load, 49 CFR Subpart I	✓	
18	**Placards and Placard Holders,** Visible, Unobstructed and Durable, 49 CFR 172 516, 172 519	✓	

Inspected by/Date: Douglas E Werner 11/13/15
Driver's Signature & Date

Reviewed by/Date: [signature] 11/13/15
Energy Solutions Representative Signature & Date

Electronic documents, once printed, are uncontrolled and may become outdated Refer to the intranet or the document control authority for the current revision

Radioactive Material Shipment Exclusive Use Instructions	**Form CP-SR-PR-204-F8 Rev. 5**

Shipment 9078-03-0008 Date 11/13/2015

Carrier: Hittman Transport Services

Consignor EnergySolutions for NWP @ WIPP

Consignee: EnergySolutions
Treatment Facility
Interstate 80, Exit 49
Clive, UT 84029

Attn Shipping and Receiving Department Telephone (435) 884-0155

1 This shipment of radioactive material has been designated by EnergySolutions as an exclusive use shipment as defined in 49 CFR 173 403 You are advised per these instructions to transport the items described on the attached shipping documents under "Exclusive Use Provisions" Title 49 CFR 173 427(a)(6)(iv) requires that specific instructions for maintenance of Exclusive Use shipments be provided by the Shipper to the carrier

2 As an exclusive use shipment, all initial, intermediate, and final loading and unloading are carried out in accordance with the direction of the consignor or consignee

3 Do not move the 5th wheel from the original position at release or change tractors without notifying EnergySolutions at one of the following phone numbers on Page 2 of these instructions

4 If deviations to the below-prescribed routing or arrival date are necessary, contact EnergySolutions

Scheduled Arrival 11/16/2015

Routing Major Highways

5 Placards shall be applied on the transportation conveyance and packaging as follows

- ☒ 4 placards visible from each direction on van, flatbed or cask trailer
- ☒ Placards on opposing sides of package (4 on Bulk Packages >640 ft^3, 2 on Bulk Packages <640)
- ☐ 4 placards visible from each direction on van, flatbed or cask with a 5th on tractor front
- ☐ 3 placards visible from sides and back of van, flatbed or cask and the 4th on tractor front
- ☐ Extra placards have been supplied to driver

6 The carrier is responsible for maintaining the placards as prescribed above Placards shall be replaced if any are lost or damaged

7 Seals have been attached to the following locations N/A

Electronic documents, once printed, are uncontrolled and may become outdated Refer to the intraweb or the document control authority for the current revision

8 Except as provided in 49 CFR 173 443(d) each transport vehicle used for transporting Class 7 materials as an exclusive use shipment that utilizes the provisions of 49 CFR 173 443(b) must be surveyed with appropriate radiation detection instruments after each use

A vehicle may not be **returned to service** until the radiation dose rate at each accessible surface is 0 005 mSv per hour(0 5 mrem per hour) or less, and there is no significant removable (non-fixed) radioactive surface contamination as specified in 49 CFR 173 443 (a)

9 Contact EnergySolutions concerning any of these requirements as follows

During regular business hours, 8 00 am – 5 00 pm, Monday – Friday, call the EnergySolutions administrative offices at (865) 481-0222

At other times, call the persons listed below in the order listed

Brad Melton, Manager Shipping and Receiving, Certified Broker	Office	(865) 220-1563
	Mobile	(865) 805-1377
Fred Schulz, Director of Logistics Certified Broker	Office	(865) 220-1589
	Home	(865) 376-3588
	Mobile	(865) 414-2941

10 In case of an emergency or accident, contact the Emergency Duty Officer by calling EnergySolutions at **(865) 220-1555**, and follow General Emergency Response Instructions provided with paperwork The drivers North American Emergency Response Guidebook may also be used as a reference

11 This shipment contains a Reportable Quantity of the following

- ☐ Radionuclides
- ☐ Asbestos
- ☐ Other _____
- ☒ None

I have read and understand the requirements of these exclusive use instructions

Driver Signature Douglas E Werner II Date 11/13/2015

Electronic documents, once printed, are uncontrolled and may become outdated Refer to the intraweb or the document control authority for the current revision

UN3321, Radioactive material, low specific activity(LSA-II), 7

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers emergency response personnel and the public during transportation accidents Packaging durability increases as potential hazard of radioactive content increases
- Undamaged packages are safe Contents of damaged packages may cause higher external radiation exposure, or both external and internal radiation exposure if contents are released
- Low radiation hazard when material is inside container If material is released from package or bulk container, hazard will vary from low to moderate Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on
- Some material may be released from packages during accidents of moderate severity but risks to people are not great
- Released radioactive materials or contaminated objects usually will be visible if packaging fails
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels Placards, markings and shipping papers provide identification
- Some packages may have a "RADIOACTIVE" label and a second hazard label The second hazard is usually greater than the radiation hazard, so follow this GUIDE as well as the response GUIDE for the second hazard class label
- Some radioactive materials cannot be detected by commonly available instruments
- Runoff from control of cargo fire may cause low-level pollution

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Uranium and Thorium metal cuttings may ignite spontaneously if exposed to air (see GUIDE 136)
- Nitrates are oxidizers and may ignite other combustibles (see GUIDE 141)

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels**
- Radiation Authority must be notified of accident conditions Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions • Stay upwind • Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated, delay decontamination and cleanup until instructions are received from Radiation Authority

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet)

Fire

- When a large quantity of this material is involved in a major fire consider an initial evacuation distance of 300 meters (1000 feet) in all directions

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques
- Move containers from fire area if you can do it without risk
- Do not move damaged packages, move undamaged packages out of fire zone

Small Fire

- Dry chemical, CO_2, water spray or regular foam

Large Fire

- Water spray, fog (flooding amounts)
- Dike fire-control water for later disposal

SPILL OR LEAK

- Do not touch damaged packages or spilled material
- Cover liquid spill with sand, earth or other non-combustible absorbent material
- Dike to collect large liquid spills
- Cover powder spill with plastic sheet or tarp to minimize spreading

FIRST AID

- Call 911 or emergency medical service
- Medical problems take priority over radiological concerns
- Use first aid treatment according to the nature of the injury
- Do not delay care and transport of a seriously injured person
- Give artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult
- In case of contact with substance, wipe from skin immediately, flush skin or eyes with running water for at least 20 minutes
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities
- Ensure that medical personnel are aware of the material(s) involved take precautions to protect themselves and prevent spread of contamination

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RSR Paperwork Completion

M13126

Arrived	11/16/2015	***Gross Volume (ft)***	1,280 00
Record	9078-03-0012	***Waste Type***	MIXW T DOE
Haz Manifest	26520		
Vehicle ID	Q52181		

DC	
On-Site	
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

Office of Management and Budget, Washington, DC 20503 If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to the information collection.

FORM 540 — **Clive Disposal Site - Treatment Facility**

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

5 SHIPPER - NAME AND FACILITY
EnergySolutions on behalf of Nuclear Waste [illegible]rship, LLC
on behalf of US DOE
WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad
Carlsbad, NM 88220

SHIPMENT ID NUMBER 15-037

[ ] COLLECTOR
[ ] PROCESSOR
[X] GENERATOR TYPE (Specify) G

7 FORM 540 AND 540A PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A 2 PAGE(S)
FORM 542 AND 542A 1 PAGE(S)
ADDITIONAL INFORMATION 1 PAGE(S)

8 MANIFEST [illegible]ER
(Use this [illegible] on all continuation pages)
9078-03-0012

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(865) 220-1555 / (575) 885-6883

ORGANIZATION
EnergySolutions / Brad Melton / WIPP

UTAH DISPOSAL PERMIT NUMBER 0711004560
SHIPMENT NUMBER 9078-03-0012

CONTACT
Jeff Casey

TELEPHONE NUMBER (Include Area Code)
(575) 234-8062

9 CONSIGNEE - Name and Facility Address
Clive Disposal Site - Treatment Facility
Operated By EnergySolutions, LLC
Interstate 80, Exit 49
Clive, UT 84029 M1326 KR.

CONTACT
Shipping and Receiving Dept

TELEPHONE NUMBER (Include Area Code)
(435) 884-0155

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT?
[X] YES
[ ] NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ==========> 1

6 CARRIER - Name and Address Truck # 391
Hittman Transport Services
1560 Bear Creek Road
Oak Ridge, TN 37830 Trailer # 952181

EPA I D NUMBER TNR-00-003-4668

SHIPPING DATE 11/13/2015

SIGNATURE - Authorized consignee acknowledging waste receipt
Aunt Ena

DATE 11/16/15

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? [X] YES [ ] NO
If "Yes", provide Manifest Number ==>

EPA MANIFEST NUMBER
009926520 JJK

CONTACT
Karen Kirby

TELEPHONE NUMBER (Include Area Code)
800-233-9933

SIGNATURE - Authorized carrier acknowledging waste receipt
Kevin Rumbaugh

DATE 11-13-15

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified described, packaged marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged marked and labeled and in proper condition for transportation and disposal in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulation.

AUTHORIZED SIGNATURE [illegible]
TITLE Senior Broker
DATE 11/13/15

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)	12 DOT LABEL "RADIOACTIVE"	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES	16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321, WASTE RADIOACTIVE MATERIAL LOW SPECIFIC ACTIVITY (LSA-II), 7, FISSILE EXCEPTED AIR FILTERS, DAW 1 - 20' SEAVAN EL	NA	NA	SOLID/OXIDES	AM-241 , BA-137M , CO-60 , CS-134 CS-137 PU-238 , PU-239 , PU-241 , SR-90 TH-228 TH-230 TH-232 , U-235 , U-238 , Y-90	3 2910E+01	(8 8945E-01)	LSA II	1280 00 ft^3	ESUU200944
				TRANSPORTATION HEREUNDER IS FOR THE U S DEPARTMENT OF ENERGY AND THE ACTUAL TOTAL TRANSPORTATION CHARGES PAID TO THE CARRIER, BY THE CONSIGNOR OR CONSIGNEE ARE ASSIGNABLE TO AND ARE TO BE REIMBURSED BY THE GOVERNMENT					

FOR CONSIGNEE USE ONLY

- ___ Record Waste Description Inadequate
- ___ Contamination or Leakage Detected
- ___ Unexpected Exposure Rates Detected
- ___ Labels, Markings, etc Inadequate
- ___ Container Integrity Inadequate
- ___ Other
- ✓ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A. HAZARDOUS MATERIALS Generator represents & warrants that Waste Material [illegible] is (or) ___ is not hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste, this shipment is also accompanied by a separate and completed hazardous waste manifest, along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268 1

B. TITLE. Upon acceptance at the disposal site by EnergySolutions, Inc and all appropriate regulatory authorities, title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions, Inc

C. WASTE MATERIAL. Generator represents and warrants that all data set forth in this UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST are true and correct in all respects and in accordance with all applicable governmental laws, rules, and regulations and licensure of Utah Inc 's facility license

D. INDEMNIFICATION Generator agrees to indemnify EnergySolutions, Inc., its officers, employees, and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

ORM 541

Clive Disposal Site - Treatment Facility

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

MANIFEST TOTALS

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT
1	m³ 14 72504 ft³ 520 00000	kg 665 41657 ton 0 73350

SPECIAL NUCLEAR MATERIAL (grams)

U-233	U 235	Pu	TOTAL
NP	1 3104E 05 g (1 pkg)	4 7981E-04 g (1 pkg)	4 9271E 04 g (1 pkg)

ACTIVITY (MBq/mCi) (LLD UNITS IN uCi/cc)

	ALL NUCLIDES	TRITIUM	C 14	Tc-99	I-129	SOURCE
MBq	3 2910E+01	NP	NP	NP	NP	kg 3 4776E 08
mCi	8 8945E-01	NP	NP	NP	NP	ton 3 8335E 11

2 MANIFEST NUMBER: 9078-03-0012

3 PAGE 1 OF 2 PAGE(S)

4 SHIPPER NAME: EnergySolutions on behalf of Nuclear Waste Pa

SHIPMENT ID NUMBER: 15-037

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5 CONTAINER IDENTIFICATION NUMBER 9 Inserpack Container	6 CONTAINER DESCRIPTION (See Note 1 & 1A)	7 VOLUME m³ ft³	8 WASTE AND CONTAINER WEIGHT kg ton	9 SURFACE RADIATION LEVEL mSv/hr mrem/hr	10 SURFACE CONTAMINATION MBq/100 cm² dpm/100 cm² ALPHA	BETA-GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER m³ ft³	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDE	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AS - Class A Stable AU Class A Unstable B - Class B C - Class C
E5UU200944 (E5UU200944) Origin NM Nuclear Waste Partnership, LLC on behalf of US DOE WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad Carlsbad NM 88220	2-E	38 24625 1280 00000	2797 28971 3 06350	0 005 0 5	< 0 000000334 < 20	< 0 00000334 < 200	K H 39 28	14 72504 520 00000	100	SOLID OXIDES / NP	NP	AM 241	1 2323E+03	3 0340E+01	8 2000E-01	AU
												BA-137M	2 9305E-03	7 2150E-05	1 9500E-06	
												CO-60	1 2398E-03	3 0526E-05	8 2500E-07	
												CS-134	2 8704E-03	7 0870E-05	1 9100E-06	
												CS-137	3 0958E-03	7 6220E-05	2 0600E-06	
												PU-238	1 9386E-01	4 7730E-03 [7 5430E-09 g]	1 2900E-04	
												PU 239	4 4633E+01	1 0989E+00 [4 7922E-04 g]	2 9700E-02	
												PU 241	5 9511E+01	1 4652E+00 [3 8480E-07 g]	3 9600E 02	
												SR-90	4 1478E-04	1 0212E 05	2 7600E-07	
												TH 228	2 5548E-02	6 2900E 04 [2 0762E 14 kg]	1 7000E-05	
												TH-230	2 1941E 04	5 4020E-08 [7 0898E-12 kg]	1 4600E-07	
												TH 232	1 9987E 06	4 9210E-08 [1 2139E-08 kg]	1 3300E-09	
												U-235	4 2530E-05	1 0471E-08 [1 3104E-05 g]	2 8300E-08	
												U-238	1 1421E-05	2 8120E-07 [2 2630E-08 kg]	7 6000E-09	
												Y 90	4 1478E-04	1 0212E-05	2 7600E-07	
												Sub Total	1 3367E+03	3 2910E+01 [4 9271E-04 g] [3 4776E-08 kg]	8 8945E 01	
Package Total													1 3367E+03	3 2910E+01 [4 9271E-04 g]	8 8945E-01	

NOTE 1 Container Description Codes For containers/waste requiring disposal in approved structural overpacks, the numerical code must be followed by "-OP"

1 Wooden Box or Crate
2. Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5. Metal Tank or Liner
6. Concrete Tank or Liner
7 Polyethylene Tank or Liner
8. Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk, Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 6 or additional page

NOTE 1A Bulk Packaging Description Codes (Choose one code as may be applicable)

A Dendate
B Intermodal
C End-dump
D Roll-off
E Beaver

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Bottomsher Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
99 Other Describe in Item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Denatured
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

NOTE 3 Solidification and Stabilization Media Codes (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements the numerical code must be followed by "-S" and the media vendor and brand name must also be identified in Item 13 Code 100-None Required

Solidification

80 Cement
81 Concrete (encapsulation)
82 Bitumen
83. Vinyl Chloride
84. Vinyl Ester Styrene
99 Other Describe in Item 13 or additional page
100 None Required

Form 541 (10-96)

* - Indicates Cross Contamination

Office of Management and Budget, Washington, DC 20503 If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection

FORM 541A

Clive Disposal Site - Treatment Facility

2 MANIFEST 1
3-0012

UNIFORM LOW-LEVEL RADIOA E
WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

3 PAGE 2 OF 2 PAGE(S)

DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER									
							PHYSICAL DESCRIPTION			14 CHEMICAL DESCRIPTION		15 RADIOLOGICAL DESCRIPTION				16 WASTE CLASSIFICATION AS - Class A Stable AU Class A Unstable B - Class B C - Class C
5 CONTAINER IDENTIFICATION NUMBER	6 CONTAINER DESCRIPTION (See Note 1 & 1A)	7 VOLUME m³ ft³	8 WASTE AND CONTAINER WEIGHT kg ton	9 SURFACE RADIATION LEVEL mRem/hr mrem/hr	10 SURFACE CONTAMINATION MBq/100 cm² dpm/100 cm² ALPHA	BETA-GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER m³ ft³	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES	pCi/gm	MBq	mCi	
8 - Inner pack Container																
														[3 4776E-08 kg]		
Shipment Total		36 24625 1280 00000	2797 28971 3 08350											3 2910E+01 [4 9271E-04 g] [3 4776E-08 kg]	8 8945E-01	

Form 541A (10-96) * - Indicates Cross Contamination

Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FORM 542

Clive Disposal Site - Treatment Facility

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

MANIFEST INDEX AND REGIONAL COMPACT TABULATION

List all original "PROCESSED WASTE" generators (if any) before "COLLECTED WASTE" generators

1 WASTE COLLECTOR/PROCESSOR

NAME: EnergySolutions on behalf of Nuclear Waste Partnership LLC

SHIPPER USE ONLY

SHIPPING DATE: 11/13/2015

2 MANIFEST NUMBER: 9078-03-0012

3 PAGE 1 OF 1 PAGE(S)

5 GENERATOR NAME AND TELEPHONE NUMBER	6 GENERATOR FACILITY ADDRESS	6A. WASTE DESCRIPTION (NOMENCLATURE)	7 PREPROCESSED WASTE (OR MATERIAL) VOLUME m³	ft³	8 MANIFEST NUMBER(S) UNDER WHICH WASTE (OR MATERIAL) RECEIVED AND DATE OF RECEIPT	9 WASTE CODE P=PROCESSED C=COLLECTED	10 ORIGINATING COMPACT REGION OR STATE	11 AS PROCESSED/COLLECTED TOTAL A SOURCE MATERIAL (kg)	(lb)	B SNM (g)	C ACTIVITY MBq	mCi	D VOLUME m³	ft³	E WEIGHT (lb)	F MAXIMUM PACKAGE RADIATION LEVEL (mrem/hr)
Nuclear Waste Partnership, LLC on behalf of US DOE (575) 234-9062	WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad Carlsbad, NM 88220	Air Filtration Filters Compactible Trash EPA or State Hazardous Solid	14 72584	520 00000	Onsite Generation 11/13/2015	C	NM	3 4776E-06	7 6569E-06	4 9271E-04	3 2910E+01	8 8945E-01	14 72584	520 00000	1467 00000	0 5
TOTALS OF ALL PAGES (FORMS 542 AND 542A)								3 4776E-06	7 6569E-06	4 9271E-04	3 2910E+01	8 8945E-01	14.72584	520 00000	1467 00000	N/A

Form 542 (10-96)

ISOTOPIC SUMMARY

For Manifest # 9078-03-0012

Clive Disposal Site - Treatment Facility

Isotope	Total Activity (MBq)	(mCi)	(Ci)	Total SNM (gm)	Total Source (lb)
AM-241	3 0340E+01	8 2000E-01	8 2000E-04	0000E+00	0000E+00
BA-137M	7 2150E-05	1 9500E-06	1 9500E-09	0000E+00	0000E+00
CO-60	3 0525E-05	8 2500E-07	8 2500E-10	0000E+00	0000E+00
CS-134	7 0670E-05	1 9100E-06	1 9100E-09	0000E+00	0000E+00
CS-137	7 6220E-05	2 0600E-06	2 0600E-09	0000E+00	0000E+00
PU-239	4 7730E-03	1 2900E-04	1 2900E-07	7 5430E-09	0000E+00
PU-	1 0989E+00	2 9700E-02	2 9700E-05	4 7922E-04	0000E+00
PU-	1 4652E+00	3 9600E-02	3 9600E-05	3 8480E-07	0000E+00
SR-90	1 0212E-05	2 7600E-07	2 7600E-10	0000E+00	0000E+00
TH-228	6 2900E-04	1 7000E-05	1 7000E-08	0000E+00	4 5773E-14
TH-230	5 4020E-06	1 4600E-07	1 4600E-10	0000E+00	1 5630E-11
TH-232	4 9210E-08	1 3300E-09	1 3300E-12	0000E+00	2 6763E-08
U-235	1 0471E-06	2 8300E-08	2 8300E-11	1 3104E-05	0000E+00
U-238	2 8120E-07	7 6000E-09	7 6000E-12	0000E+00	4 9890E-08
Y-90	1 0212E-05	2 7600E-07	2 7600E-10	0000E+00	0000E+00
Totals	3 2910E+01	8 8945E-01	8 8945E-04	4 9271E-04	7 6669E-08

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230) **A completed and signed copy of this form must also accompany each waste manifest.**

Waste Stream ID 9078-03 Manifest No 0012

1. Check applicable category below for the waste stream:

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2c	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☐	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☑	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations

2. Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☑ a Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1

☒ b The SNM is homogeneously distributed throughout the waste <u>or</u> the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits (Based on process knowledge or testing)

☑ c Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e g , a pallet of drums, a B-25 box) By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc do not contain other elements (Based on process knowledge or testing)

☑ d Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste (Based on process knowledge, physical observations, or testing)

☑ e Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233 If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule Highly soluble forms of uranium include, but are not limited to uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate (Based on process knowledge or testing)

N/A ☑ f For containers of <u>liquid waste</u> with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing) For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6 0 mCi (6 0E+09 pCi) as shown below

(No liquid waste)

$$10{,}000\,\frac{pCi}{g} \times 600{,}000\,g = 6\ 0X10^{9}\ pCi = 6\ 0\ mCi\ Pu\text{-}239$$

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. **Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).**

   ☑ a Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition

   ☑ b Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges

   ☑ c Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution

   ☑ d Describe the methods to be used to determine the concentrations on the manifests These methods could include direct measurement and the use of scaling factors Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations

4. **Generator's certification of compliance with the SNM exemption:** I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions

Authorized Signature	Printed Name	Title	Date
[signature]	Tim Stout	Senior Broker	11/13/15

Please print or type (Form designed for use on elite (12-pitch) typewriter)

Form Approved OMB No 2050 0039

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator ID Number: NM4890139088

2 Page 1 of: 1

3 Emergency Response Phone: (865) 220-1555

4 Manifest Tracking Number: 009926520 JJK

5 Generator's Name and Mailing Address: Nuclear Waste Partnership, LLC on behalf of U.S.D.O.E. P.O. Box 2078, M/S 452-09 Carlsbad, NM 88221

Generator's Phone: (575) 234-8062

Generator's Site Address (if different than mailing address): WIPP Site / JAL Highway 30 miles Southeast of Carlsbad Carlsbad, NM 88220

6 Transporter 1 Company Name: Hittman Transport Services, Inc.

U S EPA ID Number: TNR000034686

7 Transporter 2 Company Name:

U S EPA ID Number:

8 Designated Facility Name and Site Address: Energy Solutions - Clive Disposal Site Treatment Facility Interstate 80, Exit 49 Clive, UT 84029

Facility's Phone: (435) 884-0155

U S EPA ID Number: UTD982598898

9a HM	9b U S DOT Description (including Proper Shipping Name Hazard Class, ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11 Total Quantity	12 Unit Wt/Vol	13 Waste Codes
X	1 UN3321, Waste radioactive material, low specific activity (LSA-II), 7, fissile excepted	1	CM	665	K	D004 D007 D009 D043 F001 U133
	2					
	3					
	4					

14 Special Handling Instructions and Additional Information

ERG# 162. Exclusive Use Shipment. Shipment # 9078-03-0012.
Solid/Oxides. 32.91 MBq.
See attached Uniform Low-Level Radioactive Waste Manifest for D.O.T. shipping papers.

15 **GENERATOR'S/OFFEROR'S CERTIFICATION** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/placarded and are in all respects in proper condition for transport according to applicable international and national governmental regulations If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent
I certify that the waste minimization statement identified in 40 CFR 262 27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Tim Stout, on behalf of Nuclear Waste Partnership LLC

Signature: Tim Stout

Month 11 Day 13 Year 15

16 International Shipments ☐ Import to U S ☐ Export from U S

Port of entry/exit

Transporter signature (for exports only)

Date leaving U S

17 Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Kevin Rosenlund

Signature: Kevin Rosenlund

Month 11 Day 13 Year 15

Transporter 2 Printed/Typed Name

Signature

Month Day Year

18 Discrepancy

18a Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number

18b Alternate Facility (or Generator)

U S EPA ID Number

Facility's Phone

18c Signature of Alternate Facility (or Generator)

Month Day Year

19 Hazardous Waste Report Management Method Codes (i e , codes for hazardous waste treatment, disposal, and recycling systems)

1	2	3	4
H132			

20 Designated Facility Owner or Operator Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Albert Ems

Signature: Albert Ems

Month 11 Day 16 Year 15

GENERATOR — INTL — TRANSPORTER — DESIGNATED FACILITY

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership, LLC Manifest Doc No: 009926520 JJK
Profile No: 9078-03-0012 State Manifest No: N/A

1 Is this waste a non-wastewater or wastewater? (See 40 CFR 268 2) Check ONE Non-wastewater ☒ Wastewater ☐
Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261 For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory Spent solvent standards are listed on the following page If F039, multi-source leachate applies those constituents must be listed and attached by the generator If D001-D043 requires treatment of the characteristic and meet 268 48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached

REF #	3 US EPA HAZARDOUS WASTE CODE (S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE, SIMPLY CHECK NONE DESCRIPTION	NONE	5 HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
ESUU 200944	D007,D009, F001,U133,D043, D004,D005,D006, D008,D010,D011, D018,D019,D021, D022,D026,D027, D028,D029,D030, D032,D033,D034, D035,D036,D037, D038,D039,D040, F002,F003,F004, F005,F006,F007, F009	Radioactive Debris	☐	A
			☐	
			☐	
			☐	
			☐	
			☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
IHCs are present in the waste upon its initial generation check here ☒ (SEE NOTE)
To list additional USEPA waste code(s) and subcategone(s), use the supplemental sheet provided (Form A2) and check here ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268 7) Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations

A. RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268 40
☒ For Hazardous Debris "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45"

B 1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the alternative treatment standards for hazardous debris in 40 CFR Part 268 45 without impermissible dilution of the prohibited waste I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment"

B 3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268 42 Table 1 I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment"

B 4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 or 268 49, to remove the hazardous characteristic This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment"

C RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension Enter the effective date of prohibition in column 5 above
☐ For hazardous debris "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45"

D RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D I believe that the information I submitted is true, accurate and comp
I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment"

WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information

Signature [signature] Title SCIENTIST III Date 11-13-15

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926520 JJK
Profile No	9078-03-0012	State Manifest No	N/A

Form A1

Page 1

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV) – REVERSE SIDE

If the waste identified on the first page of this form is described by any of the following USEPA hazardous waste codes F001, F002, F003, F004, F005, and all solvent constituents will not be monitored by the treater, then each constituent MUST be identified below by checking the appropriate box, and this page must accompany the shipment, along with the previous page of this form If the waste code F039 describes this waste, then the corresponding list of constituents must be attached If D001-D043 require treatment to 268 48 standards, then the underlying hazardous constituent(s) must also be attached

SOLVENT WASTE TREATMENT STANDARDS[2]					
F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]		F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]	
	Wastewaters	Nonwastewaters		Wastewaters	Nonwastewaters
Acetone (F003)	0 28	160	Methanol (F003)	5 6	0 75 (TCLP)[3]
Benzene (F005)	0 14	10	Methylene chloride (F001, F002)	0 089	30
n-Butanol (n-butyl alcohol) (F003)	5 6	2 6	Methyl ethyl ketone (F005)	0 28	36
Carbon disulfide (F005)	3 8	4 8 (TCLP)[3]	Methyl isobutyl ketone (F003)	0 14	33
Carbon tetrachloride (F001)	0 057	6 0	Nitrobenzene (F004)	0 068	14
Chlorobenzene (F002)	0 057	6 0	2-Nitropropane (F005)	INCIN or {(WETOX or C HOXD) followed by CARBN}	INCIN
o-Cresol (F004)	0 11	5 6	Pyridine (F005)	0 014	16
C (m- and p- isomers) (F004)	0 77	5 6	Tetrachloroethylene (F001, F002)	0 056	6 0
Cyclohexanone (F003)	0 36	0 75 (TCLP)[3]	Toluene (F005)	0 080	10
o-Dichlorobenzene (F002)	0 088	6 0	1,1,1-Trichloroethane (F001, F002)	0 054	6 0
2-Ethoxyethanol (F005) also called ethylene glycol, monoethyl ether	INCIN or BIODG	INCIN	1,1,2-Trichloroethane (F002)	0 054	6 0
Ethyl acetate (F003)	0 34	33	Trichloroethylene (F001, F002)	0 054	6 0
Ethyl benzene (F003)	0 057	10	Trichloromonofluoromethane (F002)	0 020	30
Ethyl ether (F003)	0 12	160	1,1,2-Trichloro-1,2,2-trifluoroethane (F002)	0 057	30
Isobutanol (Isobutyl Alcohol) (F005)	5 6	170	Xylenes (sum of o-, m-, and p-isomers) (F003)	0 32	30

[1]All spent solvent treatment standards are measured through a total waste analysis (TCA), unless otherwise noted Wastewater units are mg/l, nonwastewater are mg/kg

[2]For contaminated soils using the alternative soil treatment standards, the treatment standards for F001-F005 spent solvents must be a 90% reduction of the constituents or less than 10x the standard listed

[3]These solvents require a TCLP standard with units of mg/l

SUBCATEGORY REFERENCE

D001

A Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems

B Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in CWA/CWA-equivalent or Class I SDWA systems

C High TOC Ignitable characteristic liquids subcategory based on 40 CFR 261 21(a) (1) – Greater than or equal to 10% total organic carbon

D002

D Corrosive characteristic wastes that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems

E Corrosive characteristic wastes that are managed in CWA, CWA-equivalent, or Class I SWDA systems

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926520 JJK
Profile No	9078-03-0012	State Manifest No	N/A

Form A1

Page 2

If D001-D043 requires treatment to the 40 CRF 268 48 standards, then each underlying hazardous constituent (UHC) present in the waste at the point of generation and at a level above the Universal Treatment Standard (UTS) constituent specific standard must be listed Write the letter (A, B1, B2, B3, or C that corresponds to the letter on the land disposal form A1) beside each constituent present to properly describe how the constituent(s) must be managed under 40 CFR 268 7 If contaminated soil requires treatment to 40 CFR 268 49 standards, then each UHC in the waste at the point of generation and at a level above 10 times the UTS must be listed Write the appropriate letter which corresponds to the letter on the LDR form

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
Acenaphthylene		0 059	3 4	2-Chloro-1,3-butadiene		0 057	0 28[1]
Acenapthene		0 059	3 4	Chlorodibromomethane		0 057	15
Acetone		0 28	160	Chloroethane		0 27	6 0
Acetonitrile		5 6	38[1]	bis(2-Chloroethoxy)methane		0 036	7 2
Acetophenone		0 010	9 7	bis(2-Chloroethyl)ether		0 033	6 0
2-Acetylaminofluorene		0 059	140	Chloroform		0 046	6 0
Acrolein		0 29	NA	bis(2-Chloroisopropyl)ether		0 055	7 2
Acylamide		19[1]	23[1]	p-Chloro-m-cresol		0 018	14
Acrylonitrile		0 24	84	2-Chloroethyl vinyl ether		0 062[1]	NA[1]
Aldicarb sulfone		0 056[1]	0 28[1]	Chloromethane/Methyl chloride		0 19	30
Aldrin		0 021	0 066	2-Chloronaphthalene		0 055	5 6
4-Aminobiphenyl		0 13	NA	2-Chlorophenol		0 044	5 7
Aniline		0 81	14	3-Chloropropylene		0 036	30
Anthracene		0 059	3 4	Chrysene		0 059	3 4
Aramite		0 36	NA	o-Cresol		0 11	5 6
alpha-(BHC)		0 00014	0 066	m-Cresol		0 77	5 6
beta-(BHC)		0 00014	0 066	p-Cresol		0 77	5 6
delta-(BHC)		0 023	0 066	m-Cumenyl methylcarbamate		0 056[1]	1 4[1]
gamma-(BHC)		0 0017	0 066	Cyclohexanone		0 36	0 75 mg/l[1]
Barban		0 056[1]	1 4[1]	o,p'-DDD		0 023	0 087
Bendiocarb		0 056[1]	1 4[1]	p,p'-DDD		0 023	0 087
Benomyl		0 056[1]	1 4[1]	o,p'-DDE		0 031	0 087
Benzene		0 14	10	p,p'-DDE		0 031	0 087
Benz(a)anthracene		0 059	3 4	o,p'-DDT		0 0039	0 087
Benzal chloride		0 055[1]	6 0[1]	p,p'-DDT		0 0039	0 087
Benzo(b)fluoranthene[3]		0 11	6 8	Dibenz(a,h)anthracene		0 055	8 2
Benzo(k)fluoranthene[3]		0 11	6 8	Dibenz(a,e)pyrene		0 061	NA
Benzo (g,h,i)perylene		0 0055	1 8	1,2-Dibromo-3-chloropropane		0 11	15
Benzo(a)pyrene		0 061	3 4	1,2-Dibromomethane/ Ethylene dibromide		0 028	15
Bromodichloromethane		0 35	15	Dibromomethane		0 11	15
Bromomethane/Methyl Bromide		0 11	15	m-Dichlorobenzene		0 036	6 0
4-Bromophenyl phenyl ether		0 055	15	o-Dichlorobenzene		0 088	6 0
n-Butyl alcohol		5 6	2 6	p-Dichlorobenzene		0 090	6 0
Butylate		0 042[1]	1 4[1]	Dichlorodifluoromethane		0 23	7 2
Butyl benzyl phthalate		0 017	28	1,1-Dichloroethane		0 059	6 0
2-sec-Butyl-4,6-dinitrophenol/Dinoseb		0 066	2 5	1,2-Dichloroethane		0 21	6 0
Carbaryl		0 006[1]	0 14[1]	1,1-Dichloroethylene		0 025	6 0
Carbenzadim		0 056[1]	1 4[1]	trans-1,2-Dichloroethylene		0 054	30
Carbofuran		0 006[1]	0 14[1]	2,4-Dichlorophenol		0 044	14
Carbofuran phenol		0 056[1]	1 4[1]	2 6-Dichlorophenol		0 044	14
Carbon disulfide		3 8	4 8 mg/l TCLP[1]	2,4-Dichlorophenoxyacetic acid/2,4-D		0 72	10
Carbon tetrachloride		0 057	6 0	1,2-Dichloropropane		0 85	18
Carbosulfan		0 028[1]	1 4[1]	cis-1,3-Dichloropropylene		0 036	18
Chlordane (alpha and gamma isomers)		0 0033	0 26	trans-1,3-Dichloropropylene		0 036	18
p-Chloroaniline		0 46	16	Dieldrin		0 017	0 13
Chlorobenzene		0 057	6 0	Diethyl phthalate		0 20	28
Chlorobenzilate		0 10	NA	p-Dimethylaminoazobenzene		0 13[1]	NA

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership, LLC Manifest Doc No: 009926520 JJK
Profile No: 9078-03-0012 State Manifest No: N/A

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) Unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
2,4-Dimethyl phenol		0 036	14	Methylene chloride		0 089	30
Dimethyl phthalate		0 047	28	Methyl ethyl ketone		0 28	36
Di-n-butyl phthalate		0 057	28	Methyl isobutyl ketone		0 14	33
1,4-Dinitrobenzene		0 32	2 3	Methyl methacrylate		0 14	160
4,6-Dinitro-o-cresol		0 28	160	Methyl methansulfonate		0 018	NA
2,4-Dinitrophenol		0 12	160	Methyl parathion		0 014	4 6
2,4-Dinitrotoluene		0 32	140	Metolcarb		0 056[1]	1 4[1]
2,6-Dinitrotoluene		0 55	28	Mexacarbate		0 056[1]	1 4[1]
Di-n-octyl phthalate		0 017	28	Molinate		0 042[1]	1 4[1]
Di-n-propylnitrosamine		0 40	14	Naphthalene		0 059	5 6
1,4-Dioxane		12 0	170	2-Naphthylamine		0 52	NA
Diphenylamine[3]		0 92	13[1]	o-Nitroaniline		0 27[1]	14[1]
Diphenylnitrosamine[3]		0 92	13[1]	p-Nitroaniline		0 028	28
1,2-Diphenylhydrazine		0 087	NA	Nitrobenzene		0 068	14
Disulfoton		0 017	6 2	5-Nitro-o-toluidine		0 32	28
Dithiocarbamates (total)		0 028	28[1]	o-Nitrophenol		0 028[1]	13[1]
Endosulfan I		0 023	0 066	p-Nitrophenol		0 12	29
Endosulfan II		0 029	0 13	N-Nitrosodiethylamine		0 40	28
Endosulfan sulfate		0 029	0 13	N-Nitrosodimethylamine		0 40	2 3[1]
Endrin		0 0028	0 13	N-Nitroso-di-n-butylamine		0 40	17
Endrin aldehyde		0 025	0 13	N-Nitrosomethylethylamine		0 40	2 3
EPTC		0 042[1]	1 4[1]	N-Nitrosomorpholine		0 40	2 3
Ethyl acetate		0 34	33	N-Nitrosopiperidine		0 013	35
Ethyl benzene		0 057	10	N-Nitrosopyrrolidine		0 013	35
Ethyl cyanide/Propanenitrile		0 24	360	Oxamyl		0 056[1]	0 28[1]
Ethyl ether		0 12	160	Parathion		0 014	4 6
Bis(2-Ethylhexyl)phthalate		0 28	28	Total PCBs (sum of all PCB isomers or all Aroclors)		0 10	10
Ethyl methacrylate		0 14	160	Pebulate		0 042[1]	1 4[1]
Ethylene oxide		0 12	NA	Pentachlorobenzene		0 055[1]	10[1]
Famphur		0 017	15	PeCDDs (All Pentachlorodibenzo-p-dioxins)		0 000035	0 001
Fluoranthene		0 068	3 4	PeCDFs(All Pentachlorodibenzofurans)		0 000035	0 001
Fluorene		0 059	3 4	Pentachloroethane		0 055	6 0
Formetanate hydrochloride		0 056[1]	1 4[1]	Pentachloronitrobenzene		0 055	4 8
Heptachlor		0 0012	0 066	Pentachlorophenol		0 089	7 4
Heptachlor epoxide		0 016	0 066	Phenacetin		0 081	16
Hexachlorobenzene		0 055	10	Phenanthrene		0 059	5 6
Hexachlorobutadiene		0 055	5 6	Phenol		0 039	6 2
Hexachlorocyclopentadiene		0 057	2 4	Phorate		0 021	4 6
HxCDDs (All Hexachrorodibenzo-p-dioxins)		0 000063	0 001	Phthalic acid		0 055[1]	28[1]
HxCDFs (All Hexachlorodibenzofurans)		0 000063	0 001	Phthalic anhydride		0 055	28[1]
Hexachloroethane		0 055	30	Physostigmine		0 056[1]	1 4[1]
Hexachloropropylene		0 035	30	Physostigmine salicylate		0 056[1]	1 4[1]
Indeno(1,2,3-c,d)pyrene		0 0055	3 4	Promecarb		0 056[1]	1 4[1]
Iodomethane		0 19	65	Pronamide		0 093	1 5
Isobutyl alcohol		5 6	170	Propham		0 056[1]	1 4[1]
Isodrin		0 021	0 066	Propoxur		0 056[1]	1 4[1]
Isosafrole		0 081	2 6	Prosulfocarb		0 042[1]	1 4[1]
Kepone		0 0011	0 13	Pyrene		0 067	8 2
Methacrylonitrile		0 24	84	Pyridine		0 014	16
Methanol		5 6	0 75 mg/l[1]	Safrole		0 081	22
Methapyrilene		0 081	1 5	Silvex/2,4,5-TP		0 72	7 9
Methiocarb		0 056[1]	1 4[1]	1,2,4,5-Tetrachlorobenzene		0 055	14
Methomyl		0 028[1]	0 14[1]	TCDDs (All Tetrachlorodibenzo-p-dioxins)		0 000063	0 001
Methoxychlor		0 25	0 18	TCDFs (All Tetrachlorodibenzo-furans)		0 000063	0 001

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership, LLC
Manifest Doc No: 009926520 JJK
Profile No: 9078-03-0012
State Manifest No: N/A

3-Methylcholanthrene		0 0055	15	1,1,1,2-Tetrachloroethane		0 057	6 0
4'-Methylene bis(2-chloroaniline)		0 50	30	1,1,2,2-Tetrachloroethane		0 057	6 0

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
Tetrachloroethylene		0 056	6 0	INORGANIC CONSTITUENTS			
2,3,4,6-Tetrachlorophenol		0 030	7 4	Antimony		1 9	2 1 mg/l TCLP
Thiodicarb		0 019[1]	1 4[1]	Antimony		1 9	1 15 mg/l TCLP
Thiophanate-methyl		0 056[1]	1 4[1]	Arsenic		1 4	5 0 mg/l TCLP
Toluene		0 080	10	Barium		1 2	7 6 mg/l TCLP
Toxaphene		0 0095	2 6	Barium		1 2	21 mg/l TCLP[4]
Triallate		0 042[1]	1 4[1]	Beryllium		0 82	0 014 mg/l TCLP
Tribromomethane/Bromoform		0 63	15	Beryllium		0 82	1 22 mg/l TCLP
2,4,6-Tribromophenol		0 035	7 4	Cadmium		0 69	0 19 mg/l TCLP
1,2,4-Trichlorobenzene		0 055	19	Cadmium		0 69	0 11 mg/l TCLP
1 1 1-Trichloroethane		0 054	6 0	Chromium (Total)		2 77	0 86mg/l TCLP
1,1,2-Trichloroethane		0 054	6 0	Chromium (Total)		2 77	0 60 mg/l TCLP
Trichloroethylene		0 054	6 0	Cyanides (Total)		1 2	590
Trichloromonofluoromethane		0 020	30	Cyanides (Amenable)		0 86	30[1]
2,4,5-Trichlorophenol		0 18	7 4	Fluoride		35	NA[4]
2,4,6-Trichlorophenol		0 035	7 4	Lead		0 69	0 37 mg/l
2,4,5-Trichlorophenoxyacetic acid/2,4 5-T		0 72	7 9	Lead		0 69	0 75 mg/l[4] TCLP
1,2,3-Trichloropropane		0 85	30	Mercury (Nonwastewater from Retort)		NA	0 20 mg/l TCLP
1,1,2-Trichloro-1,2,2-trifluoroethane		0 057	30	Mercury (All others)		0 15	0 025 mg/l TCLP
Triethylamine		0 081[1]	1 5[1]	Nickel		3 98	5 0 mg/l TCLP
Tris-(2,3-Dibromopropyl)phosphate		0 11	0 10[1]	Nickel		3 98	11 mg/l TCLP[4]
Vernolate		0 042[1]	6 0[1]	Selenium		0 82	0 16 mg/l TCLP
Vinyl chloride		0 27	6 0	Selenium		0 82	5 7 mg/l TCLP[5]
Xylenes – mixed isomers (sum of o-,m-, and p-xylene concentrations)		0 32	30	Silver		0 43	0 30 mg/l TCLP
Lindane(CAS # 58-89-9)		NA	0 066	Silver		0 43	0 14 mg/l TCLP
				Sulfide		14	NA[2]
				Thallium		1 4	0 078 mg/l TCLP
				Thallium		1 4	0 20 mg/l TCLP
				Vanadium		4 3[2]	1 6 mg/l TCLP[2]
				Zinc		2 61	4 3 mg/l TCLP[2]

[1] These constituents are only applicable as underlying hazardous constituents These constituents are not constituents that require treatment in F039 wastes

[2] Not an underlying hazardous constituent requiring treatment in a D001-D043 waste

[3] These compounds are regulated by the sum of their concentration instead of as individual constituents

[4] These constituents are effective in authorized states or states with no LDR program on 8/24/99 These concentrations are effective in all other states upon adoption by the state

[5] Effective 8/24/98 in unauthorized states or states with no LDR program Selenium at 5 7 mg/l is not an underlying hazardous constituent in D001-D043 waste This becomes effective in authorized states upon adoption by the state

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 – Carrier/Driver Instructions

8 Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander If the on-scene commander is not present, request those persons who have been identified to remain at the scene

9 Stand by until assistance arrives

10 **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11 DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name Hillman Transport

Kevin Rosenlund	Kevin Rosenlund	11-13-15
Driver's Name (Printed)	Driver's Signature	Date

Vehicle Condition Checklist

Form CP-SR-PR-204-F7
Rev. 4

Shipment Number: 9078-03-0012
Shipment Date: 11/13/15
Carrier: Hittman Transport Services
Driver's Name: Kevin Rosenlund
Tractor Number: 391
Trailer Number: Q52181
TRAILER TYPE Van, Open Top Van, Flatbed, Cask, Other: Flatbed

INSPECTION CHECKS TRUCK/TRAILER

		SAT	UNSAT
1	**Front tire tread** At least 4/32-in tread (no recaps), 49 CFR 393 75(b)	✓	
2	**Other tire tread** At least 2/32-in tread, 49CFR 393 75(c)	✓	
3	**Windshield,** • Defects and Unobstructed View, 49CFR 393 60 • Wipers, 49 CFR 393 78	✓	
4	**Headlamps,** Operational & Unobstructed, 49 CFR 393 9, 393 11 & 393.24	✓	
5	**Turn Signals Front and Rear,** Operational & Unobstructed, 49 CFR 393 11, 393 19 & 393 25	✓	
6	**Tail lamps and Stop lamps,** Operational & Unobstructed, 49 CFR 393 9, 393 11 & 393 25	✓	
7	**Other Required Lamps** (Running and Parking Lamps), Operational & Unobstructed, 49 CFR 393 9, 393 11 & 393 25	✓	
8	**Reflectors,** 49 CFR 393 9, 393 11 & 393 26	✓	
9	**Rear Vision Mirrors,** 49 CFR 393 80	✓	
10	**Fire extinguisher/Fuses/Warning Devices,** 49 CFR 393.95	✓	
11	**Horn,** 49 CFR 393 81	✓	
12	**Trailer Frame, Headboard, Decking** Excessive Rust/Damage	✓	
13	**Fifth Wheel/King Pin/Plate Coupling Device,** 49 CFR 393 70	✓	
14	**Truck & Trailer License Plates,** Current	✓	
15	**Tractor Periodic Inspection,** Current for Duration of Shipment, Hard Copy Report and Sticker Match, 49 CFR 396 17, 396 21, 393 23	✓	
16	**Trailer Periodic Inspection,** Current for Duration of Shipment, Hard Copy Report and Sticker Match, 49 CFR 396 17, 396 21, 393 23	✓	
17	**Load Tiedowns,** Good Condition, ISO locks Operable, No Counterfeit Bolts, Tiedowns rated for load, 49 CFR Subpart I	✓	
18	**Placards and Placard Holders,** Visible, Unobstructed and Durable, 49 CFR 172 516, 172 519	✓	

Inspected by/Date: Kevin Rosenlund 11-13-15
Driver's Signature & Date

Reviewed by/Date: [signature] 11/13/15
Energy Solutions Representative Signature & Date

Electronic documents, once printed, are uncontrolled and may become outdated. Refer to the intranet or the document control authority for the

Radioactive Material Shipment **Exclusive Use Instructions**	**Form CP-SR-PR-204-F8** **Rev. 5**

Shipment 9078-03-0012 Date 11/13/2015

Carrier: Hittman Transport Services

Consignor EnergySolutions for NWP @ WIPP

Consignee: EnergySolutions
Treatment Facility
Interstate 80, Exit 49
Clive, UT 84029

Attn Shipping and Receiving Department Telephone (435) 884-0155

1 This shipment of radioactive material has been designated by EnergySolutions as an exclusive use shipment as defined in 49 CFR 173 403 You are advised per these instructions to transport the items described on the attached shipping documents under "Exclusive Use Provisions" Title 49 CFR 173 427(a)(6)(iv) requires that specific instructions for maintenance of Exclusive Use shipments be provided by the Shipper to the carrier

2 As an exclusive use shipment, all initial, intermediate, and final loading and unloading are carried out in accordance with the direction of the consignor or consignee

3 Do not move the 5th wheel from the original position at release or change tractors without notifying EnergySolutions at one of the following phone numbers on Page 2 of these instructions

4 If deviations to the below-prescribed routing or arrival date are necessary, contact EnergySolutions

Scheduled Arrival 11/16/2015

Routing Major Highways

5 Placards shall be applied on the transportation conveyance and packaging as follows

- ☒ 4 placards visible from each direction on van, flatbed or cask trailer
- ☒ Placards on opposing sides of package (4 on Bulk Packages >640 ft^3, 2 on Bulk Packages <640)
- ☐ 4 placards visible from each direction on van, flatbed or cask with a 5th on tractor front
- ☐ 3 placards visible from sides and back of van, flatbed or cask and the 4th on tractor front
- ☐ Extra placards have been supplied to driver

6 The carrier is responsible for maintaining the placards as prescribed above Placards shall be replaced if any are lost or damaged

7 Seals have been attached to the following locations N/A

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8 Except as provided in 49 CFR 173 443(d) each transport vehicle used for transporting Class 7 materials as an exclusive use shipment that utilizes the provisions of 49 CFR 173 443(b) must be surveyed with appropriate radiation detection instruments after each use

A vehicle may not be **returned to service** until the radiation dose rate at each accessible surface is 0 005 mSv per hour(0 5 mrem per hour) or less, and there is no significant removable (non-fixed) radioactive surface contamination as specified in 49 CFR 173 443 (a)

9 Contact EnergySolutions concerning any of these requirements as follows

During regular business hours, 8 00 am – 5 00 pm, Monday – Friday, call the EnergySolutions administrative offices at (865) 481-0222

At other times, call the persons listed below in the order listed

Brad Melton, Manager Shipping and Receiving, Certified Broker	Office	(865) 220-1563
	Mobile	(865) 805-1377
Fred Schulz, Director of Logistics Certified Broker	Office	(865) 220-1589
	Home	(865) 376-3588
	Mobile	(865) 414-2941

10 In case of an emergency or accident, contact the Emergency Duty Officer by calling EnergySolutions at **(865) 220-1555**, and follow General Emergency Response Instructions provided with paperwork The drivers North American Emergency Response Guidebook may also be used as a reference

11 This shipment contains a Reportable Quantity of the following

- ☐ Radionuclides
- ☐ Asbestos
- ☐ Other _____
- ☒ None

I have read and understand the requirements of these exclusive use instructions

Driver Signature: [signature] 11-13-15 Date. 11/13/2015

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UN3321, Radioactive material, low specific activity(LSA-II), 7

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents Packaging durability increases as potential hazard of radioactive content increases
- Undamaged packages are safe Contents of damaged packages may cause higher external radiation exposure or both external and internal radiation exposure if contents are released
- Low radiation hazard when material is inside container If material is released from package or bulk container, hazard will vary from low to moderate Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on
- Some material may be released from packages during accidents of moderate severity but risks to people are not great
- Released radioactive materials or contaminated objects usually will be visible if packaging fails
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels Placards, markings and shipping papers provide identification
- Some packages may have a "RADIOACTIVE" label and a second hazard label The second hazard is usually greater than the radiation hazard, so follow this GUIDE as well as the response GUIDE for the second hazard class label
- Some radioactive materials cannot be detected by commonly available instruments
- Runoff from control of cargo fire may cause low-level pollution

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Uranium and Thorium metal cuttings may ignite spontaneously if exposed to air (see GUIDE 136)
- Nitrates are oxidizers and may ignite other combustibles (see GUIDE 141)

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels**
- Radiation Authority must be notified of accident conditions Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies
- As an immediate precautionary measure isolate spill or leak area for at least 25 meters (75 feet) in all directions • Stay upwind • Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated, delay decontamination and cleanup until instructions are received from Radiation Authority

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet)

Fire

- When a large quantity of this material is involved in a major fire consider an initial evacuation distance of 300 meters (1000 feet) in all directions

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques
- Move containers from fire area if you can do it without risk
- Do not move damaged packages, move undamaged packages out of fire zone

Small Fire

- Dry chemical, CO_2, water spray or regular foam

Large Fire

- Water spray, fog (flooding amounts)
- Dike fire-control water for later disposal

SPILL OR LEAK

- Do not touch damaged packages or spilled material
- Cover liquid spill with sand, earth or other non-combustible absorbent material
- Dike to collect large liquid spills
- Cover powder spill with plastic sheet or tarp to minimize spreading

FIRST AID

- Call 911 or emergency medical service
- Medical problems take priority over radiological concerns
- Use first aid treatment according to the nature of the injury
- Do not delay care and transport of a seriously injured person
- Give artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult
- In case of contact with substance wipe from skin immediately flush skin or eyes with running water for at least 20 minutes
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities
- Ensure that medical personnel are aware of the material(s) involved take precautions to protect themselves and prevent spread of contamination

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RSR Paperwork Completion

M13125

Arrived	11/16/2015	**Gross Volume (ft)**	1,280 00
Record	9078-03-0011	**Waste Type**	MIXW T DOE
Haz Manifest	26519		
Vehicle ID	Q54658		

DC	
On-Site	
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

Office of Management and Budget, Washington, DC 2) If a means to impose an infor i collection not display a currently valid control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection

FORM 540 — Clive Disposal Site - Treatment Facility

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(865) 220-1555 / (575) 885-6883

ORGANIZATION
EnergySolutions / Brad Melton / WIPP

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT?
[X] YES
[ ] NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ==> 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? [X] YES [ ] NO
If "Yes", provide Manifest Number ==>

EPA MANIFEST NUMBER
009926519 JJK

5 SHIPPER - NAME AND FACILITY
EnergySolutions on behalf of Nuclear Waste Partnership, LLC
on behalf of US DOE
WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad
Carlsbad, NM 88220

SHIPMENT ID NUMBER
15-035

	COLLECTOR
	PROCESSOR
X	GENERATOR TYPE (Specify) G

UTAH DISPOSAL PERMIT NUMBER
0711004560

SHIPMENT NUMBER
9078-03-0011

CONTACT
Jeff Casey

TELEPHONE NUMBER (Include Area Code)
(575) 234-8062

6 CARRIER - Name and Address
Hittman Transport Services
1560 Bear Creek Road
Oak Ridge, TN 37830

Truck # 276
Trailer # 25465

EPA I D NUMBER
TNR-00-003-4686

SHIPPING DATE
11/13/2015

CONTACT
Karen Kirby

TELEPHONE NUMBER (Include Area Code)
800-233-9933

SIGNATURE - Authorized carrier acknowledging waste receipt
Michael Scott Scott

DATE
11-13-15

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 2 PAGE(S)
FORM 542 AND 542A — 1 PAGE(S)
ADDITIONAL INFORMATION — 1 PAGE(S)

8 MANIFEST NUMBER
(Use this number on all continuation pages)
9078-03-0011

9 CONSIGNEE - Name and Facility Address
Clive Disposal Site - Treatment Facility
Operated By EnergySolutions, LLC
Interstate 80, Exit 49
Clive, UT 84029
S5
M13125

CONTACT
Shipping and Receiving Dept

TELEPHONE NUMBER (Include Area Code)
(435) 884-0155

SIGNATURE - Authorized consignee acknowledging waste receipt

DATE
11/16/15

10 CERTIFICATION
This is to certify that the herein named materials are properly classified described packaged marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged marked and labeled and in proper condition for transportation and disposal in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulation.

AUTHORIZED SIGNATURE | **TITLE** Senior Broker | **DATE** 11/13/15

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class, UN ID number, and any additional information)	12 DOT LABEL "RADIOACTIVE"	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES	16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321, WASTE RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II) 7 FISSILE EXCEPTED AIR FILTERS, DAW 1 - 20' SEAVAN EL	NA	NA	SOLID/OXIDES	AM-241 BA-137M , CO-60 , CS-134 , CS-137 , PU-238 , PU-239 , PU-241 , SR-90 , TH-228 , TH-230 , TH-232 , U-235 , U-238 , Y-90	6 5016E+01	(1 7572E+00)	LSA II	1280 00 ft³	WNKU072053

TRANSPORTATION HEREUNDER IS FOR THE U S DEPARTMENT OF ENERGY AND THE ACTUAL TOTAL TRANSPORTATION CHARGES PAID TO THE CARRIER(S) BY THE CONSIGNOR OR CONSIGNEE ARE ASSIGNABLE TO AND ARE TO BE REIMBURSED BY THE GOVERNMENT

FOR CONSIGNEE USE ONLY

- ___ Record Waste Description Inadequate
- ___ Contamination or Leakage Detected
- ___ Unexpected Exposure Rates Detected
- ___ Labels, Markings, etc Inadequate
- ___ Container Integrity Inadequate
- ___ Other
- ___ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A. **HAZARDOUS MATERIALS** Generator represents & warrants that Waste Material ✓ is (or) ___ is not hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste, this shipment is also accompanied by a separate and completed hazardous waste manifest, along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268 1

B. **TITLE** Upon acceptance at the disposal site by EnergySolutions, Inc. and all appropriate regulatory authorities title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolution Inc.

C. **WASTE MATERIAL** Generator represents and warrants that all data set forth in this UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST are true and correct in all respects and in accordance with all applicable governmental laws, rules and regulations and Enforcers of Utah, has a facility license

D. **INDEMNIFICATION** Generator agrees to indemnify EnergySolutions Inc. its officers employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

Office of Management and Budget, Washington, DC 20503 If a means used to impose an information collection does not display a currently valid control r , the NRC may not conduct or sponsor, and a pe is not required to respond to, the information collection

FORM 541

Clive Disposal Site - Treatment Facility

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

1 MANIFEST TOTALS

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT	SPECIAL NUCLEAR MATERIAL (grams) U-233	U 235	Pu	TOTAL
1	m³ 23 56006 ft³ 832 00000	kg 1977 86253 ton 2 18000	NP	2 5884E-05 g (1 pkg)	9 4792E-04 g (1 pkg)	9 7380E-04 g (1 pkg)

ACTIVITY (MBq/mCi) (LLD UNITS IN uCi/cc)

	ALL NUCLIDES	TRITIUM	C-14	Tc-99	I-129	SOURCE	
MBq	6 5016E+01	NP	NP	NP	NP	kg	6 8683E-08
mCi	1 7572E+00	NP	NP	NP	NP	ton	7 5711E-11

2 MANIFEST NUM R 9078 03-0011

3 PAGE 1 OF 2 PAGE(S)

4 SHIPPER NAME EnergySolutions on behalf of Nuclear Waste Pa

SHIPMENT ID NUMBER 15-035

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5 CONTAINER IDENTIFICATION NUMBER / 9 Innerpack Container	6 CONTAINER DESCRIPTION (See Note 1 & 1A)	7 VOLUME m³ ft³	8 WASTE AND CONTAINER WEIGHT kg ton	9 SURFACE RADIATION LEVEL mR/hr mrem/hr	10 SURFACE CONTAMINATION MBq/100 cm² dpm/100 cm² ALPHA	BETA GAMMA	11 PHYSICAL DESCRIPTION: WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER m³ ft³	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				16 WASTE CLASSIFICATION AS - Class A Stable AU - Class A Unstable B Class B C Class C
												RADIONUCLIDES	pCi/gm	MBq	mCi	
WNKU072053 (WNKU072053) Origin NM Nuclear Waste Partnership LLC on behalf of US DOE WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad Carlsbad NM 88220	2 E	36 24625	4163 95647	0 005	< 0 000000334	< 0 000000134	K H 39 28	23 55006	100	SOLID OXIDES / NP	NP	AM 241	8 1915E+02	5 9940E+01	1 6200E+00	AU
												BA 137M	1 9467E 03	1 4245E-04	3 8500E-06	
												CO-60	8 2421E 04	6 0310E-05	1 6300E-06	
												CS 134	1 9113E-03	1 3986E-04	3 7800E-06	
												CS 137	2 0580E-03	1 5059E-04	4 0700E-06	
		1230 00000	4 59000	0 5	< 20	< 200		832 00000				PU 238	1 2643E 01	9 3980E-03 [1 4852E-08 g]	2 5400E-04	
												PU 239	2 9681E+01	2 1719E+00 [9 4714E-04 g]	5 8700E-02	
												PU 241	3 9542E+01	2 8934E+00 [7 5980E-07 g]	7 8200E 02	
												SR 90	2 7608E-04	2 0202E 05	5 4600E-07	
												TH-228	1 6990E-02	1 2432E-03 [4 1036E-14 kg]	3 3600E 05	
												TH-230	1 4583E-04	1 0666E-05 [1 3985E-11 kg]	2 8800E-07	
												TH 232	1 3299E-06	9 7310E-06 [2 4005E-08 kg]	2 6300E-09	
												U 235	2 8266E-05	2 0683E-05 [2 5884E-05 g]	5 5900E-08	
												U 238	7 5847E-06	5 5500E-07 [4 4684E-08 kg]	1 5000E-08	
												Y 90	2 7608E-04	2 0202E-05	5 4600E-07	
												Sub Total	8 8852E+02	6 5016E+01 [9 7380E 04 g] [8 8683E 08 kg]	1 7572E+00	
Package Total													8 8852E+02	6 5016E+01 [9 7380E 04 g]	1 7572E+00	

NOTE 1 Container Description Codes For containers/waste requiring disposal in approved structural overpacks, the numerical code must be followed by "-OP"

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethylene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk, Unpacked Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 6 or additional page

NOTE 1A Bulk Packaging Description Codes (Choose one code as may be applicable)

A Gondola
B Intermodal
C End-dump
D Roll-off
E Boxes

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 RCRA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
99 Other Describe in Item 11, or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Gaseous
N Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

NOTE 3 Solidification and Stabilization Media Codes. (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements, the numerical code must be followed by "-S" and the media vendor and brand name must also be identified in Item 13 Code 100-None Required

Solidification

01 Cement
02 Bitumen
03 Vinyl Chloride
04 Vinyl Ester Styrene
99 Other Describe in Item 13 or additional page
100 None Required

Form 541 (10-96) * - Indicates Cross Contamination

Office of Management and Budget, Washington, DC If a means used to impose an information collection does not display a currently valid control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection

FORM 541A

Clive Disp Site - Treatment Facility

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

2 MANIFEST NUMBER: 9078-03-0011

3 PAGE 2 OF 2 PAGE(S)

DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER									
							PHYSICAL DESCRIPTION			14 CHEMICAL DESCRIPTION		15 RADIOLOGICAL DESCRIPTION				16 WASTE CLASSIFICATION AS Class A Stable AU - Class A Unstable B - Class B C - Class C
5 CONTAINER IDENTIFICATION NUMBER S - Innerpack Container	6 CONTAINER DESCRIPTION (See Note 1 & 1A)	7 VOLUME m³ ft³	8 WASTE AND CONTAINER WEIGHT kg ton	9 SURFACE RADIATION LEVEL mSv/hr mrem/hr	10 SURFACE CONTAMINATION MBq/100 cm² dpm/100 cm²		11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER m³ ft³	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
					ALPHA	BETA-GAMMA						RADIONUCLIDES	pCi/gm	MBq	mCi	
														[6 8683E-08 kg]		
Shipment Total		36 24625 1280 00000	4183 85647 4 59000											6 5016E+01 [9 7360E 04 g] [6 8683E-08 kg]	1 7572E+00	

Form 541A (10-96) * - Indicates Cross Contamination

Office of Management and Budget, Washington, DC 20503 If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor and a person is not required to respond to, the information collection

FORM 542

Clive Disposal Site - Treatment Facility

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

MANIFEST INDEX AND REGIONAL COMPACT TABULATION

List all original "PROCESSED WASTE" generators (if any) before "COLLECTED WASTE" generators

1 WASTE COLLECTOR/PROCESSOR

NAME: EnergySolutions on behalf of Nuclear Waste Partnership LLC

SHIPPER USE ONLY

SHIPPING DATE: 11/13/2015

2 MANIFEST NUMBER: 9078 03-0011

3 PAGE 1 OF 1 PAGE(S)

5 GENERATOR NAME AND TELEPHONE NUMBER	6 GENERATOR FACILITY ADDRESS	6A. WASTE DESCRIPTION (NOMENCLATURE)	7 PREPROCESSED WASTE (OR MATERIAL) VOLUME m³	ft³	8 MANIFEST NUMBER(S) UNDER WHICH WASTE (OR MATERIAL) RECEIVED AND DATE OF RECEIPT	9 WASTE CODE P=PROCESSED C=COLLECTED	10 ORIGINATING COMPACT REGION OR STATE	11 AS PROCESSED/COLLECTED TOTAL A. SOURCE MATERIAL (kg)	(lb)	B SNM (g)	C ACTIVITY MBq	mCi	D VOLUME m³	ft³	E WEIGHT (lb)	F MAXIMUM PACKAGE RADIATION LEVEL (rarem/hr)
Nuclear Waste Partnership LLC on behalf of US DOE (575) 234-8062	WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad Carlsbad, NM 88220	Air Filtration Filters Compactible Trash EPA or State Hazardous Solid	23 56006	832 00000	Onsite Generation 11/06/2015	C	NM	6 8883E-08	1 5142E-07	9 7380E-04	6 5016E+01	1 7572E+00	23 56006	832 00000	4368 00000	0 5
TOTALS OF ALL PAGES (FORMS 542 AND 542A)								1 8883E-08	1 5142E-07	9 7380E-04	6 5016E+01	1 7572E+00	23 56006	832 00000	4368 00000	N/A

Form 542 (10-96)

For Manifest # 9078-03-0011

Clive Disposal Site - Treatment Facility

Isotope	Total Activity (MBq)	(mCi)	(Ci)	Total SNM (gm)	Total Source (lb)
AM-241	5 9940E+01	1 6200E+00	1 6200E-03	0000E+00	0000E+00
BA-137M	1 4245E-04	3 8500E-06	3 8500E-09	0000E+00	0000E+00
CO-60	6 0310E-05	1 6300E-06	1 6300E-09	0000E+00	0000E+00
CS-134	1 3986E-04	3 7800E-06	3 7800E-09	0000E+00	0000E+00
CS-137	1 5059E-04	4 0700E-06	4 0700E-09	0000E+00	0000E+00
PU-238	9 3980E-03	2 5400E-04	2 5400E-07	1 4852E-06	0000E+00
PU-239	2 1719E+00	5 8700E-02	5 8700E-05	9 4714E-04	0000E+00
PU-241	2 8934E+00	7 8200E-02	7 8200E-05	7 5989E-07	0000E+00
SR-90	2 0202E-05	5 4600E-07	5 4600E-10	0000E+00	0000E+00
TH-228	1 2432E-03	3 3600E-05	3 3600E-08	0000E+00	9 0470E-14
TH-230	1 0656E-05	2 8800E-07	2 8800E-10	0000E+00	3 0833E-11
TH-232	9 7310E-08	2 6300E-09	2 6300E-12	0000E+00	5 2922E-08
U-235	2 0683E-06	5 5900E-08	5 5900E-11	2 5684E-05	0000E+00
U-238	5 5500E-07	1 5000E-08	1 5000E-11	0000E+00	9 8488E-08
Y-90	2 0202E-05	5 4600E-07	5 4600E-10	0000E+00	0000E+00
Totals	6 5016E+01	1 7572E+00	1 7572E-03	9 7380E-04	1 5142E-07

Page 1 of 1

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230) **A completed and signed copy of this form must also accompany each waste manifest.**

Waste Stream ID 9028-03 Manifest No 0011

1. Check applicable category below for the waste stream:

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2c	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☐	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☑	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations

2. Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☑ a Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1

☒ b The SNM is homogeneously distributed throughout the waste <u>or</u> the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits (Based on process knowledge or testing)

☑ c Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e g , a pallet of drums, a B-25 box) By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc do not contain other elements (Based on process knowledge or testing)

☑ d Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste (Based on process knowledge, physical observations, or testing)

☑ e Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233 If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule Highly soluble forms of uranium include, but are not limited to uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate (Based on process knowledge or testing)

N/A ☐ f For containers of <u>liquid waste</u> with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing) For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6 0 mCi (6 0E+09 pCi) as shown below

(No liquid waste)

$$10{,}000\frac{pCi}{g} \times 600{,}000\,g = 6.0X10^{9}\ pCi = 6\ 0\ mCi\ Pu\text{-}239$$

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. **Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).**

   ☑ a Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition

   ☑ b Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges

   ☑ c Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution

   ☑ d. Describe the methods to be used to determine the concentrations on the manifests These methods could include direct measurement and the use of scaling factors Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations

4. **Generator's certification of compliance with the SNM exemption:** I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions

Authorized Signature	Printed Name	Title	Date
[signature]	Tim Stout	Senior Broker	11/13/15

Please print or type (Form designed for use on elite (12 pitch) typewriter)

Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator ID Number: NM4890139088

2 Page 1 of: 1

3 Emergency Response Phone: (865) 220-1555

4 Manifest Tracking Number: 009926519 JJK

5 Generator's Name and Mailing Address: Nuclear Waste Partnership, LLC on behalf of US D.O.E. P.O. Box 2078, M/S 452-09 Carlsbad, NM 88221

Generator's Site Address (if different than mailing address): WIPP Site / JAL Highway 30 miles Southeast of Carlsbad Carlsbad, NM 88220

Generator's Phone: (575) 234-8062

6 Transporter 1 Company Name: Hittman Transport Services, Inc.

U S EPA ID Number: TNR000034686

7 Transporter 2 Company Name:

U S EPA ID Number:

8 Designated Facility Name and Site Address: Energy Solutions - Clive Disposal Site Treatment Facility Interstate 80, Exit 49 Clive, UT 84029

U S EPA ID Number: UTD982598898

Facility's Phone: (435) 884-0155

9a HM	9b U S DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11 Total Quantity	12 Unit Wt/Vol	13 Waste Codes		
X	1 UN3321, Waste radioactive material, low specific activity (LSA-II), 7, fissile excepted	1	CM	1978	K	D004 D043	D007 F001	D009 U133
	2							
	3							
	4							

14 Special Handling Instructions and Additional Information
ERG #166. Exclusive Use Shipment. Shipment # 9078-03-0011.
Solid / Oxides. 65.016 MBq
See attached Uniform Low-Level Radioactive Waste Manifest for D.O.T. shipping papers.

15 **GENERATOR'S/OFFEROR'S CERTIFICATION** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged marked and labeled/placarded and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent
I certify that the waste minimization statement identified in 40 CFR 262 27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Tim Stout for Nuclear Waste Partnership LLC

Signature: Tim Stout

Month 11 Day 13 Year 15

16 International Shipments ☐ Import to U S ☐ Export from U S

Port of entry/exit

Transporter signature (for exports only)

Date leaving U S

17 Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Michael Scott Smith

Signature: Scott Smith

Month 11 Day 13 Year 15

Transporter 2 Printed/Typed Name

Signature

Month Day Year

18 Discrepancy

18a Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number

18b Alternate Facility (or Generator)

U S EPA ID Number

Facility's Phone

18c Signature of Alternate Facility (or Generator)

Month Day Year

19 Hazardous Waste Report Management Method Codes (i e codes for hazardous waste treatment, disposal, and recycling systems)

1	2	3	4
H132			

20 Designated Facility Owner or Operator Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Albert Gums

Signature: Albert Gums

Month 11 Day 16 Year 15

GENERATOR

INT'L

TRANSPORTER

DESIGNATED FACILITY

EPA Form 8700-22 (Rev 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926519 JJK
Profile No	9078-03-0011	State Manifest No	N/A

Is this waste a non-wastewater or wastewater? (See 40 CFR 268 2) Check ONE Non-wastewater ☒ Wastewater ☐
Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261 For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory Spent solvent standards are listed on the following page If F039, multi-source leachate applies those constituents must be listed and attached by the generator If D001-D043 requires treatment of the characteristic and meet 268 48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached

REF #	3 US EPA HAZARDOUS WASTE CODE (S)	4 SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE, SIMPLY CHECK NONE		5 HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
		DESCRIPTION	NONE	
WNKU 072053	D007,D009, F001,U133,D043, D004,D005,D006, D008,D010,D011, D018,D019,D021, D022,D026,D027, D028,D029,D030, D032,D033,D034, D035,D036,D037, D038,D039,D040, F002,F003,F004, F005,F006,F007, F009	Radioactive Debris	☐	A
			☐	
			☐	
			☐	
			☐	
			☐	

Identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
UHCs are present in the waste upon its initial generation check here ☒ (SEE NOTE)
To list additional USEPA waste code(s) and subcategone(s), use the supplemental sheet provided (Form A2) and check here ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268 7) Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations

A **RESTRICTED WASTE REQUIRES TREATMENT**
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268 40
☒ For Hazardous Debris "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45 "

B 1 **RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the alternative treatment standards for hazardous debris in 40 CFR Part 268 45 without impermissible dilution of the prohibited waste I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B 3 **GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268 42 Table 1 I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B 4 **DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 or 268 49, to remove the hazardous characteristic This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

C **RESTRICTED WASTE SUBJECT TO A VARIANCE**
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension Enter the effective date of prohibition in column 5 above
☐ For hazardous debris "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45 "

D **RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT**
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D I believe that the information I submitted is true, accurate and complete I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment "

WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information

Signature [signature] Title SCIENTIST III Date 11-13-15

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926519 JJK
Profile No	9078-03-0011	State Manifest No	N/A

Form A1

Page 1

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV) – REVERSE SIDE

If the waste identified on the first page of this form is described by any of the following USEPA hazardous waste codes F001, F002, F003, F004, F005, and all solvent constituents will not be monitored by the treater, then each constituent MUST be identified below by checking the appropriate box, and this page must accompany the shipment, along with the previous page of this form If the waste code F039 describes this waste, then the corresponding list of constituents must be attached If D001-D043 require treatment to 268 48 standards, then the underlying hazardous constituent(s) must also be attached

SOLVENT WASTE TREATMENT STANDARDS[2]					
F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]		F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]	
	Wastewaters	Nonwastewaters		Wastewaters	Nonwastewaters
Acetone (F003)	0 28	160	Methanol (F003)	5 6	0 75 (TCLP)[3]
Benzene (F005)	0 14	10	Methylene chloride (F001, F002)	0 089	30
n-Butanol (n-butyl alcohol) (F003)	5 6	2 6	Methyl ethyl ketone (F005)	0 28	36
Carbon disulfide (F005)	3 8	4 8 (TCLP)[3]	Methyl isobutyl ketone (F003)	0 14	33
Carbon tetrachloride (F001)	0 057	6 0	Nitrobenzene (F004)	0 068	14
Chlorobenzene (F002)	0 057	6 0	2-Nitropropane (F005)	INCIN or {(WETOX or C HOXD) followed by CARBN}	INCIN
o-Cresol (F004)	0 11	5 6	Pyridine (F005)	0 014	16
[illegible]l (m- and p- isomers) (F004)	0 77	5 6	Tetrachloroethylene (F001, F002)	0 056	6 0
Cyclohexanone (F003)	0 36	0 75 (TCLP)[3]	Toluene (F005)	0 080	10
o-Dichlorobenzene (F002)	0 088	6 0	1,1,1-Trichloroethane (F001, F002)	0 054	6 0
2-Ethoxyethanol (F005) also called ethylene glycol, monoethyl ether	INCIN or BIODG	INCIN	1,1,2-Trichloroethane (F002)	0 054	6 0
Ethyl acetate (F003)	0 34	33	Trichloroethylene (F001, F002)	0 054	6 0
Ethyl benzene (F003)	0 057	10	Trichloromonofluoromethane (F002)	0 020	30
Ethyl ether (F003)	0 12	160	1,1,2-Trichloro-1,2,2-trifluoroethane (F002)	0 057	30
Isobutanol (Isobutyl Alcohol) (F005)	5 6	170	Xylenes (sum of o-, m-, and p-isomers) (F003)	0 32	30

[1]All spent solvent treatment standards are measured through a total waste analysis (TCA), unless otherwise noted Wastewater units are mg/l, nonwastewater are mg/kg

[2]For contaminated soils using the alternative soil treatment standards, the treatment standards for F001-F005 spent solvents must be a 90% reduction of the constituents or less than 10x the standard listed

[3]These solvents require a TCLP standard with units of mg/l

SUBCATEGORY REFERENCE

D001

A Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems

B Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in CWA/CWA-equivalent or Class I SDWA systems

High TOC Ignitable characteristic liquids subcategory based on 40 CFR 261 21(a) (1) – Greater than or equal to 10% total organic carbon

D002

D Corrosive characteristic wastes that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems

E Corrosive characteristic wastes that are managed in CWA, CWA-equivalent, or Class I SWDA systems

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926519 JJK
Profile No	9078-03-0011	State Manifest No	N/A

Form A1

Page 2

If D001-D043 requires treatment to the 40 CRF 268 48 standards, then each underlying hazardous constituent (UHC) present in the waste at the point of generation and at a level above the Universal Treatment Standard (UTS) constituent specific standard must be listed Write the letter (A, B1, B2, B3, or C that corresponds to the letter on the land disposal form A1) beside each constituent present to properly describe how the constituent(s) must be managed under 40 CFR 268 7 If contaminated soil requires treatment to 40 CFR 268 49 standards, then each UHC in the waste at the point of generation and at a level above 10 times the UTS must be listed Write the appropriate letter which corresponds to the letter on the LDR form

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
Acenaphthylene		0 059	3 4	2-Chloro-1,3-butadiene		0 057	0 28[1]
Acenapthene		0 059	3 4	Chlorodibromomethane		0 057	15
Acetone		0 28	160	Chloroethane		0 27	6 0
Acetonitrile		5 6	38[1]	bis(2-Chloroethoxy)methane		0 036	7 2
Acetophenone		0 010	9 7	bis(2-Chloroethyl)ether		0 033	6 0
2-Acetylaminofluorene		0 059	140	Chloroform		0 046	6 0
Acrolein		0 29	NA	bis(2-Chloroisopropyl)ether		0 055	7 2
Acylamide		19[1]	23[1]	p-Chloro-m-cresol		0 018	14
Acrylonitrile		0 24	84	2-Chloroethyl vinyl ether		0 062[1]	NA[1]
Aldicarb sulfone		0 056[1]	0 28[1]	Chloromethane/Methyl chloride		0 19	30
Aldrin		0 021	0 066	2-Chloronaphthalene		0 055	5 6
4-Aminobiphenyl		0 13	NA	2-Chlorophenol		0 044	5 7
Aniline		0 81	14	3-Chloropropylene		0 036	30
Anthracene		0 059	3 4	Chrysene		0 059	3 4
Aramite		0 36	NA	o-Cresol		0 11	5 6
alpha-(BHC)		0 00014	0 066	m-Cresol		0 77	5 6
beta-(BHC)		0 00014	0 066	p-Cresol		0 77	5 6
delta-(BHC)		0 023	0 066	m-Cumenyl methylcarbamate		0 056[1]	1 4[1]
gamma-(BHC)		0 0017	0 066	Cyclohexanone		0 36	0 75 mg/l[1]
Barban		0 056[1]	1 4[1]	o,p'-DDD		0 023	0 087
Bendiocarb		0 056[1]	1 4[1]	p,p'-DDD		0 023	0 087
Benomyl		0 056[1]	1 4[1]	o,p'-DDE		0 031	0 087
Benzene		0 14	10	p,p'-DDE		0 031	0 087
Benz(a)anthracene		0 059	3 4	o,p'-DDT		0 0039	0 087
Benzal chloride		0 055[1]	6 0[1]	p,p'-DDT		0 0039	0 087
Benzo(b)fluoranthene[3]		0 11	6 8	Dibenz(a,h)anthracene		0 055	8 2
Benzo(k)fluoranthene[3]		0 11	6 8	Dibenz(a,e)pyrene		0 061	NA
Benzo (g,h,i)perylene		0 0055	1 8	1,2-Dibromo-3-chloropropane		0 11	15
Benzo(a)pyrene		0 061	3 4	1,2-Dibromomethane/ Ethylene dibromide		0 028	15
Bromodichloromethane		0 35	15	Dibromomethane		0 11	15
Bromomethane/Methyl Bromide		0 11	15	m-Dichlorobenzene		0 036	6 0
4-Bromophenyl phenyl ether		0 055	15	o-Dichlorobenzene		0 088	6 0
n-Butyl alcohol		5 6	2 6	p-Dichlorobenzene		0 090	6 0
Butylate		0 042[1]	1 4[1]	Dichlorodifluoromethane		0 23	7 2
Butyl benzyl phthalate		0 017	28	1,1-Dichloroethane		0 059	6 0
2-sec-Butyl-4,6-dinitrophenol/Dinoseb		0 066	2 5	1,2-Dichloroethane		0 21	6 0
Carbaryl		0 006[1]	0 14[1]	1,1-Dichloroethylene		0 025	6 0
Carbenzadim		0 056[1]	1 4[1]	trans-1,2-Dichloroethylene		0 054	30
Carbofuran		0 006[1]	0 14[1]	2,4-Dichlorophenol		0 044	14
Carbofuran phenol		0 056[1]	1 4[1]	2 6-Dichlorophenol		0 044	14
Carbon disulfide		3 8	4 8 mg/l TCLP[1]	2,4-Dichlorophenoxyacetic acid/2,4-D		0 72	10
Carbon tetrachloride		0 057	6 0	1,2-Dichloropropane		0 85	18
Carbosulfan		0 028[1]	1 4[1]	cis-1 3-Dichloropropylene		0 036	18
Chlordane (alpha and gamma isomers)		0 0033	0 26	trans-1,3-Dichloropropylene		0 036	18
p-Chloroaniline		0 46	16	Dieldrin		0 017	0 13
Chlorobenzene		0 057	6 0	Diethyl phthalate		0 20	28
Chlorobenzilate		0 10	NA	p-Dimethylaminoazobenzene		0 13[1]	NA

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership, LLC
Profile No: 9078-03-0011
Manifest Doc No: 009926519 JJK
State Manifest No: N/A

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) Unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
2,4-Dimethyl phenol		0 036	14	Methylene chloride		0 089	30
Dimethyl phthalate		0 047	28	Methyl ethyl ketone		0 28	36
Di-n-butyl phthalate		0 057	28	Methyl isobutyl ketone		0 14	33
1,4-Dinitrobenzene		0 32	2 3	Methyl methacrylate		0 14	160
4,6-Dinitro-o-cresol		0 28	160	Methyl methansulfonate		0 018	NA
2,4-Dinitrophenol		0 12	160	Methyl parathion		0 014	4 6
2,4-Dinitrotoluene		0 32	140	Metolcarb		0 056[1]	1 4[1]
2,6-Dinitrotoluene		0 55	28	Mexacarbate		0 056[1]	1 4[1]
Di-n-octyl phthalate		0 017	28	Molinate		0 042[1]	1 4[1]
Di-n-propylnitrosamine		0 40	14	Naphthalene		0 059	5 6
1,4-Dioxane		12 0	170	2-Naphthylamine		0 52	NA
Diphenylamine[3]		0 92	13[1]	o-Nitroaniline		0 27[1]	14[1]
Diphenylnitrosamine[3]		0 92	13[1]	p-Nitroaniline		0 028	28
1,2-Diphenylhydrazine		0 087	NA	Nitrobenzene		0 068	14
Disulfoton		0 017	6 2	5-Nitro-o-toluidine		0 32	28
Dithiocarbamates (total)		0 028	28[1]	o-Nitrophenol		0 028[1]	13[1]
Endosulfan I		0 023	0 066	p-Nitrophenol		0 12	29
Endosulfan II		0 029	0 13	N-Nitrosodiethylamine		0 40	28
Endosulfan sulfate		0 029	0 13	N-Nitrosodimethylamine		0 40	2 3[1]
Endrin		0 0028	0 13	N-Nitroso-di-n-butylamine		0 40	17
Endrin aldehyde		0 025	0 13	N-Nitrosomethylethylamine		0 40	2 3
EPTC		0 042[1]	1 4[1]	N-Nitrosomorpholine		0 40	2 3
Ethyl acetate		0 34	33	N-Nitrosopiperidine		0 013	35
Ethyl benzene		0 057	10	N-Nitrosopyrrolidine		0 013	35
Ethyl cyanide/Propanenitrile		0 24	360	Oxamyl		0 056[1]	0 28[1]
Ethyl ether		0 12	160	Parathion		0 014	4 6
Bis(2-Ethylhexyl)phthalate		0 28	28	Total PCBs (sum of all PCB isomers or all Aroclors)		0 10	10
Ethyl methacrylate		0 14	160	Pebulate		0 042[1]	1 4[1]
Ethylene oxide		0 12	NA	Pentachlorobenzene		0 055[1]	10[1]
Famphur		0 017	15	PeCDDs (All Pentachlorodibenzo-p-dioxins)		0 000035	0 001
Fluoranthene		0 068	3 4	PeCDFs(All Pentachlorodibenzofurans)		0 000035	0 001
Fluorene		0 059	3 4	Pentachloroethane		0 055	6 0
Formetanate hydrochloride		0 056[1]	1 4[1]	Pentachloronitrobenzene		0 055	4 8
Heptachlor		0 0012	0 066	Pentachlorophenol		0 089	7 4
Heptachlor epoxide		0 016	0 066	Phenacetin		0 081	16
Hexachlorobenzene		0 055	10	Phenanthrene		0 059	5 6
Hexachlorobutadiene		0 055	5 6	Phenol		0 039	6 2
Hexachlorocyclopentadiene		0 057	2 4	Phorate		0 021	4 6
HxCDDs (All Hexachrorodibenzo-p-dioxins)		0 000063	0 001	Phthalic acid		0 055[1]	28[1]
HxCDFs (All Hexachlorodibenzofurans)		0 000063	0 001	Phthalic anhydride		0 055	28[1]
Hexachloroethane		0 055	30	Physostigmine		0 056[1]	1 4[1]
Hexachloropropylene		0 035	30	Physostigmine salicylate		0 056[1]	1 4[1]
Indeno(1,2,3-c,d)pyrene		0 0055	3 4	Promecarb		0 056[1]	1 4[1]
Iodomethane		0 19	65	Pronamide		0 093	1 5
Isobutyl alcohol		5 6	170	Propham		0 056[1]	1 4[1]
Isodrin		0 021	0 066	Propoxur		0 056[1]	1 4[1]
Isosafrole		0 081	2 6	Prosulfocarb		0 042[1]	1 4[1]
Kepone		0 0011	0 13	Pyrene		0 067	8 2
Methacrylonitrile		0 24	84	Pyridine		0 014	16
Methanol		5 6	0 75 mg/l[1]	Safrole		0 081	22
Methapyrilene		0 081	1 5	Silvex/2,4,5-TP		0 72	7 9
Methiocarb		0 056[1]	1 4[1]	1,2,4,5-Tetrachlorobenzene		0 055	14
Methomyl		0 028[1]	0 14[1]	TCDDs (All Tetrachlorodibenzo-p-dioxins)		0 000063	0 001
Methoxychlor		0 25	0 18	TCDFs (All Tetrachlorodibenzo-furans)		0 000063	0 001

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership, LLC
Manifest Doc No: 009926519 JJK
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State Manifest No: N/A

3-Methylcholanthrene		0 0055	15	1,1,1,2-Tetrachloroethane		0 057	6 0
4'-Methylene bis(2-chloroaniline)		0 50	30	1,1,2,2-Tetrachloroethane		0 057	6 0

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
Tetrachloroethylene		0 056	6 0	INORGANIC CONSTITUENTS			
2,3,4,6-Tetrachlorophenol		0 030	7 4	Antimony		1 9	2 1 mg/l TCLP
Thiodicarb		0 019[1]	1 4[1]	Antimony		1 9	1 15 mg/l TCLP[4]
Thiophanate-methyl		0 056[1]	1 4[1]	Arsenic		1 4	5 0 mg/l TCLP
Toluene		0 080	10	Barium		1 2	7 6 mg/l TCLP
Toxaphene		0 0095	2 6	Barium		1 2	21 mg/l TCLP[4]
Triallate		0 042[1]	1 4[1]	Beryllium		0 82	0 014 mg/l TCLP
Tribromomethane/Bromoform		0 63	15	Beryllium		0 82	1 22 mg/l TCLP[4]
2,4,6-Tribromophenol		0 035	7 4	Cadmium		0 69	0 19 mg/l TCLP
1,2,4-Trichlorobenzene		0 055	19	Cadmium		0 69	0 11 mg/l TCLP[4]
1,1,1-Trichloroethane		0 054	6 0	Chromium (Total)		2 77	0 86mg/l TCLP
1,1,2-Trichloroethane		0 054	6 0	Chromium (Total)		2 77	0 60 mg/l TCLP[4]
Trichloroethylene		0 054	6 0	Cyanides (Total)		1 2	590
Trichloromonofluoromethane		0 020	30	Cyanides (Amenable)		0 86	30[1]
2,4,5-Trichlorophenol		0 18	7 4	Fluoride		35	NA[4]
2,4,6-Trichlorophenol		0 035	7 4	Lead		0 69	0 37 mg/l
2,4,5-Trichlorophenoxyacetic acid/2,4,5-T		0 72	7 9	Lead		0 69	0 75 mg/l[4] TCLP
1,2,3-Trichloropropane		0 85	30	Mercury (Nonwastewater from Retort)		NA	0 20 mg/l TCLP
1,1,2-Trichloro-1,2,2-trifluoroethane		0 057	30	Mercury (All others)		0 15	0 025 mg/l TCLP
Triethylamine		0 081[1]	1 5[1]	Nickel		3 98	5 0 mg/l TCLP
Tris-(2,3-Dibromopropyl)phosphate		0 11	0 10[1]	Nickel		3 98	11 mg/l TCLP[4]
Vernolate		0 042[1]	6 0[1]	Selenium		0 82	0 16 mg/l TCLP
Vinyl chloride		0 27	6 0	Selenium		0 82	5 7 mg/l TCLP[5]
Xylenes – mixed isomers (sum of o-,m-, and p-xylene concentrations)		0 32	30	Silver		0 43	0 30 mg/l TCLP
Lindane(CAS # 58-89-9)		NA	0 066	Silver		0 43	0 14 mg/l TCLP[4]
				Sulfide		14	NA[2]
				Thallium		1 4	0 078 mg/l TCLP
				Thallium		1 4	0 20 mg/l TCLP[4]
				Vanadium		4 3[2]	1 6 mg/l TCLP[2]
				Zinc		2 61	4 3 mg/l TCLP[2]

[1] These constituents are only applicable as underlying hazardous constituents These constituents are not constituents that require treatment in F039 wastes

[2] Not an underlying hazardous constituent requiring treatment in a D001-D043 waste

[3] These compounds are regulated by the sum of their concentration instead of as individual constituents

[4] These constituents are effective in authorized states or states with no LDR program on 8/24/99 These concentrations are effective in all other states upon adoption by the state

[5] Effective 8/24/98 in unauthorized states or states with no LDR program Selenium at 5 7 mg/l is not an underlying hazardous constituent in D001-D043 waste This becomes effective in authorized states upon adoption by the state

Final En Route Shipment Inspection Checklist

Form CP-SR-PR-204-F12
Rev. 2

Shipment 9028-03-0011 Date Shipped 11/13/15

This checklist is to be completed by the driver when the final shipment inspection is conducted before arrival to the Consignee This checklist shall be returned to Energy Solutions with the transportation invoice

Inspection Date _____ Location _____

Driver's Name _____

Signature _____

		SAT	UNSAT
1	Shoring inspected – Load locks secure, all shoring in place and snug against the package		
2	Packages checked to ensure that		
	Drums/Boxes		
	a Rings and Bolts are not loose		
	b Clips or bolts in boxes have not come off or vibrated loose		
	Liners or Casks		
	a Lid closure is tight and ratchets or closures have not loosened		
	b Tie down mechanisms are tight and all bolts are secure HT 11/13/15		
3	Placards are still applied to four sides of the trailer and, if ~~applied, the front bumper of the tractor~~ 4 sides of Sealand 11/13/15		
4	No package markings or lables have fallen off - Radioactive- LSA Class A Unstable Hazardous Waste		
5	No visible package damage		
6	Seal # N/A applied to the rear trailer door or package		

This shipment shall not enter the burial site if driver finds any problems during inspection If problems are found, contact one of the following individuals

Fred Schulz, Section Leader, Shipping and Receiving	8 a m – 5 p m	Office	(865) 220-1589
	After normal business hours		(865) 414-2941
Emergency Duty Officer Energy Solutions	8 a m – 5 p m	Mobile	(865)806-4704
	After normal business hours		

Energy Solutions staff member contacted _____

Date _____ Time _____

Vehicle Condition Checklist

Form CP-SR-PR-204-F7
Rev. 4

Shipment Number	9078-03-0011	Shipment Date.	11/13/15
Carrier	Hittman Transport Services	Driver's Name	Scott Smith
Tractor Number	2764	Trailer Number	Q54658

TRAILER TYPE Van, Open Top Van, Flatbed, Cask, Other Flatbed

INSPECTION CHECKS TRUCK/TRAILER

		SAT	UNSAT
1	**Front tire tread** At least 4/32-in tread (no recaps), 49 CFR 393 75(b)	✓	
2	**Other tire tread** At least 2/32-in tread, 49CFR 393 75(c)	✓	
3	**Windshield,** • Defects and Unobstructed View, 49CFR 393 60 • Wipers, 49 CFR 393 78	✓	
4	**Headlamps**, Operational & Unobstructed, 49 CFR 393 9, 393 11 & 393 24	✓	
5	**Turn Signals Front and Rear**, Operational & Unobstructed , 49 CFR 393 11, 393 19 & 393 25	✓	
6	**Tail lamps and Stop lamps**, Operational & Unobstructed, 49 CFR 393 9, 393 11 & 393 25	✓	
7	**Other Required Lamps** (Running and Parking Lamps), Operational & Unobstructed, 49 CFR 393 9, 393 11 & 393 25	✓	
8	**Reflectors**, 49 CFR 393 9, 393 11 & 393 26	✓	
9	**Rear Vision Mirrors,** 49 CFR 393 80	✓	
10	**Fire extinguisher/Fuses/Warning Devices**, 49 CFR 393 95	✓	
11	**Horn,** 49 CFR 393 81	✓	
12	**Trailer Frame, Headboard, Decking** Excessive Rust/Damage	✓	
13	**Fifth Wheel/King Pin/Plate Coupling Device,** 49 CFR 393 70	✓	
14	**Truck & Trailer License Plates,** Current	✓	
15	**Tractor Periodic Inspection,** Current for Duration of Shipment, Hard Copy Report and Sticker Match, 49 CFR 396 17, 396 21, 393 23	✓	
16	**Trailer Periodic Inspection,** Current for Duration of Shipment, Hard Copy Report and Sticker Match, 49 CFR 396 17, 396 21, 393 23	✓	
17	**Load Tiedowns,** Good Condition, ISO locks Operable, No Counterfeit Bolts, Tiedowns rated for load, 49 CFR Subpart I	✓	
18	**Placards and Placard Holders,** Visible, Unobstructed and Durable, 49 CFR 172 516, 172 519	✓	

Inspected by/Date Scott Smith 11-13-15
Driver's Signature & Date

Reviewed by/Date Jim [illegible] 11/13/15
Energy Solutions Representative Signature & Date

Electronic documents, once printed, are uncontrolled and may become outdated Refer to the intranet or the document control authority for the current revision

Radioactive Material Shipment **Exclusive Use Instructions**	**Form CP-SR-PR-204-F8** **Rev. 5**

Shipment 9078-03-0011 Date 11/13/2015

Carrier: Hittman Transport Services

Consignor EnergySolutions for NWP @ WIPP

Consignee: EnergySolutions
Treatment Facility
Interstate 80, Exit 49
Clive, UT 84029

Attn Shipping and Receiving Department Telephone (435) 884-0155

1 This shipment of radioactive material has been designated by EnergySolutions as an exclusive use shipment as defined in 49 CFR 173 403 You are advised per these instructions to transport the items described on the attached shipping documents under "Exclusive Use Provisions" Title 49 CFR 173 427(a)(6)(iv) requires that specific instructions for maintenance of Exclusive Use shipments be provided by the Shipper to the carrier

2 As an exclusive use shipment, all initial, intermediate, and final loading and unloading are carried out in accordance with the direction of the consignor or consignee.

3 Do not move the 5th wheel from the original position at release or change tractors without notifying EnergySolutions at one of the following phone numbers on Page 2 of these instructions

4 If deviations to the below-prescribed routing or arrival date are necessary, contact EnergySolutions

Scheduled Arrival 11/16/2015

Routing Major Highways

5 Placards shall be applied on the transportation conveyance and packaging as follows

- ☒ 4 placards visible from each direction on van, flatbed or cask trailer
- ☒ Placards on opposing sides of package (4 on Bulk Packages >640 ft^3, 2 on Bulk Packages <640)
- ☐ 4 placards visible from each direction on van, flatbed or cask with a 5th on tractor front
- ☐ 3 placards visible from sides and back of van, flatbed or cask and the 4th on tractor front
- ☐ Extra placards have been supplied to driver

6 The carrier is responsible for maintaining the placards as prescribed above Placards shall be replaced if any are lost or damaged

7 Seals have been attached to the following locations N/A

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8 Except as provided in 49 CFR 173 443(d) each transport vehicle used for transporting Class 7 materials as an exclusive use shipment that utilizes the provisions of 49 CFR 173 443(b) must be surveyed with appropriate radiation detection instruments after each use

A vehicle may not be **returned to service** until the radiation dose rate at each accessible surface is 0 005 mSv per hour(0 5 mrem per hour) or less, and there is no significant removable (non-fixed) radioactive surface contamination as specified in 49 CFR 173 443 (a)

9 Contact EnergySolutions concerning any of these requirements as follows

During regular business hours, 8 00 am – 5 00 pm, Monday – Friday, call the EnergySolutions administrative offices at (865) 481-0222

At other times, call the persons listed below in the order listed

Brad Melton, Manager Shipping and Receiving, Certified Broker	Office	(865) 220-1563
	Mobile	(865) 805-1377
Fred Schulz, Director of Logistics Certified Broker	Office	(865) 220-1589
	Home	(865) 376-3588
	Mobile	(865) 414-2941

10 In case of an emergency or accident, contact the Emergency Duty Officer by calling EnergySolutions at **(865) 220-1555**, and follow General Emergency Response Instructions provided with paperwork The drivers North American Emergency Response Guidebook may also be used as a reference

11 This shipment contains a Reportable Quantity of the following

- ☐ Radionuclides
- ☐ Asbestos
- ☐ Other _____
- ☒ None

I have read and understand the requirements of these exclusive use instructions

Driver Signature Scott Smith Date 11/13/2015

Electronic documents, once printed, are uncontrolled and may become outdated Refer to the intraweb or the document control authority for the current revision

UN3321, Radioactive material, low specific activity(LSA-II), 7

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers emergency response personnel and the public during transportation accidents Packaging durability increases as potential hazard of radioactive content increases
- Undamaged packages are safe Contents of damaged packages may cause higher external radiation exposure or both external and internal radiation exposure if contents are released
- Low radiation hazard when material is inside container If material is released from package or bulk container hazard will vary from low to moderate Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on
- Some material may be released from packages during accidents of moderate severity but risks to people are not great
- Released radioactive materials or contaminated objects usually will be visible if packaging fails
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels Placards, markings and shipping papers provide identification
- Some packages may have a "RADIOACTIVE" label and a second hazard label The second hazard is usually greater than the radiation hazard, so follow this GUIDE as well as the response GUIDE for the second hazard class label
- Some radioactive materials cannot be detected by commonly available instruments
- Runoff from control of cargo fire may cause low-level pollution

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Uranium and Thorium metal cuttings may ignite spontaneously if exposed to air (see GUIDE 136)
- Nitrates are oxidizers and may ignite other combustibles (see GUIDE 141)

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover**
- **Priorities for rescue, life saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels**
- Radiation Authority must be notified of accident conditions Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions • Stay upwind • Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated, delay decontamination and cleanup until instructions are received from Radiation Authority

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet)

Fire

- When a large quantity of this material is involved in a major fire consider an initial evacuation distance of 300 meters (1000 feet) in all directions

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques
- Move containers from fire area if you can do it without risk
- Do not move damaged packages, move undamaged packages out of fire zone

Small Fire

- Dry chemical, CO_2 water spray or regular foam

Large Fire

- Water spray, fog (flooding amounts)
- Dike fire-control water for later disposal

SPILL OR LEAK

- Do not touch damaged packages or spilled material
- Cover liquid spill with sand, earth or other non-combustible absorbent material
- Dike to collect large liquid spills
- Cover powder spill with plastic sheet or tarp to minimize spreading

FIRST AID

- Call 911 or emergency medical service
- Medical problems take priority over radiological concerns
- Use first aid treatment according to the nature of the injury
- Do not delay care and transport of a seriously injured person
- Give artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult
- In case of contact with substance, wipe from skin immediately, flush skin or eyes with running water for at least 20 minutes
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities
- Ensure that medical personnel are aware of the material(s) involved take precautions to protect themselves and prevent spread of contamination

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 – Carrier/Driver Instructions

8 Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander If the on-scene commander is not present, request those persons who have been identified to remain at the scene

9 Stand by until assistance arrives

10 **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11 DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name Hittman Transport

Scott Smith	Scott Smith	11-13-15
Driver's Name (Printed)	Driver's Signature	Date

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RSR Paperwork Completion

XL00271

Arrived	08/24/2015	**Gross Volume (ft)**	336 88
Record	9078-05-0002	**Waste Type**	XL
Haz Manifest			
Vehicle ID	W14678		

DC	
On-Site	
Off-Site	

EC-18 Arrival	
Conveyance Release Survey	
Deferred Chemical Analysis	
Off-Site Radiological Analysis	
On-Site Radiological Analysis	
Hazardous Waste Manifest	
LDR	
Weight Verification	
EC-0525	

TK# 526A TP# W14678

FORM 540 — **EnergySolutions, LLC**

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(970) 201-6240/ WIPP Emergency # 575-885-8853

ORGANIZATION
EnergySolutions

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT?
☐ YES
☑ NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST: 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? ☐ YES ☑ NO
If "Yes, provide Manifest Number ==>

EPA MANIFEST NUMBER: NA

5 SHIPPER - NAME AND FACILITY
Nuclear Waste Partnership, LLC on behalf of USDOE
33 Miles South East
Carlsbad, NM 88220

Utah Generator Site Access Permit No: 1309006242
SHIPMENT NUMBER: 16-022

CONTACT: Jeff Casey

6 CARRIER – Name and Address
Hittman Transport
1560 Bear Creek Road
Oak Ridge, TN 37830

CONTACT: Karen Kirby

SIGNATURE – Authorized carrier acknowledging waste receipt

SHIPPER ID NUMBER: 9078-05-0002
☐ COLLECTOR
☐ PROCESSOR
☑ GENERATOR TYPE (Specify) G
TELEPHONE NUMBER (Include Area Code): 575 234-8062
EPA I D NUMBER: TNR000034686
SHIPPING DATE: 08/20/2015
TELEPHONE (Include Area Code): 1-800-333-8933
DATE: 8-20-15

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MANIFEST NUMBER (Use this number on all continuation pages): 9078-05-0002

9 CONSIGNEE - Name and Facility
EnergySolutions, LLC
Clive Disposal Site (Treatment Facility)
Interstate 80, Exit 49
Clive, UT 84029
XL00271

CONTACT: Transportation Compliance
TELEPHONE (Include Area Code): (435)884-0155

SIGNATURE – Authorized consignee acknowledging waste receipt
DATE: 8/24/15

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified described packaged marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations.

AUTHORIZED SIGNATURE: [signature] TITLE: Broker DATE: 8-20-15

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name hazard class UN ID number and any additional information)	12 DOT LABEL RADIOACTIVE	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
Non-Regulated Material per USDOT 49CFR, Contains an Exempt Quantity of Radioactive Nuclides One Van trailer containing 12 Totes of Non-regulated water	NA	NA	Liquid Oxide	Am-241	Co-60	Cs-137	K-40	8 6010E-01	(2 3246E-02)	NA	39950 LBS, 2520 GAL	W14678
				Pu-238	Pu-240							

FOR CONSIGNEE USE ONLY

- ____ Record Waste Description Inadequate
- ____ Contamination or Leakage Detected
- ____ Unexpected Exposure Rates Detected
- ____ Labels, Markings, etc Inadequate
- ____ Container Integrity Inadequate
- ____ Other
- ✓ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material __ is (or) ✓ is not a hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste, this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268 1

B TITLE Upon acceptance at the disposal site by EnergySolutions LLC and all appropriate regulatory authorities title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolutions LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws rules regulations and EnergySolutions LLC a facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC its officers employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03-05)

[illegible] THE U.S. DEPARTMENT OF ENERGY AS THE ACTUAL TOTAL TRANSPORTATION CHARGES PAID TO THE CARRIER(S) BY THE CONSIGNEE OR CONSIGNOR ARE REIMBURSABLE TO, AND ARE TO BE REIMBURSED BY THE GENERATOR

FORM 541

EnergySolutions, LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME		NET WASTE WEIGHT	
1	m3	9 5392	kg	11407 8469
	ft3	336 8750	ton	12 5760

1 MANIFEST TOTALS

SPECIAL NUCLEAR MATERIAL (grams)

U-233	U-235	Pu	Total
NP	NP	6 5383E-09 1 Container	6 5383E-09

ACTIVITY

	ALL NUCLIDES	TRITIUM	C-14	Tc-99	I-129	SOURCE (kg)	
MBq	8 6010E-01	NP	NP	NP	NP	(kg)	NA
mCi	2 3246E-02	NP	NP	NP	NP	(tons)	NA

2 MANIFEST NUMB 9078-05-0.

3 PAGE 1 OF 1 PAGE(S)

4 SHIPPER NAME
Nuclear Waste Partnership, LLC on behalf of USDOE

SHIPMENT ID NUMBER
9078-05-0002

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5 CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6 CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7 VOLUME (m3) / (ft3)	8 WASTE AND CONTAINER WEIGHT (kg) / (ton)	9 SURFACE RADIATION LEVEL (mSv/hr) / (mrem/hr)	10 SURFACE CONTAMINATION (MBq/100 cm2) / (dpm/100cm2) ALPHA	BETA-GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) / (FT3)	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C
W14678/9076	19 OTHER	9 5392	18121 0164	<2 0000E-02	<3 3400E-07	<3 3400E-06	25,59-LLW Water-J	9 5392	NA	Oxide/NP	NP	Am-241	6 32024E-04	2 6677E-04	7 2100E-06	AU
		336 8750	19 9750	<2 0000E+00	<2 0000E+01	<2 0000E+02		336.8750				Co-60	2 82263E-03	1 1914E-03	3 2200E-05	
												Cs-137	3 59404E-04	1 5170E-04	4 1000E-06	
												K-40	2 03370E+00	8 5840E-01	2 3200E-02	
												Pu-238 [6 0000E-11 g]	8 94126E-05	3 7740E-05	1 0200E-06	
												Pu-240 [6 4783E-09 g]	1 30613E-04	5 5130E-05	1 4900E-06	
												Subtotal		8 6010E-01	2 3246E-02	
												Total		8 6010E-01	2 3246E-02	
												SNM [6 5383E-09 g]				
Shipment Totals		9 5392	18121 0164									SNM [6 5383E-09 g]		8 6010E-01	2 3246E-02	
		336 8750	19 9750													

Note 1 Container Description Codes For containers/ waste requiring disposal in approved structural over packs the numerical code must be followed by '-OP'

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethlene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 6 or additional page

Note 1A Bulk Packaging Description Codes (Choose one code as may be applicable)

A Gondola
B Intermodal
C End-Dump
D Roll-off
E Seaven

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactable Trash
40 Noncompactable Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
59 Other Describe in item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

Note3 Solidification and Stabilization Media Codes. (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements, the numerical code must be followed by '-S" and the media vendor and brand name must also be identified in item 13 Code 100=NONE REQUIRED

Solidification
90 Cement
91 Concrete (encapsulation)
92 Bitumen
93 Vinyl Chloride
94 Vinyl Ester Styrene
99 Other Describe in item 13, or additional page
100 None Required

FORM 541 (03-05)

Rev 1

FORM 540 — **EnergySolutions, LLC**

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(970) 201-6240/ WIPP Emergency # 575 885-6683

ORGANIZATION
EnergySolutions

2 IS THIS AN EXCLUSIVE USE SHIPMENT?
☐ YES
☑ NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ====> 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? ☐ YES ☑ NO
If Yes provide Manifest Number ====>

EPA MANIFEST NUMBER
NA

5 SHIPPER NAME AND FACILITY
Energysolutions LLC on behalf of USDOE
33 Miles South East
Carlsbad NM 88220

Utah Generator Site Access Permit No: 1369068242
SHIPMENT NUMBER: 15-022

CONTACT: Jeff Casey

6 CARRIER – Name and Address
Hittman Transport
1560 Bear Creek Road
Oak Ridge TN 37830

CONTACT: Karen Kirby

SIGNATURE: Authorized carrier acknowledging waste receipt

SHIPPER ID NUMBER: 9078-05-0002
☐ COLLECTOR
☐ PROCESSOR
☑ GENERATOR TYPE (Specify) G
TELEPHONE NUMBER (Include Area Code): 575 234-8002
EPA ID NUMBER: TNR000034686
SHIPPING DATE: 08/29/2015
TELEPHONE (Include Area Code): 1-800 233-8933
DATE

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 1 PAGE(S)
FORM 542 AND 542A — None PAGE(S)
ADDITIONAL INFORMATION — None PAGE(S)

8 MANIFEST NUMBER (Use this number on all continuation pages)
9078-05 0002

9 CONSIGNEE Name and Facility
EnergySolutions, LLC
Clive Disposal Site (Treatment Facility)
Interstate 80, Exit 49
Clive, UT 84029
X400271

CONTACT: Transportation Compliance
TELEPHONE (Include Area Code): (435)884-0155

SIGNATURE: Authorized consignee acknowledging waste receipt
DATE

10 CERTIFICATION
This is to certify that the herein named materials are properly classified described packaged marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulations

AUTHORIZED SIGNATURE | TITLE | DATE

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name hazard class UN ID number and any additional information)	12 DOT LABEL RADIOACTIVE	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES				16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
Non Regulated Material per USDOT 49CFR Contains an Exempt Quantity of Radioactive Nuclides One Van trailer containing 12 Totes of Non regulated water.	NA	NA	Liquid Oxide	Am 241	Co 60	Cs 137	K-40	8 6010E-01	(2 3246E-02)	NA	39950 LBS, 2520 GAL	W14678
				Pu 238	Pu 240							

FOR CONSIGNEE USE ONLY

____ Record Waste Description Inadequate
____ Contamination or Leakage Detected
____ Unexpected Exposure Rates Detected
____ Labels Markings etc Inadequate
____ Container Integrity Inadequate
____ Other
____ No Violations Detected on this Shipment

20 TERMS AND CONDITIONS

A HAZARDOUS MATERIALS Generator represents & warrants that Waste Material __ is (or) * is not a hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste this shipment is also accompanied by a separate and completed hazardous waste manifest along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268 1

B TITLE Upon acceptance at the disposal site by EnergySolutions LLC and all appropriate regulatory authorities title to the Waste Material which conforms to Generator s representations herein shall thereupon transfer from Generator and be vested in EnergySolutions LLC

C WASTE MATERIAL Generator represents and warrants that all data set forth in this (UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws rules regulations and EnergySolutions LLC s facility license

D INDEMNIFICATION Generator agrees to indemnify EnergySolutions LLC its officers employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

FORM 540 (03 06)

FORM 541 EnergySolutions LLC

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control Transfer and Disposal of Radioactive Waste

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT
1	m3 9 5392	kg 11407 8489
	ft3 336 8750	ton 12 5750

1 MANIFEST TOTALS

SPECIAL NUCLEAR MATERIAL (grams)

U 233	U 235	Pu	Total
NP	NP	6 5383E-09 1 Container	6 5383E 09

ACTIVITY

	ALL NUCLIDES	TRITIUM	C 14	Tc 99	I 129	SOURCE (kg)	
MBq	8 6010E 01	NP	NP	NP	NP	(kg)	NA
mCi	2 3246E 02	NP	NP	NP	NP	(tons)	NA

2 MANIFEST NUMBER 9078 05-0002

3 PAGE 1 OF 1 PAGE(S)

4 SHIPPER NAME Energysolutions LLC on behalf of USDOE

SHIPMENT ID NUMBER 9078-05 0002

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5 CONTAINER IDENTIFICATION NUMBER/ GENERATOR ID NUMBER(S)	6 CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7 VOLUME (m3) / (ft3)	8 WASTE AND CONTAINER WEIGHT (kg) / (ton)	9 SURFACE RADIATION LEVEL (mSv/hr) (mrem/hr)	10 SURFACE CONTAMINATION (MBq/100 cm2) (dpm/100cm2) ALPHA	BETA GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) / (FT3)	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT / CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AB-Class A Stable AU Class A Unstable B Class B C-Class C
W14678/9078	19 OTHER	9.5392	18121 0164	<2 0000E 02	<3 3400E-07	<3 3400E-06	25 59-LLW Water-J	9 5392	NA	Oxide/NP	NP	Am 241	6 32024E 04	2 6677E-04	7 2100E 06	AU
		336 8750	19 9750	<2 0000E+00	<2 0000E+01	<2 0000E+02		336 8750				Co-60	2 82263E 03	1 1914E-03	3 2200E 05	
												Cs 137	3 59404E 04	1 5170E-04	4 1000E 06	
												K-40	2 03370E+00	8 5840E 01	2 3200E 02	
												Pu 238 [6 0000E-11 g]	8 94126E 05	3 7740E-05	1 0200E 06	
												Pu 240 [6 4783E-09 g]	1 30613E 04	5 5130E 05	1 4900E 06	
												Subtotal		8 6010E-01	2 3246E-02	
												Total		8 6010E-01	2 3246E-02	
												SNM [6 5383E 09 g]				
Shipment Totals		9 5392	18121 0164									SNM [6 5383E 09 g]		8 6010E 01	2 3246E-02	
		336 8750	19 9750													

Note 1 Container Description Codes For containers/ waste requiring disposal in approved structural over packs the numerical code must be followed by " OP

1 Wooden Box or Crate
2 Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethlene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk Unpackaged Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 6 or additional page

Note 1A Bulk Packaging Description Codes (Choose one code as may be applicable)

A Gondola
B Intermodal
C End Dump
D Roll-off
E Seaven

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume)

20 Charcoal
21 Incinerator Ash
22 Soil
23 Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion exchange Media
31 Anion Ion exchange Media
32 Mixed Bed Ion exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
59 Other Describe in item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes)

G Dewatered
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

Note3 Solidification and Stabilization Media Codes (Choose up to three which predominate by volume) For media meeting disposal site structural stability requirements the numerical code must be followed by S and the media vendor and brand name must also be identified

in Item 13 Code 100=NONE REQUIRED

Solidification

90 Cement
91 Concrete (encapsulation)
92 Bitumen
93 Vinyl Chloride
94 Vinyl Ester Styrene
99 Other Describe in item 13 or additional page
100 None Required

FORM 541 (03 06)

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230) **A completed and signed copy of this form must also accompany each waste manifest**

Waste Stream ID 9078-05 Manifest No 9078-05-0002

1. Check applicable category below for the waste stream·

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2c	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☐	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☐	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☒	Not Applicable - Enriched U-235 is not present in the waste				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations

2. Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☒ a Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table I

☒ b The SNM is homogeneously distributed throughout the waste <u>or</u> the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits (Based on process knowledge or testing)

☒ c Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e g , a pallet of drums, a B-25 box) By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc do not contain other elements (Based on process knowledge or testing)

☒ d Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste (Based on process knowledge, physical observations, or testing)

☒ e Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233 If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule . Highly soluble forms of uranium include, but are not limited to uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate (Based on process knowledge or testing)

☒ f For containers of <u>liquid waste</u> with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing) For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6 0 mCi (6 0E+09 pCi) as shown below

$$10{,}000\frac{pCi}{g} \times 600{,}000\,g = 6\,0X10^{9}\ pCi = 6\,0\ mCi\ Pu\text{-}239$$

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits).

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. **Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note. Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).**

   ☒ a Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition

   ☒ b Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges

   ☒ c Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution

   ☒ d Describe the methods to be used to determine the concentrations on the manifests These methods could include direct measurement and the use of scaling factors Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations

4 **Generator's certification of compliance with the SNM exemption:** I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions

Jeff Casey		8/12/2015
Signature Name	Signature Key	Date

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport. The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area.

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6. If required by 49 CFR §171.15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 – Carrier/Driver Instructions

8. Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander. If the on-scene commander is not present, request those persons who have been identified to remain at the scene

9. Stand by until assistance arrives

10 **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11 DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required These documents must accompany all carriers of this shipment

C. I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name Hittman

CALVIN Miller	Calvin Miller	8-20-15
Driver's Name (Printed)	Driver's Signature	Date

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents. Packaging durability increases as potential hazard of radioactive content increases
- Very low levels of contained radioactive materials and low radiation levels outside packages result in low risks to people Damaged packages may release measurable amounts of radioactive material, but the resulting risks are expected to be low
- Some radioactive materials cannot be detected by commonly available instruments.
- Packages do not have RADIOACTIVE I, II, or III labels Some may have EMPTY labels or may have the word "Radioactive" in the package marking.

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Many have cardboard outer packaging, content (physically large or small) can be of many different physical forms.
- Radioactivity does not change flammability or other properties of materials.

PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions.
- Stay upwind
- Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated, delay decontamination and cleanup until instructions are received from Radiation Authority

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet)

Fire

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques
- Move containers from fire area if you can do it without risk.
- Do not move damaged packages, move undamaged packages out of fire zone.

Small Fire

- Dry chemical, CO_2, water spray or regular foam

Large Fire

- Water spray, fog (flooding amounts).

SPILL OR LEAK

- Do not touch damaged packages or spilled material
- Cover liquid spill with sand, earth or other non-combustible absorbent material
- Cover powder spill with plastic sheet or tarp to minimize spreading.

FIRST AID

- Call 911 or emergency medical service
- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the nature of the injury
- Do not delay care and transport of a seriously injured person.
- Give artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities
- Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination

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RSR Paperwork Completion

M13122

Arrived	11/16/2015	**Gross Volume (ft)**	1,280 00
Record	9078-03-0009	**Waste Type**	MIXW T DOE
Haz Manifest	26517		
Vehicle ID	Q54878		

DC	X
On-Site	
Off-Site	

EC-18 Arrival _____
Conveyance Release Survey _____
Deferred Chemical Analysis _____
Off-Site Radiological Analysis _____
On-Site Radiological Analysis _____
Hazardous Waste Manifest _____
LDR _____
Weight Verification _____
EC-0525 _____

Office of Management and Budget, Washington, DC 20503 If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

WO# 93296 TR 2780 T-1 054878

FORM 540 — Clive Disposal Site - Treatment Facility

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

SHIPPING PAPER

1 EMERGENCY TELEPHONE NUMBER (Include Area Code)
(885) 220-1555 / (575) 885-6883

ORGANIZATION
EnergySolutions / Bred Melton / WIPP

2 IS THIS AN "EXCLUSIVE USE" SHIPMENT?
[X] YES
[ ] NO

3 TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ==> 1

4 DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? [X] YES [ ] NO
If "Yes", provide Manifest Number ==>

EPA MANIFEST NUMBER
009926517 JJK

5 SHIPPER - NAME AND FACILITY
EnergySolutions on behalf of Nuclear Waste ship, LLC
on behalf of US DOE
WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad
Carlsbad NM 88220

UTAH DISPOSAL PERMIT NUMBER: 0711004560
SHIPMENT NUMBER: 9078-03-0009

CONTACT: Jeff Casey

6 CARRIER - Name and Address
Hittman Transport Services
1560 Bear Creek Road
Oak Ridge TN 37830
Truck # 2786
Trailer # 054878

CONTACT: Karen Kirby

SIGNATURE - Authorized carrier acknowledging waste receipt: Kelly E. McDonough
DATE: 11/13/15

SHIPMENT ID NUMBER: 15-034
[ ] COLLECTOR
[ ] PROCESSOR
[X] GENERATOR TYPE (Specify) G

TELEPHONE NUMBER (Include Area Code): (575) 234-8062

EPA I D NUMBER: TNR-00-003-4686

SHIPPING DATE: 11/13/2015

TELEPHONE NUMBER (Include Area Code): 800-233-9933

7 FORM 540 AND 540A — PAGE 1 OF 1 PAGE(S)
FORM 541 AND 541A — 2 PAGE(S)
FORM 542 AND 542A — 1 PAGE(S)
ADDITIONAL INFORMATION — 1 PAGE(S)

8 MANIFEST NUMBER (Use this number on all continuation pages)
9078-03-0009

9 CONSIGNEE - Name and Facility Address
Clive Disposal Site - Treatment Facility
Operated By EnergySolutions, LLC
Interstate 80, Exit 49
Clive, UT 84029
M13122 RBM

CONTACT: Shipping and Receiving Dept

TELEPHONE NUMBER (Include Area Code): (435) 884-0155

SIGNATURE - Authorized consignee acknowledging waste receipt: Albert Ennis
DATE: 11/16/15

10 CERTIFICATION
This is to certify that the herein-named materials are properly classified described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified packaged marked and labeled and in proper condition for transportation and disposal in accordance with the requirements of 10 CFR Parts 20 and 61 or equivalent state regulation.

AUTHORIZED SIGNATURE: Jim Hart
TITLE: Senior Broker
DATE: 11/13/15

11 U S DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class, UN ID number, and any additional information)	12 DOT LABEL "RADIOACTIVE"	13 TRANSPORT INDEX	14 PHYSICAL AND CHEMICAL FORM	15 INDIVIDUAL RADIONUCLIDES	16 TOTAL PACKAGE ACTIVITY MBq	mCi	17 LSA/SCO CLASS	18 TOTAL WEIGHT OR VOLUME (Use appropriate units)	19 IDENTIFICATION NUMBER OF PACKAGE
UN3321, WASTE RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY (LSA-II), 7, FISSILE EXCEPTED AIR FILTERS DAW 1 - 20' SEAVAN EL	NA	NA	SOLID/OXIDES	AM-241 BA-137M CO-60 , CS-134 , CS-137 , PU-238 PU-239 PU-241 SR-90 , TH-228 , TH-230 , TH-232 U-235 , U-238 Y-90	3 2751E+01	(8 6515E-01)	LSA II	1280 00 ft³	ESUU300171

[redacted]

FOR CONSIGNEE USE ONLY

- ___ Record Waste Description Inadequate
- ___ Contamination or Leakage Detected
- ___ Unexpected Exposure Rates Detected
- ___ Labels, Markings, etc Inadequate
- ___ Container Integrity Inadequate
- ___ Other
- ✓ No Violations Detected on this Shipment

TERMS AND CONDITIONS

A. HAZARDOUS MATERIALS Generator represents & warrants that Waste Material ✓ is (or) ___ is not hazardous waste as defined in 40 CFR 261 Where the material is a hazardous waste, this shipment is also accompanied by a separate and completed hazardous waste manifest, along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268.1

B. TITLE Upon acceptance at the disposal site by EnergySolutions, Inc and all appropriate regulatory authorities, title to the Waste Material which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in EnergySolution, Inc.

C. WASTE MATERIAL Generator represents and warrants that all data set forth in this UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST are true and correct in all respects and in accordance with all applicable governmental laws rules and regulations and Environmental Utah, Inc's facility license

D. INDEMNIFICATION Generator agrees to indemnify EnergySolutions, Inc , its officers, employees, and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters

Office of Management and Budget, Washington, DC

FORM 541

Clive Disposal Site - Treatment Facility

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT
1	m³ 17 67005 ft³ 624 00000	kg 499 85821 ton 0 55100

MANIFEST TOTALS

SPECIAL NUCLEAR MATERIAL (grams)

U-233	U-235	Pu	TOTAL
NP	1 3058E-05 g (1 pkg)	4 7798E-04 g (1 pkg)	4 9105E-04 g (1 pkg)

ACTIVITY (MBq/mCi) (LLD UNITS IN uCi/cc)

	ALL NUCLIDES	TRITIUM	C 14	Tc-99	I-129
MBq	3 2751E+01	NP	NP	NP	NP
mCi	8 8515E-01	NP	NP	NP	NP

SOURCE: kg 3 4657E-08; ton 3 8203E-11

2 MANIFEST NI 9078-03-0009

3 PAGE 1 OF 2 PAGE(S)

4. SHIPPER NAME: EnergySolutions on behalf of Nuclear Waste Pa

SHIPMENT ID NUMBER: 15-034

DISPOSAL CONTAINER DESCRIPTION / WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER

5 CONTAINER IDENTIFICATION NUMBER	6 CONTAINER DESCRIPTION (See Note 1 & 1A)	7 VOLUME m³ ft³	8 WASTE AND CONTAINER WEIGHT kg ton	9 SURFACE RADIATION LEVEL mR/hr mrem/hr	10 SURFACE CONTAMINATION kBq/100 cm² dpm/100 cm² ALPHA	BETA-GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER m³ ft³	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14 CHEMICAL DESCRIPTION: CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	15 RADIOLOGICAL DESCRIPTION: INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES	pCi/gm	MBq	mCi	16 WASTE CLASSIFICATION AS - Class A Stable AU - Class A Unstable B Class B C Class C
8 - Innerpack Container																
ESUU300171 (ESUU300171) Origin NM Nuclear Waste Partnership LLC on behalf of US DOE WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad Carlsbad, NM 88220	2-E	36 24625 1280 00000	3656 42243 4 25100	0 006 0 6	< 0 000000334 < 20	< 0 00000334 < 200	K H 39 28	17 67005 624 00000	100	SOLID OXIDES / NP	NP	AM-241	1 6325E+03	3 0192E+01	8 1800E-01	AU
												BA-137M	3 8811E-03	7 1780E-05	1 9400E-06	
												CO-60	1 6405E 03	3 0340E-05	8 2000E-07	
												CS-134	3 8011E 03	7 0300E-05	1 9000E-06	
												CS-137	4 1012E-03	7 5850E-05	2 0500E-06	
												PU-238	2 5607E-01	4 7360E-03 [7 4845E-09 g]	1 2800E-04	
												PU-239	5 9217E+01	1 0952E+00 [4 7780E-04 g]	2 9600E-02	
												PU-241	7 8822E+01	1 4578E+00 [3 8288E-07 g]	3 9400E-02	
												SR 90	5 5016E-04	1 0175E-05	2 7500E-07	
												TH-228	3 3810E-02	6 2530E-04 [2 0640E 14 kg]	1 6900E-05	
												TH-230	2 9008E-04	5 3650E-06 [7 0412E 12 kg]	1 4500E-07	
												TH-232	2 5608E-06	4 9210E-08 [1 2139E 08 kg]	1 3300E 09	
												U-235	5 6416E-05	1 0434E 06 [1 3058E-05 g]	2 8200E 08	
												U-238	1 5124E-05	2 7972E 07 [2 2511E-08 kg]	7 5600E 09	
												Y-90	5 5016E-04	1 0175E 05	2 7500E-07	
												Sub Total	1 7708E+03	3 2751E+01 [4 9105E-04 g] [3 4657E-08 kg]	8 8515E-01	
Package Total													1 7708E+03	3 2751E+01 [4 9105E-04 g]	8 8515E-01	

NOTE 1 Container Description Codes For containers/waste requiring disposal in approved structural overpacks, the numerical code must be followed by "-OP"

1 Wooden Box or Crate
2. Metal Box
3 Plastic Drum or Pail
4 Metal Drum or Pail
5 Metal Tank or Liner
6 Concrete Tank or Liner
7 Polyethylene Tank or Liner
8 Fiberglass Tank or Liner
9 Demineralizer
10 Gas Cylinder
11 Bulk, Unpacked Waste
12 Unpackaged Components
13 High Integrity Container
19 Other Describe in Item 6, or additional page

NOTE 1A Bulk Packaging Description Codes (Choose one code as may be applicable)

A Gondola
B Intermodal
C End-dump
D Roll-off
E Dump

NOTE 2 Waste Descriptor Codes (Choose up to three which predominate by volume.)

20. Charcoal
21 Incinerator Ash
22 Soil
23. Gas
24 Oil
25 Aqueous Liquid
26 Filter Media
27 Mechanical Filter
28 EPA or State Hazardous
29 Demolition Rubble
30 Cation Ion-exchange Media
31 Anion Ion-exchange Media
32 Mixed Bed Ion-exchange Media
33 Contaminated Equipment
34 Organic Liquid (except oil)
35 Glassware or Labware
36 Sealed Source/Device
37 Paint or Plating
38 Evaporator Bottoms/Sludges/ Concentrates
39 Compactible Trash
40 Noncompactible Trash
41 Animal Carcass
42 Biological Material (except animal carcass)
43 Activated Material
99 Other Describe in Item 11 or additional page

NOTE 2A Specific Waste Descriptions (Choose all applicable codes.)

G Decomposed
H Solid
I Combustible
J Non-combustible
K Air Filtration Filters
L Asbestos

NOTE 3 Solidification and Stabilization Media Codes (Choose up to three which predominate by volume.) For media meeting disposal site structural stability requirements, the numerical code must be followed by "-S" and the media vendor and brand name must also be identified in Item 13. Code Definitions Required

Solidification

60 Cement
61 Concrete (encapsulation)
62 Bitumen
63 Vinyl Chloride
64 Vinyl Ester Styrene
99 Other Describe in Item 13 or additional page
100 None Required

Form 541 (10-96)

* - Indicates Cross Contamination

Office of Management and Budget, Washington, DC 20503 If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection

FORM 541A

Clive Disposal Site - Treatment Facility

2 MANIFEST [illegible] 03-0009

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

3 PAGE 2 OF 2 PAGE(S)

DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER									
							PHYSICAL DESCRIPTION			14 CHEMICAL DESCRIPTION		15 RADIOLOGICAL DESCRIPTION				16 WASTE CLASSIFICATION
5 CONTAINER IDENTIFICATION NUMBER	6 CONTAINER DESCRIPTION (See Note 1 & 1A)	7 VOLUME m³ ft³	8 WASTE AND CONTAINER WEIGHT kg ton	9 SURFACE RADIATION LEVEL mSv/hr mrem/hr	10 SURFACE CONTAMINATION MBq/100 cm² dpm/100 cm² ALPHA	BETA-GAMMA	11 WASTE DESCRIPTOR (See Note 2 & Note 2A)	12 APPROXIMATE WASTE VOLUME(S) IN CONTAINER m³ ft³	13 SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0 1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT: RADIONUCLIDES	pCi/gm	MBq	mCi	AS Class A Stable AU - Class A Unstable B - Class B C - Class C
S - Innerpack Container																
														[3 4657E-08 kg]		
Shipment Total		36 24625 1280 00000	3856 42243 4 25100											3 2751E+01 [4 9105E 04 g] [3 4657E-08 kg]	8 8515E-01	

Form 541A (10-96)

* - Indicates Cross Contamination

Office of Management and Budget, Washington, DC 20503 If a means used to impose an information collection does not display a currently valid OMB control number, the form may not be used.

FORM 542

Clive Disposal Site - Treatment Facility

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

MANIFEST INDEX AND REGIONAL COMPACT TABULATION

List all original "PROCESSED WASTE" generators (if any) before "COLLECTED WASTE" generators

1 WASTE COLLECTOR/PROCESSOR

NAME: EnergySolutions on behalf of Nuclear Waste Partnership LLC

SHIPPING DATE: 11/13/2015

SHIPPER USE ONLY

2 MANIFEST NUMBER: 9078 03 0009

3 PAGE 1 OF 1 PAGE(S)

5 GENERATOR NAME AND TELEPHONE NUMBER	6 GENERATOR FACILITY ADDRESS	8A WASTE DESCRIPTION (NOMENCLATURE)	7 PREPROCESSED WASTE (OR MATERIAL) VOLUME m³	ft³	8 MANIFEST NUMBER(S) UNDER WHICH WASTE (OR MATERIAL) RECEIVED AND DATE OF RECEIPT	9 WASTE CODE P=PROCESSED C=COLLECTED	10 ORIGINATING COMPACT REGION OR STATE	11 AS PROCESSED/COLLECTED TOTAL A SOURCE MATERIAL (kg)	(lb)	B SNM (g)	C ACTIVITY MBq	nCi	D VOLUME m³	ft³	E WEIGHT (lb)	F MAXIMUM PACKAGE RADIATION LEVEL (mrem/hr)
Nuclear Waste Partnership, LLC on behalf of US DOE (575) 234-8062	WIPP Site / JAL Highway 30 Miles Southeast of Carlsbad Carlsbad, NM 88220	Air Filtration Filters Compactible Trash EPA or State Hazardous Solid	17 67005	624 00000	Onsite Generation 11/13/2015	C	NM	3 4657E-08	7 6407E-08	4 9105E-04	3 2751E+01	8 8515E-01	17 67005	624 00000	1102 00000	0 5
TOTALS OF ALL PAGES (FORMS 542 AND 542A)								3 4657E-08	7 6407E-08	4 9105E-04	3 2751E+01	8 8515E-01	17 67005	624.00000	1102 00000	N/A

Form 542 (10-96)

ISOTOPIC SUMMARY

For Manif # 78-03-0009

Clive Disposal Site - Treatment Facility

Isotope	Total Activity (MBq)	(mCi)	(Ci)	Total SNM (gm)	Total Source (lb)
AM-241	3 0192E+01	8 1600E-01	8 1600E-04	0000E+00	0000E+00
BA-137M	7 1780E-05	1 9400E-06	1 9400E-09	0000E+00	0000E+00
CO-60	3 0340E-05	8 2000E-07	8 2000E-10	0000E+00	0000E+00
CS-134	7 0300E-05	1 9000E-06	1 9000E-09	0000E+00	0000E+00
CS-137	7 5850E-05	2 0500E-06	2 0500E-09	0000E+00	0000E+00
PU-238	4 7360E-03	1 2800E-04	1 2800E-07	7 4845E-09	0000E+00
PU[illegible]	1 0952E+00	2 9600E-02	2 9600E-05	4 7760E-04	0000E+00
PU[illegible]	1 4578E+00	3 9400E-02	3 9400E-05	3 8266E-07	0000E+00
SR-[illegible]	1 0175E-05	2 7500E-07	2 7500E-10	0000E+00	0000E+00
TH-228	6 2530E-04	1 6900E-05	1 6900E-08	0000E+00	4 5504E-14
TH-230	5 3650E-06	1 4500E-07	1 4500E-10	0000E+00	1 5523E-11
TH-232	4 9210E-06	1 3300E-09	1 3300E-12	0000E+00	2 6763E-08
U-235	1 0434E-06	2 8200E-08	2 8200E-11	1 3056E-05	0000E+00
U-238	2 7972E-07	7 5600E-09	7 5600E-12	0000E+00	4 9628E-06
Y-90	1 0175E-05	2 7500E-07	2 7500E-10	0000E+00	0000E+00
Totals	3 2751E+01	8 8515E-01	8 8515E-04	4 9105E-04	7 6407E-08

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

The Special Nuclear Material Exemption Certification form must be completed and signed by each generator certifying to the following conditions Please attach this form and all required information to the Radioactive Waste Profile Record (EC-0230) **A completed and signed copy of this form must also accompany each waste manifest.**

Waste Stream ID 9078-03 Manifest No 0009

1. Check applicable category below for the waste stream:

√	Uranium Enrichment Percent	Weight Percent of Chemicals in Condition 2c	Weight Percent of Materials in Condition 2d	U-235 Concentration (pCi/g)	Measurement Uncertainty* (pCi/g)
☐	< 10 %	≤ 20 %	≤ 1 %	≤ 1,900	≤ 285
☐	Unlimited	≤ 20 %	≤ 1 %	≤ 1,190	≤ 179
☐	Unlimited	Sum of both ≤ 45 % of waste by weight		≤ 680	≤ 102
☑	Unlimited	Unlimited	Unlimited	≤ 26	≤ 10
☐	Not Applicable - Enriched U-235 is not present in the waste				

* A concentration value is used for the maximum measurement uncertainty limit rather than a percentage value to allow greater flexibility for generators with waste having very low SNM concentrations

2. Certify to the following requirements by checking applicable boxes, A-E for solid waste or A-F if waste includes liquid:

☑ a Concentrations of SNM in individual waste containers do not exceed the applicable values listed in the above table and SNM isotope concentrations listed in Table 1

☒ b The SNM is homogeneously distributed throughout the waste <u>or</u> the SNM concentrations in any contiguous mass of 600 kilograms (1,323 lbs) do not exceed on average the specified limits (Based on process knowledge or testing)

☑ c Except as allowed by Condition 1, the waste does not contain "pure forms" of chemicals containing carbon, fluorine, magnesium, or bismuth in bulk quantities (e g , a pallet of drums, a B-25 box) By "pure forms," it is meant that mixtures of the above elements such as magnesium oxide, magnesium carbonate, magnesium fluoride, bismuth oxide, etc do not contain other elements (Based on process knowledge or testing)

☑ d Except as allowed by Condition 1, the waste does not contain total quantities of beryllium, hydrogenous material enriched in deuterium, or graphite above one percent of the total weight of the waste (Based on process knowledge, physical observations, or testing)

☑ e Waste packages do not contain highly soluble forms of uranium greater than 350 grams of uranium-235 or 200 grams of uranium-233 If the waste contains mixtures of U-233 and U-235, the waste meets the sum of the fractions rule Highly soluble forms of uranium include, but are not limited to uranium sulfate, uranyl acetate, uranyl chloride, uranyl formate, uranyl fluoride, uranyl nitrate, uranyl potassium carbonate, and uranyl sulfate (Based on process knowledge or testing)

N/A ☐ f For containers of <u>liquid waste</u> with more than 600 kilograms of waste, the total activity (pCi) of SNM in the manifested container does not exceed the SNM concentration in the above table or Table 1 times 600 kilograms of waste (based on process knowledge or testing) For example, the maximum activity of Pu-239 in any manifested container of liquid waste is 6 0 mCi (6 0E+09 pCi) as shown below

(No liquid waste)

$$10{,}000\,\frac{pCi}{g} \times 600{,}000\,g = 6\ 0X10^{9}\ pCi = 6\ 0\ mCi\ Pu\text{-}239$$

SPECIAL NUCLEAR MATERIAL EXEMPTION CERTIFICATION

Table 1. Maximum concentrations of SNM in individual waste containers (refer to above table for U-235 limits)

Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)	Radionuclide	Maximum Concentration (pCi/g)	Measurement Uncertainty (pCi/g)
U-233	75,000	11,250	Pu-241	350,000	50,000
Pu-236	500	75	Pu-242	10,000	1,500
Pu-238	10,000	1,500	Pu-243	500	75
Pu-239	10,000	1,500	Pu-244	500	75
Pu-240	10,000	1,500			

3. **Indicate that the following information is attached to the Radioactive Waste Profile Record by checking each box. (Note: Only the two-page Special Nuclear Material Exemption Certification form needs to be included with each manifest).**

   ☑ a Provide a description of how the waste was generated, list the physical forms in the waste, and identify the uranium chemical composition

   ☑ b Provide a general description of how the waste was characterized (including the volumetric extent of the waste, and the number, location, type, and results of any analytical testing), the range of SNM concentrations, and the analytical results with error values used to develop the concentration ranges

   ☑ c Describe the process by which the waste was generated showing that the spatial distribution of SNM must be uniform, or other information supporting spatial distribution

   ☑ d Describe the methods to be used to determine the concentrations on the manifests These methods could include direct measurement and the use of scaling factors Describe the uncertainty associated with sampling and testing used to obtain the manifest concentrations

4. **Generator's certification of compliance with the SNM exemption:** I certify that the information provided on this form is complete, true, and correct and is based on process knowledge, physical observations, or approved laboratory testing I also certify that sampling and radiological testing of waste containing SNM was performed in accordance with EnergySolutions' Radioactive Material License and that any supporting documentation and analytical results have been submitted to EnergySolutions

Authorized Signature	Printed Name	Title	Date
Tim Stout	Tim Stout	Senior Broker	11/13/15

WOFY S 276 Trk#2780 Tr1. Q54878

Please print or type (Form designed for use on elite (12-pitch) typewriter) Form Approved OMB No 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1 Generator ID Number: NM4890139088
2 Page 1 of: 1
3 Emergency Response Phone: (865)220-1555
4 Manifest Tracking Number: 009926517 JJK

GENERATOR

5 Generator's Name and Mailing Address: Nuclear Waste Partnership, LLC on behalf of U S D.O.E. P.O. Box 2078, MS 452-09 Carlsbad, NM 88221
Generator's Phone: (575)234-8042
Generator's Site Address (if different than mailing address): WIPP Site / JAL Highway 30 miles Southeast of Carlsbad Carlsbad, NM 88220

6 Transporter 1 Company Name: Hittman Transport Services, Inc
US EPA ID Number: TNR000034686

7 Transporter 2 Company Name:
US EPA ID Number:

8 Designated Facility Name and Site Address: Energy Solutions- Clive Disposal Site Treatment Facility Interstate 80, Exit 49 Clive, UT 84029
Facility's Phone: (435)884-0155
US EPA ID Number: UTD982598898

9a HM	9b U S DOT Description (including Proper Shipping Name Hazard Class ID Number, and Packing Group (if any))	10 Containers No	10 Containers Type	11 Total Quantity	12 Unit Wt/Vol	13 Waste Codes
X	1 UN3321, Waste radioactive material, low specific activity (LSA-II), 7, fissile excepted	1	CM	500	K	D004 D007 D009 D043 F001 U133
	2					
	3					
	4					

14 Special Handling Instructions and Additional Information
ERG #162. Exclusive Use Shipment Shipment # 9078-03-0009
Solid / Oxides. 32.751 MBq.
See attached Uniform Low-Level Radioactive Waste Manifest for D.O.T. shipping papers.

15 **GENERATOR'S/OFFEROR'S CERTIFICATION** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations If export shipment and I am the Primary Exporter I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent
I certify that the waste minimization statement identified in 40 CFR 262 27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true

Generator's/Offeror's Printed/Typed Name: Tim Stout for Nuclear Waste Partnership LLC
Signature: [signature]
Month 11 Day 13 Year 15

INT'L

16 International Shipments ☐ Import to U S ☐ Export from U S Port of entry/exit
Transporter signature (for exports only) Date leaving U S

TRANSPORTER

17 Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: McDonough, Ruth E.
Signature: Ruth E. McDonough
Month 11 Day 13 Year 15
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

18 Discrepancy
18a Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number

18b Alternate Facility (or Generator)
US EPA ID Number
Facility's Phone

18c Signature of Alternate Facility (or Generator)
Month Day Year

19 Hazardous Waste Report Management Method Codes (i e codes for hazardous waste treatment, disposal, and recycling systems)
1 H132 2 3 4

20 Designated Facility Owner or Operator Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Albert Ems
Signature: [signature]
Month 11 Day 16 Year 15

EPA Form 8700 22 (Rev 3-05) Previous editions are obsolete

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926517 JJK
Profile No	9078-03-0009	State Manifest No	N/A

1 Is this waste a non-wastewater or wastewater? (See 40 CFR 268 2) Check ONE Non-wastewater ☒ Wastewater ☐

2 Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261 For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory Spent solvent standards are listed on the following page If F039, multi-source leachate applies those constituents must be listed and attached by the generator If D001-D043 requires treatment of the characteristic and meet 268 48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached

REF #	3 US EPA HAZARDOUS WASTE CODE(S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE, SIMPLY CHECK NONE		5. HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
		DESCRIPTION	NONE	
ESUU 300171	D007,D009, F001,U133,D043, D004,D005,D006, D008,D010,D011, D018,D019,D021, D022,D026,D027, D028,D029,D030, D032,D033,D034, D035,D036,D037, D038,D039,D040, F002,F003,F004, F005,F006,F007, F009	Radioactive Debris	☐	A
			☐	
			☐	
			☐	
			☐	
			☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
If no UHCs are present in the waste upon its initial generation check here ☒ (SEE NOTE)
To list additional USEPA waste code(s) and subcategone(s), use the supplemental sheet provided (Form A2) and check here ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4 C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268 7) Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations

A **RESTRICTED WASTE REQUIRES TREATMENT**
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268 40
☒ For Hazardous Debris "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45 "

B 1 **RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the alternative treatment standards for hazardous debris in 40 CFR Part 268 45 without impermissible dilution of the prohibited waste I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B 3 **GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268 42 Table 1 I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

B 4 **DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268 40 or 268 49, to remove the hazardous characteristic This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment "

C **RESTRICTED WASTE SUBJECT TO A VARIANCE**
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension Enter the effective date of prohibition in column 5 above
☐ For hazardous debris "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268 45 "

D **RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT**
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D I believe that the information I submitted is true, accurate and complete I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

E **WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS**
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information

Signature _____ Title SCIENTIST III Date 11-13-15

Form A1
Page 1

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV) – REVERSE SIDE

If the waste identified on the first page of this form is described by any of the following USEPA hazardous waste codes F001, F002, F003, F004, F005, and all solvent constituents will not be monitored by the treater, then each constituent MUST be identified below by checking the appropriate box, and this page must accompany the shipment, along with the previous page of this form If the waste code F039 describes this waste, then the corresponding list of constituents must be attached If D001-D043 require treatment to 268 48 standards, then the underlying hazardous constituent(s) must also be attached

SOLVENT WASTE TREATMENT STANDARDS[2]

F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]		F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]	
	Wastewaters	Nonwastewaters		Wastewaters	Nonwastewaters
Acetone (F003)	0 28	160	Methanol (F003)	5 6	0 75 (TCLP)[3]
Benzene (F005)	0 14	10	Methylene chloride (F001, F002)	0 089	30
n-Butanol (n butyl alcohol) (F003)	5 6	2 6	Methyl ethyl ketone (F005)	0 28	36
Carbon disulfide (F005)	3 8	4 8 (TCLP)[3]	Methyl isobutyl ketone (F003)	0 14	33
Carbon tetrachloride (F001)	0 057	6 0	Nitrobenzene (F004)	0 068	14
Chlorobenzene (F002)	0 057	6 0	2-Nitropropane (F005)	INCIN or {(WETOX or C HOXD) followed by CARBN}	INCIN
o-Cresol (F004)	0 11	5 6	Pyridine (F005)	0 014	16
Cresol (m- and p- isomers) (F004)	0 77	5 6	Tetrachloroethylene (F001, F002)	0 056	6 0
Cyclohexanone (F003)	0 36	0 75 (TCLP)[3]	Toluene (F005)	0 080	10
o-[illegible]robenzene (F002)	0 088	6 0	1,1,1-Trichloroethane (F001, F002)	0 054	6 0
2-Ethoxyethanol (F005) also called ethylene glycol, monoethyl ether	INCIN or BIODG	INCIN	1,1,2-Trichloroethane (F002)	0 054	6 0
Ethyl acetate (F003)	0 34	33	Trichloroethylene (F001, F002)	0 054	6 0
Ethyl benzene (F003)	0 057	10	Trichloromonofluoromethane (F002)	0 020	30
Ethyl ether (F003)	0 12	160	1,1,2-Trichloro-1,2,2-trifluoroethane (F002)	0 057	30
Isobutanol (Isobutyl Alcohol) (F005)	5 6	170	Xylenes (sum of o-, m-, and p-isomers) (F003)	0 32	30

[1]All spent solvent treatment standards are measured through a total waste analysis (TCA), unless otherwise noted Wastewater units are mg/l, nonwastewater are mg/kg

[2]For contaminated soils using the alternative soil treatment standards, the treatment standards for F001-F005 spent solvents must be a 90% reduction of the constituents or less than 10x the standard listed

[3]These solvents require a TCLP standard with units of mg/l

SUBCATEGORY REFERENCE

D001

A Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems

B Ignitable characteristic wastes, except for the 40 CFR 261 21(a) (1) High TOC subcategory, that are managed in CWA/CWA-equivalent or Class I SDWA systems

C High TOC Ignitable characteristic liquids subcategory based on 40 CFR 261 21(a) (1) – Greater than or equal to 10% total organic carbon

D002

D [illegible]rrosive characteristic wastes that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems

E Corrosive characteristic wastes that are managed in CWA, CWA-equivalent, or Class I SWDA systems

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926517 JJK
Profile No	9078-03-0009	State Manifest No	N/A

Form A1

Page 2

...001-D043 requires treatment to the 40 CRF 268 48 standards, then each underlying hazardous constituent (UHC) present in the waste at the point of generation and at a level above the Universal Treatment Standard (UTS) constituent specific standard must be listed Write the letter (A, B1, B2, B3, or C that corresponds to the letter on the land disposal form A1) beside each constituent present to properly describe how the constituent(s) must be managed under 40 CFR 268 7 If contaminated soil requires treatment to 40 CFR 268 49 standards, then each UHC in the waste at the point of generation and at a level above 10 times the UTS must be listed Write the appropriate letter which corresponds to the letter on the LDR form

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
Acenaphthylene		0 059	3 4	2-Chloro-1,3-butadiene		0 057	0 28[1]
Acenapthene		0 059	3 4	Chlorodibromomethane		0 057	15
Acetone		0 28	160	Chloroethane		0 27	6 0
Acetonitrile		5 6	38[1]	bis(2-Chloroethoxy)methane		0 036	7 2
Acetophenone		0 010	9 7	bis(2-Chloroethyl)ether		0 033	6 0
2-Acetylaminofluorene		0 059	140	Chloroform		0 046	6 0
Acrolein		0 29	NA	bis(2-Chloroisopropyl)ether		0 055	7 2
Acylamide		19[1]	23[1]	p-Chloro-m-cresol		0 018	14
Acrylonitrile		0 24	84	2-Chloroethyl vinyl ether		0 062[1]	NA[1]
Aldicarb sulfone		0 056[1]	0 28[1]	Chloromethane/Methyl chloride		0 19	30
Aldrin		0 021	0 066	2-Chloronaphthalene		0 055	5 6
4-Aminobiphenyl		0 13	NA	2-Chlorophenol		0 044	5 7
Aniline		0 81	14	3-Chloropropylene		0 036	30
Anthracene		0 059	3 4	Chrysene		0 059	3 4
Aramite		0 36	NA	o-Cresol		0 11	5 6
alpha-(BHC)		0 00014	0 066	m-Cresol		0 77	5 6
beta-(BHC)		0 00014	0 066	p-Cresol		0 77	5 6
delta-(BHC)		0 023	0 066	m-Cumenyl methylcarbamate		0 056[1]	1 4[1]
gamma-(BHC)		0 0017	0 066	Cyclohexanone		0 36	0 75 mg/l[1]
...ban		0 056[1]	1 4[1]	o,p'-DDD		0 023	0 087
Bendiocarb		0 056[1]	1 4[1]	p,p'-DDD		0 023	0 087
Benomyl		0 056[1]	1 4[1]	o,p'-DDE		0 031	0 087
Benzene		0 14	10	p,p'-DDE		0 031	0 087
Benz(a)anthracene		0 059	3 4	o,p'-DDT		0 0039	0 087
Benzal chloride		0 055[1]	6 0[1]	p,p'-DDT		0 0039	0 087
Benzo(b)fluoranthene[3]		0 11	6 8	Dibenz(a,h)anthracene		0 055	8 2
Benzo(k)fluoranthene[3]		0 11	6 8	Dibenz(a,e)pyrene		0 061	NA
Benzo (g,h,i)perylene		0 0055	1 8	1,2-Dibromo-3-chloropropane		0 11	15
Benzo(a)pyrene		0 061	3 4	1,2-Dibromomethane/ Ethylene dibromide		0 028	15
Bromodichloromethane		0 35	15	Dibromomethane		0 11	15
Bromomethane/Methyl Bromide		0 11	15	m-Dichlorobenzene		0 036	6 0
4-Bromophenyl phenyl ether		0 055	15	o-Dichlorobenzene		0 088	6 0
n-Butyl alcohol		5 6	2 6	p-Dichlorobenzene		0 090	6 0
Butylate		0 042[1]	1 4[1]	Dichlorodifluoromethane		0 23	7 2
Butyl benzyl phthalate		0 017	28	1,1-Dichloroethane		0 059	6 0
2-sec-Butyl-4,6-dinitrophenol/Dinoseb		0 066	2 5	1,2-Dichloroethane		0 21	6 0
Carbaryl		0 006[1]	0 14[1]	1,1-Dichloroethylene		0 025	6 0
Carbenzadim		0 056[1]	1 4[1]	trans-1,2-Dichloroethylene		0 054	30
Carbofuran		0 006[1]	0 14[1]	2,4-Dichlorophenol		0 044	14
Carbofuran phenol		0 056[1]	1 4[1]	2 6-Dichlorophenol		0 044	14
Carbon disulfide		3 8	4 8 mg/l TCLP[1]	2,4-Dichlorophenoxyacetic acid/2,4-D		0 72	10
Carbon tetrachloride		0 057	6 0	1,2-Dichloropropane		0 85	18
Carbosulfan		0 028[1]	1 4[1]	cis-1,3-Dichloropropylene		0 036	18
Chlordane (alpha and gamma isomers)		0 0033	0 26	trans-1,3-Dichloropropylene		0 036	18
...hloroaniline		0 46	16	Dieldrin		0 017	0 13
...orobenzene		0 057	6 0	Diethyl phthalate		0 20	28
Chlorobenzilate		0 10	NA	p-Dimethylaminoazobenzene		0 13[1]	NA

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name: Nuclear Waste Partnership, LLC Manifest Doc No: 009926517 JJK
Profile No: 9078-03-0009 State Manifest No: N/A

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) Unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
2,4-Dimethyl phenol		0 036	14	Methylene chloride		0 089	30
Dimethyl phthalate		0 047	28	Methyl ethyl ketone		0 28	36
Di-n-butyl phthalate		0 057	28	Methyl isobutyl ketone		0 14	33
1,4-Dinitrobenzene		0 32	2 3	Methyl methacrylate		0 14	160
4,6-Dinitro-o-cresol		0 28	160	Methyl methansulfonate		0 018	NA
2,4-Dinitrophenol		0 12	160	Methyl parathion		0 014	4 6
2,4-Dinitrotoluene		0 32	140	Metolcarb		0 056[1]	1 4[1]
2,6-Dinitrotoluene		0 55	28	Mexacarbate		0 056[1]	1 4[1]
Di-n-octyl phthalate		0 017	28	Molinate		0 042[1]	1 4[1]
Di-n-propylnitrosamine		0 40	14	Naphthalene		0 059	5 6
1,4-Dioxane		12 0	170	2-Naphthylamine		0 52	NA
Diphenylamine[3]		0 92	13[1]	o-Nitroaniline		0 27[1]	14[1]
Diphenylnitrosamine[3]		0 92	13[1]	p-Nitroaniline		0 028	28
1,2-Diphenylhydrazine		0 087	NA	Nitrobenzene		0 068	14
Disulfoton		0 017	6 2	5-Nitro-o-toluidine		0 32	28
Dithiocarbamates (total)		0 028	28[1]	o-Nitrophenol		0 028[1]	13[1]
Endosulfan I		0 023	0 066	p-Nitrophenol		0 12	29
Endosulfan II		0 029	0 13	N-Nitrosodiethylamine		0 40	28
Endosulfan sulfate		0 029	0 13	N-Nitrosodimethylamine		0 40	2 3[1]
Endrin		0 0028	0 13	N-Nitroso-di-n-butylamine		0 40	17
Endrin aldehyde		0 025	0 13	N-Nitrosomethylethylamine		0 40	2 3
EPTC		0 042[1]	1 4[1]	N-Nitrosomorpholine		0 40	2 3
Ethyl acetate		0 34	33	N-Nitrosopiperidine		0 013	35
Ethyl benzene		0 057	10	N-Nitrosopyrrolidine		0 013	35
Ethyl cyanide/Propanenitrile		0 24	360	Oxamyl		0 056[1]	0 28[1]
Ethyl ether		0 12	160	Parathion		0 014	4 6
(2-Ethylhexyl)phthalate		0 28	28	Total PCBs (sum of all PCB isomers or all Aroclors)		0 10	10
Ethyl methacrylate		0 14	160	Pebulate		0 042[1]	1 4[1]
Ethylene oxide		0 12	NA	Pentachlorobenzene		0 055[1]	10[1]
Famphur		0 017	15	PeCDDs (All Pentachlorodibenzo-p-dioxins)		0 000035	0 001
Fluoranthene		0 068	3 4	PeCDFs(All Pentachlorodibenzofurans)		0 000035	0 001
Fluorene		0 059	3 4	Pentachloroethane		0 055	6 0
Fometanate hydrochloride		0 056[1]	1 4[1]	Pentachloronitrobenzene		0 055	4 8
Heptachlor		0 0012	0 066	Pentachlorophenol		0 089	7 4
Heptachlor epoxide		0 016	0 066	Phenacetin		0 081	16
Hexachlorobenzene		0 055	10	Phenanthrene		0 059	5 6
Hexachlorobutadiene		0 055	5 6	Phenol		0 039	6 2
Hexachlorocyclopentadiene		0 057	2 4	Phorate		0 021	4 6
HxCDDs (All Hexachrorodibenzo-p-dioxins)		0 000063	0 001	Phthalic acid		0 055[1]	28[1]
HxCDFs (All Hexachlorodibenzofurans)		0 000063	0 001	Phthalic anhydride		0 055	28[1]
Hexachloroethane		0 055	30	Physostigmine		0 056[1]	1 4[1]
Hexachloropropylene		0 035	30	Physostigmine salicylate		0 056[1]	1 4[1]
Indeno(1,2,3-c,d)pyrene		0 0055	3 4	Promecarb		0 056[1]	1 4[1]
Iodomethane		0 19	65	Pronamide		0 093	1 5
Isobutyl alcohol		5 6	170	Propham		0 056[1]	1 4[1]
Isodrin		0 021	0 066	Propoxur		0 056[1]	1 4[1]
Isosafrole		0 081	2 6	Prosulfocarb		0 042[1]	1 4[1]
Kepone		0 0011	0 13	Pyrene		0 067	8 2
Methacrylonitrile		0 24	84	Pyridine		0 014	16
Methanol		5 6	0 75 mg/l[1]	Safrole		0 081	22
Methapyrilene		0 081	1 5	Silvex/2,4,5-TP		0 72	7 9
Methiocarb		0 056[1]	1 4[1]	1,2,4,5-Tetrachlorobenzene		0 055	14
Methomyl		0 028[1]	0 14[1]	TCDDs (All Tetrachlorodibenzo-p-dioxins)		0 000063	0 001
Methoxychlor		0 25	0 18	TCDFs (All Tetrachlorodibenzo-furans)		0 000063	0 001

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name	Nuclear Waste Partnership, LLC	Manifest Doc No	009926517 JJK
Profile No	9078-03-0009	State Manifest No	N/A

3-Methylcholanthrene		0 0055	15	1,1,1,2-Tetrachloroethane		0 057	6 0
4,4'-Methylene bis(2-chloroaniline)		0 50	30	1,1,2,2-Tetrachloroethane		0 057	6 0

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
Tetrachloroethylene		0 056	6 0	INORGANIC CONSTITUENTS			
2,3,4,6-Tetrachlorophenol		0 030	7 4	Antimony		1 9	2 1 mg/l TCLP
Thiodicarb		0 019[1]	1 4[1]	Antimony		1 9	1 15 mg/l TCLP[4]
Thiophanate-methyl		0 056[1]	1 4[1]	Arsenic		1 4	5 0 mg/l TCLP
Toluene		0 080	10	Barium		1 2	7 6 mg/l TCLP
Toxaphene		0 0095	2 6	Barium		1 2	21 mg/l TCLP[4]
Triallate		0 042[1]	1 4[1]	Beryllium		0 82	0 014 mg/l TCLP
Tribromomethane/Bromoform		0 63	15	Beryllium		0 82	1 22 mg/l TCLP[4]
2,4,6-Tribromophenol		0 035	7 4	Cadmium		0 69	0 19 mg/l TCLP
1 2,4-Trichlorobenzene		0 055	19	Cadmium		0 69	0 11 mg/l TCLP[4]
1,1,1-Trichloroethane		0 054	6 0	Chromium (Total)		2 77	0 86mg/l TCLP
1,1,2-Trichloroethane		0 054	6 0	Chromium (Total)		2 77	0 60 mg/l TCLP[4]
Trichloroethylene		0 054	6 0	Cyanides (Total)		1 2	590
Trichloromonofluoromethane		0 020	30	Cyanides (Amenable)		0 86	30[1]
2,4,5-Trichlorophenol		0 18	7 4	Fluoride		35	NA[4]
2,4,6-Trichlorophenol		0 035	7 4	Lead		0 69	0 37 mg/l
2,4,5-Trichlorophenoxyacetic acid/2 4,5-T		0 72	7 9	Lead		0 69	0 75 mg/l[4] TCLP
1,2,3-Trichloropropane		0 85	30	Mercury (Nonwastewater from Retort)		NA	0 20 mg/l TCLP
1,1,2-Trichloro-1,2,2-trifluoroethane		0 057	30	Mercury (All others)		0 15	0 025 mg/l TCLP
Triethylamine		0 081[1]	1 5[1]	Nickel		3 98	5 0 mg/l TCLP
Tris-(2,3-Dibromopropyl)phosphate		0 11	0 10[1]	Nickel		3 98	11 mg/l TCLP[4]
Vernolate		0 042[1]	6 0[1]	Selenium		0 82	0 16 mg/l TCLP
Vinyl chloride		0 27	6 0	Selenium		0 82	5 7 mg/l TCLP[5]
Xylenes – mixed isomers (sum of o-,m-, and p-ne concentrations)		0 32	30	Silver		0 43	0 30 mg/l TCLP
ane(CAS # 58-89-9)		NA	0 066	Silver		0 43	0 14 mg/l TCLP[4]
				Sulfide		14	NA[2]
				Thallium		1 4	0 078 mg/l TCLP
				Thallium		1 4	0 20 mg/l TCLP[4]
				Vanadium		4 3[2]	1 6 mg/l TCLP[2]
				Zinc		2 61	4 3 mg/l TCLP[2]

[1] These constituents are only applicable as underlying hazardous constituents These constituents are not constituents that require treatment in F039 wastes

[2] Not an underlying hazardous constituent requiring treatment in a D001-D043 waste

[3] These compounds are regulated by the sum of their concentration instead of as individual constituents

[4] These constituents are effective in authorized states or states with no LDR program on 8/24/99 These concentrations are effective in all other states upon adoption by the state

[5] Effective 8/24/98 in unauthorized states or states with no LDR program Selenium at 5 7 mg/l is not an underlying hazardous constituent in D001-D043 waste This becomes effective in authorized states upon adoption by the state

Final En Route Shipment Inspection Checklist

Form CP-SR-PR-204-F12
Rev. 2

Shipment 9078-03-0009 Date Shipped 11/13/15

This checklist is to be completed by the driver when the final shipment inspection is conducted before arrival to the Consignee This checklist shall be returned to Energy Solutions with the transportation invoice

Inspection Date 11/15/16 Location Exit 49 I-80

Driver's Name McDonough, Ryne E.

Signature Reetta E McDonough

		SAT	UNSAT
1	Shoring inspected – Load locks secure, all shoring in place and snug against the package	N/A	
2	Packages checked to ensure that		
	Drums/Boxes		
	a Rings and Bolts are not loose	N/A	
	b Clips or bolts in boxes have not come off or vibrated loose	N/A	
	Liners or Casks		
	a Lid closure is tight and ratchets or closures have not loosened	N/A	
	b Tie down mechanisms are tight and all bolts are secure	N/A	
3	Placards are still applied to four sides of the trailer and, ~~if applied, the front bumper of the tractor~~ 4 sides of Scalard	✓	
4	No package markings or lables have fallen off – Radioactive – LSA Class A Unstable Hazardous Waste	✓	
5	No visible package damage	✓	
6	Seal # N/A applied to the rear trailer door or package	N/A	

This shipment shall not enter the burial site if driver finds any problems during inspection If problems are found, contact one of the following individuals

Fred Schulz, Section Leader, Shipping and Receiving	8 a m – 5 p m After normal business hours	Office	(865) 220-1589 (865) 414-2941
Emergency Duty Officer, Energy Solutions	8 a m – 5 p m After normal business hours	Mobile	(865)806-4704

Energy Solutions staff member contacted Aunt Emma

Date 11/16/15 Time 12:30

Attachment 2 – Carrier/Driver Instructions

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport The following actions are to be taken in addition to all normal actions (e g , extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation

1 Isolate the immediate area around the vehicle or compartment where the package was stored or is located

2 Prevent unauthorized personnel from entering the affected area

3 Notify local authorities

4 Notify Nuclear Waste Partnership LLC immediately at **575-885-6883** (collect) and report as much of the following information as is available at the time Do not delay calling if all the information is not known

- Date, time, and location of accident
- Description of accident
- WIPP shipment number and description of material from the shipping papers
- Extent of property damage and/or personnel injuries
- Who is in charge at the scene
- What civil agencies have been notified
- What assistance is required

5 Notify your dispatch agent

6 If required by 49 CFR §171 15, make the appropriate notifications as soon as practical but no later than 12 hours after the occurrence Any release of a reportable quantity requires immediate notification (40 CFR §302 6) The DOT toll free number is **1-800-424-8802** Per 49 CFR §171 16, a written or electronic report must be sent to the DOT within 30 days [1]

7 Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so

Attachment 2 – Carrier/Driver Instructions

8 Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander If the on-scene commander is not present, request those persons who have been identified to remain at the scene

9 Stand by until assistance arrives

10 **FOR SPECIAL WASTE ONLY** - The New Mexico Environment Department Solid Waste Bureau requires that "Upon discovery of any significant discrepancy including, but not limited to, factual misrepresentation on the manifest, irregularities in transportation, discharges, or any unauthorized action in regard to the shipment, delivery, or disposal of the solid waste, the person discovering the discrepancy shall notify the Department (**505-827-0197**), the generator, the commercial hauler, and the solid waste facility within 24 hours "

11 DRIVER CERTIFICATION

A I have received, read and understand these driver's instructions

For Regulated Hazardous Material Shipments **ONLY**

B The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials, if present Appropriate placards have been offered for this shipment, if required These documents must accompany all carriers of this shipment

C I am aware that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials I am fully qualified to transport hazardous materials

Carrier's Name Hittman Transport

McDonough, Ruth E. Ruth E. McDonough 11/13/15

Driver's Name (Printed) Driver's Signature Date

8 Except as provided in 49 CFR 173 443(d) each transport vehicle used for transporting Class 7 materials as an exclusive use shipment that utilizes the provisions of 49 CFR 173 443(b) must be surveyed with appropriate radiation detection instruments after each use

A vehicle may not be **returned to service** until the radiation dose rate at each accessible surface is 0 005 mSv per hour(0 5 mrem per hour) or less, and there is no significant removable (non-fixed) radioactive surface contamination as specified in 49 CFR 173 443 (a)

9 Contact EnergySolutions concerning any of these requirements as follows

During regular business hours, 8 00 am – 5 00 pm, Monday – Friday, call the EnergySolutions administrative offices at (865) 481-0222

At other times, call the persons listed below in the order listed

Brad Melton, Manager Shipping and Receiving, Certified Broker	Office	(865) 220-1563
	Mobile	(865) 805-1377
Fred Schulz, Director of Logistics Certified Broker	Office	(865) 220-1589
	Home	(865) 376-3588
	Mobile	(865) 414-2941

10 In case of an emergency or accident, contact the Emergency Duty Officer by calling EnergySolutions at **(865) 220-1555**, and follow General Emergency Response Instructions provided with paperwork The drivers North American Emergency Response Guidebook may also be used as a reference

11 This shipment contains a Reportable Quantity of the following

- ☐ Radionuclides
- ☐ Asbestos
- ☐ Other _____
- ☒ None

I have read and understand the requirements of these exclusive use instructions

Driver Signature _____ Date 11/13/2015

Electronic documents, once printed, are uncontrolled and may become outdated Refer to the intraweb or the document control authority for the current revision

UN3321, Radioactive material, low specific activity(LSA-II), 7

POTENTIAL HAZARDS

HEALTH

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents Packaging durability increases as potential hazard of radioactive content increases
- Undamaged packages are safe Contents of damaged packages may cause higher external radiation exposure or both external and internal radiation exposure if contents are released
- Low radiation hazard when material is inside container If material is released from package or bulk container hazard will vary from low to moderate Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on
- Some material may be released from packages during accidents of moderate severity but risks to people are not great
- Released radioactive materials or contaminated objects usually will be visible if packaging fails
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels Placards, markings and shipping papers provide identification
- Some packages may have a "RADIOACTIVE" label and a second hazard label The second hazard is usually greater than the radiation hazard, so follow this GUIDE as well as the response GUIDE for the second hazard class label
- Some radioactive materials cannot be detected by commonly available instruments
- Runoff from control of cargo fire may cause low-level pollution

FIRE OR EXPLOSION

- Some of these materials may burn, but most do not ignite readily
- Uranium and Thorium metal cuttings may ignite spontaneously if exposed to air (see GUIDE 136)
- Nitrates are oxidizers and may ignite other combustibles (see GUIDE 141)

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels**
- Radiation Authority must be notified of accident conditions Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions • Stay upwind • Keep unauthorized personnel away
- Detain or isolate uninjured persons or equipment suspected to be contaminated, delay decontamination and cleanup until instructions are received from Radiation Authority

PROTECTIVE CLOTHING

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters protective clothing will provide adequate protection

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet)

Fire

- When a large quantity of this material is involved in a major fire consider an initial evacuation distance of 300 meters (1000 feet) in all directions

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques
- Move containers from fire area if you can do it without risk
- Do not move damaged packages, move undamaged packages out of fire zone

Small Fire

- Dry chemical, CO_2, water spray or regular foam

Large Fire

- Water spray, fog (flooding amounts)
- Dike fire-control water for later disposal

SPILL OR LEAK

- Do not touch damaged packages or spilled material
- Cover liquid spill with sand, earth or other non-combustible absorbent material
- Dike to collect large liquid spills
- Cover powder spill with plastic sheet or tarp to minimize spreading

FIRST AID

- Call 911 or emergency medical service
- Medical problems take priority over radiological concerns
- Use first aid treatment according to the nature of the injury
- Do not delay care and transport of a seriously injured person
- Give artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult
- In case of contact with substance wipe from skin immediately, flush skin or eyes with running water for at least 20 minutes
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities
- Ensure that medical personnel are aware of the material(s) involved take precautions to protect themselves and prevent spread of contamination

QUESTION 2

2015 WIPP Permit Inspection: NMED Request Description (5 items)

2. Documentation regarding all Occurrence Reports (except counterfeit parts) from December 9, 2014 to November 18, 2015. Permit Condition 1.7.

(Total of 8 Occurrence Reports)

- EM-CBFO-NWP-WIPP-2014-0021 Total Number of Pages: 8
- EM-CBFO-NWP-WIPP-2014-0022 Total Number of Pages: 6
- EM-CBFO-NWP-WIPP-2015-0001 Total Number of Pages: 8
- EM-CBFO-NWP-WIPP-2015-0002 Total Number of Pages: 7
- EM-CBFO-NWP-WIPP-2015-0003 Total Number of Pages: 8
- EM-CBFO-NWP-WIPP-2015-0004 Total Number of Pages: 4
- EM-CBFO-NWP-WIPP-2015-0006 Total Number of Pages: 5
- EM-CBFO-NWP-WIPP-2015-0007 Total Number of Pages: 8

Occurrence Report

After 2003 Redesign

√aste Isolation Pilot Plant

(Name of Facility)

Nuclear Waste Operations/Disposal

(Facility Function)

Carlsbad Field Office | Nuclear Waste Partnership

(Site) | (Contractor)

Name: KENNEDY, SCOTT
Title: FACILITY MANAGER **Telephone No.:** (575) 234-8434

(Facility Manager/Designee)

ıme: KNOX, JEFF W.
Title: FACILITY MANAGER DESIGNEE **Telephone No.:** (575) 234-8462

(Originator/Transmitter)

Name: **Date:**

(Authorized Classifier (AC))

1. Occurrence Report Number: EM-CBFO--NWP-WIPP-2014-0021

Unexpected discovery of an uncontrolled electrical hazardous energy source

2. Report Type and Date: FINAL

	Date	Time
Notification:	12/22/2014	17:20 (ETZ)

Initial Update:	01/26/2015	10:36 (ETZ)
Latest Update:	04/17/2015	11:16 (ETZ)
Final:	04/17/2015	11:16 (ETZ)

3. Significance Category: 3

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4. Division or Project: NWP/WIPP

5. Secretarial Office: EM - Environmental Management

6. System, Bldg., or Equipment: ED06/240/24P-SW04/50

7. UCNI?: No

8. Plant Area: Inside NW fence

9. Date and Time Discovered: 12/16/2014 12:35 (MTZ)

10. Date and Time Categorized: 12/20/2014 12:45 (MTZ)

11. DOE HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

12. Other Notifications:

Date	Time	Person Notified	Organization
12/17/2014	10:22 (MTZ)	Jeff Knox	NWP/FMD
12/20/2014	12:20 (MTZ)	James Harris	NWP/DOM
12/20/2014	12:45 (MTZ)	So Yon Ki	CBFO/FR
12/17/2014	11:13 (MTZ)	Scott Kennedy	NWP/FM
12/16/2014	12:35 (MTZ)	Paul Paneral	NWP/FSM
12/17/2014	12:02 (MTZ)	Kenny Padilla	CBFO/FR

13. Subject or Title of Occurrence:

Unexpected discovery of an uncontrolled electrical hazardous energy source

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Reporting Criteria:

2E(2) - Any unexpected discovery of an uncontrolled electrical hazardous energy source (e.g., live electrical power circuit, etc.). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.

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15. Description of Occurrence:

On December 16, at 1235 hours, during a facility walk-down/inspection, the Environmental, Safety and Health (ES&H) Manager discovered an open hinged cover on an electrical enclosure and exposed electrical conductors. This enclosure contains electrical components used to control the parking lot lighting on the west side of the facility. The ES&H Manager immediately contacted the Central Monitoring Room by radio and requested a qualified individual to be dispatched and correct the condition. The ES&H Manager remained in the area to keep personnel clear of the potential hazard. A Facility Shift Engineer (FSE) arrived and shut the enclosure and attached a wire security clip. The FSE and ES&H Manager left the area after the enclosure was placed in a safe configuration. The ES&H Manager noted the issue on his inspection sheet.

December 17, at 1022 hours, the ES&H Manager discussed the issue with the Facility Manager Designee (FMD) during the Safety Review Team meeting. At 1113 hours, the FMD discussed the potential hazardous energy control issue with the Facility Manager (FM). The FM directed further investigation to determine if the enclosure would have exposed conductors with the cover open and if those conductors were energized. The FM briefed the Deputy Operations Manager (DOM) on the issue and discussed the path forward.

On December 20, at 1220 hours, the DOM reviewed the information obtained from the investigation and determined the issue to be a reportable occurrence under 2E(2)3 reporting criterion. The initial investigation information did not identify the date, time or reason for the open enclosure cover.
A Critique is being scheduled and Root Cause Analysis will be performed.
No personnel contacted or were injured by hazardous electrical energy.

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16. Is Subcontractor Involved? No

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17. Operating Conditions of Facility at Time of Occurrence:

Does not apply.

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18. Activity Category:

10 - Inspection/Monitoring

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19. Immediate Actions Taken and Results:

The Environmental, Safety and Health (ESH) Manager observed the open electrical enclosure and contacted the Central Monitoring Room by radio. The ESH Manager remained at the location to keep personnel out of the area.

A Facility Shift Engineer was dispatched to the area, shut the enclosure and attached a wire seal to the enclosure.

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20. ISM:

2) Analyze the Hazards
4) Perform Work Within Controls
5) Provide Feedback and Continuous Improvement

---

21. Cause Code(s):

A3B1C01 - Human Performance Less Than Adequate (LTA); Skill Based Errors; Check of work was LTA
-->couplet - A4B1C01 - Management Problem; Management Methods Less Than Adequate (LTA); Management policy guidance / expectations not well-defined, understood or enforced
A5B2C08 - Communications Less Than Adequate (LTA); Written Communication Content LTA; Incomplete / situation not covered

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22. Description of Cause:

A3B1C01, A4B1C01 - Personnel did not ensure the photocell control enclosure was in a safe configuration when closed and before returning the equipment to service or after an inspection. Management expectation to ensure the equipment is placed in a safe operating condition prior to returning to service was not adequately enforced.
These cause codes are addressed by corrective actions 1-4 and 6.

A4B1C01, A5B2C08 (Missed Opportunity) - The photocell control enclosure was left open and remained unnoticed until discovered by the Environment, Safety and Health Manager. Although the photocell cover was discovered by a management walk-down, processes that could assist in identifying and mitigating recurrence are not mature at this time.
These cause codes are addressed by corrective actions 4, 5 and 6.

A5B2C08 (Missed Opportunity) - The Root Cause Analysis and Corrective Action Plan for the open timer enclosure (reported in EM-CBFO--NWP-WIPP-2014-0007) were not completed prior to this event. This incident may have been avoided had those activities been performed.
This cause code is addressed by corrective action 5.

Extent of Condition:
Managers performing Field Monitoring Assessments (FMAs) during weekly facility walk-downs were aware of the open timer enclosure issue discovered in June 2014 (EM-CBFO--NWP-WIPP-2015-0007) and were looking for open enclosures when this issue was identified. FMAs will continue to look for these types of infractions.

ISM Summary:
Three ISM codes were tripped during this occurrence: 2) Analyze the Hazards; 4) Perform Work Within Controls; and 5) Provide Feedback and Continuous Improvement.

Investigation Methodology:
The investigation and cause analysis was done in accordance with WIPP Procedure (WP) 15-GM1001, Root Cause; WP15-GM1002, Issues Management Processing of WIPP Forms; and WP15-MD3102, Event Investigation. The DOE Causal Analysis Tree as described in DOE-STD-1197-2011, Occurrence Reporting Causal Analysis was used to identify the causal factor(s) for the event.

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23. Evaluation (by Facility Manager/Designee):

UPDATE 1/26/15 - The Root Cause Analysis (RCA) has been assigned and is currently scheduled to complete on 2/17/15. The Corrective Action Plan (CAP) has been scheduled to complete on 2/27/15.

UPDATE 3/9/15 - The RCA report has been drafted and is currently in the review cycle. The target date to issue the RCA report is 3/12/15. The associated CAP is scheduled to complete on 4/15/15.

UPDATE 4/14/15 - The RCA report was issued on 4/9/15 and the causes have been incorporated into this update report. The associated CAP is scheduled to complete on 4/27/15.

FINAL 4/17/15 - The CAP approval was expedited and issued on 4/16/15. The actions have been incorporated into this report. This issue is related to previous occurrence reported in EM-CBFO--NWP-WIPP-2014-0007).

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24. Is Further Evaluation Required?: No

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25. Corrective Actions
ocal Tracking System Name: IMPS

1. Surface Maintenance provide a documented briefing to reinforce the expectation that personnel must ensure equipment is in a safe working configuration prior to returning to service.
This corrective action will address cause codes A3B1C01 and A4B1C01.

Target Completion Date: 05/15/2015	**Tracking ID:** ACT14-457-2

2. Instrument/Control Maintenance provide a documented briefing to reinforce the expectation that personnel must ensure equipment is in a safe working configuration prior to returning to service.
This corrective action will address cause codes A3B1C01 and A4B1C01.

Target Completion Date: 05/15/2015	**Tracking ID:** ACT14-457-3

3. Underground Maintenance provide a documented briefing to reinforce the expectation that personnel must ensure equipment is in a safe working configuration prior to returning to service.
This corrective action will address cause codes A3B1C01 and A4B1C01.

Target Completion Date: 05/15/2015	**Tracking ID:** ACT14-457-4

4. Work Control evaluate and incorporate changes to the Work Control Process to verify and ensure a safe condition prior to returning equipment to service.
This corrective action will address cause codes A4B1C01 and A5B2C08.

Target Completion Date: 05/15/2015	**Tracking ID:** ACT14-457-5

5. Contractor Assurance establish a graded approach for conducting Root Cause Analysis consistent with DOE O 232.2 and ensure adequate resources are trained and available to perform the Root Cause Analyses. (Missed Opportunity)
This corrective action will address cause codes A5B2C08.

Target Completion Date: 05/29/2015	**Tracking ID:** ACT14-457-6

6. Environment Safety and Health ensure expectations for identifying deficient or unsafe conditions are well defined in procedure(s) and revise as necessary. (Missed Opportunity)
This corrective action will address cause codes A4B1C01 and A5B2C08.

Target Completion Date: 05/29/2015	**Tracking ID:** ACT14-457-7

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26. Lessons Learned:

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27. Similar Occurrence Report Numbers:

M-CBFO--NWP-WIPP-2014-0007
EM-CBFO--NWP-WIPP-2013-0011

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28. User-defined Field #1:

29. User-defined Field #2:

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30. HQ Keyword(s):

01E--Inadequate Conduct of Operations - Operations Procedure Noncompliance
08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance
12C--EH Categories - Electrical Safety
14E--Quality Assurance - Work Process Deficiency

HQ Summary:

On December 16, 2014, during a facility walk-down/inspection, the Environmental, Safety and Health (ESH) Manager discovered an open hinged cover on an electrical enclosure and exposed electrical conductors. This enclosure contains electrical components used to control the parking lot lighting on the west side of the facility. The ESH Manager remained in the area to keep personnel clear of the potential hazard, and contacted the Central Monitoring Room to request a qualified individual be dispatched to correct the condition. A Facility Shift Engineer arrived, shut the enclosure, and attached a wire security clip. The ESH Manager noted the issue on his inspection sheet. A critique was held and a root cause analysis is being performed.

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32. DOE Facility Representative Input:

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33. DOE Program Manager Input:

Approvals:

Approved by: KENNEDY, SCOTT, Facility Manager/Designee

Date: 04/17/2015

Telephone No.: (575) 234-8434

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Occurrence Report
After 2003 Redesign

..aste Isolation Pilot Plant

(Name of Facility)

Nuclear Waste Operations/Disposal

(Facility Function)

Carlsbad Field Office | Nuclear Waste Partnership

(Site) | (Contractor)

Name: HARRIS, JAMES
Title: DEPUTY FACILITY MANAGER **Telephone No.:** (575) 234-8250

(Facility Manager/Designee)

.me: KNOX, JEFF W.
Title: FACILITY MANAGER DESIGNEE **Telephone No.:** (575) 234-8462

(Originator/Transmitter)

Name: **Date:**

(Authorized Classifier (AC))

1. Occurrence Report Number: EM-CBFO--NWP-WIPP-2014-0022

Management Concern: Small Grass Fire on North Access Road

2. Report Type and Date: NOTIFICATION/FINAL

	Date	Time
Notification:	12/22/2014	18:06 (ETZ)

Initial Update:	12/22/2014	18:06 (ETZ)
Latest Update:	12/22/2014	18:06 (ETZ)
Final:	12/22/2014	18:06 (ETZ)

3. Significance Category: 4

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4. Division or Project: NWP/WIPP

5. Secretarial Office: EM - Environmental Management

6. System, Bldg., or Equipment: N/A - Offsite

7. UCNI?: No

8. Plant Area: Offsite

9. Date and Time Discovered: 12/18/2014 15:35 (MTZ)

10. Date and Time Categorized: 12/18/2014 18:32 (MTZ)

DOE HQ OC Notification:

Date	Time	Person Notified	Organization
12/18/2014	18:30 (MTZ)	Julia Muse	HQ/OC

12. Other Notifications:

Date	Time	Person Notified	Organization
12/18/2014	15:35 (MTZ)	Paul Paneral	NWP/FSM
12/18/2014	16:00 (MTZ)	So Yon Ki	CBFO/FR
12/18/2014	16:00 (MTZ)	James Harris	NWP/DFM
12/18/2014	15:42 (MTZ)	Jeff Knox	NWP/FMD

13. Subject or Title of Occurrence:

Management Concern: Small Grass Fire on North Access Road

14. Reporting Criteria:

5) - Any occurrence of such significant immediate interest to offsite personnel and organizations that it warrants prompt notification to the DOE HQ OC, and which is not already designated elsewhere in this set of reporting criteria to have prompt notification [denoted by having an asterisk (*) next to the significance category].

15. Description of Occurrence:

On December 18, 2014, at 1535 hours, WIPP responded to a small brush and grass fire located approximately 2.5 miles north of the WIPP facility and 0.3 miles outside the 16 Sections described in the Hazardous Waste Facility Permit. WIPP Fire/Emergency Medical Services (EMS) and Otis Volunteer Fire Department (OVFD) personnel extinguished the fire and small spot fires in approximately 1 hour. Based on conversation with personnel and visual inspection at the scene, the fires appeared to have been started by a double set of metal trailer wheels and rubber tires that disconnected from a non-WIPP vehicle while traveling on the WIPP North Access Road. The heat from the trailer wheels/tires or sparks created by the wheels impacting the asphalt may have ignited the dry vegetation. Because the fire was not within the WIPP boundary or a wild land fire that had the potential to threaten the facility, this event did not meet occurrence reporting criteria under Group 2, Subgroup C – Fires. Due to the sensitivity of recent WIPP events, it was determined to report this occurrence as a Management Concern, 10(5)4.

DETAILS:
On December 18, 2014, at 1535 hours, the WIPP Central Monitoring Room (CMR) Operator received an emergency call for a small brush and grass fire located off the WIPP North Access Road and contacted the Facility Shift Manager (FSM). The FSM notified the WIPP Fire/EMS Chief to explain the situation and to grant permission for WIPP Fire/EMS to respond to the offsite event.
At 1537 hours, the Fire/EMS Chief notified Fire/EMS Lieutenant by landline and briefed him on the incident.
At 1545 hours, WIPP Fire/EMS Units responded offsite to the reported fire. The Medic-22 unit requested confirmation of the location of the grass fire with the CMR and it was confirmed. Upon arrival WIPP Fire/EMS assessed the situation and determined there was a grass and vegetation fire approximately 100 x 150 feet with limited spot fires across the West fence line. The wind conditions were very light with overcast sky.
They also noted smoldering grass between the road and the parallel fence line. The location of the fires, were on the West side of the north access road with no visible structures or oilfield equipment within the fire area. WIPP Fire/EMS Chief established North Access Command. Upon establishing command, the Chief was met by two personnel who stated that a double set of wheels came off their trailer and could have possibly started the fire from the impact of the asphalt, hot metal shavings from the wheel(s) or tire (s). The Chief located the wheels in the burned and blacken area adjacent to the West side of the road 1550 hours, Fire/EMS positioned Fire Engine-23 on the West side of the road and positioned Medic-

22 on the East side of the road. Upon positioning Engine-23, a one-inch booster line was deployed and firefighters attacked the fire (hot spots). Rescue-21 unit arrived and was position on the East side of the road. WIPP Protective Force deployed 2 units for traffic control.

North Access Command requested additional resources from the CMR. WIPP Fire/EMS continued to ıck the small spot fires that could be reached and then repositioned Engine-23 further south on the road way to reach other hot spots.

The Otis Voluntary Fire Department (OVFD) arrived with one Brush Truck. North Access Command instructed the OVFD Brush-4 unit to go north and find an access road to be able to get to the other side of the fence line. OVFD Brush-4 identified an access road and proceeded to the fire area. With assistance from WIPP Fire/EMS, OVFD Brush-4 extinguished the remaining hot spots and then began mop-up operations.

At 1630 hours, North Access Command notified the CMR that the small fires were out and mop-up operations were underway. An Eddy County Sheriff deputy arrived on-scene, reported to the North Access Command and a face-to-face briefing was conducted. North Access Command requested the deputy to notify the Bureau of Land Management (BLM). A second OVFD brush truck arrived on-scene along with a 3500 gallon Water Tender.

North Access Command directed the second OVFD brush truck to assist WIPP Fire/EMS on the north side of the road to finish mop-up operations.

North Access Command requested the OVFD Water Tender to be positioned on the East-side of the road until needed. BLM personnel arrived on-scene in a pickup and proceeded to interface with OVFD Brush-4 to gather information. WIPP Fire/EMS personnel continued to assist with mop-up operations using shovels and booster line.

At 1647 hours, WIPP North Access Command was turned over to OVFD Brush- 4 and all WIPP Fire/ ˜ ˜ 1S units returned to the WIPP Site.

164 At 1700 hours, all units were back in service and ready for response.

Although this brush fire was not a WIPP event, it provided experience and actual firefighting training. A "hot wash" was conducted by the Fire/EMS Chief to discuss the successes discovered while extinguishing the North Access Road Brush fire and identify any process improvement areas in:

Brushfire strategy

Training and qualification for brushfires

Equipment and Personal Protective Equipment requirements and needs for brushfires

Decision point for responding and fighting brush fires

Standard dispatch protocols for off-site fire responses

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16. Is Subcontractor Involved? No

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17. Operating Conditions of Facility at Time of Occurrence:

Light wind and overcast sky

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Occurrence Report

After 2003 Redesign

.. aste Isolation Pilot Plant

(Name of Facility)

Nuclear Waste Operations/Disposal

(Facility Function)

Carlsbad Field Office | Nuclear Waste Partnership

(Site) | (Contractor)

Name: KENNEDY, SCOTT
Title: FACILITY MANAGER **Telephone No.:** (575) 234-8434

(Facility Manager/Designee)

me: KNOX, JEFF W.
Title: FACILITY MANAGER DESIGNEE **Telephone No.:** (575) 234-8462

(Originator/Transmitter)

Name: **Date:**

(Authorized Classifier (AC))

1. Occurrence Report Number: EM-CBFO--NWP-WIPP-2015-0001

Employee trips over stop blocks in parking lot and sustains fractured arms

2. Report Type and Date: FINAL

	Date	Time
Notification:	01/29/2015	10:29 (ETZ)

Initial Update:	03/09/2015	15:04 (ETZ)
Latest Update:	05/01/2015	18:07 (ETZ)
Final:	05/01/2015	18:07 (ETZ)

3. Significance Category: 3

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4. Division or Project: NWP/WIPP

5. Secretarial Office: EM - Environmental Management

6. System, Bldg., or Equipment: GC01/Facility 200

7. UCNI?: No

8. Plant Area: Site Parking Lot

9. Date and Time Discovered: 01/27/2015 06:02 (MTZ)

10. Date and Time Categorized: 01/27/2015 09:33 (MTZ)

DOE HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

12. Other Notifications:

Date	Time	Person Notified	Organization
01/27/2015	06:28 (MTZ)	James Harris	NWP/DOM
01/27/2015	06:44 (MTZ)	Jeff Knox	NWP/FMD
01/27/2015	06:02 (MTZ)	Paul Paneral	NWP/FSM
01/27/2015	06:28 (MTZ)	Scott Kennedy	NWP/FM
01/27/2015	06:31 (MTZ)	Kenny Padilla	CBFO/FR

13. Subject or Title of Occurrence:

Employee trips over stop blocks in parking lot and sustains fractured arms

---

14. Reporting Criteria:

2A(5) - Any single occurrence resulting in a serious occupational injury. A serious occupational injury is an occupational injury that:
a) Requires in-patient hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received;
b) Results in a fracture of any bone (except bone chips, simple fractures of fingers, toes, or nose, or a minor chipped tooth);
c) Causes severe hemorrhages or severe damage to nerves, muscles, tendons, or ligaments. (Note: Severe damage is generally considered to have occurred if surgery is required to correct the damage.)
d) Damages any internal organ;
e) Causes (1) a concussion or (2) loss of consciousness due to an impact to the head, or
f) Causes second- or third-degree burns, affecting more than five percent of the body surface.

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15. Description of Occurrence:

On January 27, 2015, at approximately 0600 hours, an employee parked and exited her personally owned vehicle in the site's parking lot. The employee exited the vehicle and was attempting to walk around the front of the vehicle when she tripped on a concrete stop block located in front of the parking space and fell to the asphalt. The employee put both hands forward to brace herself prior to contacting the asphalt. Minutes later, two employees heard the injured employee call for help and responded. The two employees located the injured employee and observed her sitting on the asphalt next to her vehicle. The injured employee told the responding employees that she had tripped on the vehicle stop block, fell and possibly broken her arm. The responding employees also noted abrasions on the left side of her face. One of the responding employees comforted the injured employee while the other responding employee went for help. At approximately 0604 hours, medical response personnel arrived at the scene in the site ambulance. At approximately 0605 hours, the site nursing staff arrived at the scene and assessed the injured employee. The nurses noted a potential arm fracture and advised the ESTs to transport the injured employee to the local hospital for further evaluation by a physician.
At 0620 hours, the injured employee was transported to the local hospital's emergency room.
At 0702 hours, the Facility Manager categorized the injury as non-reportable pending the hospital physician's diagnosis.
At 0933 hours, the Facility Manager obtained the results of physician's diagnosis. The physician had determined that the injured employee had sustained a fracture and displacement of the radius and ulna bones in the lower left arm near the wrist and a displaced ulna bone in the lower right arm near the wrist. The Facility Manager re-categorized the injury as a reportable occurrence under 2A(5)SC3(b) reporting criterion.
The injured employee underwent open reduction surgery on her lower left arm that required a bone graft

and installation of metal plates. Closed reduction surgery on her lower right arm required a pin-in-place procedure.

Is Subcontractor Involved? No

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17. Operating Conditions of Facility at Time of Occurrence:

Dark with sufficient artificial lighting, dry surface

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18. Activity Category:

03 - Normal Operations (other than Activities specifically listed in this Category)

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19. Immediate Actions Taken and Results:

Site Emergency Services Technicians (ESTs) were contacted and arrived at the scene in the site ambulance. Site nurses arrived at the scene and evaluated the employee's injuries.

Injured employee was transported to the local hospital's emergency room.

Event investigation was initiated. The parking lot area was evaluated and photographs were taken. A Critique was scheduled.

Statements were obtained from the employees that assisted the injured employee prior to arrival of medical personnel and the medical staff.

---

20. ISM:

2) Analyze the Hazards
3) Develop and Implement Hazard Controls
5) Provide Feedback and Continuous Improvement

---

21. Cause Code(s):

A4B1C04 - Management Problem; Management Methods Less Than Adequate (LTA); Management follow-up or monitoring of activities did not identify problems
A3B3C01 - Human Performance Less Than Adequate (LTA); Knowledge Based Error; Attention was given to wrong issues
·couplet - A4B1C01 - Management Problem; Management Methods Less Than Adequate (LTA); Management policy guidance / expectations not well-defined, understood or enforced
A1B2C07 - Design/Engineering Problem; Design output LTA; Error in equipment or material selection

---

22. Description of Cause:

A4B1C04 - Management has not adequately analyzed and mitigated the hazards associated with the parking lot.
This cause is being addressed by corrective action 4.

A3B3C01 - The employee was focused on retrieving bag from the opposite side of the vehicle rather than concentrating on the tripping hazard (concrete stop block). Additionally, the employee did not concentrate on centering her vehicle in the marked parking space and thereby exposed excess stop block on the driver's side of the vehicle.
This cause is being addressed by corrective action 2.

A1B2C07 - Although the concrete stop blocks are used as a traffic control, the stop blocks created a tripping hazard.
's cause is being addressed by corrective action 4.

A4B1C01 - Management did not issue guidance or expectations for employees using the parking lot.
This cause is being addressed by corrective action 1, 2 and 3.

Extent of Condition:
Additional directions/reminders should be provided to the site population to heighten awareness of potential trip/slip hazards. An evaluation will be performed on those activities that occur between the lines of our established work controls or outside the site work controls. This evaluation will include traveling between work locations, between the parking lot and a work location, and activities performed during work preparations.

ISM Summary: Three ISM codes were tripped during this occurrence: 2) Analyze the Hazards – Parking lot stop blocks were used as traffic control but not evaluated or discussed as tripping hazards; 3) Develop and Implement Hazard Controls – Evaluations of hazard controls pertaining to stop block needs, adequate lighting, ice/snow removal were not performed; and 5) Provide Feedback and Continuous Improvement – The facility did not specifically reinforce tripping hazards in the site parking lot or the proper response employees should take when tripping hazards are discovered.

Investigation Methodology: The investigation and cause analysis was done in accordance with WIPP Procedure (WP) 15-GM1001, Root Cause; WP15-GM1002, Issues Management Processing of WIPP

Forms; and WP15-MD3102, Event Investigation. The DOE Causal Analysis Tree as described in DOE-STD-1197-2011, Occurrence Reporting Causal Analysis was used to identify the causal factor(s) for the event.

---

23. Evaluation (by Facility Manager/Designee):

UPDATE 3/9/15 - The draft Root Cause Analysis (RCA) report is currently in the review cycle. The target date to issue the final RCA report is 4/2/15. The associated Corrective Action Plan (CAP) is scheduled for issuance on 4/15/15.

UPDATE 4/14/15 - The RCA report was approved and issued on 4/9/15 and the identified causes have been incorporated into this update report. The CAP issuance has been rescheduled to 4/27/15.

FINAL 5/1/15 - The CAP was issued on 4/30/15 and the corrective actions were incorporated into this report.

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24. Is Further Evaluation Required?: No

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25. Corrective Actions
Local Tracking System Name: IMPS

1. Distributc a Safety Reminder that reinforcesg tripping hazard awareness and proper response when tripping hazards are discovered.
This corrective action addresses cause code A4B1C01.

Target Completion Date: 05/29/2015	**Tracking ID:** ACT15-040-2

2. Distribute a Safety Reminder that contains guidance for employees using the parking lot.
This corrective action addresses cause code A3B3C01.

Target Completion Date: 05/29/2015	**Tracking ID:** ACT15-040-3

3. Distribute a Safety Reminder regarding the hazards of White Space Work, that reinforces the need for maintaining situational awareness.
White Space Work is defined as those activities that occur between the lines of our established work controls or outside the site work controls.
This corrective action addresses cause code A4B1C01.

Target Completion Date: 05/29/2015	**Tracking ID:** ACT15-040-4

4.	Perform an evaluation on the need for stop blocks, designated walkways, adequate lighting, snow/ice removal, and traffic control in the parking lot, and take appropriate remedial actions. This corrective action addresses cause codes A4B1C04 and A1B2C07.	
	Target Completion Date: 05/29/2015	**Tracking ID:** ACT15-040-5

26. Lessons Learned:

27. Similar Occurrence Report Numbers:

EM-CBFO--WTS-WIPP-2008-0015
EE-GO--NREL-NREL-2013-0020
SC--ASO-ANLE-ANLEAPS-2014-0003

28. User-defined Field #1:

29. User-defined Field #2:

HQ Keyword(s):

08D--OSHA Reportable/Industrial Hygiene - Injury
12H--EH Categories - Injuries Requiring Medical Treatment Other Than First Aid
14L--Quality Assurance - No QA Deficiency

31. HQ Summary:

On January 27, 2015, an employee exited her vehicle in the sites parking lot and was attempting to walk around the front of the vehicle when she tripped on a concrete stop block located in front of the parking space and fell to the asphalt. The employee put both hands forward to brace herself prior to contacting the asphalt. Two employees heard the injured employee call for help and responded. The site nursing staff arrived at the scene and assessed the injured employee. The nurses noted a potential arm fracture, and the injured employee was transported by ambulance to the local hospital for further evaluation by a physician. The physician determined that the injured employee had sustained a fracture and displacement of the radius and ulna bones in the lower left arm near the wrist and a displaced ulna bone in the lower right arm near the wrist. Surgery was performed. The parking lot area was evaluated and ›tographs were taken. A critique was scheduled.

32. DOE Facility Representative Input:

33. DOE Program Manager Input:

34. Approvals:

Approved by: KENNEDY, SCOTT, Facility Manager/Designee

Date: 05/01/2015

Telephone No.: (575) 234-8434

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Occurrence Report

After 2003 Redesign

Waste Isolation Pilot Plant

(Name of Facility)

Nuclear Waste Operations/Disposal

(Facility Function)

Carlsbad Field Office | Nuclear Waste Partnership

(Site) | (Contractor)

Name: HARRIS, JAMES
Title: DEPUTY FACILITY MANAGER **Telephone No.:** (575) 234-8250

(Facility Manager/Designee)

Name: KNOX, JEFF W.
Title: FACILITY MANAGER DESIGNEE **Telephone No.:** (575) 234-8462

(Originator/Transmitter)

Name: **Date:**

(Authorized Classifier (AC))

1. Occurrence Report Number: EM-CBFO--NWP-WIPP-2015-0002

Near Miss: Unoccupied vehicle rolls towards employee and ambulance

2. Report Type and Date: FINAL

	Date	Time
Notification:	02/17/2015	15:29 (ETZ)

Initial Update:	04/02/2015	14:56 (ETZ)
Latest Update:	05/01/2015	18:08 (ETZ)
Final:	05/01/2015	18:08 (ETZ)

3. Significance Category: 3

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4. Division or Project: NWP/WIPP

5. Secretarial Office: EM - Environmental Management

6. System, Bldg., or Equipment: 200/Surface Facility/Fire Engine 23

7. UCNI?: No

8. Plant Area: Fuel Station

9. Date and Time Discovered: 02/13/2015 16:54 (MTZ)

10. Date and Time Categorized: 02/13/2015 17:35 (MTZ)

.. DOE HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

12. Other Notifications:

Date	Time	Person Notified	Organization
02/13/2015	17:06 (MTZ)	Russ Stoble	NWP/FSM
02/13/2015	17:41 (MTZ)	Ed Garza	CBFO/FRD
02/13/2015	17:15 (MTZ)	James Harris	NWP/DFM

13. Subject or Title of Occurrence:

Near Miss: Unoccupied vehicle rolls towards employee and ambulance

---

14. Reporting Criteria:

10(3) - A near miss to an otherwise ORPS reportable event, where something physically happened that was unexpected or unintended, or where no or only one barrier prevented an event from having a reportable consequence.
The significance category assigned to the near miss must be based on an evaluation of the potential risks and extent of personnel exposure to the hazard. (1 of 3 criteria - This is a SC 3 occurrence)

---

15. Description of Occurrence:

On February 13, 2015, at approximately 1654 hours, during the performance of an Operational based drill, WIPP Fire and Emergency Medical Services personnel responded to a report of a simulated fire located at the surface facility's fuel pumps. When the fire truck (Engine 23) arrived at the fuel pumps, the fire truck engineer (driver) stopped approximately 50 feet east of the fuel pumps and exited the cab of the fire truck to respond to the simulated fire emergency. After the engineer exited, the fire truck began rolling backwards. Drill Controllers monitoring the simulated event observed the fire truck rolling backward and a firefighter approximately 12-15 feet from the fire truck walking towards the rear of the fire truck. The Controllers shouted at the fire truck engineer to inform him that the fire truck was rolling and to alert the approaching firefighter. Simultaneously the firefighter moved to a safe location and the engineer immediately reentered the cab compartment and engaged the fire truck's air brake. The engineer confirmed that the air brake was engaged and then exited the cab compartment to place wheel chocks under the rear wheel. It was also noted that an ambulance (Medic 22) was parked approximately 20 feet directly behind the rolling fire truck and could have been contacted if the fire truck had not been stopped.

The drill was suspended and notifications were made to Senior Management. The fire truck returned to the fire station and a performance test was conducted on the air brake system. The air brake system was found to be working effectively.

A Critique was conducted. The Critique identified that the engineer was wearing bulky structural firefighting gloves that may have attributed to the air brake handle not being fully engaged. Review of video taken during the drill identified that the fire truck had moved approximately 2-4 feet before being stopped by the engineer.

No injuries resulted during this occurrence.

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16. Is Subcontractor Involved? No

Operating Conditions of Facility at Time of Occurrence:

Clear visibility, dry conditions

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18. Activity Category:

09 - Emergency Response

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19. Immediate Actions Taken and Results:

The drill was suspended and appropriate notifications were made.

A Critique was conducted.

Research was performed that identified many larger municipality fire departments have implemented policies that prohibit fire truck engineers from wearing structural firefighting gloves when driving emergency vehicles. A Required Reading document was developed based on research results.

A maintenance Action Request was submitted to request a certified mechanic to assess the air brakes to reconfirm operability.

---

20. ISM:

2) Analyze the Hazards
3) Develop and Implement Hazard Controls
5) Provide Feedback and Continuous Improvement

---

21. Cause Code(s):

A4B1C01 - Management Problem; Management Methods Less Than Adequate (LTA); Management policy guidance / expectations not well-defined, understood or enforced
A6B2C01 - Training deficiency; Training Methods Less Than Adequate (LTA); Practice or "hands-on" experience LTA

---

22. Description of Cause:

A4B1C01 - The site does not have a policy that prohibits the use of bulky structural firefighting gloves while driving fire equipment.
This cause is addressed by corrective action 2.

A6B2C01 - Management has not ensured that fire truck Engineers are fully proficient in operating emergency apparatus. Improvements to the Emergency Management Program are needed to establish and maintain operator proficiency through training and drill/exercises.
This cause is addressed by corrective actions 1, 3 and 4.

Extent of Condition:
Emergency response requires actions that cannot always be fully scripted in standard operating procedures. Proficiency in emergency response is continuously reinforced through training, drills and exercises. Since the underground haul truck fire and radiological release events that occurred in February 2014, the Accident Investigation Boards and NWP Emergency Management identified latent organizational weaknesses related to emergency response personnel. NWP initiated significant improvements in programs, procedures, training, drills and exercises to address identified weaknesses. The Root Cause Analysis Team recommended that additional extent of condition evaluations are not warranted at this time.

ISM Summary:
Three ISM codes were tripped during this occurrence: 2) Analyze the Hazards – The hazards involved with operating mobile equipment while using bulky firefighting gloves had not been evaluated; 3) Develop and Implement Hazard Controls – Training and equipment controls to prevent hazards were LTA; and 5) Provide Feedback and Continuous Improvement – The training/proficiency for firefighters and other emergency response personnel was lacking.

Investigation Methodology:
investigation and cause analysis was done in accordance with WIPP Procedure (WP) 15-GM1001, Root Cause; WP15-GM1002, Issues Management Processing of WIPP Forms; and WP15-MD3102, Event Investigation. The DOE Causal Analysis Tree as described in DOE-STD-1197-2011, Occurrence Reporting Causal Analysis was used to identify the causal factor(s) for the event.

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23. Evaluation (by Facility Manager/Designee):

Because the event involved an uncontrolled moving vehicle with personnel in the area, this event was categorized as a near miss. A Root Cause Analysis (RCA) will be conducted.

UPDATE 4/2/15 - The draft RCA report is in the review cycle and is scheduled to be issued on 4/15/15. The target date to issue the associated corrective actions is 4/27/15.

UPDATE 4/14/15 - The RCA was issued on 4/9/15 and the identified causes have been incorporated into this update report. The associated corrective actions are scheduled for issuance on 5/5/15.

FINAL 5/1/15 - The Corrective Action Plan was approved and issued on 4/30/15. Those actions have been incorporated into this report.

24. Is Further Evaluation Required?: No

Corrective Actions
Local Tracking System Name: IMPS

1. Establish standards and goals for Engineer proficiency while operating emergency apparatus and incorporate in the planned Fire Apparatus Operator training.
This corrective action addresses cause code A6B2C01.

Target Completion Date: 09/15/2015	**Tracking ID:** ACT15-069-3

2. Revise applicable Emergency Management guidance documents to include prohibiting the use of structural firefighting jackets, gloves, hoods, and over-boots while driving vehicles.
This corrective action addresses cause code A4B1C01.

Target Completion Date: 09/01/2015	**Tracking ID:** ACT15-069-4

3. Conduct a Human Performance Analysis related to this event. This corrective action is a Root Cause Analysis recommendation.
This corrective action addresses cause code A6B2C01.

Target Completion Date: 07/01/2015	**Tracking ID:** ACT15-069-5

4. Conduct two drills, for each crew, that includes an objective for applicable Emergency Management personnel proficiency as an interim measure to enhance their proficiency and increase awareness before the formal training.
This corrective action addresses cause code A6B2C01.

Target Completion Date: 09/01/2015	**Tracking ID:** ACT15-069-6

26. Lessons Learned:

27. Similar Occurrence Report Numbers:

EM-RL--WCH-DND-2013-0001
NA--YSO-BWXT-Y12SITE-2010-0039

28. User-defined Field #1:

29. User-defined Field #2:

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30. HQ Keyword(s):

01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous)
01Q--Inadequate Conduct of Operations - Personnel error
08K--OSHA Reportable/Industrial Hygiene - Near Miss (Other)
12K--EH Categories - Near Miss (Could have been a serious injury or fatality)
14E--Quality Assurance - Work Process Deficiency

---

31. HQ Summary:

On February 13, 2015, during the performance of an Operational based drill, a fire truck (Engine 23) engineer (driver) stopped approximately 50 feet east of the fuel pumps and exited the cab of the fire truck, after exiting the fire truck began rolling backwards. Drill Controllers monitoring the simulated event observed the fire truck rolling backward and a firefighter approximately 12-15 feet from the fire truck. The Controllers shouted at the fire truck engineer to inform him that the fire truck was rolling and to alert the approaching firefighter. Simultaneously the firefighter moved to a safe location and the engineer immediately reentered the cab compartment and engaged the fire truck's air brake. The engineer confirmed that the air brake was engaged and then exited the cab compartment to place wheel chocks under the rear wheel. It was also noted that an ambulance was parked 20 feet directly behind the rolling fire truck and could have been contacted if the fire truck had not been stopped. The drill was suspended and notifications were made to Senior Management. A critique was conducted.

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32. DOE Facility Representative Input:

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33. DOE Program Manager Input:

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34. Approvals:

Approved by: HARRIS, JAMES, Facility Manager/Designee
Date: 05/01/2015
Telephone No.: (575) 234-8250

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Occurrence Report

After 2003 Redesign

Waste Isolation Pilot Plant

(Name of Facility)

Nuclear Waste Operations/Disposal

(Facility Function)

Carlsbad Field Office | Nuclear Waste Partnership

(Site) | (Contractor)

Name: KENNEDY, SCOTT
Title: FACILITY MANAGER **Telephone No.:** (575) 234-8434

(Facility Manager/Designee)

Name: KNOX, JEFF W.
Title: FACILITY MANAGER DESIGNEE **Telephone No.:** (575) 234-8462

(Originator/Transmitter)

Name: **Date:**

(Authorized Classifier (AC))

1. Occurrence Report Number: EM-CBFO--NWP-WIPP-2015-0003

Worker experiences mild shock while replacing fuse

2. Report Type and Date: UPDATE/FINAL

	Date	Time
Notification:	03/05/2015	12:40 (ETZ)

Initial Update:	04/16/2015	11:12 (ETZ)
Latest Update:	07/23/2015	17:21 (ETZ)
Final:		(ETZ)

3. Significance Category: 2

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4. Division or Project: NWP/WIPP

5. Secretarial Office: EM - Environmental Management

6. System, Bldg., or Equipment: RM02/Bld 412/240-RI-000-1715

7. UCNI?: No

8. Plant Area: TMF Instrument Rm

9. Date and Time Discovered: 03/04/2015 10:35 (MTZ)

10. Date and Time Categorized: 03/04/2015 11:50 (MTZ)

DOE HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

12. Other Notifications:

Date	Time	Person Notified	Organization
03/04/2015	12:12 (MTZ)	Jeff Knox	NWP/FMD
03/04/2015	11:09 (MTZ)	Walter MacMillan	NWP/RCM
03/04/2015	11:13 (MTZ)	James Harris	NWP/DFM
03/04/2015	11:50 (MTZ)	Ed Garza	CBFO/FR
03/04/2015	11:12 (MTZ)	Alvy Williams	NWP/FSM
03/04/2015	11:26 (MTZ)	Scott Kennedy	NWP/FM

Subject or Title of Occurrence:

Worker experiences mild shock while replacing fuse

Reporting Criteria:

2E(1) - Any unexpected or unintended personal contact (burn, shock, etc.) with an electrical hazardous energy source (e.g., live electrical power circuit, etc.).

---

15. Description of Occurrence:

On March 4, 2015, at approximately 1035 hours, a Radiological Control Technician attempted to start a portable air sampler (PAS) in the TRUPACT Maintenance Facility (TMF) but the instrument would not operate. The technician moved the PAS from the TMF to the instrument room and plugged it into another power supply. The PAS did not operate. Based on past experience at another DOE site, and contrary to WIPP practices, the technician attempted to further troubleshoot the problem by removing the fuse from the instrument and replacing it with a fuse from a known working instrument. A subsequent attempt to turn the unit on failed so the technician removed the fuse without disconnecting the instrument from the power supply. The technician experienced a mild tingling sensation while removing the fuse. The technician reported to the site nurse for evaluation and was released back to work with no restrictions. The supervisor was notified and contacted the Central Monitoring Room. The instrument was tagged and removed from service.
A fact finding Debrief was conducted at 1400 hours.

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16. Is Subcontractor Involved? No

---

17. Operating Conditions of Facility at Time of Occurrence:

Does not apply.

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18. Activity Category:

03 - Normal Operations (other than Activities specifically listed in this Category)

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19. Immediate Actions Taken and Results:

Employee went to the site nurse for evaluation. Medical staff cleared the employee to return to work.

Portable Air Sampler (PAS) was tagged out and a maintenance Action Request was issued to evaluate the equipment.

The area was secured until event investigation activities are completed. Photographs of the PAS and area were taken.

A fact finding Debrief was scheduled.

---

20. ISM:

3) Develop and Implement Hazard Controls
4) Perform Work Within Controls
5) Provide Feedback and Continuous Improvement

---

21. Cause Code(s):

A2B6C01 - Equipment/ material problem; Defective, Failed or Contaminated; Defective or failed part
A3B1C03 - Human Performance Less Than Adequate (LTA); Skill Based Errors; Incorrect performance due to mental lapse
couplet - A4B1C01 - Management Problem; Management Methods Less Than Adequate (LTA); Management policy guidance / expectations not well-defined, understood or enforced
A3B2C04 - Human Performance Less Than Adequate (LTA); Rule Based Error; Previous success in use of rule reinforces continued use of rule
-->couplet - A4B1C02 - Management Problem; Management Methods Less Than Adequate (LTA); Job performance standards not adequately defined
A5B2C08 - Communications Less Than Adequate (LTA); Written Communication Content LTA; Incomplete / situation not covered

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22. Description of Cause:

A2B6C01 – Five portable air samplers were identified with evidence of excessive heat buildup and/or arcing; multiple units were also identified with suspect conductor terminations.
Note: As part of the extent of condition review, all portable air samplers were inspected. With the exception of one out-of-service air sampler located in Panel 7, the suspect conductor terminations were corrected. New switches were shipped by the manufacturer to replace suspect switches. The suspect switches will be sent back to the manufacturer for further evaluation.
This cause is being addressed by corrective action 2.

A3B1C03, A3B2C04 – The radiological technician erred in attempting to remove the fuse from an energize instrument.
These cause codes are being addressed by corrective actions 1 and 3.

B1C01, A4B1C02 – Training and procedures do not adequately communicate the expectations related to troubleshooting radiological equipment and have not been updated to incorporate the operation of the new portable air samplers.
These cause codes are being addressed by corrective actions 1 and 3.

A5B2C08 (Missed Opportunity) – Periodic preventive maintenance does not include a requirement for visual inspection of electrical components inside the units.
This cause code is being addressed by corrective action 4.

Extent of Condition:
An extent of condition review was performed on portable air samplers. This review identified five other portable air samplers that showed evidence of excessive heat buildup and/or arcing. With concurrence from the manufacturer, engineering and subject matter experts also identified and corrected suspect conductor terminations on multiple units. Communications with the manufacturer and other DOE sites indicated that these units do not have a history of a fault of this type. The cognizant engineer and electrical subject matter experts agreed that the most probable cause of the faults was less than adequate conductor terminations during the original installation by the manufacture; however, because of the location of the heating and arcing, defective switches could not be entirely ruled out as a potential cause during the causal analysis.

Summary:
Three ISM codes were tripped during this occurrence: 3) Develop and Implement Hazard Controls – The facility did not identify potential issues and incorporate appropriate controls into the Job Performance Measure document; 4) Perform Work Within Controls – The technician did not follow site procedures or qualification process to troubleshoot the faulty equipment; and 5) Provide Feedback and Continuous Improvement – The facility did not specifically reinforce or adequately communicate the expectations/ controls related to troubleshooting radiological equipment.

Investigation Methodology:
The investigation and cause analysis was done in accordance with WIPP Procedure (WP) 15-GM1001, Root Cause; WP15-GM1002, Issues Management Processing of WIPP Forms; and WP15-MD3102, Event Investigation. The DOE Causal Analysis Tree as described in DOE-STD-1197-2011, Occurrence Reporting Causal Analysis was used to identify the causal factor(s) for the event.

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23. Evaluation (by Facility Manager/Designee):

The Causal Analysis has been assigned. The target date to complete the analysis is 4/29/15. The target date to complete the Corrective Action Plan (CAP) is 5/10/15.

UPDATE 5/27/15 - Immediately after the event, the portable air sampler was tagged out of service. Subsequent inspection by an electrical Subject Matter Expert and an Instrumentation Technician identified that the unit had incurred an electrical fault resulting from a less than adequate termination of the conductors during original installation by the manufacturer. This fault condition created excessive ıt buildup and arcing which melted conductors and thereby caused the instrument housing to be momentarily energized.
An extent of condition review was performed on portable air samplers. This review identified five other portable air samplers that showed evidence of excessive heat buildup and/or arcing. Defective switches will be replaced prior to equipment use and replaced switches will be sent back to the manufacturer for evaluation.
The Root Cause Analysis was issued on 5/20/15. The CAP is in the review cycle and the issuance date has been extended from 5/10/15 to 6/3/15.

UPDATE 6/29/15 - Lessons Learned information was incorporated into this update report. The draft CAP is being revised to incorporate comments identified in the review cycle. The CAP issuance date has been extended from 6/3/15 to 7/8/15.

FINAL 7/23/15 - The CAP was approved on 7/23/15 and the corrective actions have been incorporated into this report.

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24. Is Further Evaluation Required?: No

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25. Corrective Actions
Local Tracking System Name: IMPS

1. Radiological Control and Dosimetry will generate a read and sign/lessons learned related to this incident and re-emphasize basic electrical safety pertaining to all Radiological Instruments. This corrective action addresses cause codes: A3B1C03, A3B2C04, A4B1C01 and A4B1C02.

Target Completion Date: 08/31/2015	**Tracking ID:** ACT15-129-2

2. Email vendor to request verification of phone conversations related to air sampler switches and wiring concerns. Objective evidence to close are copies of this correspondence.
This corrective action addresses cause code A2B6C01.

Target Completion Date: 09/30/2015	**Tracking ID:** ACT15-129-3

3.	Review and revise the air sampling Job Performance Measure (JPM) to ensure electrical safety training is required for RCT's. Objective evidence is copy of the JPM and Radiological Control Technician (RCT) qualification card that captures the electrical safety requirement. This corrective action addresses cause codes A3B1C03, A3B2C04, A4B1C01 and A4B1C02.	
	Target Completion Date: 09/30/2015	**Tracking ID:** ACT15-129-4
4.	Review and revise preventive maintenance requirements to ensure those requirements are captured in applicable documents. Objective evidence to close is copy of air sampler Preventive Maintenance (PM) package. This corrective action addresses cause code A5B2C08 (Missed Opportunity).	
	Target Completion Date: 09/30/2015	**Tracking ID:** ACT15-129-5

---

26. Lessons Learned:

NWP-WIPP-2015-003
WIPP has been the recipient of new workers and equipment as a result of the events that occurred in February 2014. Site-specific troubleshooting requirements should be reinforced to the new workforce in the Job Performance Measures (JPMs) and the air sampling procedure. These requirements include:

1. Work is not performed on energized equipment; and
2. Only authorized work is to be conducted.

fur
Site-specific requirements for new equipment operations include:
1. A Job Hazard Analysis;
2. Procedures updated to include new equipment; and
3. Training on new processes should be conducted for the affected workers.

---

27. Similar Occurrence Report Numbers:

EM-CBFO--WTS-WIPP-2006-0004
EM-CBFO--WTS-WIPP-2010-0006
EM-CBFO--WTS-WIPP-2010-0009

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28. User-defined Field #1:

29. User-defined Field #2:

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Occurrence Report
After 2003 Redesign

aste Isolation Pilot Plant

(Name of Facility)

Nuclear Waste Operations/Disposal

(Facility Function)

Carlsbad Field Office | Nuclear Waste Partnership

(Site) | (Contractor)

Name: KENNEDY, SCOTT
Title: FACILITY MANAGER **Telephone No.:** (575) 234-8434

(Facility Manager/Designee)

me: KNOX, JEFF W.
Title: FACILITY MANAGER DESIGNEE **Telephone No.:** (575) 234-8462

(Originator/Transmitter)

Name: **Date:**

(Authorized Classifier (AC))

1. Occurrence Report Number: EM-CBFO--NWP-WIPP-2015-0004

Management Concern: Procedure Noncompliance

2. Report Type and Date: NOTIFICATION/FINAL

	Date	Time
Notification:	03/06/2015	16:56 (ETZ)

Initial Update:	03/06/2015	16:56 (ETZ)
Latest Update:	03/06/2015	16:56 (ETZ)
Final:	03/06/2015	16:56 (ETZ)

3. Significance Category: 4

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4. Division or Project: NWP/WIPP

5. Secretarial Office: EM - Environmental Management

6. System, Bldg., or Equipment: VU02/413/413-VD-056-004

7. UCNI?: No

8. Plant Area: Filter Building

9. Date and Time Discovered: 03/02/2015 15:30 (MTZ)

10. Date and Time Categorized: 03/06/2015 09:51 (MTZ)

DOE HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

12. Other Notifications:

Date	Time	Person Notified	Organization
03/02/2015	20:45 (MTZ)	Ed Garza	CBFO/FR
03/02/2015	18:00 (MTZ)	Scott Kennedy	NWP/FM
03/02/2015	17:00 (MTZ)	Alvy Williams	NWP/FSM
03/02/2015	21:00 (MTZ)	Wes Mouser	CBFO/OSO
03/02/2015	16:30 (MTZ)	Joe Bealler	NWP/FSE

13. Subject or Title of Occurrence:

Management Concern: Procedure Noncompliance

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14. Reporting Criteria:

10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern for that facility or other facilities or activities in the DOE complex.
The significance category assigned to the management concern should be based on an evaluation of the potential risks and impact on safe operations. (1 of 4 criteria - This is a SC 4 occurrence)

---

15. Description of Occurrence:

On March 2, 2015, at approximately 1555 hours, Facility Operations personnel were preparing to isolate a filter unit (856 unit) in preparation for a mod filter change, when they reached Step 1.9.5, in procedure 04-VU1003, that required closure of the volume control damper. A Facility Operations Technician (FOT) attempted to close the volume control damper by moving the damper control handle but the control mechanism was stuck and would not operate. The FOT decided to use a pipe on the volume control damper handle to gain additional leverage but there wasn't enough space to use the pipe. The FOT then applied a pipe wrench to the volume control damper handle. When the FOT applied the additional leverage with the pipe wrench, a shear pin in the volume control damper handle broke. The Cognizant Engineer (CE) was then contacted and informed of the broken shear pin. The CE recommended continuing isolation by closing the inlet and outlet dampers. Closing these dampers were the next steps in the procedure. The procedure did not allow for bypassing Step 1.9.5, at the direction of the CE, to close the volume control damper and thereby resulted in a procedure noncompliance.
A Debrief was conducted on March 3, 2015.
The Facility Manager evaluated the information obtained from the Debrief and determined that the identified issues should be reported as a Management Concern. While the procedure noncompliance and use of unauthorized equipment (pipe wrench, pipe) alone are not specifically reportable occurrences, the collective Conduct of Operations issues/failures are of concern to the facility.

---

16. Is Subcontractor Involved? No

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17. Operating Conditions of Facility at Time of Occurrence:

Does not apply.

Activity Category:

02 - Maintenance

Immediate Actions Taken and Results:

Personnel evaluated the situation and determined the procedure step was bypassed.

A fact finding Debrief was scheduled.

A maintenance Action Request was submitted to repair the volume control damper handle and to troubleshoot the damper control mechanism.

---

20. ISM:

4) Perform Work Within Controls

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21. Cause Code(s):

Description of Cause:

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23. Evaluation (by Facility Manager/Designee):

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24. Is Further Evaluation Required?: No

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25. Corrective Actions
Local Tracking System Name: IMPS

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26. Lessons Learned:

Similar Occurrence Report Numbers:

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Occurrence Report

After 2003 Redesign

Waste Isolation Pilot Plant

(Name of Facility)

Nuclear Waste Operations/Disposal

(Facility Function)

Carlsbad Field Office | Nuclear Waste Partnership

(Site) | (Contractor)

Name: HARRIS, JAMES
Title: DEPUTY FACILITY MANAGER **Telephone No.:** (575) 234-8250

(Facility Manager/Designee)

Name: KNOX, JEFF W.
Title: FACILITY MANAGER DESIGNEE **Telephone No.:** (575) 234-8462

(Originator/Transmitter)

Name: **Date:**

(Authorized Classifier (AC))

1. Occurrence Report Number: EM-CBFO--NWP-WIPP-2015-0006

Hydrocarbons released from privately owned pipeline

2. Report Type and Date: NOTIFICATION/FINAL

	Date	Time
Notification:	03/21/2015	13:09 (ETZ)

Initial Update:	03/21/2015	13:09 (ETZ)
Latest Update:	03/21/2015	13:09 (ETZ)
Final:	03/21/2015	13:09 (ETZ)

3. Significance Category: 4

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4. Division or Project: NWP/WIPP

5. Secretarial Office: EM - Environmental Management

6. System, Bldg., or Equipment: 200/1 mile north of facility

7. UCNI?: No

8. Plant Area: Land Withdrawl Area

9. Date and Time Discovered: 03/20/2015 13:01 (MTZ)

10. Date and Time Categorized: 03/20/2015 13:46 (MTZ)

DOE HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

12. Other Notifications:

Date	Time	Person Notified	Organization
03/20/2015	13:02 (MTZ)	James Harris	NWP/DFM
03/20/2015	13:05 (MTZ)	Jeff Knox	NWP/FMD
03/20/2015	13:01 (MTZ)	Alvy Williams	NWP/FSM
03/20/2015	13:10 (MTZ)	Kenny Padilla	CBFO/FR

13. Subject or Title of Occurrence:

Hydrocarbons released from privately owned pipeline

14. Reporting Criteria:

(3) - Any release (onsite or offsite) that exceeds 100 gallons of oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil. For operations involving oil field crude or condensate, any discharge that must be reported to outside agencies in a format other than routine periodic reports is reportable under this criterion.
[Note: See Group 1, Criterion 1, for situations under which releases of oil would be reported under "Operational Emergencies."]

10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern for that facility or other facilities or activities in the DOE complex.
The significance category assigned to the management concern should be based on an evaluation of the potential risks and impact on safe operations. (1 of 4 criteria - This is a SC 4 occurrence)

---

15. Description of Occurrence:

On March 20, 2015, at 1301 hours, the Facility Shift Manager (FSM) was notified that a privately owned natural gas pipeline located in Section 15 of the Waste Isolation Pilot Plant (WIPP) Land hdraw Area over-pressurized and vented a mixed hydrocarbon product to the environment (preliminary information reported: 420 gallons). The product misted over approximately 6 acres.
The FSM, Operations, Environmental, and Emergency Management personnel met briefly to determine best plan of action. Emergency Management recommended a WIPP Emergency Operations Center (EOC) be activated to support decision-making and coordination, based on the potential for RCRA requirements. The WIPP EOC was activated to monitor and assess the situation and any environmental impact. The WIPP EOC developed situational awareness on the incident and interfaced with local, State, and DOE HQ Watch Office, and U.S. Bureau of Land Management (BLM).
A worst-case plume-model was developed by the WIPP Consequence Assessment Team and there were no worker or public safety concerns.
The BLM and pipeline owner assumed responsibility for event and clean-up.

---

16. Is Subcontractor Involved? No

---

17. Operating Conditions of Facility at Time of Occurrence:

Does not apply.

18. Activity Category:

03 - Normal Operations (other than Activities specifically listed in this Category)

19. Immediate Actions Taken and Results:

Site Emergency Operations Center was activated as a precautionary measure.

WIPP Environmental personnel made courtesy notification to the New Mexico Environment Department (NMED) to apprise them of the situation.

WIPP Fire Department Captain, Protective Force and NWP Environmental Section representatives responded to the area. Protective Force established access control. Upon arrival there were no personnel at the event scene. Additional Emergency Response Team personnel responded and were on standby.

The RCRA Contingency Plan Implementation Matrix and Plan were reviewed for applicability of implementation. After an initial and secondary review by Environmental Subject Matter Expert and the EOC, it was determined that the criterion was not met for RCRA Contingency Plan Implementation. No regulatory actions are required.

ISM:

6) N/A (Not applicable to ISM Core Functions as determined by management review.)

21. Cause Code(s):

22. Description of Cause:

23. Evaluation (by Facility Manager/Designee):

This issue was initially categorized as a Group 10, Management Concern based on information available at that time. It was later determined the spill/release exceeded 100 gallons of oil and the occurrence was re-categorized under reporting criterion 5A(3)Significance Category 4.

24. Is Further Evaluation Required?: No

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25. Corrective Actions
Local Tracking System Name: IMPS

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26. Lessons Learned:

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27. Similar Occurrence Report Numbers:

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28. User-defined Field #1:

29. User-defined Field #2:

---

30. HQ Keyword(s):

---

31. HQ Summary:

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32. DOE Facility Representative Input:

---

33. DOE Program Manager Input:

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Occurrence Report
After 2003 Redesign

Waste Isolation Pilot Plant

(Name of Facility)

Nuclear Waste Operations/Disposal

(Facility Function)

Carlsbad Field Office | Nuclear Waste Partnership

(Site) | (Contractor)

Name: KENNEDY, SCOTT
Title: FACILITY MANAGER | **Telephone No.:** (575) 234-8434

(Facility Manager/Designee)

Name: KNOX, JEFF W.
Title: FACILITY MANAGER DESIGNEE | **Telephone No.:** (575) 234-8462

(Originator/Transmitter)

Name: | **Date:**

(Authorized Classifier (AC))

1. Occurrence Report Number: EM-CBFO--NWP-WIPP-2015-0007

Loss of waste hoist control power results in actuation of SS SSC - brakes

2. Report Type and Date: FINAL

Date	Time

Notification:	03/26/2015	20:32 (ETZ)
Initial Update:	05/01/2015	10:33 (ETZ)
Latest Update:	05/19/2015	09:28 (ETZ)
Final:	05/19/2015	09:28 (ETZ)
Revision 1:	05/19/2015	11:43 (ETZ)

3. Significance Category: 3

---

4. Division or Project: NWP/WIPP

5. Secretarial Office: EM - Environmental Management

6. System, Bldg., or Equipment: UH06/311/31-H-001

7. UCNI?: No

8. Plant Area: Waste Hoist

9. Date and Time Discovered: 03/24/2015 15:55 (MTZ)

10. Date and Time Categorized: 03/24/2015 17:08 (MTZ)

11. DOE HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

12. Other Notifications:

Date	Time	Person Notified	Organization
03/24/2015	15:55 (MTZ)	Mark Long	NWP/FSM
03/24/2015	16:22 (MTZ)	Scott Kennedy	NWP/FM
03/24/2015	15:55 (MTZ)	Kenny Padilla	CBFO/FR
03/24/2015	16:39 (MTZ)	Jeff Knox	NWP/FMD

13. Subject or Title of Occurrence:

Loss of waste hoist control power results in actuation of SS SSC - brakes

---

Reporting Criteria:

4B(3) - Actuation of a Safety Significant Structure, System, or Component (SSC), or its alarms as a result of an actual unsafe condition. Spurious alarms (e.g., due to electronic noise, radon/thoron decay) should not be reported.

---

15. Description of Occurrence:

On March 24, 2015, at 1555 hours, the Waste Hoist lost control power while lowering four underground workers from the surface (collar) to the underground (station). When control power was lost the waste hoist shut down and the hoist brakes actuated (set). The waste hoist conveyance deck stopped approximately four feet above station level. The hoist brakes are designed to actuate upon loss of hoist power and are designated as Safety Significant equipment within the site's Documented Safety Analysis (DSA).
No injuries or DSA non-compliances resulted from this event.

DISCUSSION:
March 24, 2015, at 0600 hours, preoperational checks were performed on the Waste Hoist and hoisting activities were performed throughout the day without incident. All indications were normal. The only anomaly identified was that the Hoist Control Room's temperature was "hot" because the air handling units (chillers) had not been operating.

When the hoist control power was lost, the Hoist Operator immediately contacted the Hoisting Manager (HM) and informed him of the loss of control power and that four personnel were on the Waste Hoist conveyance. Because the conveyance had stopped approximately four feet from the underground station, the underground Station Tender (ST) was able to communicate with the personnel on the conveyance and reported that they were okay.

The HM contacted the Central Monitoring Room Operator (CMRO) to report the situation and inquired about whether there were any power outages in progress that might affect the hoist and was told that there were none. The HM then proceeded to the Hoist Control room verified the loss of control power, checked the Motor Control Center (control power master) circuit breaker finding it closed (circuit energized). The HM then called the CMRO and asked for a work pause in the underground until the Air Intake Shaft (AIS) hoist could be made operational as a secondary means of egress. The AIS hoist was checked and declared operational at 1630 hours. Due to the loss of the Waste Hoist, the number of personnel in the underground was reduced to 24.

HM called the ST to check on the status of the four personnel on the conveyance and was told that

they were still okay. The ST informed the HM that a ladder was available at the Station that would safely reach the personnel on the conveyance. The HM called the FSM and discussed using the ladder to allow personnel to safely exit the conveyance. They agreed that was appropriate measure and the four personnel safely exited the conveyance at 1608 hours.

On March 25, 2015, the Cognizant Engineer investigated the cause of the loss of control power with maintenance personnel. A 20 amp thermal breaker was found to be tripped (open) inside one of the control panels located in the Waste Hoist Control Room. The breaker's temperature rating is 104 degrees Fahrenheit. The consensus was that because the control room temperature was elevated due to the chiller being off and the electrical components emitting heat inside the control panel, that the temperature inside the cabinet may have exceeded the breaker's temperature rating. The air handling unit (chiller) operation was restored and the control room was cooled down. When the thermal breaker was reset control power was restored. A hoist operator performed preoperational checks to place the hoist into operation. The checks were completed satisfactorily without issue.

Additional investigation included a review of electrical line noise data that showed some electrical noise approximately two hours previous to the event. However, this electrical noise may have been attributable to electrical switching at a plant substation which took place about the time of the event. No other identifiable causes beyond an undetectable component (electrical breaker) failing have been identified at this time.

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16. Is Subcontractor Involved? No

---

17. Operating Conditions of Facility at Time of Occurrence:

Does not apply.

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18. Activity Category:

03 - Normal Operations (other than Activities specifically listed in this Category)

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19. Immediate Actions Taken and Results:

Accountability of underground personnel was taken.

Required notifications were made.

Personnel on the hoist conveyance exited after safety aspects were evaluated and approved.

Underground work was paused until a secondary means of egress could be established. The Air Intake Shaft was prepared to serve as the secondary egress from the underground facility.

The number of personnel allowed in the underground was reduced to 24.

---

20. ISM:

1) Define the Scope of Work
4) Perform Work Within Controls
5) Provide Feedback and Continuous Improvement

---

21. Cause Code(s):

A1B5C02 - Design/Engineering Problem; Operability of Design / Environment LTA; Physical environment LTA
A5B4C01 - Communications Less Than Adequate (LTA); Verbal Communications LTA; Communication between work groups LTA

Description of Cause:

A1B5C02 - Failure to recognize and control high temperatures that could cause system failure.
This cause is addressed by corrective actions 1, 2, 3, 4 and 6.

A5B4C01 – The air handling unit wasn't operating normally and the Hoisting personnel were not familiar with how to manually start and stop the air handling unit, pending repair by the vendor. Lack of communication between work groups contributed to the incident.
This cause is addressed by corrective action 5.

Extent of Condition:
Other breakers in the waste hoist control room were evaluated and temperature readings devices were installed. Additionally, Engineering is also evaluating other areas where temperature could affect operability of equipment.

ISM Summary: Three ISM codes were tripped during this occurrence: 1) Define Scope of Work, 4) Perform Work Within Controls, and 5) Provide Feedback and Continuous Improvement.

Investigation Methodology: The investigation and cause analysis was done in accordance with WIPP ocedure (WP) 15-GM1001, Root Cause; WP15-GM1002, Issues Management Processing of WIPP rms; and WP15-MD3102, Event Investigation. The DOE Causal Analysis Tree as described in DOE-

STD-1197-2011, Occurrence Reporting Causal Analysis was used to identify the causal factor(s) for the event.

. Evaluation (by Facility Manager/Designee):

A Critique was held on 03/25/15 and resulted in the following actions:
- Replace the breaker that tripped;
- Install a thermometer to take temperature readings in the control cabinet;
- Develop actions to take if temperature exceeds the limits set by the Cognizant System Engineer;
- Complete repairs on the air handling unit (chiller);
- Operate and test hoist operations without personnel on the conveyance;
- Continue engineering evaluations; and
- Perform causal analysis and corrective action plan.

5/1/15 - The causal analysis report is currently in the review cycle and issuance is scheduled for 5/4/15. The target date to issue the Corrective Action Plan is 5/8/15.

5/19/15 - The CAP was approved on 5/14/15 and the actions have been incorporated into this report. Actions taken and the extent of condition evaluations should eliminate recurrence.

---

24. Is Further Evaluation Required?: No

---

25. Corrective Actions
Local Tracking System Name: IMPS

1.	Replace the breaker that tripped due to overheating. This corrective action addresses cause code A1B5C02.	
	Target Completion Date: 05/29/2015	**Tracking ID:** ACT15-179-3
2.	Perform evaluation and recommend limit(s) for operating temperature in the Control Room. This corrective action addresses cause code A1B5C02.	
	Target Completion Date: 05/29/2015	**Tracking ID:** ACT15-179-4
3.	Install Thermometer(s) to monitor temperature in the Hoist Control Room Area. This corrective action addresses cause code A1B5C02.	
	Target Completion Date: 05/29/2015	**Tracking ID:** ACT15-179-5

4. Complete repairs on the air handling units and controls.
This corrective action addresses cause code A1B5C02.

Target Completion Date: 05/29/2015	**Tracking ID:** ACT15-179-6

5. Place the Waste Hoist into operation using a graded approach. Initially limit use to handling materials and performing required inspections and only return to full operations after acceptable performance during the limited-use period. Ensure communication of this action in a daily order.
This corrective action addresses cause code A5B4C01.

Target Completion Date: 05/29/2015	**Tracking ID:** ACT15-179-7

6. Evaluate methods to egress from the Waste Hoist conveyance near the collar and near the station.
This corrective action addresses cause code A1B5C02.

Target Completion Date: 06/30/2015	**Tracking ID:** ACT15-179-8

26. Lessons Learned:

27. Similar Occurrence Report Numbers:

EM-CBFO--NWP-WIPP-2014-0016
EM-CBFO--WTS-WIPP-2009-0010
EM-ALO--WTS-WIPP-2004-0005

28. User-defined Field #1:

29. User-defined Field #2:

30. HQ Keyword(s):

07E--Electrical Systems - Electrical Equipment Failure
12E--EH Categories - Equipment Degradation/Failure
14L--Quality Assurance - No QA Deficiency

HQ Summary:

On March 24, 2015, the Waste Hoist lost control power while lowering four underground workers from the surface to the underground (station). When control power was lost the waste hoist shut down and the hoist brakes actuated (set). The waste hoist conveyance deck stopped approximately four feet above ion level. The hoist brakes are designed to actuate upon loss of hoist power and are designated as Safety Significant equipment. A ladder was used to allow personnel to safely exit the conveyance. Required notifications were made. An investigation was initiated.

---

32. DOE Facility Representative Input:

---

33. DOE Program Manager Input:

---

34. Approvals:

Approved by: KENNEDY, SCOTT, Facility Manager/Designee

Date: 05/19/2015

Telephone No.: (575) 234-8434

QUESTION 3 (E)

2015 WIPP Permit Inspection: NMED Request Description (5 items)

3. Photocopies of calibration records from December 9, 2014 through March 9, 2015 for all specific types of instruments (one for each instrument of each specific type) used to demonstrate Permit compliance with Attachments E, L, N, N1, and O. Radiological instruments are not considered to be demonstration of Permit compliance. Permit Condition 1.7.10.

Attachment E

- Total Number of Pages: 1

Attachment E

For the items listed in Attachment E, there was no equipment item used from November 19, 2015 through March 18, 2015 that required calibration instrumentation to complete the inspections.

QUESTION 3(L)

2015 WIPP Permit Inspection: NMED Request Description (5 items)

3. Photocopies of calibration records from December 9, 2014 through March 9, 2015 for all specific types of instruments (one for each instrument of each specific type) used to demonstrate Permit compliance with Attachments E, L, N, N1, and O. Radiological instruments are not considered to be demonstration of Permit compliance. Permit Condition 1.7.10.

Attachment L

- Total Number of Pages: 2

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NVLAP

NVLAP LAB CODE 200914-0

CERTIFICATE OF CALIBRATION

Customer: WASHINGTON TRU SOLUTIONS
30 MI SOUTH EAST OF CARLSBAD
CARLSBAD, NM 88221

Customer Nbr: 1-342757-000
PO Nbr: WIPP1-PO600005
Date Received: March 22, 2014

Cert/SO Nbr: 1-CK5FG-1-1
Manufacturer: In-Situ Inc.
Model Nbr: TAPE 200

Date Completed: April 19, 2014
Due Date: April 19, 2015

Part Nbr: Tape 200
Description: Tape Measure
Serial Nbr: 24026
ID Nbr: ZE0167
Unit Barcode: 901B0034697

Calibrated To: Manufacturer Specification
Calibration Proc: 1-AC44041-1
Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for SO Nbr 1-CK5FG-1-1

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are listed in the notes section of the certificate. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Transcat calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2008, ISO TS16949, ANSI/NCSL Z540-1994, and ISO 10012-1992. When specified contractually, the requirements of 10CFR21, 10CFR50 App. B and NQA-1 are also covered

Traceability includes no less than: An unbroken chain of comparison, realization of SI units, measurement uncertainty, documentation, competence, periodic recalibration, and measurement assurance. Transcat documents the traceability of measurements to the SI units through the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or other recognized national measurement institutes (NMI's) or international standard bodies, or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown on the Supplemental Report

The results of this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no. referenced above based on the tolerances shown on the supplemental report. these tolerances are either the original equipment manufacturer's (OEM's) warranted specifications or the client's requested specifications.

The applicable uncertainty is the uncertainty of the calibration process. The Test Uncertainty Ratio (TUR) is calculated as per NCSL International RP-9, section 8.2. All calibrations have been performed using processes having a TUR of 4:1 or better (3:1 for mass calibrations), unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k=2). Calibration at a 4:1 TUR (or greater) provides reasonable confidence that the instrument is within the stated tolerances. For measuring instruments, in order to consider the contribution to the uncertainty from reproducibility of the unit under test (UUT) add 0.6 of the UUT's least significant digit to the reported uncertainty. For mass calibrations Conventional mass referenced to 8.0 g/cm³

Any number of factors can cause a unit to drift out of tolerance at any time following its calibration. Limitations on the uses of this instrument are detailed in the OEM's operating instructions

Notes:

APPROVED
DATE 5-6-14

Calibrated At:
35 Vantage Point Dr
Rochester, NY 14624
By: Chris Morse
Digitally Signed On April 19, 2014

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Frederick Tank
Date: April 21, 2014

Frederick Tank
Lab Manager

F0013R24 1/27/14

Revision 0

This certificate may not be reproduced except in full, without the written approval of Transcat. Additional information, if applicable may be included on separate report(s).

Per WP 10-AD3029 Performance (current revision):
Calibration period begins with date of first use (placed into service) rather than actual calibration date. Calibration expiration (recall) date will be adjusted accordingly.

Date In-service: 4/19/14

Adjusted Calibration Expiration Date: 4/19/2015

Modified By / Date: _____

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NVLAP®

NVLAP LAB CODE 200914-0

CERTIFICATE OF CALIBRATION

Customer: WASHINGTON TRU SOLUTIONS
30 MI SOUTH EAST OF CARLSBAD
CARLSBAD, NM 88221

Customer Nbr: 1-342757-000
PO Nbr: WIPP1-PO600005
Date Received: March 22, 2014

Cert/SO Nbr: 1-CK5FG-1-1
Manufacturer: In-Situ Inc.
Model Nbr: TAPE 200

Date Completed: April 19, 2014
Due Date: April 19, 2015

Part Nbr: Tape 200
Description: Tape Measure
Serial Nbr: 24026
ID Nbr: ZF0167
Unit Barcode: 901B0034697

Calibrated To: Manufacturer Specification
Calibration Proc: 1-AC44041-1
Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for SO Nbr 1-CK5FG-1-1

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are listed in the notes section of the certificate. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Transcat calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2008, ISO TS16949, ANSI/NCSL Z540-1994, and ISO 10012-1992. When specified contractually, the requirements of 10CFR21, 10CFR50 App. B and NQA-1 are also covered.

Traceability includes no less than: An unbroken chain of comparison, realization of SI units, measurement uncertainty, documentation, competence, periodic recalibration, and measurement assurance. Transcat documents the traceability of measurements to the SI units through the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or other recognized national measurement institutes (NMI's) or international standard bodies, or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown on the Supplemental Report.

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no. referenced above based on the tolerances shown on the supplemental report. These tolerances are either the original equipment manufacturer's (OEM's) warranted specifications or the client's requested specifications.

The applicable uncertainty is the uncertainty of the calibration process. The Test Uncertainty Ratio (TUR) is calculated as per NCSL International RP-9 section 8.2. All calibrations have been performed using processes having a TUR of 4:1 or better (3:1 for mass calibrations) unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k=2). Calibration at a 4:1 TUR (or greater) provides reasonable confidence that the instrument is within the stated tolerances. For measuring instruments, in order to consider the contribution to the uncertainty from reproducibility of the unit under test (UUT), add 0.6 of the UUT's least significant digit to the reported uncertainty. For mass calibrations: Conventional mass referenced to 8.0 g/cm³.

Any number of factors can cause a unit to drift out of tolerance at any time following its calibration. Limitations on the uses of this instrument are detailed in the OEM's operating instructions.

Notes:

APPROVED BY
DATE 5-6-14

Calibrated At:
35 Vantage Point Dr
Rochester, NY 14624
By: Chris Morse
Digitally Signed On April 19, 2014

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Frederick Tank
Date: April 21, 2014

Frederick Tank
Lab Manager

F0013(24) 1/27/14

Revision 0

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Per WP 10-AD3029 Performance (current revision):
Calibration period begins with date of first use (placed into service) rather than actual calibration date. Calibration expiration (recall) date will be adjusted accordingly.

Date In-service: 4/19/14

Adjusted Calibration Expiration Date: 4/19/2015

Modified By / Date:

QUESTION 3(N, N1)

2015 WIPP Permit Inspection: NMED Request Description (5 items)

3. Photocopies of calibration records from December 9, 2014 through March 9, 2015 for all specific types of instruments (one for each instrument of each specific type) used to demonstrate Permit compliance with Attachments E, L, N, N1, and O. Radiological instruments are not considered to be demonstration of Permit compliance. Permit Condition 1.7.10.

Attachment N, N1

Monitoring activities for hydrogen and methane, as required by the Hazardous Waste Facility Permit Part 4 and Attachment N and N1, have not been conducted since early February 2014. This is due to the two separate events in the WIPP underground facility in February 2014 which ceased routine underground operations. Underground sampling has not been possible while recovery operations are underway.

Equipment associated with Attachment N and N1 have been calibrated (with the exception of pressurized sampling units noted in Attachment N) during the date range of requested data. However, this equipment has not been used to collect samples identified in Attachment N and N1.

To support your request for calibration documentation, the applicable records are enclosed.

- Attachment N Total Number of Pages: 4
- Attachment N1 Total Number of Pages: 4

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fax: 831.373.4402
www.sierrainstruments.com

CALIBRATION CERTIFICATE

CERTIFICATE NUMBER **4565906910**

ZE0143

Applicant/Customer	Name	WASHINGTON TRU SOLUTIONS			
	Customer Address	30 MILES SE OF CARLSBAD			
	City, State, Zip Code	CARLSBAD, NM 88221			
	Country	USA			
	Sales Order	R147397			
	Purchase Order	CREDIT CARD			
Instrument	Model	C100L-DD-2-OV1-SV1-PV2-V1-S0-C10			
	Serial number	109573			
	Input Power	24 Volt DC			
	Full Scale	20.000		units	SLPM
	Output signal	0	5	units	0-5 Volts
	Fittings	1/4" COMP			
	Accuracy DUT (+/-)	**1.0% F/S**			
Calibration method	Calibration Station/Cal Due Date	Cal Bench Asset # 0359	September 30, 2014		
	Calibration Procedure	MFG-042 Rev. C			
	Software release	Cal Bench Mass Flow Calibration System, Rev. 8.00.06			
	Repeatability	+/- 0.2% of full scale			
	Temperature coefficient	+/- 0.025% of full scale per °F (0.05% of full scale per °C)			
	Pressure coefficient	0.01% of full scale per psi (0.15% of full scale per bar)			
	System ERROR	maximum systematic ERROR = 0.2%			
	DMM Asset / Cal Due Date	1101	November 6, 2014		
ration details	Date of calibration	January 31, 2014			
	Suggested recal date	January 31, 2015			
Calibration data	Ambient pressure	29.62	In Hg		
	Ambient temperature	70.60	°F		
	Gas	Air			
	Calibration gas	Air			
	K-Factor	1.000			
	Reference temperature	70.0	°F		
	Reference pressure	1	ATM a.		
	Calibration pressure	**Inlet/outlet pressure**	6 PSI g.		1 PSI a.
	Calibration temperature	75-100	°F		
	Other	OUTPUT 0-5 VDC / 4-20 mA			
	Special Calibration Information				

Calibration results

Output	Indicated Flow	Actual Flow	Actual	Allowable
0-5 Volts	SLPM	SLPM	difference	difference
0.000	0.0000	0.0000	0.000	0.200
1.250	5.0000	4.9984	-0.002	0.200
2.500	10.0000	10.0002	0.000	0.200
3.750	15.0000	15.0054	0.005	0.200
5.000	20.0000	20.0018	0.002	0.200

Traceability

Calibration of these products is performed with equipment containing components which are tested and calibrated in accordance with ANSI/NCSL Z540 and/or ISO 17025 and are traceable to NIST.
The results of this report relate only to the item calibrated or tested.

Performed by

Calibration technician **Q.C.Technician**

This calibration certificate shall not be reproduced, except in full, without written approval.

APPROVED
BY
DATE 2-27-14

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NVLAP®

NVLAP LAB CODE 200730-0

CERTIFICATE OF CALIBRATION

Customer: WASHINGTON TRU SOLUTIONS
30 MI SOUTH EAST OF CARLSBAD
CARLSBAD, NM 88221

Customer Nbr: 1-342757-000
PO Nbr: WIPP1-PO600005
Date Received: December 30, 2013

Cert/SO Nbr: 5-CG8VN-2-1
Manufacturer: Ametek
Model Nbr: IPI030CBXXINDG

Date Completed: December 31, 2013
Due Date: December 31, 2014

Part Nbr: IPI030C
Description: Digital Pressure Gauge
Serial Nbr: 9611052
ID Nbr: ZE0146
Unit Barcode: 001A0022353

Calibrated To: Manufacturer Specification
Calibration Proc: 1-AC24202-2
Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for SO Nbr 5-CG8VN-2-1

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are listed in the notes section of the certificate. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Transcat calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2008, ISO TS16949, ANSI/NCSL Z540-1994, and ISO 10012-1992. When specified contractually, the requirements of 10CFR21, 10CFR50 App. B and NQA-1 are also covered.

Traceability includes no less than: An unbroken chain of comparison, realization of SI units, measurement uncertainty, documentation, competence, periodic recalibration, and measurement assurance. Transcat documents the traceability of measurements to the SI units through the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or other recognized national measurement institutes (NMI's) or international standard bodies, or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown on the Supplemental Report.

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no. referenced above based on the tolerances shown on the supplemental report; these tolerances are either the original equipment manufacturer's (OEM's) warranted specifications or the client's requested specifications.

The applied uncertainty is the uncertainty of the calibration process. The Test Uncertainty Ratio (TUR) is calculated as per NCSL International RP-9, section 8.2. All calibrations have been performed using processes having a TUR of 4 : 1 or better (3:1 for mass calibrations), unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k=2). Calibration at a 4:1 TUR (or greater) provides reasonable confidence that the instrument is within the stated tolerances. For measuring instruments, in order to consider the contribution to the uncertainty from reproducibility of the unit under test (UUT), add 0.6 of the UUT's least significant digit to the reported uncertainty. For mass calibrations: Conventional mass referenced to 8.0 g/cm³.

Any number of factors can cause a unit to drift out of tolerance at any time following its calibration. Limitations on the uses of this instrument are detailed in the OEM's operating instructions.

Notes:

APPROVED
BY
DATE 1-10-14

Calibrated At:
1181 Brittmore
Houston, TX 77043
By: Phillip Lock
Digitally Signed On December 31, 2013

Facility Responsible:
1181 Brittmore
Houston, TX 77043
713-465-4399

Digitally Signed By Scott D. Caine for
Date: December 31, 2013

Scott Caine
Lab Manager

F0013R23 03/08/13

Revision 0

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SUPPLEMENTAL REPORT FOR 5-CG8VN-2-1

CALIBRATION LAB DATA AS FOUND / AS LEFT

Service Order Nbr:	5-CG8VN-2-1	Mfg:	Ametek
Description:	Digital Pressure Gauge	Model:	IPI030CBXXINDG
Serial:	9611052		
Customer:	WASHINGTON TRU SOLUTIONS		
Calibrated:	December 31, 2013	PO Nbr:	WIPP1-PO600005
Date Due:	December 31, 2014	ID Nbr:	ZE0146
Service Type:	R6	Calibration Proc:	1-AC24202-2

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	Uncertainty (k=2; ±)		TUR
Pressure Measure									
Pressure Linearity	0.000psi	±(0.05% FS)	-0.015	0.015	0.000 psi				
	6.000psi	±(0.05% FS)	5.985	6.015	6.001 psi				
	12.000psi	±(0.05% FS)	11.985	12.015	12.001 psi				
	18.000psi	±(0.05% FS)	17.985	18.015	18.003 psi				
	24.000psi	±(0.05% FS)	23.985	24.015	24.005 psi				
	30.000psi	±(0.05% FS)	29.985	30.015	30.004 psi				
Hysteresis	18.000psi	±(0.05% FS)	17.985	18.015	18.004 psi				
Pressure Measure									
Vacuum Linearity	0.000psi	±(0.1% FS)	-0.030	0.030	0.000 psi				
	-3.000psi	±(0.1% FS)	-3.030	-2.970	-2.998 psi				

The reported uncertainty is the uncertainty of the calibration process. For measuring instruments, add 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specific test point.

Reported resolution of the UUT does not represent calibration uncertainty or accuracy of the UUT.

Field not applicable.

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SUPPLEMENTAL REPORT FOR 5-CG8VN-2-1

CALIBRATION LAB DATA AS FOUND / AS LEFT

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	Uncertainty (k=2; ±)		TUR
	-6.000psi	±(0.1% FS)	-6.030	-5.970	-5.994 psi				
	-9.000psi	±(0.1% FS)	-9.030	-8.970	-8.995 psi				
	-12.000psi	±(0.1% FS)	-12.030	-11.970	-11.993 psi				
	-14.500psi	±(0.1% FS)	-14.530	-14.470	-14.493 psi				
Hysteresis	-9.000psi	±(0.1% FS)	-9.030	-8.970	-8.997 psi				

As Found and As Left Data recorded on December 31, 2013

Temperature: 68.9°F / 20.5°C Relative Humidity: 32% Temp/RH Asset: DewK9

Asset	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
J783	Ruska Instruments Corp	7250xi	Digital Pressure Calibrator	August 02, 2013	February 28, 2014	5 -&J783-1217-1

The reported uncertainty is the uncertainty of the calibration process. For measuring instruments, add 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specific test point.

Reported resolution of the UUT does not represent calibration uncertainty or accuracy of the UUT.

Field not applicable.

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EXPERIENCE OUR PASSION FOR FLOW!

5 Harris Court, Building L / Monterey, CA 93940
800.866.0200 / 831.373.0200
fax: 831.373.4402
www.sierrainstruments.com

CALIBRATION CERTIFICATE

As Found Is As Left Data

CERTIFICATE NUMBER **6060893910**

ZE0162

Applicant/Customer	**Name**	WASHINGTON TRU SOLUTIONS, LLC			
	Customer Address	30 MILES SE OF CARLSBAD			
	City, State, Zip Code	CARLSBAD, NM 88221			
	Country	USA			
	Sales Order	R153893			
	Purchase Order	CREDIT CARD			
Instrument	**Model**	M100L-DD-2-OV1-PV2-V3-C3			
	Serial number	144510			
	Input Power	24 Volt DC			
	Full Scale	30.000		**units**	SCCM
	Output signal	0	10	**units**	0-10 Volts
	Fittings	1/4" COMP			
	Accuracy DUT (+/-)	**1.0% F/S**			
Calibration method	**Calibration Station/Cal Due Date**	Cal Bench Asset # 0277	September 30, 2015		
	Calibration Procedure	MFG-042 Rev. C			
	Software release	Cal Bench Mass Flow Calibration System, Rev. 8.00.06			
	Repeatability	+/- 0.2% of full scale			
	Temperature coefficient	+/- 0.025% of full scale per °F (0.05% of full scale per °C)			
	Pressure coefficient	0.01% of full scale per psi (0.15% of full scale per bar)			
	System ERROR	maximum systematic ERROR = 0.2%			
	DMM Asset / Cal Due Date	0337	July 9, 2015		
ration details	**Date of calibration**	October 29, 2014			
	Suggested recal date	October 29, 2015			
Calibration data	**Ambient pressure**	29.77	In Hg		
	Ambient temperature	74.00	°F		
	Gas	Air			
	Calibration gas	Air			
	K-Factor	1.000			
	Reference temperature	70.0	°F		
	Reference pressure	1	ATM a.		
	Calibration pressure	**Inlet/outlet pressure**	29 In Hg g.		N/A
	Calibration temperature	50-80	°F		
	Other	OUTPUT 0-10 VDC / 4-20 mA			
	Special Calibration Information	AS FOUND DATA "PASS"			

Calibration results

Output	Indicated Flow	Actual Flow	Actual	Allowable
0-10 Volts	SCCM	SCCM	difference	difference
0.000	0.0000	0.0000	0.000	0.300
2.496	7.4880	7.4760	-0.012	0.300
5.001	15.0030	15.0240	0.021	0.300
7.489	22.4670	22.5250	0.058	0.300
10.003	30.0090	29.8820	-0.127	0.300

Traceability

Calibration of these products is performed with equipment containing components which are tested and calibrated in accordance with ANSI/NCSL Z540 and/or ISO 17025 and are traceable to NIST.
The results of this report relate only to the item calibrated or tested.

Performed by

Calibration technician Robert C. Kennedy **Q.C.Technician**

This calibration certificate shall not be reproduced, except in full, without written approval.

APPROVED
BY
DATE 11-20-14

TRANSCAT® TRANSCAT.COM 800.828.1470

NVLAP®

NVLAP LAB CODE 200730-0

CERTIFICATE OF CALIBRATION

Customer: WASHINGTON TRU SOLUTIONS
30 MI SOUTH EAST OF CARLSBAD
CARLSBAD, NM 88221

Customer Nbr: 1-342757-000
PO Nbr: WIPP1-PO600005
Date Received: December 30, 2013

Cert/SO Nbr: 5-CG8VN-2-1
Manufacturer: Ametek
Model Nbr: IPI030CBXXINDG

Date Completed: December 31, 2013
Due Date: December 31, 2014

Part Nbr: IPI030C
Description: Digital Pressure Gauge
Serial Nbr: 9611052
ID Nbr: ZE0146
Unit Barcode: 001A0022353

Calibrated To: Manufacturer Specification
Calibration Proc: 1-AC24202-2
Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for SO Nbr 5-CG8VN-2-1

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are listed in the notes section of the certificate. This report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Transcat calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2008, ISO TS16949, ANSI/NCSL Z540-1994, and ISO 10012-1992. When specified contractually, the requirements of 10CFR21, 10CFR50 App. B and NQA-1 are also covered.

Traceability includes no less than: An unbroken chain of comparison, realization of SI units, measurement uncertainty, documentation, competence, periodic recalibration, and measurement assurance. Transcat documents the traceability of measurements to the SI units through the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or other recognized national measurement institutes (NMI's) or international standard bodies, or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown on the Supplemental Report.

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no. referenced above based on the tolerances shown on the supplemental report; these tolerances are either the original equipment manufacturer's (OEM's) warranted specifications or the client's requested specifications.

The applied uncertainty is the uncertainty of the calibration process. The Test Uncertainty Ratio (TUR) is calculated as per NCSL International RP-9, section 8.2. All calibrations have been performed using processes having a TUR of 4 : 1 or better (3:1 for mass calibrations), unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k=2). Calibration at a 4:1 TUR (or greater) provides reasonable confidence that the instrument is within the stated tolerances. For measuring instruments, in order to consider the contribution to the uncertainty from reproducibility of the unit under test (UUT), add 0.6 of the UUT's least significant digit to the reported uncertainty. For mass calibrations: Conventional mass referenced to 8.0 g/cm³.

Any number of factors can cause a unit to drift out of tolerance at any time following its calibration. Limitations on the uses of this instrument are detailed in the OEM's operating instructions.

Notes:

APPROVED
BY
DATE 1-10-14

Calibrated At:
1181 Brittmore
Houston, TX 77043
By: Phillip Lock
Digitally Signed On December 31, 2013

Facility Responsible:
1181 Brittmore
Houston, TX 77043
713-465-4399

Digitally Signed By Scott D. Caine for
Date: December 31, 2013

Scott Caine
Lab Manager

F0013R23 03/08/13

Revision 0

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SUPPLEMENTAL REPORT FOR 5-CG8VN-2-1

CALIBRATION LAB DATA AS FOUND / AS LEFT

Service Order Nbr:	5-CG8VN-2-1	Mfg:	Ametek
Description:	Digital Pressure Gauge	Model:	IPI030CBXXINDG
Serial:	9611052		
Customer:	WASHINGTON TRU SOLUTIONS		
Calibrated:	December 31, 2013	PO Nbr:	WIPP1-PO600005
Date Due:	December 31, 2014	ID Nbr:	ZE0146
Service Type:	R6	Calibration Proc:	1-AC24202-2

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	Uncertainty (k=2; ±)		TUR
Pressure Measure									
Pressure Linearity	0.000psi	±(0.05% FS)	-0.015	0.015	0.000 psi				
	6.000psi	±(0.05% FS)	5.985	6.015	6.001 psi				
	12.000psi	±(0.05% FS)	11.985	12.015	12.001 psi				
	18.000psi	±(0.05% FS)	17.985	18.015	18.003 psi				
	24.000psi	±(0.05% FS)	23.985	24.015	24.005 psi				
	30.000psi	±(0.05% FS)	29.985	30.015	30.004 psi				
Hysteresis	18.000psi	±(0.05% FS)	17.985	18.015	18.004 psi				
Pressure Measure									
Vacuum Linearity	0.000psi	±(0.1% FS)	-0.030	0.030	0.000 psi				
	-3.000psi	±(0.1% FS)	-3.030	-2.970	-2.998 psi				

The reported uncertainty is the uncertainty of the calibration process. For measuring instruments, add 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specific test point.

Reported resolution of the UUT does not represent calibration uncertainty or accuracy of the UUT.

Field not applicable.

TRANSCAT® TRANSCAT.COM 800.828.1470

SUPPLEMENTAL REPORT FOR 5-CG8VN-2-1

CALIBRATION LAB DATA AS FOUND / AS LEFT

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	OOT	Uncertainty (k=2; ±)		TUR
	-6.000psi	±(0.1% FS)	-6.030	-5.970	-5.994 psi				
	-9.000psi	±(0.1% FS)	-9.030	-8.970	-8.995 psi				
	-12.000psi	±(0.1% FS)	-12.030	-11.970	-11.993 psi				
	-14.500psi	±(0.1% FS)	-14.530	-14.470	-14.493 psi				
Hysteresis	-9.000psi	±(0.1% FS)	-9.030	-8.970	-8.997 psi				

As Found and As Left Data recorded on December 31, 2013

Temperature: 68.9°F / 20.5°C Relative Humidity: 32% Temp/RH Asset: DewK9

Asset	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
J783	Ruska Instruments Corp	7250xi	Digital Pressure Calibrator	August 02, 2013	February 28, 2014	5 -&J783-1217-1

The reported uncertainty is the uncertainty of the calibration process. For measuring instruments, add 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specific test point.

Reported resolution of the UUT does not represent calibration uncertainty or accuracy of the UUT.

Field not applicable.

QUESTION 3(O)

2015 WIPP Permit Inspection: NMED Request Description (5 items)

3. Photocopies of calibration records from December 9, 2014 through March 9, 2015 for all specific types of instruments (one for each instrument of each specific type) used to demonstrate Permit compliance with Attachments E, L, N, N1, and O. Radiological instruments are not considered to be demonstration of Permit compliance. Permit Condition 1.7.10.

Attachment O

- Work Order 1501503 Total Number of Pages: 29
- Work Order 1413040 Total Number of Pages: 29

02/11/2015

CHAMPS Type 2 Cover Sheet

Work Order: 1501503 **WO Class:** CAL - Calibration **Priority:** 3A

Description: 413B 41A001W2001 QTN IT FLOW GE: 5/7/2015

Criticality:

Equipment I.D.: 41A001W2001

Equipment Name: MASS FLOW INSTRUMENTATION **PM ID:** IC413000

Function Class: BoP **Management Level:** ML-4

Location: 413B **System:** VU01 **Parent:**

Dept: FACOP **Room:**

Planner: KIRBY, JESSE

Labor Account: W126030301

INCIDENT ENERGY 0.0	
COM Lockout/Tagout ~~Y~~ N MP 2/12/15 No. N/A (if required) [ ]PLD LO/TO [ ]N/A	
COM Release/Date: 2-11-15	**Suspended?** Yes (No) If yes, see Suspension Sheet
WGM Release/Date: 12 FEB 15	**Work Area Inspection Completed/Date:** 2/12/15
Task Completed/Worker/Date 2/12/15	**COM Retest Completed/Date:** N/A
FWS Work Completed/Date 02/13/15	**COM Work Acceptance/Date:** 3-1-15
Comments/Overview of Work Performed: Pm Sol. Found OOT Adjusted & Made	
Work Control/Date: J. Digby 3/28/15 MG 4/12/15	

IC413000

Revision 6

STATION B MASS FLOW MEASUREMENT SYSTEM, LOOP 41A001W2001

TRN 3

Maintenance Procedure

[VU01]

APPROVED FOR USE

CHANGE HISTORY SUMMARY

REVISION NUMBER	DATE ISSUED	DESCRIPTION OF CHANGES
6	6/02/2011	Replaced Kurz Flow measurement system with FolSonic flow measurement system. Due to the number of changes no side bars will be used.
6 TRN 2	02/04/2015	Changed flow rate variances from 10% to 5%.
6 TRN 3	02/11/2015	Added "with Temperature Probe connected to Airdata to measure temperature in duct" to verbiage in Note on Page 9.

1.0 INTRODUCTION

Specifically, this work will accomplish the following:

- Calibration of the Station B Mass Flow Measurement System, Loop 41A001W2001.

This procedure generates the following Quality records in accordance with WP 13-1, Quality Assurance Program Description (QAPD).

- Attachment 1 - Sign-off / Performance
- Attachment 2 - As Found / As Left Traverse Data Sheet
- Attachment 3 - Post Cleaning Traverse Data Sheet
- Attachment 4 - Adjusted Post Cleaning As Left Data Sheet

2.0 REFERENCES

BASELINE (DEVELOPMENTAL)

WP 04-AD3011	Equipment Tagout/Lockout
WP 10-AD3005	Control and Use of Maintenance Locks
WP 10-2	MOIM
WP 10-WC3010	Maintenance PM/MWI Controlled Document Processing
WP 10-WC3011	Work Control Process
WP 12-HP3600	Radiological Work Permits
WP 12 IS.01	Industrial Safety Program

WP 12 IS.01-1	Industrial Safety Program - Barricades and Barriers
WP 13-1	Quality Assurance Program Description
WP 12-IH.02-2	WIPP Industrial Hygiene Program – Confined Spaces
DOE/WIPP-07-3372	Waste Isolation Pilot Plant Documented Safety Analysis
DOE/WIPP-07-3373	Waste Isolation Pilot Plant Technical Safety Requirements
VARIOUS	Manufacturer's Operation and Maintenance Manuals
MSDS W0297.1	Ethyl Alcohol Completely Denatured
HA: 93:0554	U/G Ventilation Exhaust Flow Measurement System Accuracy & Reliability Report, 8/13/93

REFERENCED (REQUIRED ON-HAND)
None Required

3.0 MATERIAL LIST

ITEM	MATERIAL DESCRIPTION	QTY	UNIT	PR / WHSE STOCK NO.
	None			

4.0 EQUIPMENT LIST

PERSONAL PROTECTIVE EQUIPMENT AND SPECIAL TOOLS

DESCRIPTION	USED AT STEP
GENERAL - SAFETY GLASSES W/ SIDE SHIELDS	[ ] 7.2.3
GLOVES - RUBBER	[ ] 7.2.3

M&TE Needed

- MULTIMETER, AIR DATA, Recommend SHORTRIDGE Model ADM-8870C, Calibrated

Special Equipment:
- Fueled Man lift
- Laptop Computer with FloSonic Software
- Fire Extinguisher

5.0 PRECAUTIONS

The JOB HAZARDS CHECKLIST indicates types of hazards that may be present during the performance of this work. See the indicated section for precautions and mitigating actions.

JOB HAZARDS CHECKLIST

HAZARD	MITIGATED AT SECTION
CHEMICAL HAZARD	[ ] 7.2.3
HEIGHT HAZARD	8.0, [ ] 8.5.3
CONFINED HAZARD	[ ] 8.4
MECHANICAL HAZARD	[ ] 8.5
ETHYL ALCOHOL CHEMICAL HAZARD	[ ] 7.2.3
WORKING FROM HEIGHTS	[ ] 8.2
RADIOLOGICAL HAZARDS	[ ] 8.1.1, [ ] 8.1.2
FUELED MAN LIFT	[ ] 6.3, [ ] 8.2

6.0 LIMITATIONS

[ ] 6.1. HOLD AND WITNESS POINTS

Covered in RWP

[ ] 6.2. TAGOUT/LOCKOUT

TAGOUT/LOCKOUT

TYPE OF LOCKING DEVICE	USED AT STEP
NON-PLD	[ ] 8.4.2

[ ] 6.3. OTHER LIMITATIONS

- The order of completion of this work may be modified or sections may be performed in parallel, provided that proper Tagout/Lockout is observed and that no Hold Points or precautionary actions associated with Warning statements are bypassed.

- Any employee who has a concern for employee safety, the safety of the environment, or the quality of the activity has the responsibility and authority to suspend the performance of that activity.
- Work shall be stopped when instructions cannot be performed; field conditions change, or additional job hazards are identified.
- Brackets at the beginning of steps are optional place-keeping aids, and may be checked off as work progresses.
- All personnel affixing initials to this package shall provide the information listed in the PERSONNEL DATA TABLE.
- Troubleshooting or other activities outside the scope of this PM may require the initiation of a work order as directed by the Responsible Engineer or ZMM/ZS.
- If barriers are required for this work package they will be constructed and installed in a manner that will ensure their integrity throughout the expected duration of use and environmental conditions.
- Fueled Man Lift will be required to complete this work. Due to Combustible Materials Limitations in place for area around building 413, Man Lift shall not be left unattended when in roped off area.
- Fire watch shall be assigned when Man Lift is inside roped area at building 413.

7.0 PREREQUISITES

[✓] 7.1. ADMINISTRATIVE

[✓] 7.1.1. Record work order number on Attachment.

[✓] 7.2. TASK PREPARATION

[✓] 7.2.1. Obtain materials and equipment shown in Materials and Equipment section.

[✓] 7.2.2. Record Measurement and Test Equipment (M&TE) data as shown at M&TE Documentation table on Attachment 1, and verify all M&TE is within current calibration cycle.

WARNING

Ethyl Alcohol Chemical Hazard Exists
This warning applies to section [ ] 7.2.3

Performance of this activity will expose personnel to Ethyl Alcohol hazard. Examples of areas of concern are Ethyl Alcohol spills or splash in eyes or on skin.

[✓] 7.2.3. Clean pitot tube with alcohol and inspect tube for visible damage, tip deformation and clogging or obstruction of ports.

[✓] 7.2.3.1. Reference Section 4, above, for specific PPE required for the performance of this work.

[✓] 7.2.3.2. Ensure skin protection by wearing rubber gloves.

[✓] 7.2.3.3. Ensure eye protection by wearing chemical safety goggles if contact with eyes is possible.

[✓] 7.2.3.4. Use with adequate ventilation.

[✓] 7.2.3.5. Wash thoroughly if contact with the skin occurs.

[✓] 7.2.4. Mark insertion depths (as necessary) on the pitot tube as per Attachment 2 and connect to multimeter.

[✓] 7.2.5. Request Fac. Ops. shut down Building 413 HVAC system (as required).

SIGN-OFF

NOTE

This note applies to section [ ] 7.2.6

Pitot traverse will to be performed at a ~~nominal flow rate of 60 KCFM~~ Plant Configured Flow Rate. Specified flow rate may vary +/- 5% without affecting test results.

[✓] 7.2.6. Request Fac. Ops. to establish a Flow Rate ~~of 60 KCFM~~ at Station B and allow flow to stabilize before beginning traverse.

Aaron Cuesta 2/12/15 WSM John Barreda 2-12-15
Craig Pauly 2/12/15 Gill Farnsworth 2-12-15
Craig Pauly, Gill Farnsworth To Allow for one time performance of Current Flow Rate

WARNING
Height Hazard Exists
This warning applies to section 8.0

- Lanyards three feet long or less can be attached to the breast (front) 'D' ring on the harness. Six-foot lanyards must be attached to the back 'D' ring of the harness.
- Platform occupants must follow manufacturer's fall protection requirements.

WARNING
Radiological Hazard Exist
This warning applies to section 8.0
Follow RWP requirements

8.0 PERFORMANCE

[✓] 8.1. Radiological Work Permit (RWP) requirements

[✓] 8.1.1. Rad Con perform an RWP evaluation and record number on SIGN-OFF sheet. If not required, N/A step and SIGN-OFF.

SIGN-OFF RCE

[✓] 8.1.2. If RWP is required, all personnel read the RWP, discuss radiological hazards, precautions, and mitigating actions to be taken as shown in RWP. If RWP is not required, N/A step and SIGN-OFF then continue.

SIGN-OFF

[✓] 8.2. Elevated Platform Work Requirements

[✓] 8.2.1. Fire Watch in place.

SIGN-OFF

[✓] 8.2.2. Barrier area below platform.

SIGN-OFF

[✓] 8.2.3. All personnel involved in the performance of this work discuss Working Height hazards, precautions and mitigating actions to be taken.

SIGN-OFF

NOTE

This note applies to section [ ] 8.3

Work in this section requires the use of the following equipment:

- MULTIMETER, AIR DATA, Recommend SHORTRIDGE Model ADM-8870C, Calibrated

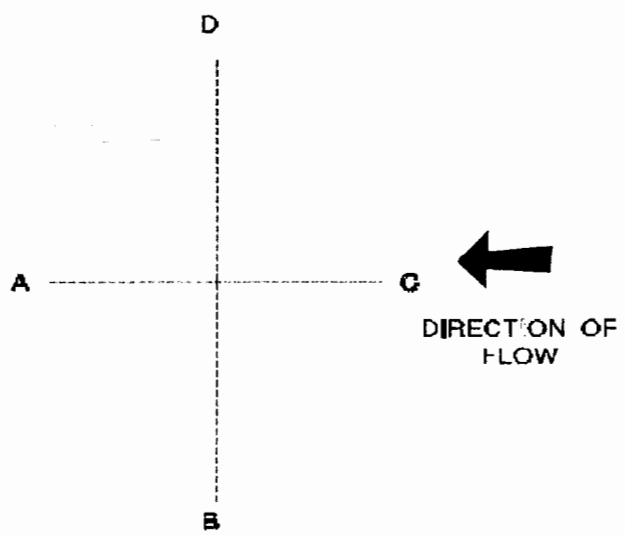
---

[✓] 8.3. AS FOUND PITOT TRAVERSE SERIES

[✓] 8.3.1. Verify Building 413 HVAC system has been shut down by Fac Ops.

SIGN-OFF

Figure 2. Orientation of Station B Traverse Penetrations



NOTE

This note applies to section [ ] 8.3.2

Observe the orientation of the duct penetrations as shown in Figure 2 when recording traverse data. Perform traverse with Airdata™ multimeter in "LOCAL" mode with Temperature Probe connected to Airdata™ to measure temperature in duct.

Only two of the four penetration points will be used for the performance of the pitot traverse. The same two traverse points must be used through out the performance of this procedure.

[✓] 8.3.2. Record applicable information on Attachment 2.

[✓] 8.3.3. Using Figure 1 select two penetration points that are 90° apart and record selected penetration points in each of the V FPM columns on Attachment 2.

[✓] 8.3.4. Perform traverse at the established Nominal Flow Rate and record the following:

- Velocities
- CMS FLOW for each penetration point
- FloSonic Flow for each penetration point
- RCT perform scan survey and swipe on Pitot Tube

[✓] 8.3.5. Calculate the average velocity from each traverse and record on Attachment 2.

[✓] 8.3.6. Calculate the CMS average flow rate from each traverse and record on Attachment 2.

[✓] 8.3.7. Calculate the Velocity Reference Method Flow as shown in Attachment 2.

[✓] 8.3.8. Calculate the Relative Percentage Difference between the FloSonic Average Flow and the Reference Method Velocity as shown in Attachment 2.

[✓] 8.3.9. Calculate the Relative Percentage Difference between the CMS Average Flow Rate and the Reference Method Velocity as shown in Attachment 2.

[ ] 8.3.10. If as found Relative Percentage Differences do not meet the acceptance criteria of +/- 5%, go to Section [ ] 8.7 FloSonic Calibration. Per ESS2014-01 section 3, system cannot be taken from Filtration Mode. Due to operational restrictions steps 8.4, 8.5 and 8.6 will be marked N/A.

[ ] 8.3.11. If all as found values meet acceptance criteria, mark "As Left" on Attachment 2, and go to Section [ ] 8.9 Task Verification.

WARNING

Confined Space Hazard Exists

This warning applies to Section [ ] 8.4

Station B duct is a NON-PERMIT CONFINED SPACE.

[ ] 8.4. TRANSDUCER CLEANING

[ ] 8.4.1.1. Notify Industrial Safety and Hygiene prior to entry into Non-Permit Confined Space. Record the following on SIGN-OFF Sheet person contacted, date and time.

SIGN-OFF

[ ] 8.4.2. TAGOUT/LOCKOUT

NOTE

The **PERSONAL LOCKING DEVICE** (PLD) **IS NOT PROPOSED** for this work.

The Tagout/Lockout listed in Tagout/Lockout Table was verified / walked down on WIPP Drawing 25-J-015-W1. If plant configuration will not support the lockout in the Tagout/Lockout Table, the Cognizant Operations Manager will delete the listed lockout, by one line initial and date and annotate the appropriate lockout in the Tagout/Lockout Table. Need to change to the new format

Tagout/Lockout Table

ISOLATING DEVICE	DEVICE POSITION	TAG	LOCK	LOCATION
CB-2 (for 860A)	OPEN	DANGER	YES	25P-SWG04/3
CB-3 (for 860B)	OPEN	DANGER	YES	25P-SWG04/3
CB-4 (for 860C)	OPEN	DANGER	YES	25P-SWG04/3

[ ] 8.4.3. Verify that components are positioned, tagged, and locked in accordance with WP 04-AD3011. Install Maintenance Locks as required.

SIGN-OFF

WARNING

Mechanical Energy Hazard Exists

This warning applies to section [ ] 8.5

Personnel shall follow Mechanical Hazard requirements during the performance of this work

[ ] 8.5. VERIFICATION OF ABSENCE OF MECHANICAL ENERGY

[ ] 8.5.1. Verify absence of mechanical energy at [ ] 8.5.3 by performing the following:

[ ] 8.5.2. Qualified Operator attempt to operate Filtration Fans 41-B-860A, 41-B-860B, and 41-B-860C. Equipment shall not operate.

SIGN-OFF FAC OPS

WARNING

Height Hazard Exists
This warning applies to section [ ] 8.5.3

Employees will use both hands for climbing. Tools will be carried in tool belts. Other materials will be raised or lowered using a hand line.

[ ] 8.5.3. All personnel involved in the performance of this work discuss Working Height hazards, precautions and mitigating actions to be taken

SIGN-OFF

[ ] 8.5.4. Open entry hatch and enter duct.

[ ] 8.5.5. Inspect sensors for damage, misalignment, and buildup then clean with a mild soap and water solution as needed and or align as needed.

[ ] 8.5.6. Verify sensor alignment and distance record distance on Attachment.

[ ] 8.5.7. Ensure that all personnel have exited the duct and all equipment has been removed.

SIGN-OFF

[ ] 8.5.8. Secure duct entry hatch.

[ ] 8.5.9. Remove maintenance locks and tags and request Operations to remove Tagout/Lockout from the equipment.

SIGN-OFF

NOTE

This note applies to section [ ] 8.6

Pitot traverse will to be performed at a nominal flow rate of 60 KCFM. Specified flow rate may vary +/- 5% without affecting test results.

[ ] 8.6. POST SENSOR CLEANING AS FOUND PITOT TRAVERSE

[ ] 8.6.1. Request Fac. Ops. to establish a Nominal Flow Rate of 60 KCFM at Station B and allow flow to stabilize before beginning traverse.

[ ] 8.6.2. Record applicable information on Attachment 3.

[ ] 8.6.3. Perform traverse at the established Nominal Flow Rate and record the following:

- Velocities
- CMS FLOW for each penetration point
- FloSonic Flow for each penetration point

[ ] 8.6.4. Calculate the average velocity from each traverse and record on Attachment 3.

[ ] 8.6.5. Calculate the CMS average flow rate from each traverse and record on Attachment 3.

[ ] 8.6.6. Calculate the Velocity Reference Method Flow as shown in Attachment 3.

[ ] 8.6.7. Calculate the Relative Percentage Difference between the FloSonic Average Flow and the Reference Method Velocity as shown in Attachment 3.

[ ] 8.6.8. Calculate the Relative Percentage Difference between the CMS Average Flow Rate and the Reference Method Velocity as shown in Attachment 3.

[ ] 8.6.9. If any as left Relative Percentage Differences do not meet the acceptance criteria of +/- 5%, go to Section [ ] 8.7 for FloSonic Adjustment.

[ ] 8.6.10. If all as found values meet acceptance criteria, mark "As Left" on Attachment 3, **THEN** go to Section [ ] 8.9 Task Verification.

[ ] 8.7. FLOSONIC CALIBRATION

[ ] 8.7.1. Connect computer with FloSonic Software to FloSonic Unit and record the following parameters:

- D = 39.03'
- A = 39.06'
- S = 27.49 sq. ft.
- Span = 0 - 150 KCFM

[ ] 8.7.2. Using the calculated Reference Method Flow (Q_{RM}) from Data Block 2 of Attachment 3 adjust the diagonal parameter value "D" until the FloSonic indication matches the Reference Method Velocity (Q_{RM}) flow from Attachment 3.

[ ] 8.7.3. Record the as left diagonal parameter value "D" on Attachment 4.

NOTE

This note applies to section [ ] 8.8

Ensure nominal Station B flow rate is +/- 5% of the previous nominal flow rate of 60 KCFM.

[✓] 8.8. POST CONTROL MODULE ADJUST AS LEFT PITOT TRAVERSE

[✓] 8.8.1. Request Fac. Ops. to establish a Flow Rate of 60 KCFM at Station B and allow flow to stabilize before beginning traverse, if required.

[✓] 8.8.2. Record applicable information on Attachment 2 data sheet.

[✓] 8.8.3. Perform traverse at the established Nominal Flow Rate and record the following:

- Velocities
- CMS FLOW for each penetration point
- FloSonic Flow for each penetration point

[✓] 8.8.4. Calculate the average velocity from each traverse and record on Attachment 4.

[✓] 8.8.5. Calculate the CMS average flow rate from each traverse and record on Attachment 4.

[✓] 8.8.6. Calculate the Velocity Reference Method Flow as shown in Attachment 4.

[✓] 8.8.7. Calculate the Relative Percentage Difference between the FloSonic Average Flow and the Reference Method Velocity as shown in Attachment 4.

[✓] 8.8.8. Calculate the Relative Percentage Difference between the CMS Average Flow Rate and the Reference Method Velocity as shown in Attachment 4.

[✓] 8.8.9. If any as left Relative Percentage Differences do not meet the acceptance criteria of +/- 5%, go to Section [ ] 8.7 for FloSonic Adjustment.

[✓] 8.8.10. If all as left values meet acceptance criteria, mark "As Left" on Attachment 4 **THEN** go to Section [ ] 8.9 TASK VERIFICATION.

[ ] 8.8.11. If the as left data is not in tolerance, notify the ZMM/ZS.

[ ] 8.9. TASK VERIFICATION

[ ] 8.9.1. Replace all plugs in traverse penetration points.

[ ] 8.9.2. Mark all unused Attachments "N/A".

[ ] 8.9.3. Apply calibration sticker to local display

SIGN-OFF

[ ] 8.9.4. Notify CMR and FSM that maintenance is complete.

SIGN-OFF

[ ] 8.9.5. Remove barrier and return man lift to staging area.

SIGN-OFF

[ ] 8.10. Operational Testing

[ ] 8.10.1. Successful completion of procedure satisfies any retest requirement.

[ ] 8.10.2. COG review recorded data.

SIGN-OFF COG

[ ] 8.11. RESTORATION TO OPERATIONAL STATUS

[ ] 8.11.1. Zone Maintenance Manager / Zone Superintendent conduct post-job review.

SIGN-OFF SHEET

M&TE Documentation

Instrument Description	Used At Step	Instrument Number	Date Cal Due	M&TE Initials
MULTIMETER, AIR DATA, Recommend SHORTRIDGE Model ADM-8870C, Calibrated Actual Equipment Used:	[ ] 8.3	QU 1289 QU 1288	5-16-15 4-22-15	

PREREQUISITES

Section	Action	Initials
[✓] 7.2.3	All personnel involved in the performance of this work discuss hazards, precautions and mitigating actions to be taken for the chemical being used.	CRAFT
[✓] 7.2.5	Request Fac. Ops. shut down Building 413 HVAC system (as required).	CRAFT

PERFORMANCE

Section	Action	Initials
[ ] 8.1.1	Rad Con perform an RWP evaluation and record number on SIGN-OFF sheet. If not required, N/A step and SIGN-OFF. RWP NUMBER 15-101G	RCE
[ ] 8.1.2	If RWP is required, all personnel read the RWP, discuss radiological hazards, precautions, and mitigating actions to be taken as shown in RWP. If RWP is not required, N/A step and SIGN-OFF then continue.	CRAFT
[ ] 8.2.1	Fire Watch in place.	CRAFT
[ ] 8.2.2	Barrier area below platform.	CRAFT

Section	Action	Initials
[ ] 8.2.3	All personnel involved in the performance of this work discuss Working Height hazards, precautions and mitigating actions to be taken.	CRAFT BL
[ ] 8.3.1	Verify Building 413 HVAC system has been shut down by Fac Ops.	CRAFT [illegible]
[ ] 8.4.1.1	Notify Industrial Safety and Hygiene prior to entry. Person Contacted:_____ Date:_____ Time:_____	CRAFT N/A
[ ] 8.4.3	Verify that components are positioned, tagged, and locked in accordance with WP 04-AD3011. Install Maintenance Locks as required.	CRAFT N/A
[ ] 8.5.2	Qualified Operator attempt to operate filtration fans 860A, 860B, and 860C. Equipment shall not operate.	FAC OPS N/A
[ ] 8.5.3	All personnel involved in the performance of this work discuss Working Height hazards, precautions and mitigating actions to be taken	CRAFT N/A CRAFT N/A
[ ] 8.5.7	Ensure that all personnel have exited the duct and all equipment has been removed.	CRAFT N/A
[ ] 8.5.9	Remove maintenance locks and tags and request Operations to remove Tagout/Lockout from the equipment.	CRAFT N/A
[ ] 8.9.3	Apply calibration sticker	CRAFT BL
[ ] 8.9.4	Notify CMR and FSM that maintenance is complete.	CRAFT BL
[ ] 8.9.5	Remove barrier and return man lift to staging area.	CRAFT BL
[ ] 8.10.2	COG review recorded data.	COG [illegible]

Comments:
None

PERSONNEL DATA

PRINTED NAME	SIGNATURE	INITIALS	DATE
D London	[illegible]	[illegible]	2/12/15
Robinson	[illegible]	[illegible]	2/12/15
JIM SATTERFIELD	[illegible]	[illegible]	2-12-15
JILL FARNSWORTH	Jill Farnsworth	JF	2-20-15

Post Cleaning As Found / As Left Traverse Data Sheet

✓ As Found / ____ As Left Nominal Flow Rate 60 KCFM

Date / Time 2/12/15 13:00 Fan Line-Up ____A ✓ B ____C

Data Block 1 – Traverse Data

Depth inches	V____ FPM	V____ FPM	V____ FPM	V____ FPM
1.5	1989	2057	2060	1608
4.8	2139	2050	2593	2058
8.5	2251	1868	2449	1950
12.75	2481	2188	2458	1798
18.0	2625	2236	2462	2011
25.6	2683	2748	2392	2392
Total Velocities	14168	13147	14414	11817
CMS FLOW AP2415	51550	51600	51700	51880
Sensor Flow(SF) Readings	52680	51920	51900	52100

V Average $\frac{\sum V_A + \sum V_B + \sum V_C + \sum V_D}{24}$	SF Average $\frac{\sum SF}{4}$	CMS Average $\frac{\sum CMS}{4}$
2231	52150	51680

Post Cleaning As Found / As Left Traverse Data Sheet

Data Block 2 – Relative Percent Difference Calculation

Reference Method Flow		
V_{AVG} FPM	$Q_{RM} = V_{AVG} \times 28.2743\ ft^2$	Reference Method Flow (Q_{RM}) KCFM
2231		63079
Sensor Flow		
SF_{AVG} KCFM	$RPD = \frac{SF_{AVG} - Q_{RM}}{Q_{RM}} \times 100$	Relative Percent Difference ACCEPTANCE CRITERIA ± 5%
52150		18.9
CMS Flow		
CMS_{AVG} KCFM	$RPD = \frac{CMS_{AVG} - Q_{RM}}{Q_{RM}} \times 100$	Relative Percent Difference ACCEPTANCE CRITERIA ± 5%
51680		18.07

As Found / As Left Traverse Data Sheet

____ As Found / ✓ As Left Nominal Flow Rate 60 KCFM

Date / Time 2/12/15 1500 Fan Line-Up ____A ✓ B ____C

Data Block 1 – Traverse Data

Depth inches	V____ FPM	V____ FPM	V____ FPM	V____ FPM
1.5	1916	1798	2513	2370
4.8	1890	2144	2577	2444
8.5	1997	2032	2633	2347
12.75	2013	2058	2651	2566
18.0	2183	2211	2727	2306
25.6	218	2196	2233	1801
Total Velocities	12017	12439	15334	13834
CMS FLOW AP2415	61600	61380	61380	62040
Sensor Flow(SF) Readings	61050	61800	60610	62200

V Average $\frac{\sum V_A + \sum V_B + \sum V_C + \sum V_D}{24}$	**SF Average** $\frac{\sum SF}{4}$	**CMS Average** $\frac{\sum CMS}{4}$
2234	61415	62040

Acceptance Criteria Calculation Sheet

Data Block 2 – Relative Percent Difference Calculation

Reference Method Flow		
V_{AVG} FPM	$Q_{RM} = V_{AVG} \times 28.2743\ ft^2$	Reference Method Flow (Q_{RM}) KCFM
2234		63174
Sensor Flow		
SF_{AVG} KCFM	$RPD = \frac{SF_{AVG} - Q_{RM}}{Q_{RM}} \times 100$	Relative Percent Difference ACCEPTANCE CRITERIA ± 5%
61415		-2.78
CMS Flow		
CMS_{AVG} KCFM	$RPD = \frac{CMS_{AVG} - Q_{RM}}{Q_{RM}} \times 100$	Relative Percent Difference ACCEPTANCE CRITERIA ± 5%
62040		-2.49

ATTACHMENT - Post Cleaning Adjusted As Left Traverse Data Sheet

FloSonic Parameters: D: ____ A: 39.06' S: 27.49 sq. ft. Full Scale: 0 – 150 KCFM

Nominal Flow Rate _____KCFM

Date / Time _____ Fan Line-Up ____A ____B ____C

Data Block 1 – Traverse Data

Depth inches	V____ FPM	V____ FPM	V____ FPM	V____ FPM
1.5				
4.8				
8.5				
12.75				
18.0				
25.6				
Total Velocities				
CMS FLOW AP2415				
Sensor Flow(SF) Readings				

V Average $\frac{\sum V_A + \sum V_B + \sum V_C + \sum V_D}{24}$	**SF Average** $\frac{\sum SF}{4}$	**CMS Average** $\frac{\sum CMS}{4}$

N A

Data Block 2 – Relative Percent Difference Calculation

Reference Method Flow		
V_{AVG} FPM	$Q_{RM} = V_{AVG} \times 28.2743\ ft^2$	Reference Method Flow (Q_{RM}) KCFM
Sensor Flow		
SF_{AVG} KCFM	$RPD = \frac{SF_{AVG} - Q_{RM}}{Q_{RM}} \times 100$	Relative Percent Difference ACCEPTANCE CRITERIA ± 5%
CMS Flow		
CMS_{AVG} KCFM	$RPD = \frac{CMS_{AVG} - Q_{RM}}{Q_{RM}} \times 100$	Relative Percent Difference ACCEPTANCE CRITERIA ± 5%

Working Copy

Pre-Job Briefing Checklist

Procedure/WCD #

Minimum Discussion Points:
The items in this box are the minimum items to be discussed at the pre-job briefing. Additional items should be reviewed and discussed, as appropriate. Ensure sufficient questions are asked to confirm all participants understand the task, roles, and responsibilities.

- ☑ Work Scope/Boundaries/Critical Tasks
- ☑ Roles and Responsibilities/Task Assignments
- ☑ Special Training, Qualifications, Medical Clearances
- ☑ Job Hazards, Controls, and PPE (see Hazards and PPE sections)
- ☑ Work Area Conditions/Assessments/Adjacent Work
- ☑ WCD Adherence and Use
- ☑ **STOP** work responsibilities

Prerequisites ☐ **None**

- ☐ TSR Requirements
- ☑ Three-Way Communications
- ☐ Tools, Materials, or Equipment to be staged
- ☐ Prerequisites in the WCD
- ☐ Oversight Requirements
- ☐ Other

Hazards (check all applicable or none) and Controls: ☐ **None**

- ☐ Confined Space
- ☑ Energized Equipment
- ☐ Falling Objects
- ☐ Flammable Materials
- ☑ Hazardous Materials
- ☐ Heavy Equipment Operation
- ☐ Hidden Utilities
- ☐ Other
- ☐ High Noise
- ☑ High Pressure / Temperature
- ☐ Hot Work
- ☐ Limited Lighting
- ☐ Overhead Utilities
- ☑ Pinch Points Exposed
- ☐ Pressurized Gas Cylinders
- ☐ Other
- ☑ Radiological
- ☐ Rigging & Lifting
- ☑ Rotating Equipment
- ☑ Trip/Fall Hazards
- ☐ Stored Energy
- ☑ Weather (hot/cold/wet)
- ☑ Working at Heights

Permits/Plans Required (check any applicable or none): ☐ **None**

- ☐ Asbestos
- ☐ Blind Penetration
- ☐ Confined Space
- ☐ Energized Equipment
- ☐ Excavation
- ☐ Fall Protection
- ☐ Hot Work
- ☐ IH Sample
- ☐ Lockout/Tagout
- ☐ Radiological

Personal Protective Equipment and Monitoring (check those required or none): ☐ **None**

- ☑ Eye Protection
- ☑ Foot Protection
- ☑ Hand Protection
- ☑ Hard Hat
- ☑ Hearing Protection
- ☑ IH Monitoring
- ☐ Radiation Monitoring (TLD, air samples, etc.)
- ☐ Respiratory Protection
- ☐ Special Clothing
- ☐ Underground Equipment

S-A-F-E-R Dialog:	Review HPI Tools:
☑ Summarize the Critical Steps	☑ Questioning Attitude
☑ Anticipate Error Traps	☑ Self-Checking (STAR)
☑ Foresee Consequences	☑ Peer-Checking
☑ Evaluate Defenses	☑ Effective Communications
☑ Review Experience	☑ Timeout

Comments:

Pre-job Briefing Attendees

	Printed Names	Badge No.	Initials [1]
1	Eldar Schubert	CE10128	ES
2	Maurice Theriault	CE10137	MT
3	Blum	CE07055	BB
4	B Robertson	CRD6550	BR
5	R Domiyan	CE07049	M
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

NOTE 1: Worker's initials indicate attendance at the pre-job briefing and satisfactory understanding of all items discussed.

By my signature, I indicate that I have conducted the pre-job briefing covering all items indicated above concerning the requirements specified for the work to be performed.

Person Conducting Briefing:	Date/Time:
[illegible] 12 Feb 13	0730

Working Copy

Trending Analysis

Date: 04/06/2015 Work Planner: N/A
Equipment I.D.: 41A001W2001 System: VU01
Work Order Number: 1501503

1. Similar reoccurring failures? YES / NO

2. Frequent failures of equipment? YES / NO

A "Yes" answer to any question above constitutes the need for a trend analysis.

Work Planner/Work Control Comments:
Found OOT-Adjustments made

Print/Sign/Date: Tammy Digby Tammy Digby 04/06/15

Work Control produce an equipment history report consisting of a minimum of two years of history, which may include a CHAMPS history printout, available CAS/CAMP inspection reports, and preventive maintenance or calibration data.

Forward Trending Analysis report to the cognizant system engineer for review.

Cognizant Engineer Evaluation and Recommended Action:

X No action at this time – will continue to monitor.
____ AR submitted to initiate corrective action.
____ Change frequency of PM/calibration activity (specify frequency below)
____ Change tolerance/acceptance parameters (list affected procedure and new tolerance/acceptance parameters below)

Justification/basis for action/no action:
OOT AT STA B FLOW IS NOT A FREQUENT OCCURRENCE BASED ON THE HISTORY PROVIDED. WE WILL CONTINUE TO MONITOR THE PERFORMANCE OF STA B AND MAKE CHANGES WHEN WARRANTED.

Print/Sign/Date: JILL FARNSWORTH Jill Farnsworth 4-7-15

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01/07/2015

CHAMPS Type 2 Cover Sheet

Work Order: 1413040 **WO Class:** CAL - Calibration **Priority:** 3A

Description: 413B 41A001W2001 QTN IT FLOW GE: 2/5/2015

Criticality:

Equipment I.D.: 41A001W2001

Equipment Name: MASS FLOW INSTRUMENTATION **PM ID:** IC413000

Function Class: BoP **Management Level:** ML-4

Location: 413B **System:** VU01 **Parent:**

Dept: FACOP **Room:**

Planner: KIRBY, JESSE

Labor Account: W126030301

INCIDENT ENERGY Ø Cal	
COM Lockout/Tagout Y N No. N/A (if required) [ ]PLD LO/TO [✓]N/A	
COM Release/Date: 2-3-15	**Suspended? Yes / No** If yes, see Suspension Sheet
WGM Release/Date: 04/03/15	**Work Area Inspection Completed/Date:** 2-5-15
Task Completed/Worker/Date Jerry Lee Boyd 2-5-15	**COM Retest Completed/Date:** N/A
FWS Work Completed/Date 2-6-15	**COM Work Acceptance/Date:** 2-6-15

Comments/Overview of Work Performed:

PM Performed Sat. No adjustments made. FOUND TO BE IN TOLERANCE.

Work Control/Date: 2/11/15 2/11/15

Comments/Partial Release

COMMENTS

WORK ORDER NUMBER: 1413040 DATE: 2/1/15

COMMENTS PROVIDED BY: P. J. PANERAL
Name/Organization

NOTE: Provide corrective actions necessary to incorporate comment in "Comments" section.

- ☐ Work instruction not clear. _____
- ☐ Requires additional work instructions. _____
- ☐ Insufficient retest instructions/requirements. _____
- ☐ Requires additional approvals. _____
- ☐ Contact Operations for tag-out Step. _____ or Time _____
- ☐ Not Released. State reason. _____
- ☐ Outage required for work. _____
- ☐ Package should be worked with the following. _____
- ☐ Reschedule on. _____
- ☐ Permit required - Contact. _____
- ☒ Other/Comments: CAN DO THE LOOP CAL – CAN NOT DOING ANY CLEANING OF PROBE IF REQUIRED – NO ACCESS TO DUCT WORK WITH OUT A VENTILATION CUTAWAY. P.J.P.

PARTIAL RELEASE

Instructions for Partial Release:

Cognizant Operation Manager [signature] Date 2-5-15

Work Group Manager [signature] Date 05 FEB 15

IC413000

Revision 6

STATION B MASS FLOW MEASUREMENT SYSTEM, LOOP 41A001W2001

TRN 2

Maintenance Procedure

[VU01]

APPROVED FOR USE

CHANGE HISTORY SUMMARY

REVISION NUMBER	DATE ISSUED	DESCRIPTION OF CHANGES
6	6/02/2011	Replaced Kurz Flow measurement system with FolSonic flow measurement system. Due to the number of changes no side bars will be used.
6 TRN 2	02/04/2015	Changed flow rate variances from 10% to 5%.

1.0 INTRODUCTION

Specifically, this work will accomplish the following:

- Calibration of the Station B Mass Flow Measurement System, Loop 41A001W2001.

This procedure generates the following Quality records in accordance with WP 13-1, Quality Assurance Program Description (QAPD).

- Attachment 1 - Sign-off / Performance
- Attachment 2 - As Found / As Left Traverse Data Sheet
- Attachment 3 - Post Cleaning Traverse Data Sheet
- Attachment 4 - Adjusted Post Cleaning As Left Data Sheet

2.0 REFERENCES

BASELINE (DEVELOPMENTAL)

WP 04-AD3011	Equipment Tagout/Lockout
WP 10-AD3005	Control and Use of Maintenance Locks
WP 10-2	MOIM
WP 10-WC3010	Maintenance PM/MWI Controlled Document Processing
WP 10-WC3011	Work Control Process
WP 12-HP3600	Radiological Work Permits
WP 12 IS.01	Industrial Safety Program
WP 12 IS.01-1	Industrial Safety Program - Barricades and Barriers
WP 13-1	Quality Assurance Program Description
WP 12-IH.02-2	WIPP Industrial Hygiene Program – Confined Spaces
DOE/WIPP-07-3372	Waste Isolation Pilot Plant Documented Safety Analysis

DOE/WIPP-07-3373	Waste Isolation Pilot Plant Technical Safety Requirements
VARIOUS	Manufacturer's Operation and Maintenance Manuals
MSDS W0297.1	Ethyl Alcohol Completely Denatured
HA: 93:0554	U/G Ventilation Exhaust Flow Measurement System Accuracy & Reliability Report, 8/13/93

REFERENCED (REQUIRED ON-HAND)
None Required

3.0 MATERIAL LIST

ITEM	MATERIAL DESCRIPTION	QTY	UNIT	PR / WHSE STOCK NO.
	None			

4.0 EQUIPMENT LIST

PERSONAL PROTECTIVE EQUIPMENT AND SPECIAL TOOLS

DESCRIPTION	USED AT STEP
GENERAL - SAFETY GLASSES W/ SIDE SHIELDS	[ ] 7.2.3
GLOVES - RUBBER	[ ] 7.2.3

M&TE Needed

- MULTIMETER, AIR DATA, Recommend SHORTRIDGE Model ADM-8870C, Calibrated

Special Equipment:
- Fueled Man lift
- Laptop Computer with FloSonic Software
- Fire Extinguisher

5.0 PRECAUTIONS

The JOB HAZARDS CHECKLIST indicates types of hazards that may be present during the performance of this work. See the indicated section for precautions and mitigating actions.

JOB HAZARDS CHECKLIST

HAZARD	MITIGATED AT SECTION
CHEMICAL HAZARD	[ ] 7.2.3
HEIGHT HAZARD	8.0, [ ] 8.5.3
CONFINED HAZARD	[ ] 8.4
MECHANICAL HAZARD	[ ] 8.5
ETHYL ALCOHOL CHEMICAL HAZARD	[ ] 7.2.3
WORKING FROM HEIGHTS	[ ] 8.2
RADIOLOGICAL HAZARDS	[ ] 8.1.1, [ ] 8.1.2
FUELED MAN LIFT	[ ] 6.3, [ ] 8.2

6.0 LIMITATIONS

[ ] 6.1. HOLD AND WITNESS POINTS

Covered in RWP

[ ] 6.2. TAGOUT/LOCKOUT

TAGOUT/LOCKOUT

TYPE OF LOCKING DEVICE	USED AT STEP
NON-PLD	[ ] 8.4.2

[ ] 6.3. OTHER LIMITATIONS

- The order of completion of this work may be modified or sections may be performed in parallel, provided that proper Tagout/Lockout is observed and that no Hold Points or precautionary actions associated with Warning statements are bypassed.

- Any employee who has a concern for employee safety, the safety of the environment, or the quality of the activity has the responsibility and authority to suspend the performance of that activity.
- Work shall be stopped when instructions cannot be performed; field conditions change, or additional job hazards are identified.
- Brackets at the beginning of steps are optional place-keeping aids, and may be checked off as work progresses.
- All personnel affixing initials to this package shall provide the information listed in the PERSONNEL DATA TABLE.
- Troubleshooting or other activities outside the scope of this PM may require the initiation of a work order as directed by the Responsible Engineer or ZMM/ZS.
- If barriers are required for this work package they will be constructed and installed in a manner that will ensure their integrity throughout the expected duration of use and environmental conditions.
- Fueled Man Lift will be required to complete this work. Due to Combustible Materials Limitations in place for area around building 413, Man Lift shall not be left unattended when in roped off area.
- Fire watch shall be assigned when Man Lift is inside roped area at building 413.

7.0 PREREQUISITES

[ ] 7.1. ADMINISTRATIVE

[ ] 7.1.1. Record work order number on Attachment.

[ ] 7.2. TASK PREPARATION

[ ] 7.2.1. Obtain materials and equipment shown in Materials and Equipment section.

[ ] 7.2.2. Record Measurement and Test Equipment (M&TE) data as shown at M&TE Documentation table on Attachment 1, and verify all M&TE is within current calibration cycle.

WARNING

Ethyl Alcohol Chemical Hazard Exists

This warning applies to section [ ] 7.2.3

Performance of this activity will expose personnel to Ethyl Alcohol hazard. Examples of areas of concern are Ethyl Alcohol spills or splash in eyes or on skin.

[ ] 7.2.3. Clean pitot tube with alcohol and inspect tube for visible damage, tip deformation and clogging or obstruction of ports.

[ ] 7.2.3.1. Reference Section 4, above, for specific PPE required for the performance of this work.

[ ] 7.2.3.2. Ensure skin protection by wearing rubber gloves.

[ ] 7.2.3.3. Ensure eye protection by wearing chemical safety goggles if contact with eyes is possible.

[ ] 7.2.3.4. Use with adequate ventilation.

[ ] 7.2.3.5. Wash thoroughly if contact with the skin occurs.

[ ] 7.2.4. Mark insertion depths (as necessary) on the pitot tube as per Attachment 2 and connect to multimeter.

[ ] 7.2.5. Request Fac. Ops. shut down Building 413 HVAC system (as required).

SIGN-OFF

NOTE

This note applies to section [ ] 7.2.6

Pitot traverse will to be performed at a nominal flow rate of 60 KCFM. Specified flow rate may vary +/- 5% without affecting test results.

[ ] 7.2.6. Request Fac. Ops. to establish a Flow Rate of 60 KCFM at Station B and allow flow to stabilize before beginning traverse.

WARNING

Height Hazard Exists

This warning applies to section 8.0

- Lanyards three feet long or less can be attached to the breast (front) 'D' ring on the harness. Six-foot lanyards must be attached to the back 'D' ring of the harness.
- Platform occupants must follow manufacturer's fall protection requirements.

WARNING

Radiological Hazard Exist

This warning applies to section 8.0

Follow RWP requirements

8.0 PERFORMANCE

[ ] 8.1. Radiological Work Permit (RWP) requirements

[ ] 8.1.1. Rad Con perform an RWP evaluation and record number on SIGN-OFF sheet. If not required, N/A step and SIGN-OFF.

SIGN-OFF RCE

[ ] 8.1.2. If RWP is required, all personnel read the RWP, discuss radiological hazards, precautions, and mitigating actions to be taken as shown in RWP. If RWP is not required, N/A step and SIGN-OFF then continue.

SIGN-OFF

[ ] 8.2. Elevated Platform Work Requirements

[ ] 8.2.1. Fire Watch in place.

SIGN-OFF

[ ] 8.2.2. Barrier area below platform.

SIGN-OFF

[ ] 8.2.3. All personnel involved in the performance of this work discuss Working Height hazards, precautions and mitigating actions to be taken.

SIGN-OFF

NOTE

This note applies to section [ ] 8.3

Work in this section requires the use of the following equipment:

- MULTIMETER, AIR DATA, Recommend SHORTRIDGE Model ADM-8870C, Calibrated

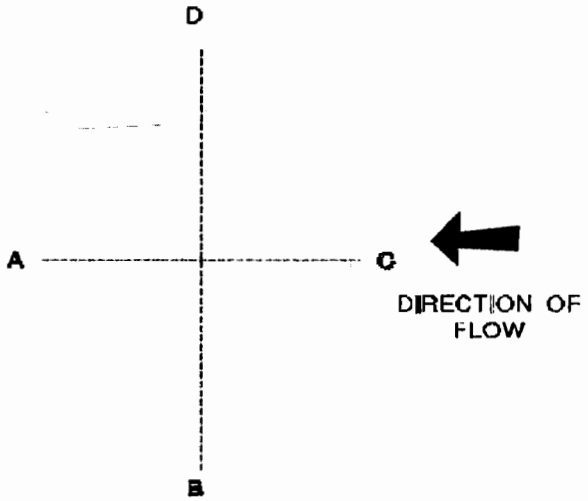
---

[ ] 8.3. AS FOUND PITOT TRAVERSE SERIES

[ ] 8.3.1. Verify Building 413 HVAC system has been shut down by Fac Ops.

SIGN-OFF

Figure 2. Orientation of Station B Traverse Penetrations



NOTE

This note applies to section [ ] 8.3.2

Observe the orientation of the duct penetrations as shown in Figure 2 when recording traverse data. Perform traverse with Airdata™ multimeter in "LOCAL" mode.

Only two of the four penetration points will be use for the performance of the pitot traverse. The same two traverse point must be used through out the performance of this procedure.

[ ] 8.3.2. Record applicable information on Attachment 2.

[ ] 8.3.3. Using Figure 1 select two penetration points that are 90° apart and record selected penetration points in each of the V FPM columns on Attachment 2.

[ ] 8.3.4. Perform traverse at the established Nominal Flow Rate and record the following:

- Velocities
- CMS FLOW for each penetration point
- FloSonic Flow for each penetration point
- RCT perform scan survey and swipe on Pitot Tube

[ ] 8.3.5. Calculate the average velocity from each traverse and record on Attachment 2.

[ ] 8.3.6. Calculate the CMS average flow rate from each traverse and record on Attachment 2.

[ ] 8.3.7. Calculate the Velocity Reference Method Flow as shown in Attachment 2.

[ ] 8.3.8. Calculate the Relative Percentage Difference between the FloSonic Average Flow and the Reference Method Velocity as shown in Attachment 2.

[ ] 8.3.9. Calculate the Relative Percentage Difference between the CMS Average Flow Rate and the Reference Method Velocity as shown in Attachment 2.

[ ] 8.3.10. If as found Relative Percentage Differences do not meet the acceptance criteria of +/- 5%, go to Section [ ] 8.7 FloSonic Calibration. Per ESS2014-01 section 3, system cannot be taken from Filtration Mode. Due to operational restrictions steps 8.4, 8.5 and 8.6 will be marked N/A.

[ ] 8.3.11. If all as found values meet acceptance criteria, mark "As Left" on Attachment 2, and go to Section [ ] 8.9 Task Verification.

WARNING

Confined Space Hazard Exists

This warning applies to Section [ ] 8.4

Station B duct is a NON-PERMIT CONFINED SPACE.

[ ] 8.4. TRANSDUCER CLEANING

[ ] 8.4.1.1. Notify Industrial Safety and Hygiene prior to entry into Non-Permit Confined Space. Record the following on SIGN-OFF Sheet person contacted, date and time.

SIGN-OFF

[ ] 8.4.2. TAGOUT/LOCKOUT

NOTE

The **PERSONAL LOCKING DEVICE** (PLD) **IS NOT PROPOSED** for this work.

The Tagout/Lockout listed in Tagout/Lockout Table was verified / walked down on WIPP Drawing 25-J-015-W1. If plant configuration will not support the lockout in the Tagout/Lockout Table, the Cognizant Operations Manager will delete the listed lockout, by one line initial and date and annotate the appropriate lockout in the Tagout/Lockout Table. Need to change to the new format

Tagout/Lockout Table

ISOLATING DEVICE	DEVICE POSITION	TAG	LOCK	LOCATION
CB-2 (for 860A)	OPEN	DANGER	YES	25P-SWG04/3
CB-3 (for 860B)	OPEN	DANGER	YES	25P-SWG04/3
CB-4 (for 860C)	OPEN	DANGER	YES	25P-SWG04/3

[ ] 8.4.3. Verify that components are positioned, tagged, and locked in accordance with WP 04-AD3011. Install Maintenance Locks as required.

SIGN-OFF

WARNING

Mechanical Energy Hazard Exists

This warning applies to section [ ] 8.5

Personnel shall follow Mechanical Hazard requirements during the performance of this work

[ ] 8.5. VERIFICATION OF ABSENCE OF MECHANICAL ENERGY

[ ] 8.5.1. Verify absence of mechanical energy at [ ] 8.5.3 by performing the following:

SIGN-OFF SHEET

M&TE Documentation

Instrument Description	Used At Step	Instrument Number	Date Cal Due	M&TE Initials
MULTIMETER, AIR DATA, Recommend SHORTRIDGE Model ADM-8870C, Calibrated	[ ] 8.3	QV 1289	5-16-16	
Actual Equipment Used:		QV 1287	3-28-15	

PREREQUISITES

Section	Action	Initials
[ ] 7.2.3	All personnel involved in the performance of this work discuss hazards, precautions and mitigating actions to be taken for the chemical being used.	CRAFT
[ ] 7.2.5	Request Fac. Ops. shut down Building 413 HVAC system (as required).	CRAFT

PERFORMANCE

Section	Action	Initials
[ ] 8.1.1	Rad Con perform an RWP evaluation and record number on SIGN-OFF sheet. If not required, N/A step and SIGN-OFF. RWP NUMBER 15-101G	RCE
[ ] 8.1.2	If RWP is required, all personnel read the RWP, discuss radiological hazards, precautions, and mitigating actions to be taken as shown in RWP. If RWP is not required, N/A step and SIGN-OFF then continue.	CRAFT
[ ] 8.2.1	Fire Watch in place.	CRAFT
[ ] 8.2.2	Barrier area below platform.	CRAFT

[ ] 8.5.2. Qualified Operator attempt to operate Filtration Fans 41-B-860A, 41-B-860B, and 41-B-860C. Equipment shall not operate.

SIGN-OFF FAC OPS

WARNING

Height Hazard Exists

This warning applies to section [ ] 8.5.3

Employees will use both hands for climbing. Tools will be carried in tool belts. Other materials will be raised or lowered using a hand line.

[ ] 8.5.3. All personnel involved in the performance of this work discuss Working Height hazards, precautions and mitigating actions to be taken

SIGN-OFF

[ ] 8.5.4. Open entry hatch and enter duct.

[ ] 8.5.5. Inspect sensors for damage, misalignment, and buildup then clean with a mild soap and water solution as needed and or align as needed.

[ ] 8.5.6. Verify sensor alignment and distance record distance on Attachment.

[ ] 8.5.7. Ensure that all personnel have exited the duct and all equipment has been removed.

SIGN-OFF

[ ] 8.5.8. Secure duct entry hatch.

[ ] 8.5.9. Remove maintenance locks and tags and request Operations to remove Tagout/Lockout from the equipment.

SIGN-OFF

NOTE

This note applies to section [ ] 8.6

Pitot traverse will to be performed at a nominal flow rate of 60 KCFM. Specified flow rate may vary +/- 5% without affecting test results.

[ ] 8.6. POST SENSOR CLEANING AS FOUND PITOT TRAVERSE

[ ] 8.6.1. Request Fac. Ops. to establish a Nominal Flow Rate of 60 KCFM at Station B and allow flow to stabilize before beginning traverse.

[ ] 8.6.2. Record applicable information on Attachment 3.

[ ] 8.6.3. Perform traverse at the established Nominal Flow Rate and record the following:

- Velocities
- CMS FLOW for each penetration point
- FloSonic Flow for each penetration point

[ ] 8.6.4. Calculate the average velocity from each traverse and record on Attachment 3.

[ ] 8.6.5. Calculate the CMS average flow rate from each traverse and record on Attachment 3.

[ ] 8.6.6. Calculate the Velocity Reference Method Flow as shown in Attachment 3.

[ ] 8.6.7. Calculate the Relative Percentage Difference between the FloSonic Average Flow and the Reference Method Velocity as shown in Attachment 3.

[ ] 8.6.8. Calculate the Relative Percentage Difference between the CMS Average Flow Rate and the Reference Method Velocity as shown in Attachment 3.

[ ] 8.6.9. If any as left Relative Percentage Differences do not meet the acceptance criteria of +/- 5%, go to Section [ ] 8.7 for FloSonic Adjustment.

[ ] 8.6.10. If all as found values meet acceptance criteria, mark "As Left" on Attachment 3, **THEN** go to Section [ ] 8.9 Task Verification.

[ ] 8.7. FLOSONIC CALIBRATION

[ ] 8.7.1. Connect computer with FloSonic Software to FloSonic Unit and record the following parameters:

- D = 39.03'
- A = 39.06'
- S = 27.49 sq. ft.
- Span = 0 - 150 KCFM

[ ] 8.7.2. Using the calculated Reference Method Flow (Q_{RM}) from Data Block 2 of Attachment 3 adjust the diagonal parameter value "D" until the FloSonic indication matches the Reference Method Velocity (Q_{RM}) flow from Attachment 3.

[ ] 8.7.3. Record the as left diagonal parameter value "D" on Attachment 4.

NOTE

This note applies to section [ ] 8.8

Ensure nominal Station B flow rate is +/- 5% of the previous nominal flow rate of 60 KCFM.

[ ] 8.8. POST CONTROL MODULE ADJUST AS LEFT PITOT TRAVERSE

[ ] 8.8.1. Request Fac. Ops. to establish a Flow Rate of 60 KCFM at Station B and allow flow to stabilize before beginning traverse, if required.

[ ] 8.8.2. Record applicable information on Attachment 2 data sheet.

[ ] 8.8.3. Perform traverse at the established Nominal Flow Rate and record the following:

- Velocities
- CMS FLOW for each penetration point
- FloSonic Flow for each penetration point

[ ] 8.8.4. Calculate the average velocity from each traverse and record on Attachment 4.

[ ] 8.8.5. Calculate the CMS average flow rate from each traverse and record on Attachment 4.

[ ] 8.8.6. Calculate the Velocity Reference Method Flow as shown in Attachment 4.

[ ] 8.8.7. Calculate the Relative Percentage Difference between the FloSonic Average Flow and the Reference Method Velocity as shown in Attachment 4.

[ ] 8.8.8. Calculate the Relative Percentage Difference between the CMS Average Flow Rate and the Reference Method Velocity as shown in Attachment 4.

[ ] 8.8.9. If any as left Relative Percentage Differences do not meet the acceptance criteria of +/- 5%, go to Section [ ] 8.7 for FloSonic Adjustment.

[ ] 8.8.10. If all as left values meet acceptance criteria, mark "As Left" on Attachment 4 **THEN** go to Section [ ] 8.9 TASK VERIFICATION.

[ ] 8.8.11. If the as left data is not in tolerance, notify the ZMM/ZS.

[ ] 8.9. TASK VERIFICATION

[ ] 8.9.1. Replace all plugs in traverse penetration points.

[ ] 8.9.2. Mark all unused Attachments "N/A".

[ ] 8.9.3. Apply calibration sticker to local display

SIGN-OFF

[ ] 8.9.4. Notify CMR and FSM that maintenance is complete.

SIGN-OFF

[ ] 8.9.5. Remove barrier and return man lift to staging area.

SIGN-OFF

[ ] 8.10. Operational Testing

[ ] 8.10.1. Successful completion of procedure satisfies any retest requirement.

[ ] 8.10.2. COG review recorded data.

SIGN-OFF COG

[ ] 8.11. RESTORATION TO OPERATIONAL STATUS

[ ] 8.11.1. Zone Maintenance Manager / Zone Superintendent conduct post-job review.

Section	Action	Initials
[ ] 8.2.3	All personnel involved in the performance of this work discuss Working Height hazards, precautions and mitigating actions to be taken.	CRAFT JEBY
[ ] 8.3.1	Verify Building 413 HVAC system has been shut down by Fac Ops.	CRAFT JEBY
[ ] 8.4.1.1	Notify Industrial Safety and Hygiene prior to entry. Person Contacted:_____ Date:_____ Time:_____	CRAFT N/A
[ ] 8.4.3	Verify that components are positioned, tagged, and locked in accordance with WP 04-AD3011. Install Maintenance Locks as required.	CRAFT N/A
[ ] 8.5.2	Qualified Operator attempt to operate filtration fans 860A, 860B, and 860C. Equipment shall not operate.	FAC OPS____
[ ] 8.5.3	All personnel involved in the performance of this work discuss Working Height hazards, precautions and mitigating actions to be taken	CRAFT N/A CRAFT N/A
[ ] 8.5.7	Ensure that all personnel have exited the duct and all equipment has been removed.	CRAFT N/A
[ ] 8.5.9	Remove maintenance locks and tags and request Operations to remove Tagout/Lockout from the equipment.	CRAFT N/A
[ ] 8.9.3	Apply calibration sticker	CRAFT JEBY
[ ] 8.9.4	Notify CMR and FSM that maintenance is complete.	CRAFT JEBY
[ ] 8.9.5	Remove barrier and return man lift to staging area.	CRAFT JEBY
[ ] 8.10.2	COG review recorded data.	COG [illegible]

Comments: STEP 7.2.5 SHOULD BE HOLD POINT. CANNOT PROCEED UNTIL FAC OPS. SHUT DOWN BUILDING 413 HVAC SYSTEM

PERSONNEL DATA

PRINTED NAME	SIGNATURE	INITIALS	DATE
D Lowdow	[illegible]	[illegible]	2-5-15
JL BOYD	Jerry Lee Boyd	JLBY	2-5-15
E. [illegible]	[illegible]	[illegible]	2-5-15
JILL FARNSWORTH	Jill Farnsworth	JF	2-6-15

As Found / As Left Traverse Data Sheet

✓ As Found / ____ As Left Nominal Flow Rate 57 KCFM

Date / Time 2-5-15 2210 Fan Line-Up ____A ✓ B ____C

Data Block 1 – Traverse Data

Depth inches	V____ FPM	V____ FPM	V____ FPM	V____ FPM
1.5	2091	2214	1470	2067
4.8	1725	2208	1751	2265
8.5	2044	2020	2183	2069
12.75	1895	2007	2342	2059
18.0	1962	2080	2175	1664
25.6	2108	1798	2131	1607
Total Velocities	11825	12327	12052	11731
CMS FLOW AP2415	57	57	57	57
Sensor Flow(SF) Readings	57	57	57	57

V Average $\frac{\sum V_A + \sum V_B + \sum V_C + \sum V_D}{24}$	SF Average $\frac{\sum SF}{4}$	CMS Average $\frac{\sum CMS}{4}$
1991	57	57

47935 / 24 = 1991

57

Acceptance Criteria Calculation Sheet

Data Block 2 – Relative Percent Difference Calculation

Reference Method Flow 56463		
V_{AVG} FPM	$Q_{RM} = V_{AVG} \times 28.2743\ ft^2$	Reference Method Flow (Q_{RM}) KCFM
1997		564.64
Sensor Flow		
SF_{AVG} KCFM	$RPD = \frac{SF_{AVG} - Q_{RM}}{Q_{RM}} \times 100$	Relative Percent Difference ACCEPTANCE CRITERIA ± 10 %
57000		0.95%
CMS Flow		
CMS_{AVG} KCFM	$RPD = \frac{CMS_{AVG} - Q_{RM}}{Q_{RM}} \times 100$	Relative Percent Difference ACCEPTANCE CRITERIA ± 10 %
57000		0.95%

Post Cleaning As Found / As Left Traverse Data Sheet

____ As Found / ____ As Left Nominal Flow Rate _____KCFM

Date / Time _____ Fan Line-Up ____A ____B ____C

Data Block 1 – Traverse Data

Depth inches	V____ FPM	V____ FPM	V____ FPM	V____ FPM
1.5				
4.8				
8.5				
12.75				
18.0				
25.6				
Total Velocities				
CMS FLOW AP2415				
Sensor Flow(SF) Readings				

V Average	SF Average	CMS Average
$\frac{\sum V_A + \sum V_B + \sum V_C + \sum V_D}{24}$	$\frac{\sum SF}{4}$	$\frac{\sum CMS}{4}$

2-5-15

Post Cleaning As Found / As Left Traverse Data Sheet

Data Block 2 – Relative Percent Difference Calculation

Reference Method Flow		
V_{AVG} FPM	$Q_{RM} = V_{AVG} \times 28.2743\ ft^2$	Reference Method Flow (Q_{RM}) KCFM
Sensor Flow		
SF_{AVG} KCFM	$RPD = \frac{SF_{AVG} - Q_{RM}}{Q_{RM}} \times 100$	Relative Percent Difference ACCEPTANCE CRITERIA +/- 5%
CMS Flow		
CMS_{AVG} KCFM	$RPD = \frac{CMS_{AVG} - Q_{RM}}{Q_{RM}} \times 100$	Relative Percent Difference ACCEPTANCE CRITERIA +/- 5%

ATTACHMENT - Post Cleaning Adjusted As Left Traverse Data Sheet

FloSonic Parameters: D: ____ A: 39.06' S: 27.49 sq. ft. Full Scale: 0 – 150 KCFM

Nominal Flow Rate _____KCFM

Date / Time _____ Fan Line-Up ____A ____B ____C

Data Block 1 – Traverse Data

Depth inches	V____ FPM	V____ FPM	V____ FPM	V____ FPM
1.5				
4.8				
8.5				
12.75				
18.0				
25.6				
Total Velocities				
CMS FLOW AP2415				
Sensor Flow(SF) Readings				

V Average	SF Average	CMS Average
$\frac{\sum V_A + \sum V_B + \sum V_C + \sum V_D}{24}$	$\frac{\sum SF}{4}$	$\frac{\sum CMS}{4}$

Data Block 2 – Relative Percent Difference Calculation

Reference Method Flow		
V_{AVG} FPM	$Q_{RM} = V_{AVG} \times 28.2743\ ft^2$	Reference Method Flow (Q_{RM}) KCFM
Sensor Flow		
SF_{AVG} KCFM	$RPD = \frac{SF_{AVG} - Q_{RM}}{Q_{RM}} \times 100$	Relative Percent Difference ACCEPTANCE CRITERIA +/- 5%
CMS Flow		
CMS_{AVG} KCFM	$RPD = \frac{CMS_{AVG} - Q_{RM}}{Q_{RM}} \times 100$	Relative Percent Difference ACCEPTANCE CRITERIA +/- 5%

Working Copy

Pre-Job Briefing Checklist

Procedure/WCD #

Minimum Discussion Points:
The items in this box are the minimum items to be discussed at the pre-job briefing. Additional items should be reviewed and discussed, as appropriate. Ensure sufficient questions are asked to confirm all participants understand the task, roles, and responsibilities.

- ☑ Work Scope/Boundaries/Critical Tasks
- ☑ Roles and Responsibilities/Task Assignments
- ☑ Special Training, Qualifications, Medical Clearances
- ☑ Job Hazards, Controls, and PPE (see Hazards and PPE sections)
- ☑ Work Area Conditions/Assessments/Adjacent Work
- ☑ WCD Adherence and Use
- ☑ **STOP** work responsibilities

Prerequisites ☐ **None**

- ☐ TSR Requirements
- ☑ Three-Way Communications
- ☐ Tools, Materials, or Equipment to be staged
- ☐ Prerequisites in the WCD
- ☐ Oversight Requirements
- ☐ Other

Hazards (check all applicable or none) and Controls: ☐ **None**

- ☐ Confined Space
- ☑ Energized Equipment
- ☑ Falling Objects
- ☐ Flammable Materials
- ☐ Hazardous Materials
- ☐ Heavy Equipment Operation
- ☐ Hidden Utilities
- ☐ Other
- ☑ High Noise
- ☑ High Pressure / Temperature
- ☐ Hot Work
- ☐ Limited Lighting
- ☐ Overhead Utilities
- ☑ Pinch Points Exposed
- ☐ Pressurized Gas Cylinders
- ☐ Other
- ☑ Radiological
- ☐ Rigging & Lifting
- ☑ Rotating Equipment
- ☑ Trip/Fall Hazards
- ☐ Stored Energy
- ☑ Weather (hot/cold/wet)
- ☑ Working at Heights

Permits/Plans Required (check any applicable or none): ☑ **None**

- ☐ Asbestos
- ☐ Blind Penetration
- ☐ Confined Space
- ☐ Energized Equipment
- ☐ Excavation
- ☐ Fall Protection
- ☐ Hot Work
- ☐ IH Sample
- ☐ Lockout/Tagout
- ☐ Radiological

Personal Protective Equipment and Monitoring (check those required or none): ☐ **None**

- ☑ Eye Protection
- ☑ Foot Protection
- ☑ Hand Protection
- ☑ Hard Hat
- ☐ Hearing Protection
- ☐ IH Monitoring
- ☐ Radiation Monitoring (TLD, air samples, etc.)
- ☐ Respiratory Protection
- ☐ Special Clothing
- ☐ Underground Equipment

S-A-F-E-R Dialog:	Review HPI Tools:
☑ **S**ummarize the Critical Steps	☑ Questioning Attitude
☑ **A**nticipate Error Traps	☑ Self-Checking (STAR)
☑ **F**oresee Consequences	☑ Peer-Checking
☑ **E**valuate Defenses	☑ Effective Communications
☑ **R**eview Experience	☐ Timeout

Comments:

Cryer, Misty - NWP

From:	Work Control Center
Sent:	Friday, March 06, 2015 11:27 AM
To:	London, Debbra - NWP; Boyd, Jerry - NWP; Roybal, Eddie - NWP; Farnsworth, Jill - NWP
Cc:	Payne, Ronnie Jr. - NWP; Salinas, Cheryl - NWP
Subject:	FW: Feedback on 1413040

Thanks for the feedback on this work order. It was addressed with a TRN.

Misty Cryer
Work Control Center

Nuclear Waste Partnership LLC
Contractor for the U.S. Department of Energy
Phone: (575) 234-8370

From: Payne, Ronnie Jr. - NWP
Sent: Wednesday, February 11, 2015 3:06 PM
To: Cryer, Misty - NWP
Subject: RE: Feedback on 1413040

Misty,
Randy hand carried this over here today and the change is already processed and will be merged into tomorrow's schedule to be reworked. How's that for service!!!!

Ronnie Payne
Manager, Work Control
Nuclear Waste Partnership, LLC
Contractor for the U.S. Department of Energy
Office: (575) 234-8405
Mobile: (806) 670-4683
Fax: (575) 234-6071

From: Cryer, Misty - NWP
Sent: Wednesday, February 11, 2015 11:54 AM
To: Payne, Ronnie Jr. - NWP
Subject: Feedback on 1413040

Hi Ronnie,

Attached is a work order with feedback to be addressed.

Misty

QUESTION 4

2015 WIPP Permit Inspection: NMED Request Description (5 items)

4. Training records (two individuals from each position title) of the following positions: Hazardous Waste Workers, TRU Mixed Waste Handlers, Facility Shift Engineers, Facility Shift managers, and Central Monitoring Room Operators. Inspector is requesting a summary of training records for the time frame of December 9, 2014 through November 18, 2015. Permit Conditions Attachments F, F1, and F2.

   - Attachment 1-Hazardous Waste Worker Total Number of Pages:4
   - Attachment 2-TRU Mixed Waste Handler Total Number of Pages:15
   - Attachment 3-Facility Shift Engineer Total Number of Pages: 23
   - Attachment 4-Facility Shift Manager Total Number of Pages: 32
   - Attachment 5-Central Monitoring Room Operator Total Number of Pages: 19

Attachment 1

Hazardous Waste Worker

(4 Pages)

WIPP TECHNICAL TRAINING SECTION - REPORT OF TRAINING 03/01/16

HWW

Name: GREENE, ADAM Badge No: CE10902 Termination Date:

Company: NWP Department: ES&H Section: RADCON

Course	Title	Date	Hrs	F/I
INF684	12-HP1325	02/10/16		
CL2.08	RADIOLOGICAL SOURCE CONTROL	02/10/16	4.	F
OPS115	CONDUCT OF OPERATIONS	02/01/16	16.	F
SBD101	SAFETY BASIS OVERVIEW	01/27/16	3.	F
INF509	12-ER4929	12/16/15		
SAF619	COMPRESSED GAS CYLINDER SAFETY	12/03/15	4.	F
DRL ERO	EMERGENCY DRILL (ERT, EMS,RCE,IH,RCT,RCM,OTHER)	11/24/15		I
FWT101	FIRE WATCH TRAINING	11/12/15	6.	F
SAF501	40 HR INEXPERIENCED MINER	11/09/15	40.	F
TRG293	SUBJECT MATTER EXPERT / ON THE JOB TRAINER	11/05/15	4.	F
INF556	PIN POINT SESSION #4 RAD, RAD DECAY	11/04/15		
INF556	PIN POINT SESSION #4 RAD, RAD DECAY	11/02/15		
HWW101	HAZARDOUS WASTE WORKER, INITIAL	10/28/15	24.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	10/22/15	16.	F
SAF631F	RESPIRATOR FIT TEST	10/14/15	1.	I
RAD201	RADIOLOGICAL WORKER II, INITIAL	10/14/15	16.	F
INF531	UPDATE TO JON 12.2, CONCERNING 04-AD3013	10/13/15		
CL1.09	RADIOLOGICAL PROTECTION STANDARDS	10/08/15	8.	F
CL1.12	INTERNAL EXPOSURE CONTROL	10/08/15	8.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	10/06/15	1.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	10/06/15	4.	F
SAF631H	PAPR TIGHT FITTING MASK	10/06/15	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	10/06/15	1.	F
CL1.13	RADIATION DETECTOR THEORY	10/05/15	8.	F
CL1.11	EXTERNAL EXPOSURE CONTROL	10/05/15	8.	F
CL1.03	PHYSICAL SCIENCES	10/05/15	8.	F
CL1.04	NUCLEAR PHYSICS	10/05/15	8.	F
CL1.05	SOURCES OF RADIATION	10/05/15	8.	F
CL1.06	RADIOACTIVITY AND RADIOACTIVE DECAY	10/05/15	8.	F
CL1.07	INTERACTION OR RADIATION WITH MATTER	10/05/15	16.	F
CL1.08	BIOLOGICAL EFFECTS OF RADIATION	10/05/15	8.	F
CL1.10	ALARA	10/05/15	8.	F
CL1.02	UNIT ANALYSIS & CONVERSION	10/05/15	8.	F
CL1.01	BASIC MATH AND ALGEBRA	10/05/15	8.	F
CAR107	CART PERFORMANCE EVALUATION	10/05/15		F

WIPP TECHNICAL TRAINING SECTION - REPORT OF TRAINING 03/01/16

Name: GREENE, ADAM Badge No: CE10902 Termination Date:

Company: NWP Department: ES&H Section: RADCON

Course	Title	Date	Hrs	F/I
CAR106	CART DEMONSTRATION	10/02/15		F
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	09/30/15	1.	F
MED101	FIRST AID & CPR	09/29/15	12.	F
GET215	GENERAL EMPLOYEE TRAINING INITIAL	08/19/15	16.	F
NEO101	NEW EMPLOYEE ORIENTATION SAFETY TRAINING	08/17/15	3.5	F
SAF111	WID WORKPLACE SUBSTANCE ABUSE PLAN	08/17/15	1.	I
	PRIVATE INFORMATION	Total Hours:	286.5	

WIPP TECHNICAL TRAINING SECTION - REPORT OF TRAINING 03/01/16

HWW

Name: MONTANEZ, JERRY Badge No: HSPD0903 Termination Date:

Company: NWP Department: OPERATIONS Section: MINE OPS

Course	Title	Date	Hrs	F/I
SAF120	POWERED INDUSTRIAL TRUCK TRAINING (FORKLIFT)	02/20/16	4.	F
SBD101	SAFETY BASIS OVERVIEW	01/27/16	3.	F
OPS115A5	TEAMWORK CONDUCT OF OPERATIONS	01/23/16	0.75	F
OPS115	CONDUCT OF OPERATIONS	01/21/16	16.	F
INF609	ROOM/PANEL CLOSURE BULKHEADS MONTHLY INSPECTION	01/20/16		I
DRL ERO	EMERGENCY DRILL (ERT, EMS,RCE,IH,RCT,RCM,OTHER)	12/17/15		I
OPS115A4	CONDUCT OF OPERATIONS - QUARTERLY	12/04/15	1.	F
OPS115A4	CONDUCT OF OPERATIONS - QUARTERLY	12/04/15	1.	F
OPS115A3	CONDUCT OF OPERATIONS - QUARTERLY	10/29/15	1.	F
INF531	UPDATE TO JON 12.2, CONCERNING 04-AD3013	10/15/15		
FPT101	ESS-2015-02, WASTE HANDLING BUILDING (WHB) FIRE SUPPRESSION SYSTEM	10/01/15		F
SAF122A	CHANGES TO EQUIPMENT LOCKOUT/TAGOUT PROCEDURE REVISION 15	09/24/15		
INF479	HEC SUPPLEMENTAL DATA SHEET	09/11/15		
SAF122	EQUIPMENT LOCKOUT/TAGOUT	08/25/15	12.	F
inf451	COMPENSATORY MEASURES U/G PERSONNEL REPORTING	07/29/15		I
SAF631F	RESPIRATOR FIT TEST	07/28/15	1.	I
RAD201	RADIOLOGICAL WORKER II, INITIAL	07/22/15	16.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	07/13/15	4.	F
SAF631H	PAPR TIGHT FITTING MASK	07/13/15	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	07/13/15	1.	F
OPS115	CONDUCT OF OPERATIONS	07/08/15	16.	F
SAF120A	POWERED INDUSTRIAL TRUCK (FORKLIFT) OJT	07/01/15		F
SAF120	POWERED INDUSTRIAL TRUCK TRAINING (FORKLIFT)	07/01/15	4.	F
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	06/26/15	4.	F
HWW101	HAZARDOUS WASTE WORKER, INITIAL	06/10/15	24.	F
RAD101	RADIOLOGICAL WORKER I, INITIAL	06/04/15	16.	F
HILTI	HILTI WRITTEN EXAM	06/04/15	1.	F
CAR106	CART DEMONSTRATION	06/01/15		F
SAF502A	NEWLY EMPLOYED EXPERIENCED MINER	05/28/15	8.	F
SAF619	COMPRESSED GAS CYLINDER SAFETY	05/26/15	4.	F
DDC101	DEFENSIVE DRIVING COURSE	05/21/15	8.	F
INF144	COMBUSTIBLE CONTROL POLICY FOR WIPP U/G (MP 6.9)	05/15/15		
CAR105	CART TRAINING	05/15/15	1.	F
FWT101	FIRE WATCH TRAINING	05/13/15	6.	F
ELC103	ELECTRICAL SAFETY	05/12/15	4.	F

WIPP TECHNICAL TRAINING SECTION - REPORT OF TRAINING 03/01/16

Name: MONTANEZ, JERRY Badge No: HSPD0903 Termination Date:

Company: NWP Department: OPERATIONS Section: MINE OPS

Course	Title	Date	Hrs	F/I
HEARING	ANNUAL HEARING TEST	05/11/15	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	05/11/15	1.	I
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	05/11/15	1.	F
GET215	GENERAL EMPLOYEE TRAINING INITIAL	05/06/15	16.	F
SAF111	WID WORKPLACE SUBSTANCE ABUSE PLAN	05/04/15	1.	I
NEO101	NEW EMPLOYEE ORIENTATION SAFETY TRAINING	05/04/15	3.5	F

PRIVATE INFORMATION Total Hours: 181.25

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Attachment 2

TRU Mixed Waste Handler

(15 Pages)

Name: GREEN, MAX L. Badge No: CE10943 Termination Date:

Company: NWP Department: OPERATIONS Section: WH OPS

Course	Title	Date	Hrs	F/I
BE100	WIPP CHRONIC BERYLLIUM DISEASE PREVENTION PROGRAM	08/17/05	1.	F
CAR101	WIPP ELECTRIC CART TRAINING	07/08/09	1.	F
CAR101	WIPP ELECTRIC CART TRAINING	11/15/05	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	03/18/14	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	07/25/13	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	07/19/12	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	07/13/11	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	07/14/10	1.	F
CAR105	CART TRAINING	03/08/15	1.	F
CAR106	CART DEMONSTRATION	04/01/15		F
DDC101	DEFENSIVE DRIVING COURSE	03/10/14	8.	F
DDC101	DEFENSIVE DRIVING COURSE	02/11/13	8.	F
ELC103	ELECTRICAL SAFETY	02/26/14	4.	F
ELC103	ELECTRICAL SAFETY	04/18/06	4.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	03/19/15	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	03/21/13	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	03/21/12	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	03/07/11	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	08/11/10	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	08/04/09	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	08/28/08	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	04/28/08	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	04/10/07	2.	F
EQP402	FORKLIFT SAFETY (DUPONT)	08/19/05	1.	F
EQP405	EQUIPMENT TAGOUT/LOCKOUT	05/12/08	4.	F
ESO101	MINE OPERATIONS EQUIPMENT SPOTTER/OBSERVER	06/04/07	2.	F
ESO102	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER	06/04/07	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	03/18/15	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	03/21/14	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	02/27/13	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	02/24/12	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	02/28/11	2.	F

Name: GREEN, MAX L. Badge No: CE10943 Termination Date:

Company: NWP Department: OPERATIONS Section: WH OPS

Course	Title	Date	Hrs	F/I
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	02/22/10	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	02/25/09	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	02/14/08	2.	F
FPT101	ESS-2015-02, WASTE HANDLING BUILDING (WHB) FIRE SUPPRESSION SYSTEM	10/09/15		F
FPT102	COMBUSTIBLE CONTROL PROGRAM	09/26/15		
FWT101	FIRE WATCH TRAINING	05/02/14	6.	F
GET205	GENERAL EMPLOYEE TRAINING	08/24/05	16.	F
GET206A	GENERAL EMPLOYEE TRAINING REFRESHER	08/30/06	1.	F
GET207A	GENERAL EMPLOYEE TRAINING REFRESHER	08/18/07	1.	F
GET208A	GENERAL EMPLOYEE TRAINING - REFRESHER	08/28/08	1.	F
GET209A	GENERAL EMPLOYEE TRAINING - REFRESHER	08/19/09	1.	F
GET210A	GENERAL EMPLOYEE TRAINING - REFRESHER	08/11/10	1.	F
GET211A	GENERAL EMPLOYEE TRAINING - REFRESHER	08/23/11	1.	F
GET212A	GENERAL EMPLOYEE TRAINING - REFRESHER	08/22/12	1.	F
GET213A	GENERAL EMPLOYEE TRAINING - REFRESHER	08/29/13	1.	F
GET214A	GENERAL EMPLOYEE TRAINING - REFRESHER	02/27/14	1.	F
GET215A	GENERAL EMPLOYEE TRAINING - REFRESHER	03/05/15	1.	F
GET216A	GENERAL EMPLOYEE TRAINING - REFRESHER	02/05/16	1.	F
GET216A	GENERAL EMPLOYEE TRAINING - REFRESHER	02/05/16	1.	F
HEARING	ANNUAL HEARING TEST	07/10/15	1.	I
HEARING	ANNUAL HEARING TEST	07/02/14	1.	I
HEARING	ANNUAL HEARING TEST	07/17/13	1.	I
HEARING	ANNUAL HEARING TEST	07/18/12	1.	I
HEARING	ANNUAL HEARING TEST	07/11/11	1.	I
HEARING	ANNUAL HEARING TEST	07/15/10	1.	I
HEARING	ANNUAL HEARING TEST	07/08/09	1.	I
HEARING	ANNUAL HEARING TEST	07/08/08	1.	I
HEARING	ANNUAL HEARING TEST	07/11/07	1.	I
HEARING	ANNUAL HEARING TEST	07/18/06	1.	I
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	10/22/15	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	09/20/13	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	10/01/11	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	09/30/11	16.	F

Name: GREEN, MAX L. Badge No: CE10943 Termination Date:

Company: NWP Department: OPERATIONS Section: WH OPS

Course	Title	Date	Hrs	F/I
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	09/30/09	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	09/04/07	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	10/13/05	16.	F
HMT102Z	HAZARDOUS MATERIAL TRANSPORTATION 30 DAY EXTENSION	09/01/15		I
HMT110	WTS HAZARDOUS MATERIAL TRANSPORTATION SECURITY PLAN	10/14/05	1.	F
HPI101	HUMAN PERFORMANCE IMPROVEMENT FUNDAMENTALS	03/04/14	3.	F
HPI101	HUMAN PERFORMANCE IMPROVEMENT FUNDAMENTALS	08/03/09	3.	F
HWR101	HAZARDOUS WASTE RESPONDER	11/30/05	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	07/29/15	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	07/16/14	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	07/25/13	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	07/12/12	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	07/28/11	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	07/07/10	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	07/14/09	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	07/09/08	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	11/14/07	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	11/30/06	8.	F
HWW101	HAZARDOUS WASTE WORKER, INITIAL	09/21/05	24.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	02/25/16	6.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	02/05/15	6.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/01/14	6.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/10/13	6.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/26/12	6.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/14/11	6.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/28/10	6.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	08/26/09	6.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	08/20/08	6.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	09/05/07	6.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	08/16/06	6.	F
INF105	USE OF A HANDHELD INFRARED THERMOMETER	08/13/14		I
INF144	COMBUSTIBLE CONTROL POLICY FOR WIPP U/G (MP 6.9)	04/29/15		
INF144	COMBUSTIBLE CONTROL POLICY FOR WIPP U/G (MP 6.9)	04/28/15		
INF144	COMBUSTIBLE CONTROL POLICY FOR WIPP U/G (MP 6.9)	04/22/15		
INF144	COMBUSTIBLE CONTROL POLICY FOR WIPP U/G (MP 6.9)	04/22/15		

Name: GREEN, MAX L. Badge No: CE10943 Termination Date:

Company: NWP Department: OPERATIONS Section: WH OPS

Course	Title	Date	Hrs	F/I
INF151	SAFETY BASIS FLOWDOWN IN RESPONSE TO APRIL 2015 TSR VIOLATIONS	04/29/15		
INF152	IMPORTANCE OF APPROVING AND WORKING TO ACCURATE PROCEDURES	04/29/15		
INF153	ESS CONTROLS SUMMARY	04/29/15		
INF301	WORK CONTROL PROCESS AND JOB HAZARD ANALYSIS REVISION	09/10/14	4.	I
INF509	12-ER4929	12/16/15		
INF531	UPDATE TO JON 12.2, CONCERNING 04-AD3013	10/15/15		
INF635	HUMAN PERFORMANCE ERROR REDUCTION	12/09/15		
ITC14001	IMMEDIATE TRAINING CHANGE - QUESTIONING SAFETY CULTURE	07/11/14	1.	I
ITC14001	IMMEDIATE TRAINING CHANGE - QUESTIONING SAFETY CULTURE	06/27/14	1.	I
MAS100	INTRODUCTION TO MANAGEMENT & SUPERVISORY TRAINING	02/24/14	1.	F
MAS105	PROBLEM SOLVING AND DECISION MAKING	03/13/14	1.	F
MAS112	MAST ADMINISTRATIVE REQUIREMENTS	03/13/14	1.	F
MAS118	PLANT MODIFICATION	03/13/14	1.	F
MMT101	MATERIAL MONITORING TRAINING - OVERVIEW	10/20/05	3.	I
NCS001	NUCLEAR CRITICALITY SAFETY	08/17/05	1.	F
NEO101	NEW EMPLOYEE ORIENTATION SAFETY TRAINING	08/15/05	3.5	F
OFF1775	DSA / TSR UPDATE FOR REVISION 3	06/18/11		I
OPS115	CONDUCT OF OPERATIONS	10/20/05	16.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	02/21/14	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	07/26/13	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	07/11/12	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	07/07/11	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	07/29/10	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	08/12/09	8.	F
OPS115A1	CONDUCT OF OPERATIONS - QUARTERLY	03/18/15	1.	F
OPS115A1	CONDUCT OF OPERATIONS - QUARTERLY	03/18/15	1.	F
OPS115A2	CONDUCT OF OPERATIONS - QUARTERLY	09/14/15	1.	F
OPS115A3	CONDUCT OF OPERATIONS - QUARTERLY	02/05/16	1.	F
OPS115A4	CONDUCT OF OPERATIONS - QUARTERLY	12/02/15	1.	F
OPS115A5	TEAMWORK CONDUCT OF OPERATIONS	02/05/16	0.75	F
OPS115L	CONDUCT OF OPERATIONS PLACEHOLDER FOR CTS#	08/01/08	0.	F
OPS115L	CONDUCT OF OPERATIONS PLACEHOLDER FOR CTS#	07/01/08	0.	F
OPS115Z	CONDUCT OF OPERATIONS EXTENSION PER 14:00241	02/01/15	4.	I
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	10/19/10	4.	F
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	03/02/09	4.	F

WIPP TECHNICAL TRAINING SECTION - REPORT OF TRAINING 03/03/16

Name: GREEN, MAX L. Badge No: CE10943 Termination Date:

Company: NWP Department: OPERATIONS Section: WH OPS

Course	Title	Date	Hrs	F/I
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	11/08/05	4.	F
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	08/17/05	4.	F
OPS122A	WIPP TECHNICAL SAFETY REQUIREMENTS REFRESHER	11/26/14	1.	F
OPS122A	WIPP TECHNICAL SAFETY REQUIREMENTS REFRESHER	11/02/12	1.	F
OPS124	TRUPACT-II / HalfPACT COMPLIANCE TRAINING	03/19/14	6.	F
OPS201	ADVANCED CONDUCT OF OPERATIONS - PROCEDURE COMPLIANCE	09/11/14	8.	F
RAD111	WORKER RESPONSIBILITIES	03/18/14	2.	F
RAD201	RADIOLOGICAL WORKER II, INITIAL	09/16/05	16.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	10/15/15		F
RAD202	RADIOLOGICAL WORKER II REFRESHER	09/18/14		F
RAD202	RADIOLOGICAL WORKER II REFRESHER	09/25/13		F
RAD202	RADIOLOGICAL WORKER II REFRESHER	09/26/12		F
RAD202	RADIOLOGICAL WORKER II REFRESHER	09/28/11		F
RAD202	RADIOLOGICAL WORKER II REFRESHER	09/01/10		F
RAD202	RADIOLOGICAL WORKER II REFRESHER	08/26/09		F
RAD202	RADIOLOGICAL WORKER II REFRESHER	08/28/08		F
RAD202	RADIOLOGICAL WORKER II REFRESHER	08/15/07		F
RAD202	RADIOLOGICAL WORKER II REFRESHER	08/30/06		F
RCT301	GENERAL DECON TECHNIQUES BRIEFING	12/13/14	2.	F
RIG001	INCIDENTAL RIGGER	09/14/05	16.	F
RIG001A	INCIDENTAL RIGGER REFRESHER	03/11/14	1.	F
RIG001A	INCIDENTAL RIGGER REFRESHER	09/26/13	1.	F
RIG001A	INCIDENTAL RIGGER REFRESHER	09/28/11	1.	F
RIG001A	INCIDENTAL RIGGER REFRESHER	09/09/09	1.	F
RIG001A	INCIDENTAL RIGGER REFRESHER	09/18/07	1.	F
SAF105	TEMPERATURE EXTREMES	03/11/14	8.	F
SAF111	WID WORKPLACE SUBSTANCE ABUSE PLAN	08/15/05	1.	I
SAF120	POWERED INDUSTRIAL TRUCK TRAINING (FORKLIFT)	09/10/15	4.	F
SAF501	40 HR INEXPERIENCED MINER	09/02/05	40.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	08/12/15	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	07/23/14	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	07/03/13	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	07/25/12	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	07/20/11	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	07/14/10	8.	F

WIPP TECHNICAL TRAINING SECTION - REPORT OF TRAINING 03/03/16

Name: GREEN, MAX L. Badge No: CE10943 Termination Date:

Company: NWP Department: OPERATIONS Section: WH OPS

Course	Title	Date	Hrs	F/I
SAF502	MINE SAFETY ANNUAL REFRESHER	08/17/09	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	08/05/08	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	08/22/07	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	08/23/06	8.	F
SAF502S	SELF CONTAINED SELF RESCUER (SCSR) TRAINING	08/22/07	3.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	07/23/15	4.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	07/24/14	4.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	07/11/13	4.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	07/19/12	4.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	07/13/11	4.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	08/11/10	4.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	09/28/09	4.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	09/29/08	4.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	09/26/07	4.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	09/06/06	4.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	09/07/05	4.	F
SAF631B	RESPIRATORY PROTECTION PRACTICAL - HFAP	07/24/14	1.	F
SAF631B	RESPIRATORY PROTECTION PRACTICAL - HFAP	07/19/12	1.	F
SAF631B	RESPIRATORY PROTECTION PRACTICAL - HFAP	07/13/11	1.	F
SAF631B	RESPIRATORY PROTECTION PRACTICAL - HFAP	08/11/10	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	07/23/15	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	07/24/14	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	07/11/13	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	07/19/12	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	07/13/11	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	08/11/10	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	09/28/09	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	09/29/08	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	09/26/07	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	09/06/06	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	09/07/05	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	07/23/15	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	07/24/14	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	07/11/13	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	07/19/12	1.	F

Name: GREEN, MAX L. Badge No: CE10943 Termination Date:

Company: NWP Department: OPERATIONS Section: WH OPS

Course	Title	Date	Hrs	F/I
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	07/13/11	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	08/11/10	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	09/28/09	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	09/29/08	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	09/26/07	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	09/06/06	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	09/07/05	1.	F
SAF631F	RESPIRATOR FIT TEST	07/10/15	1.	I
SAF631F	RESPIRATOR FIT TEST	07/08/14	1.	I
SAF631F	RESPIRATOR FIT TEST	07/26/13	1.	I
SAF631F	RESPIRATOR FIT TEST	07/18/12	1.	I
SAF631F	RESPIRATOR FIT TEST	07/19/11	1.	I
SAF631F	RESPIRATOR FIT TEST	08/11/10	1.	I
SAF631F	RESPIRATOR FIT TEST	10/12/09	1.	I
SAF631F	RESPIRATOR FIT TEST	10/08/08	1.	I
SAF631F	RESPIRATOR FIT TEST	07/22/08	1.	I
SAF631F	RESPIRATOR FIT TEST	08/14/07	1.	I
SAF631F	RESPIRATOR FIT TEST	10/02/06	1.	I
SAF631F	RESPIRATOR FIT TEST	10/18/05	1.	I
SAF631H	PAPR TIGHT FITTING MASK	07/23/15	1.	F
SAF631H	PAPR TIGHT FITTING MASK	07/24/14	1.	F
SAF631M	MEDICAL EXAMINATION - PHYSICAL	07/10/15	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	07/02/14	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	07/25/13	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	07/18/12	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	07/12/11	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	07/15/10	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	07/06/09	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	07/08/08	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	07/11/07	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	07/18/06	1.	I
SAF632	OFFICE WARDEN	02/27/14	2.	F
SAF632Z	OFFICE WARDEN 30 DAY EXTENSION	02/26/15	2.	I
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	08/24/14	1.	F
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	02/20/08	1.	F

WIPP TECHNICAL TRAINING SECTION - REPORT OF TRAINING 03/03/16

Name: GREEN, MAX L. Badge No: CE10943 Termination Date:

Company: NWP Department: OPERATIONS Section: WH OPS

Course	Title	Date	Hrs	F/I
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	08/25/05	1.	F
SAF651	OPEN AND COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT	11/08/12	8.	
SAF651A	OPEN & COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT REFRESHER	11/19/14	3.	F
SAF651A	OPEN & COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT REFRESHER	02/25/14	3.	F
SAF700	SAFETY PROGRAMS TRAINING	03/04/14	3.	I
SAF701	FIRE EXTINGUISHER TRAINING	03/12/14	4.	F
SBD101	SAFETY BASIS OVERVIEW	01/29/16	3.	F
SEC100	COUNTERINTELLIGENCE BRIEFING	08/19/09		I
SEC100	COUNTERINTELLIGENCE BRIEFING	08/28/08		I
SEC100	COUNTERINTELLIGENCE BRIEFING	08/30/06		I
SEC100	COUNTERINTELLIGENCE BRIEFING	08/24/05		I
STC003	WASTE HANDLING EQUIPMENT	08/16/05	1.	I
TRG293	SUBJECT MATTER EXPERT / ON THE JOB TRAINER	10/01/15	4.	F
TRG293	SUBJECT MATTER EXPERT / ON THE JOB TRAINER	10/26/05	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	10/02/13	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	10/17/11	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	10/14/09	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	10/24/07	4.	F
TRG298ZZ	SUBJECT MATTER EXPERT/ON THE JOB TRAINER REFRESHER 90 DAY EXTENSION	09/21/15	2.	I
VPP101	VOLUNTARY PROTECTION PROGRAM	03/07/14	8.	F
WEL101	WELDING OPERATIONS, SAFE USE, AND INSPECTION	01/22/13	1.	F
WH-B-C	CH WASTE HANDLING TECHNICIAN COMP EXAM	02/24/16		F
WH002	TRUPACT-II / HalfPACT COMPLIANCE TRAINING	12/26/07	4.	I

PRIVATE INFORMATION Total Hours: 882.25

WASTE HANDLER

Name: SNOW, DAVID J Badge No: HSPD3178 Termination Date:

Company: NWP Department: OPERATIONS Section: IWO

Course	Title	Date	Hrs	F/I
BE100	WIPP CHRONIC BERYLLIUM DISEASE PREVENTION PROGRAM	11/24/09	1.	F
CAR101	WIPP ELECTRIC CART TRAINING	11/23/09	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	03/07/14	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	11/21/13	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	11/16/12	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	11/09/11	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	11/29/10	1.	F
CAR105	CART TRAINING	04/01/15	1.	F
CAR106	CART DEMONSTRATION	04/09/15		F
DDC101	DEFENSIVE DRIVING COURSE	11/16/12	8.	F
DDC102	DEFENSIVE DRIVING ABRIDGED	11/29/14	2.	F
DRL16ERO	EMERGENCY DRILL FY 2016 (ERT, EMS,RCE,IH,RCT,RCM,OTHER)	10/22/15		I
DRL16ERO	EMERGENCY DRILL FY 2016 (ERT, EMS,RCE,IH,RCT,RCM,OTHER)	10/16/15		I
ELC103	ELECTRICAL SAFETY	12/10/09	4.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/05/15	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/13/14	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/14/13	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/09/12	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/28/11	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	11/30/10	2.	F
EQP402	FORKLIFT SAFETY (DUPONT)	12/15/09	1.	F
EQP405	EQUIPMENT TAGOUT/LOCKOUT	12/18/13	4.	F
EQP405	EQUIPMENT TAGOUT/LOCKOUT	12/04/09	4.	F
ESO101	MINE OPERATIONS EQUIPMENT SPOTTER/OBSERVER	12/08/09	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	11/13/15	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	11/20/14	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	11/21/13	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	11/16/12	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	11/09/11	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	11/30/10	2.	F
SO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	12/08/09	2.	F

Name: SNOW, DAVID J Badge No: HSPD3178 Termination Date:

Company: NWP Department: OPERATIONS Section: IWO

Course	Title	Date	Hrs	F/I
FPT101	ESS-2015-02, WASTE HANDLING BUILDING (WHB) FIRE SUPPRESSION SYSTEM	10/01/15		F
FPT102	COMBUSTIBLE CONTROL PROGRAM	10/01/15		
FWT101	FIRE WATCH TRAINING	10/31/14	6.	F
GET209	GENERAL EMPLOYEE TRAINING INITIAL	11/18/09	16.	F
GET210A	GENERAL EMPLOYEE TRAINING - REFRESHER	11/29/10	1.	F
GET211A	GENERAL EMPLOYEE TRAINING - REFRESHER	11/08/11	1.	F
GET212A	GENERAL EMPLOYEE TRAINING - REFRESHER	11/14/12	1.	F
GET213A	GENERAL EMPLOYEE TRAINING - REFRESHER	11/13/13	1.	F
GET214A	GENERAL EMPLOYEE TRAINING - REFRESHER	11/21/14	1.	F
HEARING	ANNUAL HEARING TEST	11/13/14	1.	I
HEARING	ANNUAL HEARING TEST	11/15/13	1.	I
HEARING	ANNUAL HEARING TEST	11/14/12	1.	I
HEARING	ANNUAL HEARING TEST	11/14/12	1.	I
HEARING	ANNUAL HEARING TEST	11/01/11	1.	I
HEARING	ANNUAL HEARING TEST	11/03/10	1.	I
HEARING	ANNUAL HEARING TEST	11/23/09	1.	I
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	02/06/14	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	02/16/12	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	02/03/10	16.	F
HPI101	HUMAN PERFORMANCE IMPROVEMENT FUNDAMENTALS	03/03/14	3.	F
HPI101	HUMAN PERFORMANCE IMPROVEMENT FUNDAMENTALS	11/19/09	3.	F
HPI104	HPI TOOLS	01/25/12	4.	
HPI105L	HPI FOR ENG AND KNOWLEDGE WORKERS - TAUGHT AS PART OF THE LEADERSHIP ACADEMY	03/17/15		
HWR101	HAZARDOUS WASTE RESPONDER	01/21/10	16.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	05/27/15	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	03/06/14	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	01/16/14	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	01/23/13	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	01/12/12	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	01/05/11	8.	F
HWR101Z	HAZARDOUS WASTE RESPONDER 30 DAY EXTENSION	03/31/15	1.	I
HWS101	HAZARDOUS WASTE WORKER SUPERVISOR	04/10/14	8.	F
HWS101	HAZARDOUS WASTE WORKER SUPERVISOR	07/17/12	8.	F
HWS101A	HAZARDOUS WASTE WORKER SUPERVISOR REFRESHER	04/23/15	8.	F

Name: SNOW, DAVID J Badge No: HSPD3178 Termination Date:

Company: NWP Department: OPERATIONS Section: IWO

Course	Title	Date	Hrs	F/I
HWS101A	HAZARDOUS WASTE WORKER SUPERVISOR REFRESHER	05/23/13	8.	F
HWW101	HAZARDOUS WASTE WORKER, INITIAL	01/07/10	24.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	11/13/15	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	10/15/14	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	10/08/13	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	10/23/12	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	10/04/11	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	09/02/10	8.	F
HWW102Z	HAZARDOUS WASTE WORKER 30 DAY EXTENSION	10/31/15	8.	I
INF105	USE OF A HANDHELD INFRARED THERMOMETER	08/13/14		I
INF109	COMBUSTIBLE LOADING LIMITS AND GENERAL HOUSEKEEPING	10/23/14	0.5	I
INF122	ANNUAL LO/TO PROGRAM REVIEW	01/09/15		
INF123	15-PS3002 REV 33	01/09/15		I
INF129	CAM ALARM VIDEO	01/10/15		
INF144	COMBUSTIBLE CONTROL POLICY FOR WIPP U/G (MP 6.9)	05/06/15		
'NF144	COMBUSTIBLE CONTROL POLICY FOR WIPP U/G (MP 6.9)	04/30/15		
INF144	COMBUSTIBLE CONTROL POLICY FOR WIPP U/G (MP 6.9)	04/29/15		
INF144	COMBUSTIBLE CONTROL POLICY FOR WIPP U/G (MP 6.9)	04/22/15		
INF151	SAFETY BASIS FLOWDOWN IN RESPONSE TO APRIL 2015 TSR VIOLATIONS	04/29/15		
INF152	IMPORTANCE OF APPROVING AND WORKING TO ACCURATE PROCEDURES	04/29/15		
INF153	ESS CONTROLS SUMMARY	04/29/15		
INF301	WORK CONTROL PROCESS AND JOB HAZARD ANALYSIS REVISION	09/12/14	4.	I
INF531	UPDATE TO JON 12.2, CONCERNING 04-AD3013	10/15/15		
ITC14001	IMMEDIATE TRAINING CHANGE - QUESTIONING SAFETY CULTURE	06/30/14	1.	I
LOTO103	EQUIPMENT LOCKOUT/TAGOUT (AUTHORIZING SUPERVISOR)	06/04/15	6.	F
MAS100	INTRODUCTION TO MANAGEMENT & SUPERVISORY TRAINING	07/17/12	1.	F
MAS101	BASIC MANAGEMENT/SUPERVISION CONCEPTS	07/17/12	1.	F
MAS103	LEADERSHIP	02/08/13	1.	F
MAS104	RESPONSIBILITY & AUTHORITY	02/08/13	1.	F
MAS105	PROBLEM SOLVING AND DECISION MAKING	02/27/14	1.	F
MAS105	PROBLEM SOLVING AND DECISION MAKING	02/08/13	1.	F
MAS106	COMMUNICATIONS	02/19/13	1.	F
MAS112	MAST ADMINISTRATIVE REQUIREMENTS	12/03/10	1.	F
MAS116	PURCHASING AND ACCOUNTING	02/19/13	1.	F
MAS117	MATERIAL CONTROL	09/05/13	1.	F

WIPP TECHNICAL TRAINING SECTION - REPORT OF TRAINING 11/18/15

Name: SNOW, DAVID J Badge No: HSPD3178 Termination Date:

Company: NWP Department: OPERATIONS Section: IWO

Course	Title	Date	Hrs	F/I
MAS118	PLANT MODIFICATION	09/05/13	1.	F
MAS320	MANAGEMENT ASSESSMENT PROGRAM	04/01/14	1.	F
MAS400L	MANAGEMENT AND SUPERVISOR TRAINING - NMSU LEADERSHIP	03/27/15		
MAS400S	MANAGEMENT AND SUPERVISOR TRAINING - SITE SPECIFIC	03/13/15		
MED101	FIRST AID & CPR	02/20/13	12.	F
MED101A	FIRST AID & CPR REFRESHER	04/09/15	8.	F
MED101A	FIRST AID & CPR REFRESHER	02/24/14	8.	F
NCS001	NUCLEAR CRITICALITY SAFETY	11/24/09	1.	F
OFF1775	DSA / TSR UPDATE FOR REVISION 3	06/15/11		I
OPS115	CONDUCT OF OPERATIONS	01/12/10	16.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	02/21/14	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	09/18/13	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	09/20/12	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	09/12/11	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	09/30/10	8.	F
OPS115A1	CONDUCT OF OPERATIONS - QUARTERLY	04/01/15	1.	F
OPS115A2	CONDUCT OF OPERATIONS - QUARTERLY	08/28/15	1.	F
OPS115A3	CONDUCT OF OPERATIONS - QUARTER	10/04/15	1.	F
OPS115Z	CONDUCT OF OPERATIONS EXTENSION PER 14:00241	02/01/15	4.	I
OPS124	TRUPACT-II / HalfPACT COMPLIANCE TRAINING	03/18/14	6.	F
OPS124	TRUPACT-II / HalfPACT COMPLIANCE TRAINING	05/26/10	6.	F
OPS130	WORK CONTROL PROCESS	05/12/11	8.	F
ops132	3M QUESTemp HEAT STRESS MONITOR	08/12/15		F
ops133	PHOTO-IONIZATION DETECTOR (PID)	08/12/15		F
OPS201	ADVANCED CONDUCT OF OPERATIONS - PROCEDURE COMPLIANCE	09/11/14	8.	F
OPS202	ADVANCED CONDUCT OF OPERATIONS - PRE-JOB BRIEFING	11/13/14	4.	F
OPS202	ADVANCED CONDUCT OF OPERATIONS - PRE-JOB BRIEFING	04/09/14	4.	F
OPS203	ADVANCED CONDUCT OF OPERATIONS - SHIFT TURNOVER	04/09/14	4.	F
OPS204	ADVANCED CONDUCT OF OPERATIONS - COMMUNICATIONS	04/15/14	4.	F
OPS205	ADVANCED CONDUCT OF OPERATIONS - REQUIRED READING	04/15/14	2.	F
OPS210	ADVANCED CONDUCT OF OPERATIONS - OPERATOR AIDS	04/15/14	2.	F
QAP104	APPARENT CAUSE ANALYSIS AND CORRECTIVE ACTION PLANNING	10/29/14	1.	F
RAD111	WORKER RESPONSIBILITIES	03/11/14	2.	F
RAD201	RADIOLOGICAL WORKER II, INITIAL	12/17/09	16.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	09/24/15	8.	F

WIPP TECHNICAL TRAINING SECTION - REPORT OF TRAINING 11/18/15

Name: SNOW, DAVID J Badge No: HSPD3178 Termination Date:

Company: NWP Department: OPERATIONS Section: IWO

Course	Title	Date	Hrs	F/I
RAD202	RADIOLOGICAL WORKER II REFRESHER	09/25/14	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	11/20/13	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	11/15/12	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	11/17/11	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	11/22/10	8.	F
RCRY101	CONTROLLED DOCUMENT PROCESSING	07/30/14		F
RIG001	INCIDENTAL RIGGER	04/17/14	16.	F
RIG001	INCIDENTAL RIGGER	01/27/10	16.	F
RIG001A	INCIDENTAL RIGGER REFRESHER	02/27/14	1.	F
RIG001A	INCIDENTAL RIGGER REFRESHER	02/23/12	1.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	11/13/13	4.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	11/06/13	4.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	12/14/11	4.	F
SAF116	ADVANCED HAZARD ANALYSIS	02/28/13	4.	F
SAF120	POWERED INDUSTRIAL TRUCK TRAINING (FORKLIFT)	10/22/15		F
SAF122A	CHANGES TO EQUIPMENT LOCKOUT/TAGOUT PROCEDURE REVISION 15	10/07/15		
SAF501	40 HR INEXPERIENCED MINER	12/08/09	40.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	04/08/15	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	03/05/14	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	10/23/13	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	10/17/12	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	10/12/11	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	10/13/10	8.	F
SAF504	BASIC LIFE SUPPORT - CPR	02/26/14	8.	F
SAF505	HEARTSAVER AED (AUTOMATED EXTERNAL DEFIBRILLATION)	04/09/15	4.	F
SAF505	HEARTSAVER AED (AUTOMATED EXTERNAL DEFIBRILLATION)	02/24/14	4.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	11/20/14	6.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	11/07/13	6.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	11/08/12	6.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	11/09/11	6.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	12/08/10	6.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	12/14/09	6.	F
SAF631B	RESPIRATORY PROTECTION PRACTICAL - HFAP	11/08/12	1.	F
SAF631B	RESPIRATORY PROTECTION PRACTICAL - HFAP	11/09/11	1.	F
SAF631B	RESPIRATORY PROTECTION PRACTICAL - HFAP	12/08/10	1.	F

Name: SNOW, DAVID J Badge No: HSPD3178 Termination Date:

Company: NWP Department: OPERATIONS Section: IWO

Course	Title	Date	Hrs	F/I
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	11/20/14	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	11/07/13	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	11/08/12	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	11/09/11	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	12/08/10	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	12/14/09	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	11/20/14	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	11/07/13	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	11/08/12	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	11/09/11	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	12/08/10	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	12/14/09	1.	F
SAF631F	RESPIRATOR FIT TEST	11/14/14	1.	I
SAF631F	RESPIRATOR FIT TEST	05/14/14	1.	I
SAF631F	RESPIRATOR FIT TEST	11/20/13	1.	I
SAF631F	RESPIRATOR FIT TEST	11/30/12	1.	I
SAF631F	RESPIRATOR FIT TEST	11/02/11	1.	I
SAF631F	RESPIRATOR FIT TEST	12/07/10	1.	I
SAF631F	RESPIRATOR FIT TEST	12/07/09	1.	I
SAF631H	PAPR TIGHT FITTING MASK	11/20/14	1.	F
SAF631H	PAPR TIGHT FITTING MASK	07/23/14	1.	F
SAF631I	PAPR HOOD	07/23/14	1.	F
SAF631M	MEDICAL EXAMINATION - PHYSICAL	11/13/14	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	11/15/13	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	11/14/12	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	11/14/12	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	11/01/11	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	11/03/10	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	11/23/09	1.	I
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	08/24/14	1.	F
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	11/24/09	1.	F
SAF647	WIPP SAFETY BASIS DOCUMENT	12/09/09	8.	F
SAF650	HAZARD RECOGNITION AND ACCIDENT PREVENTION	05/12/11	2.	F
SAF651	OPEN AND COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT	11/15/12	8.	
SAF651A	OPEN & COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT REFRESHER	11/26/14	3.	F

Name: SNOW, DAVID J Badge No: HSPD3178 Termination Date:

Company: NWP Department: OPERATIONS Section: IWO

Course	Title	Date	Hrs	F/I
SAF651A	OPEN & COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT REFRESHER	02/25/14	3.	F
SCI101	SUSPECT/COUNTERFEIT ITEMS	02/27/14	3.	F
SEC100	COUNTERINTELLIGENCE BRIEFING	11/18/09		I
STC003	WASTE HANDLING EQUIPMENT	12/10/09	1.	F
TRG293	SUBJECT MATTER EXPERT / ON THE JOB TRAINER	01/25/10	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	01/22/14	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	01/05/12	4.	F
TRG298ZZ	SUBJECT MATTER EXPERT/ON THE JOB TRAINER REFRESHER 90 DAY EXTENSION	09/21/15	2.	I
VPP101	VOLUNTARY PROTECTION PROGRAM	03/11/10	8.	F
WPV103	WORKPLACE VIOLENCE	04/14/14	8.	F

PRIVATE INFORMATION Total Hours: 840.5

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Attachment 3

Facility Shift Engineer

(23 Pages)

FSE

Name: BEALLER, JOSEPH Badge No: CE09040 Termination Date:

Company: NWP Department: OPERATIONS Section: FACOPS

Course	Title	Date	Hrs	F/I
BE100	WIPP CHRONIC BERYLLIUM DISEASE PREVENTION PROGRAM	10/15/03	1.	F
CAR101	WIPP ELECTRIC CART TRAINING	07/12/14	1.	F
CAR101	WIPP ELECTRIC CART TRAINING	10/13/03	1.	F
CON004	PROCUREMENT QUALIFICATION TRAINING	10/12/00	1.	F
CON006	PROCUREMENT SERVICES ADVANCED TRAINING - SELF PACED	10/12/00	1.	F
CPR101	HEARTSAVER CPR	05/04/00	4.	F
DDC101	DEFENSIVE DRIVING COURSE	08/21/14	8.	F
DDC101	DEFENSIVE DRIVING COURSE	09/21/12	8.	F
DRL001	WHB FORK LIFT ACCIDENT DRILL	03/30/00	3.	I
DRL01	EMERGENCY PLAN DRILL - FY2001	05/16/01		I
DRL03	EMERGENCY PLAN DRILL - FY2003	09/18/03		I
DRL04	EMERGENCY PLAN DRILL - FY2004	09/29/04		I
DRL05	EMERGENCY PLAN DRILL - FY2005	10/27/05		I
DRL06	EMERGENCY PLAN DRILL - FY2006	11/29/06		I
DRL06FO	EMERGENCY DRILL - FY2006 (FACOPS)	08/31/06		I
DRL06FO	EMERGENCY DRILL - FY2006 (FACOPS)	08/18/06		I
DRL07FO	EMERGENCY DRILL - FY2007 (FACOPS)	01/16/07		I
DRL08FO	EMERGENCY DRILL - FY2008 (FACOPS)	10/10/08		I
DRL10FO	EMERGENCY DRILL FY 2010 (FSM)	09/10/10		I
DRL10FO	EMERGENCY DRILL FY 2010 (FSM)	08/24/10		I
DRL11FO	EMERGENCY DRILL FY 2011 (FSM)	09/22/11		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	08/23/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	05/24/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	02/09/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	11/17/11		I
DRL13FO	EMERGENCY DRILL FY 2013 (FSM)	02/07/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	02/07/14		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	11/01/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	11/01/13		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	04/28/15		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	01/06/15		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	12/10/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	11/12/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	11/12/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	10/15/14		I

Name: BEALLER, JOSEPH Badge No: CE09040 Termination Date:

Company: NWP Department: OPERATIONS Section: FACOPS

Course	Title	Date	Hrs	F/I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	10/03/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	10/03/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	09/17/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	09/16/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	07/23/14		I
DRL16ERO	EMERGENCY DRILL FY 2016 (ERT, EMS,RCE,IH,RCT,RCM,OTHER)	10/22/15		I
ELC103	ELECTRICAL SAFETY	01/08/03	4.	F
ELC103	ELECTRICAL SAFETY	05/07/99	4.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/06/15	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/09/14	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/24/13	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/12/12	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/31/11	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/29/10	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/29/09	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/29/08	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/24/07	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/17/06	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/13/05	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/19/04	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/18/01	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/25/00	2.	F
EM100	EMERGENCY RESPONSE ORGANIZATION OVERVIEW TRAINING	11/01/14	8.	F
EM101	EOC STAFF REFRESHER TRAINING	02/04/13	2.	F
EM101	EOC STAFF REFRESHER TRAINING	02/04/13	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/12/12	2.	F
EM101	EOC STAFF REFRESHER TRAINING	02/02/11	2.	F
EM101	EOC STAFF REFRESHER TRAINING	09/08/09	2.	F
EM101	EOC STAFF REFRESHER TRAINING	07/29/08	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/17/08	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/30/07	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/17/06	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/11/05	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/19/04	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/22/03	2.	F

Name: BEALLER, JOSEPH Badge No: CE09040 Termination Date:

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Course	Title	Date	Hrs	F/I
EM182	TERMINATION, REENTRY AND RECOVERY	09/18/14	0.5	F
EM183	CATEGORIZATION AND CLASSIFICATION OF OPERATIONAL EMERGENCIES	08/27/14	4.	F
EM184	HAZARDOUS MATERIAL SPILL AND RELEASE RESPONSE	09/18/14	0.5	F
EM185	SURFACE AND UNDERGROUND RADIOLOGICAL EVENT RESPONSE	09/18/14	0.5	F
EM187	SURFACE AND UNDERGROUND MEDICAL RESPONSE	09/18/14	0.5	F
EM188	EVACUATION/SHELTERING IN PLACE	09/18/14	0.5	F
EM192	UNDERGROUND FIRE RESPONSE 12-ER4911	08/21/14	1.	F
EOC102A	CRISIS MANAGEMENT TEAM ANNUAL RE-TRAINING	01/03/01	8.	F
EOC103	EMERGENCY RESPONSE CONTROLLER AND EVALUATOR TRAINING	11/21/07	1.	F
EQP402	FORKLIFT SAFETY (DUPONT)	10/15/03	1.	F
EQP405	EQUIPMENT TAGOUT/LOCKOUT	03/16/05	4.	F
EQP405	EQUIPMENT TAGOUT/LOCKOUT	11/17/03	4.	F
ERT107	ANNUAL LIVE FIRE PRACTICALS	06/15/05	16.	F
ERT113	INCIDENT COMMAND STRUCTURE	10/29/99	8.	F
ERT117	INTRODUCTION TO FIREFIGHTING	05/27/05	24.	F
FPT101	ESS-2015-02, WASTE HANDLING BUILDING (WHB) FIRE SUPPRESSION SYSTEM	10/14/15		F
FPT102	COMBUSTIBLE CONTROL PROGRAM	10/14/15		
FWT101	FIRE WATCH TRAINING	02/16/06	6.	F
GET199B	GENERAL EMPLOYEE TRAINING - INITIAL SELF-PACED	04/27/99	1.	F
GET200A	GENERAL EMPLOYEE TRAINING REFRESHER	05/02/00	1.	F
GET201A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/18/01	8.	F
GET202A	GENERAL EMPLOYEE TRAINING REFRESHER	05/02/02	1.	F
GET203A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/28/03	8.	F
GET204A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/18/04	1.	F
GET205A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/16/05	1.	F
GET206A	GENERAL EMPLOYEE TRAINING REFRESHER	05/11/06	1.	F
GET207A	GENERAL EMPLOYEE TRAINING REFRESHER	05/27/07	1.	F
GET208A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/05/08	1.	F
GET209A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/26/09	1.	F
GET210A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/31/10	1.	F
GET211A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/30/11	1.	F
GET212A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/30/12	1.	F
GET213A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/27/13	1.	F
GET214A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/29/14	1.	F
GET215A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/16/15	1.	F

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Course	Title	Date	Hrs	F/I
GET215AZ	GENERAL EMPLOYEE TRAINING REFRESHER (30 DAY EXTENSION)	06/01/15		
HEARING	ANNUAL HEARING TEST	09/15/15	1.	I
HEARING	ANNUAL HEARING TEST	09/17/14	1.	I
HEARING	ANNUAL HEARING TEST	06/24/13	1.	I
HEARING	ANNUAL HEARING TEST	06/29/12	1.	I
HEARING	ANNUAL HEARING TEST	02/08/10	1.	I
HEARING	ANNUAL HEARING TEST	02/27/09	1.	I
HEARING	ANNUAL HEARING TEST	02/13/08	1.	I
HEARING	ANNUAL HEARING TEST	02/21/07	1.	I
HEARING	ANNUAL HEARING TEST	02/15/06	1.	I
HEARING	ANNUAL HEARING TEST	02/16/05	1.	I
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/25/14	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/15/12	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/05/10	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/11/08	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/08/06	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/10/04	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/12/03	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/15/01	16.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	05/29/14	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	05/31/12	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	05/21/10	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	06/02/09	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	05/25/07	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	05/04/05	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	05/06/03	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	05/31/01	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	05/11/99	3.	F
HMT110	WTS HAZARDOUS MATERIAL TRANSPORTATION SECURITY PLAN	12/03/03	1.	F
HPI101	HUMAN PERFORMANCE IMPROVEMENT FUNDAMENTALS	08/27/09	3.	F
HPI105L	HPI FOR ENG AND KNOWLEDGE WORKERS - TAUGHT AS PART OF THE LEADERSHIP ACADEMY	06/25/15		
HWR101	HAZARDOUS WASTE RESPONDER	11/20/03	16.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	10/12/05	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	10/20/04	8.	F

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Course	Title	Date	Hrs	F/I
HWW101	HAZARDOUS WASTE WORKER, INITIAL	02/06/03	24.	F
HWW101	HAZARDOUS WASTE WORKER, INITIAL	05/26/99	24.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	01/08/15	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	01/09/14	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	01/29/13	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	01/05/12	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	01/04/11	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	01/15/10	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	01/21/09	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	01/24/08	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	01/24/07	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	01/19/06	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	01/12/05	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	02/11/04	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	04/09/01	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	05/09/00	8.	F
ICS300	INTERMEDIATE ICS FOR EXPANDING INCIDENTS	09/28/07		I
ICS400	ADVANCED ICS COMMAND AND GENERAL STAFF - COMPLEX INCIDENTS	09/28/07		I
INF106	2014-ESS-09 AND EM-FP-2014-01	08/20/14		I
INF109	COMBUSTIBLE LOADING LIMITS AND GENERAL HOUSEKEEPING	10/10/14	0.5	I
INF119	EOC TRANSITION BRIEFING	11/11/14		
INF122	ANNUAL LO/TO PROGRAM REVIEW	01/01/15		
INF130	WP 12-ER4907 REV 18	02/03/15		I
INF145	BRIEFING ON 12-ER4904	04/11/15		
INF147	INTERIM VENTILATION SYSTEM (IVS) PHASE I, PAD CONSTRUCTION	04/18/15		
INF150	WP 04-EM4200 (rev 26) and 4903 (rev 22)	04/23/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	06/05/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	06/05/15		
INF161	WP 04-VU1001, REV 41, SURFACE UNDERGROUND VENTILATION AND FILTRATION SYSTEM	06/05/15		
INF162	WP 04-VU4605, REV 27, UVFS ALARM RESPONSE	06/05/15		
INF167	WP 12-4903, RADIOLOGICAL INCIDENT RESPONSE	06/05/15		
INF218	EA04AD3008-31-0, Rev. 8	06/05/15		I
INF231	WIPP FIRE DEPARTMENT: ICS AND ERO	10/16/15		
INF237	WEB EOC WORKSHOP	08/11/15		I

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Course	Title	Date	Hrs	F/I
INF301	WORK CONTROL PROCESS AND JOB HAZARD ANALYSIS REVISION	09/18/14	4.	I
INF302	REVISION TO PRE-JOB BRIEFINGS, POST JOB REIVEW, AND CHECKLIST	03/24/15		I
INF408	WP 12-ER4925, 4926, 4920	06/05/15		
INF408	WP 12-ER4925, 4926, 4920	06/05/15		
INF513	12-ER4925, CMR INCIDENT RECOGNITION RESPONSE	10/08/15		
INF514	12-ER4926, CMR EXPANDED STAFFING OPS	10/08/15		
IS100b	INTRODUCTION TO THE INCIDENT COMMAND SYSTEM	05/31/06		I
IS200b	ICS FOR SINGLE RESOURCES AND INITIAL ACTION INCIDENTS	09/17/06		I
IS700a	NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS) AN INTRODUCTION	05/31/06		I
IS700a	NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS) AN INTRODUCTION	05/31/06		I
IS800b	NATIONAL RESPONSE FRAMEWORK, AN INTRODUCTION	09/17/06		I
LOTO103	EQUIPMENT LOCKOUT/TAGOUT (AUTHORIZING SUPERVISOR)	07/09/15	6.	F
MAS112	MAST ADMINISTRATIVE REQUIREMENTS	10/15/03	1.	F
MAS400L	MANAGEMENT AND SUPERVISOR TRAINING - NMSU LEADERSHIP	05/29/15		
MAS400S	MANAGEMENT AND SUPERVISOR TRAINING - SITE SPECIFIC	05/15/15		
MED101	FIRST AID & CPR	04/13/12	12.	F
MED101	FIRST AID & CPR	07/14/05	12.	F
MED101A	FIRST AID & CPR REFRESHER	04/09/15	8.	F
MED101A	FIRST AID & CPR REFRESHER	04/21/14	8.	F
MED101A	FIRST AID & CPR REFRESHER	04/17/13	8.	F
NCS001	NUCLEAR CRITICALITY SAFETY	10/15/03	1.	F
OFF1461	WIPP UNDERGROUND VENTILIATION OVERVIEW	02/23/01		I
OFF1461	WIPP UNDERGROUND VENTILIATION OVERVIEW	01/20/00		I
OFF1578	WIPP SECURITY BRIEF	08/24/99		I
OFF1592	CONDUCT OF OPERATIONS	09/28/99		I
OFF1642	EEO/DIVERSIRTY STANDOWN (CHRIS-000317)	04/05/00	2.	I
OFF1643	EEO DIVERSITY - PART II	05/16/00		I
OFF1736	USQ BRIEFING	10/17/00	0.5	I
OFF1759	ZERO INJURY	01/13/05	4.	I
OFF1775	DSA / TSR UPDATE FOR REVISION 3	06/16/11		I
OPS110	OCCURRENCE REPORTING FOR FR/FRD/FM/FMD/FOSS	09/12/00	1.	F
OPS115	CONDUCT OF OPERATIONS	10/16/08	16.	F
OPS115	CONDUCT OF OPERATIONS	12/17/99	16.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	06/27/13	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	07/24/12	8.	F

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Course	Title	Date	Hrs	F/I
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	06/07/11	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	06/29/10	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	06/29/10	8.	F
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	03/27/09	4.	F
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	11/23/05	4.	F
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	10/15/03	4.	F
OPS123	REMOTE HANDLED - TECHNICAL SAFETY REQUIREMENTS	07/05/06	1.	F
OPS130	WORK CONTROL PROCESS	05/18/11	8.	F
OPS201	ADVANCED CONDUCT OF OPERATIONS - PROCEDURE COMPLIANCE	10/20/14	8.	F
PPE002	FALL PROTECTION	07/25/05	4.	F
PRT103	PRINT READING	10/20/99	1.	F
RAD101	RADIOLOGICAL WORKER I, INITIAL	06/02/99	16.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	05/03/01	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	05/17/00	8.	F
RAD109	RADIOLOGICAL AREA ENTRY BRIEFING	05/04/00	1.	I
RAD111	WORKER RESPONSIBILITIES	03/05/14	2.	F
RAD201	RADIOLOGICAL WORKER II, INITIAL	01/30/03	16.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	12/29/14	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	01/24/14	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	01/22/13	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	01/03/12	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	01/06/11	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	01/29/10	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	01/12/09	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	01/29/08	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	01/09/07	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	01/17/06	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	01/11/05	8.	F
RAD202R	RADIOLOGICAL WORKER II - ALTERNATE YEAR REFRESHER	01/14/04	1.	F
RIG001	INCIDENTAL RIGGER	10/29/03	16.	F
SAC001A	SPECIFIC ADMINISTRATIVE CONTROLS - MANAGERS	05/21/05	3.	I
SAF105	TEMPERATURE EXTREMES	07/25/05	8.	F
SAF106	WIPP DOCUMENTED SAFETY ANALYSIS CONTENT OVERVIEW	11/19/08	8.	F
SAF106	WIPP DOCUMENTED SAFETY ANALYSIS CONTENT OVERVIEW	01/08/01	8.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	11/13/13	4.	F

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SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	03/04/13	4.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	03/09/11	4.	F
SAF106Y	EXTENTION FOR SAF106 LETTER OP:10:00112	10/26/10		I
SAF108	RCRA PERMIT SCREENING	11/23/99	1.	F
SAF111	WID WORKPLACE SUBSTANCE ABUSE PLAN	06/15/99	1.	I
SAF122A	CHANGES TO EQUIPMENT LOCKOUT/TAGOUT PROCEDURE REVISION 15	09/28/15		
SAF501	40 HR INEXPERIENCED MINER	05/05/00	40.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/14/15	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/08/14	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/23/13	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/04/12	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/05/11	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	02/26/10	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/28/09	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/16/08	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/10/07	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/18/06	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/19/05	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/14/04	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/14/03	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	04/03/01	8.	F
SAF505	HEARTSAVER AED (AUTOMATED EXTERNAL DEFIBRILLATION)	04/09/15	4.	F
SAF505	HEARTSAVER AED (AUTOMATED EXTERNAL DEFIBRILLATION)	04/21/14	4.	F
SAF515	HEATED ENVIRONMENT/CONFINED SPACE	07/26/05	12.	F
SAF515B	HEATED ENVIRONMENT/CONFINED SPACE FOR FACOPS - ONE TIME ONLY	10/25/99		I
SAF630	RESPIRATORY PROTECTION - CLASSROOM	10/14/05	6.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	10/19/04	6.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	11/13/03	6.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	10/14/05	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	10/19/04	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	11/13/03	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	10/14/05	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	10/19/04	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	11/13/03	1.	F
SAF631F	RESPIRATOR FIT TEST	10/27/05	1.	I

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Course	Title	Date	Hrs	F/I
SAF631F	RESPIRATOR FIT TEST	10/21/04	1.	I
SAF631F	RESPIRATOR FIT TEST	10/15/04	1.	I
SAF631F	RESPIRATOR FIT TEST	11/14/03	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	02/13/08	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	02/15/06	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	02/16/05	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	10/16/03	1.	I
SAF632	OFFICE WARDEN	10/17/02	2.	F
SAF632	OFFICE WARDEN	05/16/02	2.	F
SAF634	UNREVIEWED SAFETY QUESTION DETERMINATION	12/06/99	24.	F
SAF634A	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER	01/08/01	4.	F
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	10/13/03	1.	F
SAF645	RCRA EMERGENCY COORDINATOR (SS)	11/11/14	1.	F
SAF645	RCRA EMERGENCY COORDINATOR (SS)	09/12/00	1.	F
SAF650	HAZARD RECOGNITION AND ACCIDENT PREVENTION	05/18/11	2.	F
SAF651	OPEN AND COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT	11/16/12	8.	
SAF651A	OPEN & COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT REFRESHER	11/29/14	3.	F
SEC100	COUNTERINTELLIGENCE BRIEFING	06/01/11		I
SEC100	COUNTERINTELLIGENCE BRIEFING	05/21/10		I
SEC100	COUNTERINTELLIGENCE BRIEFING	05/07/08		I
SEC100	COUNTERINTELLIGENCE BRIEFING	06/07/07		I
SEC100	COUNTERINTELLIGENCE BRIEFING	05/11/06		I
SEC100	COUNTERINTELLIGENCE BRIEFING	05/16/05		I
SEC100	COUNTERINTELLIGENCE BRIEFING	05/18/04		I
SEC100	COUNTERINTELLIGENCE BRIEFING	05/28/03		I
SEC100	COUNTERINTELLIGENCE BRIEFING	05/02/02		I
SEC100	COUNTERINTELLIGENCE BRIEFING	05/18/01		I
STC003	WASTE HANDLING EQUIPMENT	10/15/03	1.	F
STC015	REMOTE HANDLED WASTE HANDLING EQUIPMENT	10/26/06		F
TRG2923A	WIPP HAZARDOUS WASTE PERMIT ATTACHMENT H	01/31/00	1.	F
TRG293	SUBJECT MATTER EXPERT / ON THE JOB TRAINER	06/08/99	4.	F
TRG296	ROOT CAUSE ANALYSIS	01/18/00	6.	F
TRG296	ROOT CAUSE ANALYSIS	06/21/99	6.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	07/09/14	4.	F

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TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	07/13/12	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	07/29/10	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	06/30/10	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	06/25/08	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	06/28/06	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	06/30/05	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	06/24/03	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	06/26/01	4.	F
TRG298ZZ	SUBJECT MATTER EXPERT/ON THE JOB TRAINER REFRESHER 90 DAY EXTENSION	09/21/15	2.	I
VEN102	FIRE ALARMS	03/21/11	3.	I
WP101	WORK PLANNING & CONTROL OVERVIEW	09/19/13	4.	F

PRIVATE INFORMATION Total Hours: 1253.5

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Course	Title	Date	Hrs	F/I
ADM102	DEPARTMENT ADMINISTRATOR TRAINING MODULE	05/08/96	1.	F
ALA104	ALARA TRAINING FOR MANAGERS AND ENGINEERS	10/25/11	1.	F
CAR101	WIPP ELECTRIC CART TRAINING	01/19/95	1.	F
CMP601	PC FUNDAMENTALS	01/10/89	8.	F
CMP619	WORDPERFECT 5.1 (BEGINNING)	05/07/93	8.	F
CMP620	WORDPERFECT 5.1 (INTERMEDIATE)	06/18/93	8.	F
CMP621	WORDPERFECT 5.1 (ADVANCED)	10/04/93	8.	F
CMP624	WORDPERFECT FOR WINDOWS (BEGINNING)	01/26/94	8.	F
CMP624	WORDPERFECT FOR WINDOWS (BEGINNING)	10/11/93	8.	F
CMP624	WORDPERFECT FOR WINDOWS (BEGINNING)	05/14/93	8.	F
CMP627	WINDOWS (BEGINNING)	01/14/94	8.	F
CMP627	WINDOWS (BEGINNING)	10/01/93	8.	F
CMP628	WINDOWS (INTERMEDIATE)	08/03/93	8.	F
CMP629	DOS 5.O BEGINNING	08/10/93	8.	F
CMP630	DOS 5.0 INTERMEDIATE	09/24/93	8.	F
CMP633	HARVARD GRAPHICS	09/13/93	8.	F
CMP634	LOTUS 1-2-3 (BEGINNING)	07/30/93	8.	F
CON004	PROCUREMENT QUALIFICATION TRAINING	01/28/00	1.	F
CON004	PROCUREMENT QUALIFICATION TRAINING	04/16/97	1.	F
CON006	PROCUREMENT SERVICES ADVANCED TRAINING - SELF PACED	01/28/00	1.	F
DDC101	DEFENSIVE DRIVING COURSE	12/19/12	8.	F
DRL02	EMERGENCY PLAN DRILL - FY2002	04/24/02		I
DRL02	EMERGENCY PLAN DRILL - FY2002	04/12/02		I
DRL03	EMERGENCY PLAN DRILL - FY2003	09/19/03		I
DRL03	EMERGENCY PLAN DRILL - FY2003	04/22/03		I
DRL03	EMERGENCY PLAN DRILL - FY2003	03/27/03		I
DRL03	EMERGENCY PLAN DRILL - FY2003	02/24/03		I
DRL03	EMERGENCY PLAN DRILL - FY2003	12/02/02		I
DRL03	EMERGENCY PLAN DRILL - FY2003	12/02/02		I
DRL03	EMERGENCY PLAN DRILL - FY2003	11/27/02		I
DRL05	EMERGENCY PLAN DRILL - FY2005	10/21/05		I
DRL05	EMERGENCY PLAN DRILL - FY2005	05/18/05		I
DRL06	EMERGENCY PLAN DRILL - FY2006	11/30/06		I
DRL06	EMERGENCY PLAN DRILL - FY2006	10/05/06		I
DRL06FO	EMERGENCY DRILL - FY2006 (FACOPS)	10/05/06		I

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Course	Title	Date	Hrs	F/I
DRL06FO	EMERGENCY DRILL - FY2006 (FACOPS)	08/14/06		I
DRL07FO	EMERGENCY DRILL - FY2007 (FACOPS)	11/01/07		I
DRL07FO	EMERGENCY DRILL - FY2007 (FACOPS)	10/04/07		I
DRL10FO	EMERGENCY DRILL FY 2010 (FSM)	05/11/10		I
DRL11FO	EMERGENCY DRILL FY 2011 (FSM)	08/03/11		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	08/02/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	05/09/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	02/16/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	01/19/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	10/27/11		I
DRL13FO	EMERGENCY DRILL FY 2013 (FSM)	07/02/13		I
DRL13FO	EMERGENCY DRILL FY 2013 (FSM)	06/05/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	07/31/14		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	07/26/14		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	04/09/14		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	01/15/14		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	12/17/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	11/19/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	11/19/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	10/22/13		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	05/05/15		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	02/11/15		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	01/19/15		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	11/20/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	09/23/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	07/31/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	07/28/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	05/27/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	05/24/14		I
ELC103	ELECTRICAL SAFETY	05/31/08	4.	F
ELC103	ELECTRICAL SAFETY	05/07/99	4.	F
ELC103	ELECTRICAL SAFETY	06/24/98	4.	F
ELC103	ELECTRICAL SAFETY	07/21/97	4.	F
ELC103	ELECTRICAL SAFETY	07/22/96	4.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/06/15	2.	F

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Course	Title	Date	Hrs	F/I
ELC103A	ELECTRICAL SAFETY REFRESHER	04/30/14	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	04/19/13	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	04/24/12	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	04/11/11	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	04/11/11	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/25/10	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/28/09	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/31/07	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/17/06	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/19/05	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/19/04	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/30/03	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/21/02	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/23/01	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/22/00	2.	F
ELC104	ARC FLASH PROTECTION	08/11/04	2.	F
EM100	EMERGENCY RESPONSE ORGANIZATION OVERVIEW TRAINING	10/15/14	8.	F
EM100	EMERGENCY RESPONSE ORGANIZATION OVERVIEW TRAINING	12/30/02	8.	F
EM101	EOC STAFF REFRESHER TRAINING	03/31/14	2.	F
EM101	EOC STAFF REFRESHER TRAINING	03/29/13	2.	F
EM101	EOC STAFF REFRESHER TRAINING	03/31/12	2.	F
EM101	EOC STAFF REFRESHER TRAINING	03/01/11	2.	F
EM101	EOC STAFF REFRESHER TRAINING	02/01/10	2.	F
EM101	EOC STAFF REFRESHER TRAINING	07/30/08	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/22/08	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/24/07	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/19/06	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/27/05	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/20/04	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/29/03	2.	F
EM183	CATEGORIZATION AND CLASSIFICATION OF OPERATIONAL EMERGENCIES	10/14/14	4.	F
EM192	UNDERGROUND FIRE RESPONSE 12-ER4911	07/31/14	1.	F
EMS101	ENVIRONMENTAL MANAGEMENT SYSTEMS	01/09/97		I
ENV100	PLANNING FOR COMPLIANCE	03/26/90	8.	F
EOC102A	CRISIS MANAGEMENT TEAM ANNUAL RE-TRAINING	01/03/01	8.	F

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Course	Title	Date	Hrs	F/I
EQP402	FORKLIFT SAFETY (DUPONT)	05/07/86	1.	F
EQP405	EQUIPMENT TAGOUT/LOCKOUT	01/12/05	4.	F
EQP405	EQUIPMENT TAGOUT/LOCKOUT	09/11/90	4.	F
FWT101	FIRE WATCH TRAINING	05/19/08	6.	F
GET101	GENERAL EMPLOYEE TRAINING	09/09/88	24.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	11/11/94	8.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	10/19/93	8.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	11/10/92	8.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	12/12/91	8.	F
GET195A	GENERAL EMPLOYEE TRAINING REFRESHER	07/24/95	1.	F
GET196A	GENERAL EMPLOYEE TRAINING REFRESHER	07/03/96	1.	F
GET197A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/21/97	1.	F
GET198A	GENERAL EMPLOYEE TRAINING -REFRESHER	06/25/98	4.	F
GET199A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/18/99	8.	F
GET200A	GENERAL EMPLOYEE TRAINING REFRESHER	06/22/00	1.	F
GET201A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/19/01	8.	F
GET202A	GENERAL EMPLOYEE TRAINING REFRESHER	06/19/02	1.	F
GET203A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/26/03	8.	F
GET204A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/29/04	1.	F
GET205A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/27/05	1.	F
GET206A	GENERAL EMPLOYEE TRAINING REFRESHER	06/04/06	1.	F
GET207A	GENERAL EMPLOYEE TRAINING REFRESHER	06/30/07	1.	F
GET208A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/22/08	1.	F
GET209A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/28/09	1.	F
GET210A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/25/10	1.	F
GET211A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/31/11	1.	F
GET212A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/31/12	1.	F
GET213A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/31/13	1.	F
GET214A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/28/14	1.	F
GET215A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/27/15	1.	F
HEARING	ANNUAL HEARING TEST	06/03/15	1.	I
HEARING	ANNUAL HEARING TEST	06/03/14	1.	I
HEARING	ANNUAL HEARING TEST	02/12/13	1.	I
HEARING	ANNUAL HEARING TEST	02/13/12	1.	I
HEARING	ANNUAL HEARING TEST	02/15/11	1.	I

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Course	Title	Date	Hrs	F/I
HEARING	ANNUAL HEARING TEST	02/15/10	1.	I
HEARING	ANNUAL HEARING TEST	02/21/08	1.	I
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	06/18/15	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	07/30/13	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	07/20/11	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	07/28/09	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	07/18/07	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	07/14/05	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	07/29/03	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	07/12/01	16.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/23/13	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/27/11	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/28/09	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/18/07	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/26/05	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/26/03	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/10/01	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/03/99	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	11/24/97	3.	F
HMT104Z	DOT EMERGENCY RESPONSE INFORMATION (30 DAY EXTENTION)	09/01/15	0.	F
HMT110	WTS HAZARDOUS MATERIAL TRANSPORTATION SECURITY PLAN	12/03/03	1.	F
HPI101	HUMAN PERFORMANCE IMPROVEMENT FUNDAMENTALS	10/01/09	3.	F
HPI105L	HPI FOR ENG AND KNOWLEDGE WORKERS - TAUGHT AS PART OF THE LEADERSHIP ACADEMY	08/26/15		
HRM101	EMPLOYEE APPRAISAL PROCESS	08/08/97		I
HWW101	HAZARDOUS WASTE WORKER, INITIAL	08/26/98	24.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/28/15	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/01/14	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/25/13	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/12/12	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/06/11	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/01/10	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/20/09	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/21/08	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/09/07	8.	F

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Course	Title	Date	Hrs	F/I
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/03/06	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/12/05	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/22/04	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/24/03	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/24/02	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/16/01	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/17/00	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	07/19/99	8.	F
ICS300	INTERMEDIATE ICS FOR EXPANDING INCIDENTS	09/12/07		I
ICS400	ADVANCED ICS COMMAND AND GENERAL STAFF - COMPLEX INCIDENTS	09/12/07		I
INF106	2014-ESS-09 AND EM-FP-2014-01	08/16/14		I
INF109	COMBUSTIBLE LOADING LIMITS AND GENERAL HOUSEKEEPING	10/10/14	0.5	I
INF119	EOC TRANSITION BRIEFING	12/18/14		
INF122	ANNUAL LO/TO PROGRAM REVIEW	01/26/15		
INF129	CAM ALARM VIDEO	01/08/15		
INF130	WP 12-ER4907 REV 18	01/31/15		I
INF139	BRIEFING, SURFACE FIRE RESPONSE PROCEDURE 12-ER4908	03/03/15		I
INF145	BRIEFING ON 12-ER4904	04/17/15		
INF147	INTERIM VENTILATION SYSTEM (IVS) PHASE I, PAD CONSTRUCTION	04/18/15		
INF150	WP 04-EM4200 (rev 26) and 4903 (rev 22)	04/24/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	06/15/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	06/12/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/18/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/18/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/17/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/17/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/16/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/16/15		
INF160	MD 1.10 REV 0 DISPATCH AND RESPONSE PROTOCOL	05/17/15		
INF161	WP 04-VU1001, REV 41, SURFACE UNDERGROUND VENTILATION AND FILTRATION SYSTEM	05/15/15		
INF162	WP 04-VU4605, REV 27, UVFS ALARM RESPONSE	05/15/15		
INF167	WP 12-4903, RADIOLOGICAL INCIDENT RESPONSE	06/02/15		
INF218	EA04AD3008-31-0, Rev. 8	05/27/15		I
INF302	REVISION TO PRE-JOB BRIEFINGS, POST JOB REIVEW, AND CHECKLIST	03/24/15		I

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Course	Title	Date	Hrs	F/I
INF305	REVISION TO WORK CONTROL PROCESS AND NEW MATERIAL REQUEST FORM	05/21/15		I
INF408	WP 12-ER4925, 4926, 4920	06/15/15		
INF408	WP 12-ER4925, 4926, 4920	06/12/15		
IS100b	INTRODUCTION TO THE INCIDENT COMMAND SYSTEM	10/21/97		I
IS200b	ICS FOR SINGLE RESOURCES AND INITIAL ACTION INCIDENTS	09/18/06		I
IS200b	ICS FOR SINGLE RESOURCES AND INITIAL ACTION INCIDENTS	10/21/97		I
IS700a	NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS) AN INTRODUCTION	05/08/06		I
IS800b	NATIONAL RESPONSE FRAMEWORK, AN INTRODUCTION	09/17/06		I
LLS001	LOSS OF LOCKOUT/TAGOUT	11/04/91	1.	F
LOTO103	EQUIPMENT LOCKOUT/TAGOUT (AUTHORIZING SUPERVISOR)	06/04/15	6.	F
MAN115	BASIC SOLDERING TECHNIQUES	09/30/92	16.	F
MAS-01	INITIAL QUALIFICATION - MAST PROGRAM (31 MODULES)	12/10/93	1.	F
MAS400L	MANAGEMENT AND SUPERVISOR TRAINING - NMSU LEADERSHIP	08/28/15		
MAS400S	MANAGEMENT AND SUPERVISOR TRAINING - SITE SPECIFIC	08/24/15		
MGT500	OVERVIEW OF MANAGEMENT	01/22/88	4.	F
NEO100	NEW EMPLOYEE ORIENTATION	05/10/85	3.	F
OFF1194	IBSS REQUISITIONER	05/15/95		I
OFF1291	INTERMEDIATE EXCEL 7.0 - WINDOWS '95	07/19/96		I
OFF1337	INTERMEDIATE WINDOWS '95	06/21/96		I
OFF1338	INTERMEDIATE WORD 7.0 - WINDOWS '95	08/09/96		I
OFF1343	COMMUNICATIONS FOR RESULTS	01/21/97		I
OFF1461	WIPP UNDERGROUND VENTILIATION OVERVIEW	02/23/01		I
OFF1461	WIPP UNDERGROUND VENTILIATION OVERVIEW	01/20/00		I
OFF1461	WIPP UNDERGROUND VENTILIATION OVERVIEW	02/10/99		I
OFF1461	WIPP UNDERGROUND VENTILIATION OVERVIEW	02/03/98		I
OFF1525	QMIS DOCUMENT CONTROL	11/16/98		I
OFF1531	LESSONS IN LEADERSHIP	11/15/00		I
OFF1531	LESSONS IN LEADERSHIP	11/18/98		I
OFF1553	START II - THE WAY WE WORK	02/23/99		I
OFF1578	WIPP SECURITY BRIEF	09/09/99		I
OFF1642	EEO/DIVERSIRTY STANDOWN (CHRIS-000317)	04/08/00	2.	I
OFF1643	EEO DIVERSITY - PART II	05/06/00		I
OFF1759	ZERO INJURY	01/14/05	4.	I
OFF1775	DSA / TSR UPDATE FOR REVISION 3	06/19/11		I

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Course	Title	Date	Hrs	F/I
OFF1776	DRUG AND ALCOHOL AWARENESS SUPERVISORY TRAINING AND FITNESS FOR DUTY	08/18/11		
OFF694	INTERMEDIATE INCIDENT COMMAND SYSTEM	10/21/97		I
OFF799	STRAIN GAGE TECHNOLOGY	11/14/89		I
OPS102	SUBJECT MATTER EXPERT	10/08/87	4.	F
OPS107	OCCURRENCE REPORTING - FACILITY MANAGEMENT	11/12/91	8.	F
OPS110	OCCURRENCE REPORTING FOR FR/FRD/FM/FMD/FOSS	01/12/99	1.	F
OPS111	OCCURRENCE REPORTING - ALL EMPLOYEE	10/19/90	1.	F
OPS115	CONDUCT OF OPERATIONS	04/16/91	16.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	06/03/13	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	05/22/12	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	05/09/11	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	05/06/10	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	06/23/09	8.	F
OPS115L	CONDUCT OF OPERATIONS PLACEHOLDER FOR CTS#	06/01/08	0.	F
OPS116	CONDUCT OF MAINTENANCE	11/02/92	24.	F
OPS119	WORK AUTHORIZATION OVERVIEW	12/20/91	4.	F
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	03/12/09	4.	F
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	11/30/05	4.	F
OPS123	REMOTE HANDLED - TECHNICAL SAFETY REQUIREMENTS	08/21/06	1.	F
OPS130	WORK CONTROL PROCESS	05/11/11	8.	F
PDI101	PROCEDURE GUIDELINES	07/22/97	1.	F
PMS101	PERFORMANCE MANAGEMENT SYSTEMS	03/23/90	1.	F
PRC100	CONFIGURATION CONTROL BOARD PROCEDURES	01/14/91	2.	F
PRC101	CONFIGURATION MANAGEMENT PLAN	01/14/91	3.	F
PRT103	PRINT READING	02/25/92	1.	F
RAD101	RADIOLOGICAL WORKER I, INITIAL	06/25/96	16.	F
RAD101	RADIOLOGICAL WORKER I, INITIAL	02/10/93	16.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	03/19/15	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	03/20/14	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	03/12/13	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	03/25/12	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	03/10/11	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	03/29/10	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	03/19/09	8.	F

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Course	Title	Date	Hrs	F/I
RAD102	RADIOLOGICAL WORKER I REFRESHER	03/17/08	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	03/22/07	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/24/06	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/11/05	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/30/03	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/04/01	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	03/22/00	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/20/99	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	05/26/98	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	06/11/97	8.	F
RAD102R	RADIOLOGICAL WORKER I - ALTERNATE YEAR REFRESHER	04/19/04	1.	F
RAD102R	RADIOLOGICAL WORKER I - ALTERNATE YEAR REFRESHER	04/29/02	1.	F
RAD109	RADIOLOGICAL AREA ENTRY BRIEFING	05/08/00	1.	I
RAD111	WORKER RESPONSIBILITIES	03/05/14	2.	F
REP100	RCRA OVERVIEW	02/22/88	1.	F
REP103	HAZARDOUS WASTE MANAGEMENT	06/27/88	8.	F
REP107	OSHA/RCRA OVERVIEW	01/14/91	2.5	F
REP108	SITE GENERATED HAZARDOUS WASTE WORK	06/08/92	24.	F
SAC001A	SPECIFIC ADMINISTRATIVE CONTROLS - MANAGERS	05/16/05	3.	I
SAF102	STRAINS AND SPRAINS PREVENTION	06/20/96	2.	I
SAF104	FITNESS FOR DUTY - GENERAL EMPLOYEE	11/07/96		I
SAF106	WIPP DOCUMENTED SAFETY ANALYSIS CONTENT OVERVIEW	11/11/08	8.	F
SAF106	WIPP DOCUMENTED SAFETY ANALYSIS CONTENT OVERVIEW	08/11/97	8.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	11/05/15	4.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	11/12/13	4.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	03/04/13	4.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	03/17/11	4.	F
SAF106Y	EXTENTION FOR SAF106 LETTER OP:10:00112	10/26/10		I
SAF108	RCRA PERMIT SCREENING	08/20/97	1.	F
SAF122A	CHANGES TO EQUIPMENT LOCKOUT/TAGOUT PROCEDURE REVISION 15	09/23/15		
SAF402	RADIOLOGICAL WORKER	02/05/91	8.	F
SAF402	RADIOLOGICAL WORKER	09/27/88	8.	F
SAF406	ATMOSPHERE SUPPLYING RESPIRATOR	02/28/92	4.	F
SAF406	ATMOSPHERE SUPPLYING RESPIRATOR	11/14/90	4.	F
SAF408	HAND/FOOT MONITOR SURVEYS	01/11/89	5.	F

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Course	Title	Date	Hrs	F/I
SAF502	MINE SAFETY ANNUAL REFRESHER	03/09/11	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	03/03/10	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	11/08/96	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	03/01/95	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	05/04/93	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	05/19/92	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	07/25/91	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	06/08/90	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	05/17/89	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	05/25/88	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	04/30/87	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	07/16/85	8.	F
SAF503	HEATED ROOM TRAINING	05/16/86	4.	F
SAF504	BASIC LIFE SUPPORT - CPR	05/31/06	8.	F
SAF507	HAZARD COMMUNICATION	05/07/86	2.5	F
SAF510	HEATED ROOM REFRESHER	01/30/89	4.	F
SAF510	HEATED ROOM REFRESHER	01/14/88	4.	F
SAF512	AIR PURIFYING RESPIRATOR TRAINING	05/18/92	4.	F
SAF513	GROUND CONTROL & HAZARD RECOGNITION	06/27/90	4.	F
SAF513	GROUND CONTROL & HAZARD RECOGNITION	01/13/89	4.	F
SAF515B	HEATED ENVIRONMENT/CONFINED SPACE FOR FACOPS - ONE TIME ONLY	02/28/92		I
SAF515B	HEATED ENVIRONMENT/CONFINED SPACE FOR FACOPS - ONE TIME ONLY	11/14/90		I
SAF517	BASIC AIR QUALITY MONITORING	02/28/92	4.	F
SAF517	BASIC AIR QUALITY MONITORING	11/14/90	4.	F
SAF519	HAZARD COMMUNICATIONS REFRESHER	03/14/91	1.	F
SAF601	FIRST AID	01/14/86	8.	F
SAF604	CONFINED SPACE ENTRY	07/01/88	8.	F
SAF605	VENTILATION/GAS DETECTION	07/22/88	4.	F
SAF606	TLD TRAINING	08/16/88	1.	F
SAF609	EMERGENCY PREPAREDNESS	10/24/91	4.	F
SAF613	U/G VENTILATION OVERVIEW	02/28/91	3.	F
SAF619	COMPRESSED GAS CYLINDER SAFETY	11/23/93	4.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	04/24/00	6.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	04/24/00	1.	F
SAF631F	RESPIRATOR FIT TEST	04/24/00	1.	I

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Course	Title	Date	Hrs	F/I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	02/21/08	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	04/07/00	1.	I
SAF632	OFFICE WARDEN	10/27/94	2.	F
SAF632	OFFICE WARDEN	11/17/93	2.	F
SAF634	UNREVIEWED SAFETY QUESTION DETERMINATION	08/11/97	24.	F
SAF634A	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER	08/16/01	4.	F
SAF634A	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER	08/17/00	4.	F
SAF634A	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER	08/19/99	4.	F
SAF634A	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER	08/28/98	4.	F
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	10/21/14	1.	F
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	07/22/97	1.	F
SAF645	RCRA EMERGENCY COORDINATOR (SS)	10/23/14	1.	F
SAF645	RCRA EMERGENCY COORDINATOR (SS)	01/12/99	1.	F
SAF650	HAZARD RECOGNITION AND ACCIDENT PREVENTION	05/11/11	2.	F
SAF651	OPEN AND COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT	11/19/12	8.	
SAP100	SELF-ASSESSMENT	08/06/93	1.	F
SEC100	COUNTERINTELLIGENCE BRIEFING	03/25/12		I
SEC100	COUNTERINTELLIGENCE BRIEFING	06/01/11		I
SEC100	COUNTERINTELLIGENCE BRIEFING	07/09/07		I
SEC100	COUNTERINTELLIGENCE BRIEFING	04/24/06		I
SEC100	COUNTERINTELLIGENCE BRIEFING	07/01/05		I
SEC100	COUNTERINTELLIGENCE BRIEFING	06/29/04		I
SEC100	COUNTERINTELLIGENCE BRIEFING	06/26/03		I
SEC100	COUNTERINTELLIGENCE BRIEFING	06/19/02		I
SEC100	COUNTERINTELLIGENCE BRIEFING	06/19/01		I
SKL271	SUBSTANCE ABUSE IDENTIFICATION	10/24/88	2.	F
SKL272	SUBSTANCE USE & ABUSE	04/23/90	2.5	F
SKL273	PLANT COMMUNICATION SKILLS	01/10/92	4.	F
START5	SUPERVISOR TRAINING/ACCIDENT REDUCTION TECHNIQUES - 1-4	03/04/94	1.	I
STC015	REMOTE HANDLED WASTE HANDLING EQUIPMENT	11/01/06		F
SUP241	SITUATIONAL LEADERSHIP	06/22/87	16.	F
SUP251	MANAGING PEOPLE	11/12/86	4.	F
SUP252	ASSESSING EMPLOYE PERFORMANCE	03/31/88	4.	F
SUP253	IMPROVED PERFORMANCE	03/10/88	4.	F
SUP254	USING POSITIVE DISCIPLINE	03/24/88	4.	F

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Course	Title	Date	Hrs	F/I
SUP255	DEALING WITH EMPLOYE CONF	03/17/88	4.	F
SUP256	PLANNING	02/04/88	3.	F
SUP260	STOP I	09/15/89	2.	F
SUP260	STOP I	01/30/87	2.	F
SUP260	STOP I	01/16/87	2.	F
SUP261	STOP II	10/06/89	2.	F
SUP261	STOP II	02/06/87	2.	F
SUP262	STOP III	09/22/89	2.	F
SUP263	STOP IV	10/27/89	2.	F
SUP263	STOP IV	02/20/87	2.	F
SUP264	STOP V	11/17/89	2.	F
SUP265	STOP VI	12/01/89	2.	F
SUP266	STOP VII	12/08/89	2.	F
TQA100	TOTAL QUALITY AWARENESS	05/11/90	8.	F
TQA102	TOTAL QUALITY ACTION TRAINING	05/10/91	8.	F
TRG2923A	WIPP HAZARDOUS WASTE PERMIT ATTACHMENT H	11/11/91	1.	F
TRG293	SUBJECT MATTER EXPERT / ON THE JOB TRAINER	03/24/98	4.	F
TRG293	SUBJECT MATTER EXPERT / ON THE JOB TRAINER	04/23/91	4.	F
TRG296	ROOT CAUSE ANALYSIS	11/11/91	6.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	01/10/14	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	01/03/12	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	01/18/10	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	01/09/08	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	01/16/06	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	01/22/04	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	01/29/02	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	02/02/00	4.	F
TRG298ZZ	SUBJECT MATTER EXPERT/ON THE JOB TRAINER REFRESHER 90 DAY EXTENSION	09/21/15	2.	I
VEN004	EXOTOX MODEL 40 AIR MONITORING	09/09/87	8.	F
VEN017	COMMUNICATIONS	10/26/88	8.	F
VEN028	CONDUCT OF OPERATIONS	06/23/89	8.	F
VEN042	OSHA COMPLIANCE	06/21/90	8.	F
VEN050	RAD PROTECTION/SAFETY OVERVIEW	09/14/90	8.	F
VEN055	PROCUREMENT PLANNING & SOURCE SELECTION	12/06/90	8.	F

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Course	Title	Date	Hrs	F/I
VEN070	WORKFORCE 2000	05/22/91	8.	F
VEN097	INCIDENT COMMAND SYSTEM	10/21/97	12.	F
VEN102	FIRE ALARMS	03/21/11	3.	I
WCC101	WORK AUTHORIZATION TRAINING	04/06/90	4.	F
WCC101	WORK AUTHORIZATION TRAINING	10/06/88	4.	F
WHT106	WASTE HANDLING OVERVIEW	03/06/90	3.	F
WHT107	BIN SCALE HAZARDS	05/03/90	4.	F
WP102	INITIATING ACTION REQUESTS	11/03/15	1.	F
		Total Hours:	1582.	

PRIVATE INFORMATION

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Attachment 4

Facility Shift Manager

(32 Pages)

FSM

Name: LONG SR., MARK L. Badge No: HSPD6940 Termination Date:

Company: NWP Department: OPERATIONS Section: FACOPS

Course	Title	Date	Hrs	F/I
ALA104	ALARA TRAINING FOR MANAGERS AND ENGINEERS	10/13/11	1.	F
BE100	WIPP CHRONIC BERYLLIUM DISEASE PREVENTION PROGRAM	05/13/08	1.	F
CAR101	WIPP ELECTRIC CART TRAINING	08/03/09	1.	F
CAR101	WIPP ELECTRIC CART TRAINING	12/28/94	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	09/10/13	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	09/10/12	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	09/09/11	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	08/01/10	1.	F
CMP629	DOS 5.O BEGINNING	06/18/93	8.	F
CON004	PROCUREMENT QUALIFICATION TRAINING	01/20/99	1.	F
CON006	PROCUREMENT SERVICES ADVANCED TRAINING - SELF PACED	01/20/99	1.	F
CON008	GRADED APPROACH TO QA REQUIREMENTS	04/11/01	2.	F
DDC101	DEFENSIVE DRIVING COURSE	09/27/12	8.	F
DDC102	DEFENSIVE DRIVING ABRIDGED	11/18/14	2.	F
DRL02	EMERGENCY PLAN DRILL - FY2002	04/19/02		I
DRL02	EMERGENCY PLAN DRILL - FY2002	04/10/02		I
DRL02	EMERGENCY PLAN DRILL - FY2002	04/05/02		I
DRL02	EMERGENCY PLAN DRILL - FY2002	11/19/01		I
DRL03	EMERGENCY PLAN DRILL - FY2003	09/24/03		I
DRL03	EMERGENCY PLAN DRILL - FY2003	05/21/03		I
DRL03	EMERGENCY PLAN DRILL - FY2003	02/24/03		I
DRL03	EMERGENCY PLAN DRILL - FY2003	02/24/03		I
DRL03	EMERGENCY PLAN DRILL - FY2003	12/13/02		I
DRL03	EMERGENCY PLAN DRILL - FY2003	12/09/02		I
DRL03	EMERGENCY PLAN DRILL - FY2003	12/09/02		I
DRL04	EMERGENCY PLAN DRILL - FY2004	11/23/04		I
DRL04	EMERGENCY PLAN DRILL - FY2004	05/14/04		I
DRL05	EMERGENCY PLAN DRILL - FY2005	10/27/05		I
DRL05	EMERGENCY PLAN DRILL - FY2005	10/20/05		I
DRL05	EMERGENCY PLAN DRILL - FY2005	05/25/05		I
DRL05	EMERGENCY PLAN DRILL - FY2005	05/18/05		I
DRL06	EMERGENCY PLAN DRILL - FY2006	11/30/06		I
DRL06	EMERGENCY PLAN DRILL - FY2006	11/29/06		I
DRL06	EMERGENCY PLAN DRILL - FY2006	10/05/06		I
DRL06FO	EMERGENCY DRILL - FY2006 (FACOPS)	12/07/06		I

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DRL06FO	EMERGENCY DRILL - FY2006 (FACOPS)	11/30/06		I
DRL06FO	EMERGENCY DRILL - FY2006 (FACOPS)	10/05/06		I
DRL06FO	EMERGENCY DRILL - FY2006 (FACOPS)	08/31/06		I
DRL06FO	EMERGENCY DRILL - FY2006 (FACOPS)	08/18/06		I
DRL06FO	EMERGENCY DRILL - FY2006 (FACOPS)	02/16/06		I
DRL07FO	EMERGENCY DRILL - FY2007 (FACOPS)	11/13/07		I
DRL07FO	EMERGENCY DRILL - FY2007 (FACOPS)	11/08/07		I
DRL07FO	EMERGENCY DRILL - FY2007 (FACOPS)	11/01/07		I
DRL07FO	EMERGENCY DRILL - FY2007 (FACOPS)	10/04/07		I
DRL07FO	EMERGENCY DRILL - FY2007 (FACOPS)	02/07/07		I
DRL07FO	EMERGENCY DRILL - FY2007 (FACOPS)	01/16/07		I
DRL09FO	EMERGENCY DRILL - FY2009 (FACOPS)	11/04/09		I
DRL11FO	EMERGENCY DRILL FY 2011 (FSM)	06/22/11		I
DRL11FO	EMERGENCY DRILL FY 2011 (FSM)	06/10/11		I
DRL11FO	EMERGENCY DRILL FY 2011 (FSM)	06/10/11		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	09/13/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	09/13/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	09/12/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	08/15/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	05/24/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	05/23/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	04/26/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	01/05/12		I
DRL13FO	EMERGENCY DRILL FY 2013 (FSM)	05/22/13		I
DRL13FO	EMERGENCY DRILL FY 2013 (FSM)	01/31/13		I
DRL13FO	EMERGENCY DRILL FY 2013 (FSM)	01/31/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	07/26/14		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	04/11/14		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	12/04/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	12/04/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	11/07/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	11/07/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	11/07/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	11/07/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	11/06/13		I

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Course	Title	Date	Hrs	F/I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	02/13/15		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	01/29/15		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	09/17/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	09/08/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	08/13/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	07/26/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	05/20/14		I
ELC103	ELECTRICAL SAFETY	08/01/02	4.	F
ELC103	ELECTRICAL SAFETY	08/10/99	4.	F
ELC103	ELECTRICAL SAFETY	08/11/98	4.	F
ELC103	ELECTRICAL SAFETY	09/02/97	4.	F
ELC103	ELECTRICAL SAFETY	08/21/96	4.	F
ELC103	ELECTRICAL SAFETY	08/22/95	4.	F
ELC103	ELECTRICAL SAFETY	08/01/94	4.	F
ELC103	ELECTRICAL SAFETY	08/13/93	4.	F
ELC103	ELECTRICAL SAFETY	08/27/92	4.	F
ELC103	ELECTRICAL SAFETY	02/20/92	4.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	03/24/15	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	03/24/14	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	03/19/13	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	03/27/12	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	03/11/11	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	08/09/10	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	08/10/09	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	08/20/08	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	08/07/07	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	08/08/06	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	08/02/05	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	08/04/04	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	08/20/03	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	08/27/01	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	08/02/00	2.	F
ELC104	ARC FLASH PROTECTION	08/11/04	2.	F
EM100	EMERGENCY RESPONSE ORGANIZATION OVERVIEW TRAINING	10/15/14	8.	F
EM100	EMERGENCY RESPONSE ORGANIZATION OVERVIEW TRAINING	12/12/02	8.	F

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Course	Title	Date	Hrs	F/I
EM101	EOC STAFF REFRESHER TRAINING	02/06/15	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/11/14	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/03/13	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/15/12	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/09/11	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/27/10	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/14/09	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/08/08	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/11/07	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/12/06	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/11/05	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/07/04	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/22/03	2.	F
EM182	TERMINATION, REENTRY AND RECOVERY	09/20/14	0.5	F
EM183	CATEGORIZATION AND CLASSIFICATION OF OPERATIONAL EMERGENCIES	09/02/14	4.	F
EM184	HAZARDOUS MATERIAL SPILL AND RELEASE RESPONSE	09/20/14	0.5	F
EM185	SURFACE AND UNDERGROUND RADIOLOGICAL EVENT RESPONSE	09/20/14	0.5	F
EM186	SECURITY EMERGENCY RESPONSE	09/20/14	0.5	I
EM187	SURFACE AND UNDERGROUND MEDICAL RESPONSE	09/20/14	0.5	F
EM188	EVACUATION/SHELTERING IN PLACE	09/20/14	0.5	F
EM189	SURFACE FIRE RESPONSE	09/20/14	0.5	F
EM191	EARTHQUAKE RESPONSE	09/19/14	0.5	F
EM192	UNDERGROUND FIRE RESPONSE 12-ER4911	08/01/14	1.	F
EMS101	ENVIRONMENTAL MANAGEMENT SYSTEMS	01/08/97		I
EOC102A	CRISIS MANAGEMENT TEAM ANNUAL RE-TRAINING	01/16/01	8.	F
EOC103	EMERGENCY RESPONSE CONTROLLER AND EVALUATOR TRAINING	11/28/06	1.	F
EQP405	EQUIPMENT TAGOUT/LOCKOUT	03/16/05	4.	F
EQP405	EQUIPMENT TAGOUT/LOCKOUT	01/30/92	4.	F
EQP405A	EQUIPMENT TAGOUT/LOCKOUT - CONTINUING TRAINING	08/09/95	1.	F
EQP405A	EQUIPMENT TAGOUT/LOCKOUT - CONTINUING TRAINING	07/27/94	1.	F
ERT102	CONFINED SPACE RESCUE	11/20/97	8.	F
ERT110	CONTAMINATED INJURED PATIENT	02/25/98	8.	F
ERT111	WILDLAND FIREFIGHTING	04/30/97	8.	F
ERT116	VEHICLE EXTRICATION	12/19/97	8.	F
ERT117	INTRODUCTION TO FIREFIGHTING	04/09/98	24.	F

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Course	Title	Date	Hrs	F/I
ERT119	WILDLAND FIREFIGHTING REFRESHER	03/19/98	8.	F
ESO101	MINE OPERATIONS EQUIPMENT SPOTTER/OBSERVER	05/12/08	2.	F
ESO102	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER	05/12/08	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	06/01/09	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	05/12/08	2.	F
FFQ198	FIREFIGHTER SURVIVAL	03/16/98	8.	F
FPT101	ESS-2015-02, WASTE HANDLING BUILDING (WHB) FIRE SUPPRESSION SYSTEM	09/26/15		F
FWT101	FIRE WATCH TRAINING	12/20/05	6.	F
GET101	GENERAL EMPLOYEE TRAINING	01/03/92	24.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	01/04/94	8.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	01/27/93	8.	F
GET195A	GENERAL EMPLOYEE TRAINING REFRESHER	06/14/95	1.	F
GET196A	GENERAL EMPLOYEE TRAINING REFRESHER	06/28/96	1.	F
GET197A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/26/97	1.	F
GET198A	GENERAL EMPLOYEE TRAINING -REFRESHER	06/25/98	4.	F
GET199A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/10/99	8.	F
GET200A	GENERAL EMPLOYEE TRAINING REFRESHER	06/07/00	1.	F
GET201A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/04/01	8.	F
GET202A	GENERAL EMPLOYEE TRAINING REFRESHER	06/18/02	1.	F
GET203A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/05/03	8.	F
GET204A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/07/04	1.	F
GET205A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/08/05	1.	F
GET206A	GENERAL EMPLOYEE TRAINING REFRESHER	06/04/06	1.	F
GET207A	GENERAL EMPLOYEE TRAINING REFRESHER	06/14/07	1.	F
GET208A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/08/08	1.	F
GET209A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/15/09	1.	F
GET210A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/01/10	1.	F
GET211A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/03/11	1.	F
GET212A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/03/12	1.	F
GET213A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/08/13	1.	F
GET214A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/28/14	1.	F
GET215A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/12/15	1.	F
HEARING	ANNUAL HEARING TEST	03/13/15	1.	I
HEARING	ANNUAL HEARING TEST	02/28/13	1.	I

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Course	Title	Date	Hrs	F/I
HEARING	ANNUAL HEARING TEST	06/18/09	1.	I
HEARING	ANNUAL HEARING TEST	06/24/08	1.	I
HEARING	ANNUAL HEARING TEST	05/27/08	1.	I
HEARING	ANNUAL HEARING TEST	10/29/07	1.	I
HEARING	ANNUAL HEARING TEST	10/16/06	1.	I
HEARING	ANNUAL HEARING TEST	10/18/05	1.	I
HEARING	ANNUAL HEARING TEST	10/13/04	1.	I
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/31/15	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/21/13	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/22/11	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/17/09	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/07/07	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/02/05	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/12/03	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	03/15/01	16.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	10/14/15	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/09/13	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/14/11	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/15/09	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/17/07	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/12/05	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/23/03	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/10/01	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	01/15/01	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	01/20/99	3.	F
HMT104Z	DOT EMERGENCY RESPONSE INFORMATION (30 DAY EXTENTION)	09/01/15	0.	F
HMT110	WTS HAZARDOUS MATERIAL TRANSPORTATION SECURITY PLAN	10/23/03	1.	F
HPI101	HUMAN PERFORMANCE IMPROVEMENT FUNDAMENTALS	08/31/09	3.	F
HPI105L	HPI FOR ENG AND KNOWLEDGE WORKERS - TAUGHT AS PART OF THE LEADERSHIP ACADEMY	07/30/15		
HRM101	EMPLOYEE APPRAISAL PROCESS	06/23/97		I
HWS101	HAZARDOUS WASTE WORKER SUPERVISOR	08/04/09	8.	F
HWW101	HAZARDOUS WASTE WORKER, INITIAL	03/23/95	24.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	05/26/15	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	05/23/14	8.	F

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HWW102	HAZARDOUS WASTE WORKER REFRESHER	05/23/13	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	06/19/12	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	06/19/12	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	06/02/11	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	06/14/10	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	06/17/09	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	06/25/08	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	06/25/07	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	06/01/06	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	05/17/05	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	05/05/04	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	05/28/03	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	05/01/02	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	05/07/01	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	05/16/00	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	05/18/99	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	05/08/98	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	05/02/97	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	04/09/96	8.	F
ICS300	INTERMEDIATE ICS FOR EXPANDING INCIDENTS	09/28/07		I
ICS400	ADVANCED ICS COMMAND AND GENERAL STAFF - COMPLEX INCIDENTS	09/28/07		I
ICT101	PRESSURE CONCEPTS	04/12/94	1.	F
ICT102	TEMPERATURE CONCEPTS	04/15/94	1.	F
INF104	ESS-2014-03 REV 4 INFORMAL BRIEFING	08/05/14		I
INF106	2014-ESS-09 AND EM-FP-2014-01	08/22/14		I
INF109	COMBUSTIBLE LOADING LIMITS AND GENERAL HOUSEKEEPING	10/09/14	0.5	I
INF117	ESS-2014-03 REV 5A	11/23/14		
INF119	EOC TRANSITION BRIEFING	12/02/14		
INF122	ANNUAL LO/TO PROGRAM REVIEW	12/19/14		
INF129	CAM ALARM VIDEO	01/09/15		
INF130	WP 12-ER4907 REV 18	02/06/15		I
INF139	BRIEFING, SURFACE FIRE RESPONSE PROCEDURE 12-ER4908	03/06/15		I
INF145	BRIEFING ON 12-ER4904	04/11/15		
INF147	INTERIM VENTILATION SYSTEM (IVS) PHASE I, PAD CONSTRUCTION	04/18/15		
INF150	WP 04-EM4200 (rev 26) and 4903 (rev 22)	05/01/15		

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Course	Title	Date	Hrs	F/I
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/20/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/20/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/19/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/19/15		
INF160	MD 1.10 REV 0 DISPATCH AND RESPONSE PROTOCOL	05/19/15		
INF161	WP 04-VU1001, REV 41, SURFACE UNDERGROUND VENTILATION AND FILTRATION SYSTEM	05/18/15		
INF162	WP 04-VU4605, REV 27, UVFS ALARM RESPONSE	05/18/15		
INF167	WP 12-4903, RADIOLOGICAL INCIDENT RESPONSE	05/29/15		
INF218	EA04AD3008-31-0, Rev. 8	05/29/15		I
INF302	REVISION TO PRE-JOB BRIEFINGS, POST JOB REIVEW, AND CHECKLIST	03/25/15		I
INF305	REVISION TO WORK CONTROL PROCESS AND NEW MATERIAL REQUEST FORM	05/19/15		I
INF408	WP 12-ER4925, 4926, 4920	06/05/15		
INF408	WP 12-ER4925, 4926, 4920	06/05/15		
INF513	12-ER4925, CMR INCIDENT RECOGNITION RESPONSE	10/08/15		
INF514	12-ER4926, CMR EXPANDED STAFFING OPS	10/08/15		
IS100b	INTRODUCTION TO THE INCIDENT COMMAND SYSTEM	05/31/06		I
IS200b	ICS FOR SINGLE RESOURCES AND INITIAL ACTION INCIDENTS	09/05/06		I
IS700a	NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS) AN INTRODUCTION	05/31/06		I
IS800b	NATIONAL RESPONSE FRAMEWORK, AN INTRODUCTION	09/11/06		I
LLS001	LOSS OF LOCKOUT/TAGOUT	07/19/94	1.	F
LLS002	FIREMAIN VALVE OUT OF REQUIRED POSITION	07/19/94	1.	F
LLS003	VEHICLE/PEDESTRIAN ACCIDENT	07/19/94	1.	F
LLS004	BREACHED TRUWASTE BOX AT INEL	07/19/94	1.	F
LOTO103	EQUIPMENT LOCKOUT/TAGOUT (AUTHORIZING SUPERVISOR)	06/15/15	6.	F
MAN115	BASIC SOLDERING TECHNIQUES	01/25/93	16.	F
MAN119	INTRODUCTION TO PREDICTIVE MAINTENANCE	03/18/94	2.	F
MAS-01	INITIAL QUALIFICATION - MAST PROGRAM (31 MODULES)	07/07/98	1.	F
MAS321	INTRODUCTION TO EFFECTIVE CORRECTIVE ACTION PLANNING	08/18/09	2.	F
MAS400L	MANAGEMENT AND SUPERVISOR TRAINING - NMSU LEADERSHIP	07/31/15		
MAS400S	MANAGEMENT AND SUPERVISOR TRAINING - SITE SPECIFIC	07/17/15		
MED101	FIRST AID & CPR	03/29/06	12.	F
MED101	FIRST AID & CPR	10/26/94	12.	F
MED101	FIRST AID & CPR	10/11/93	12.	F
MED101A	FIRST AID & CPR REFRESHER	03/21/07	8.	F

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Company: NWP Department: OPERATIONS Section: FACOPS

Course	Title	Date	Hrs	F/I
MED101A	FIRST AID & CPR REFRESHER	11/10/04	8.	F
MED101A	FIRST AID & CPR REFRESHER	11/05/03	8.	F
MED101A	FIRST AID & CPR REFRESHER	11/06/02	8.	F
MED101A	FIRST AID & CPR REFRESHER	11/06/01	8.	F
MED101A	FIRST AID & CPR REFRESHER	11/14/00	8.	F
MED101A	FIRST AID & CPR REFRESHER	09/29/99	8.	F
MED101A	FIRST AID & CPR REFRESHER	10/06/98	8.	F
MED101A	FIRST AID & CPR REFRESHER	10/14/97	8.	F
MED101A	FIRST AID & CPR REFRESHER	10/25/96	8.	F
MED101A	FIRST AID & CPR REFRESHER	10/12/95	8.	F
NCS001	NUCLEAR CRITICALITY SAFETY	05/14/08	1.	F
NEO100	NEW EMPLOYEE ORIENTATION	01/02/91	3.	F
OFF1178	NATIONAL ELECTRIC CODE - 1995	03/10/95		I
OFF1205	HVAC CONTROLS	07/13/95		I
OFF1304	COUNTERFEIT PARTS: GENERAL AWARENESS/PROCUREMENT/VENDOR DEVELOPMENT/DESIGN	09/10/96		I
OFF1343	COMMUNICATIONS FOR RESULTS	01/13/97		I
OFF1391	FRANKLINCOVEY - WHAT MATTERS MOST	08/24/98	8.	I
OFF1392	EMERGENCY MANAGEMENT SYSTEMS TOOLBOX	05/03/97		I
OFF1405	PROTECTIVE RELAYS	07/11/97		I
OFF1421	FRANKLINCOVEY - WRITING ADVANTAGE	01/22/99		I
OFF1525	QMIS DOCUMENT CONTROL	11/24/98		I
OFF1553	START II - THE WAY WE WORK	02/27/99		I
OFF1574	SPEEDREADING	07/13/99		I
OFF1578A	WIPP SECURITY BRIEF - VIDEO	09/27/99		I
OFF1642	EEO/DIVERSIRTY STANDOWN (CHRIS-000317)	04/05/00	2.	I
OFF1643	EEO DIVERSITY - PART II	04/05/00		I
OFF1736	USQ BRIEFING	10/19/00	0.5	I
OFF1759	ZERO INJURY	01/13/05	4.	I
OFF1772	PHOENIX METHOD - ROOT CAUSE ANALYSIS	06/26/07	16.	I
OFF1775	DSA / TSR UPDATE FOR REVISION 3	06/15/11		I
OFF1776	DRUG AND ALCOHOL AWARENESS SUPERVISORY TRAINING AND FITNESS FOR DUTY	11/16/11		
OFF192	NEC UPDATE	07/31/97		I
OFF694	INTERMEDIATE INCIDENT COMMAND SYSTEM	04/22/99		I
OPS104	FSAR - OSR	07/27/93	4.	F

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Company: NWP Department: OPERATIONS Section: FACOPS

Course	Title	Date	Hrs	F/I
OPS107	OCCURRENCE REPORTING - FACILITY MANAGEMENT	02/03/93	8.	F
OPS110	OCCURRENCE REPORTING FOR FR/FRD/FM/FMD/FOSS	03/14/94	1.	F
OPS115	CONDUCT OF OPERATIONS	02/14/92	16.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	12/02/14	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	09/12/13	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	09/18/12	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	07/19/11	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	06/29/10	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	06/29/10	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	06/23/09	8.	F
OPS115A1	CONDUCT OF OPERATIONS - QUARTERLY	04/15/15	1.	F
OPS115A2	CONDUCT OF OPERATIONS - QUARTERLY	08/05/15	1.	F
OPS115A3	CONDUCT OF OPERATIONS - QUARTER	10/19/15	1.	F
OPS115L	CONDUCT OF OPERATIONS PLACEHOLDER FOR CTS#	06/01/08	0.	F
OPS115L	CONDUCT OF OPERATIONS PLACEHOLDER FOR CTS#	06/01/08	0.	F
OPS116	CONDUCT OF MAINTENANCE	09/04/92	24.	F
OPS119	WORK AUTHORIZATION OVERVIEW	01/09/92	4.	F
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	11/03/05	4.	F
OPS123	REMOTE HANDLED - TECHNICAL SAFETY REQUIREMENTS	06/26/06	1.	F
OPS130	WORK CONTROL PROCESS	05/19/11	8.	F
PDI101	PROCEDURE GUIDELINES	08/18/98	1.	F
PPE002	FALL PROTECTION	08/29/95	4.	F
PPE101	PERSONAL PROTECTIVE EQUIPMENT INSTRUCTION	08/25/94	1.	I
PRT103	PRINT READING	02/25/92	1.	F
RAD101	RADIOLOGICAL WORKER I, INITIAL	02/19/97	16.	F
RAD101	RADIOLOGICAL WORKER I, INITIAL	10/04/93	16.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	06/20/13	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	06/13/12	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	06/02/11	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	06/04/10	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	01/09/08	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	01/04/07	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	01/04/06	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	01/11/05	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	01/15/03	8.	F

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Course	Title	Date	Hrs	F/I
RAD102	RADIOLOGICAL WORKER I REFRESHER	01/09/02	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	01/17/01	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	02/16/00	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	02/02/99	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	02/12/98	8.	F
RAD102R	RADIOLOGICAL WORKER I - ALTERNATE YEAR REFRESHER	01/22/04	1.	F
RAD105	GENERAL EMPLOYEE RADIOLOGICAL TRAINING	09/11/96	1.5	F
RAD109	RADIOLOGICAL AREA ENTRY BRIEFING	05/04/00	1.	I
RAD111	WORKER RESPONSIBILITIES	03/07/14	2.	F
RAD201	RADIOLOGICAL WORKER II, INITIAL	06/12/14	16.	F
RAD201	RADIOLOGICAL WORKER II, INITIAL	06/26/08	16.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	12/03/14	8.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	06/22/09	8.	F
REP108	SITE GENERATED HAZARDOUS WASTE WORK	02/19/92	24.	F
REP110	SITE GENERATED HAZARDOUS WASTE/REFRESHER	02/08/94	8.	F
REP110	SITE GENERATED HAZARDOUS WASTE/REFRESHER	02/26/93	8.	F
RIG001	INCIDENTAL RIGGER	10/09/08	16.	F
SAC001A	SPECIFIC ADMINISTRATIVE CONTROLS - MANAGERS	05/13/05	3.	I
SAF102	STRAINS AND SPRAINS PREVENTION	06/17/96	2.	I
SAF104A	FITNESS FOR DUTY - GENERAL EMPLOYEE (SELF PACED)	09/25/97	1.	I
SAF105	TEMPERATURE EXTREMES	03/30/98	8.	F
SAF106	WIPP DOCUMENTED SAFETY ANALYSIS CONTENT OVERVIEW	11/05/08	8.	F
SAF106	WIPP DOCUMENTED SAFETY ANALYSIS CONTENT OVERVIEW	06/06/07	8.	F
SAF106	WIPP DOCUMENTED SAFETY ANALYSIS CONTENT OVERVIEW	01/18/99	8.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	11/07/13	4.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	03/27/13	4.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	03/24/11	4.	F
SAF106Y	EXTENTION FOR SAF106 LETTER OP:10:00112	10/26/10		I
SAF106Z	WIPP DOCUMENTED SAFETY ANALYSIS REVISION 1 CHANGES	02/24/09	2.	F
SAF107	JOB SAFETY ANALYSIS	10/30/97	2.	F
SAF108	RCRA PERMIT SCREENING	04/29/03	1.	F
SAF122A	CHANGES TO EQUIPMENT LOCKOUT/TAGOUT PROCEDURE REVISION 15	09/25/15		
SAF402	RADIOLOGICAL WORKER	04/07/92	8.	F
SAF406	ATMOSPHERE SUPPLYING RESPIRATOR	05/26/92	4.	F
SAF406	ATMOSPHERE SUPPLYING RESPIRATOR	05/18/92	4.	F

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Course	Title	Date	Hrs	F/I
SAF501	40 HR INEXPERIENCED MINER	01/13/92	40.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	07/08/09	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	07/30/08	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	07/11/07	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	07/12/06	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	07/20/05	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/08/03	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/29/02	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/30/01	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/26/00	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/13/99	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/16/98	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/08/97	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/10/96	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/19/95	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/19/94	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/13/93	8.	F
SAF512	AIR PURIFYING RESPIRATOR TRAINING	05/18/92	4.	F
SAF513	GROUND CONTROL & HAZARD RECOGNITION	01/17/92	4.	F
SAF515B	HEATED ENVIRONMENT/CONFINED SPACE FOR FACOPS - ONE TIME ONLY	11/19/97		I
SAF515B	HEATED ENVIRONMENT/CONFINED SPACE FOR FACOPS - ONE TIME ONLY	05/26/92		I
SAF517	BASIC AIR QUALITY MONITORING	05/26/92	4.	F
SAF611	ONE RESCUER CPR	02/12/93	6.	F
SAF611	ONE RESCUER CPR	02/17/92	6.	F
SAF619	COMPRESSED GAS CYLINDER SAFETY	01/19/93	4.	F
SAF621A	ERT/FLIRT CONTINUING TRAINING - FIREFIGHTING	11/17/97	4.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	09/21/00	6.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	04/21/98	6.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	10/28/97	6.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	06/15/93	6.	F
SAF631A	RESPIRATORY PROTECTION PRACTICAL - DUST	06/15/93	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	04/21/98	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	10/28/97	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	06/15/93	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	09/21/00	1.	F

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Course	Title	Date	Hrs	F/I
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	04/21/98	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	10/28/97	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	06/15/93	1.	F
SAF631F	RESPIRATOR FIT TEST	07/29/09	1.	I
SAF631F	RESPIRATOR FIT TEST	07/22/08	1.	I
SAF631F	RESPIRATOR FIT TEST	09/20/00	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	06/18/09	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	06/24/08	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	09/05/00	1.	I
SAF634	UNREVIEWED SAFETY QUESTION DETERMINATION	08/10/11	24.	F
SAF634	UNREVIEWED SAFETY QUESTION DETERMINATION	11/02/05	24.	F
SAF634	UNREVIEWED SAFETY QUESTION DETERMINATION	05/24/99	24.	F
SAF634A	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER	09/12/13	4.	F
SAF634A	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER	04/27/10	4.	F
SAF634A	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER	04/07/09	4.	F
SAF634A	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER	05/17/04	4.	F
SAF634A	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER	05/09/02	4.	F
SAF634A	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER	05/22/01	4.	F
SAF634A	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER	05/10/00	4.	F
SAF634AZ	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER (30 DAY EXTENTION)	09/01/15		I
SAF634B	UNREVIEWED SAFETY QUESTION SCREENER REFRESHER	05/12/05	1.	F
SAF634B	UNREVIEWED SAFETY QUESTION SCREENER REFRESHER	05/07/03	1.	F
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	10/06/14	1.	F
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	10/06/14	1.	F
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	06/29/93	1.	F
SAF645	RCRA EMERGENCY COORDINATOR (SS)	12/01/14	1.	F
SAF645	RCRA EMERGENCY COORDINATOR (SS)	06/08/98	1.	F
SAF650	HAZARD RECOGNITION AND ACCIDENT PREVENTION	05/19/11	2.	F
SAF651A	OPEN & COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT REFRESHER	12/01/14	3.	F
SEC100	COUNTERINTELLIGENCE BRIEFING	06/20/07		I
SEC100	COUNTERINTELLIGENCE BRIEFING	06/07/06		I
SEC100	COUNTERINTELLIGENCE BRIEFING	06/09/05		I
SEC100	COUNTERINTELLIGENCE BRIEFING	06/07/04		I
SEC100	COUNTERINTELLIGENCE BRIEFING	06/05/03		I

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Course	Title	Date	Hrs	F/I
SEC100	COUNTERINTELLIGENCE BRIEFING	06/18/02		I
SEC100	COUNTERINTELLIGENCE BRIEFING	06/04/01		I
START5	SUPERVISOR TRAINING/ACCIDENT REDUCTION TECHNIQUES - 1-4	04/22/94	1.	I
STC003	WASTE HANDLING EQUIPMENT	05/13/08	1.	F
STC011	COMPRESSED AIR SYSTEMS	08/25/98	1.	F
STC014	CENTRAL MONITORING SYSTEM	07/21/98	1.	F
STC015	REMOTE HANDLED WASTE HANDLING EQUIPMENT	10/27/06		F
TPC101	BLUEPRINTS	12/28/94	1.	F
TPC102	SCHEMATICS AND SYMBOLS	12/30/94	1.	F
TPC103	MATHEMATICS	12/29/92	1.	F
TPC110	TROUBLESHOOTING	02/12/93	1.	F
TPC201	ELECTRICITY & ELECTRONICS	05/07/92	1.	F
TPC202	BATTERIES & DC CIRCUITS	12/29/93	1.	F
TPC203	TRANSFORMERS & AC CIRCUIT	01/20/94	1.	F
TPC204	ELECTRICAL MEASURING INSTRUMENTS	01/28/94	1.	F
TPC205	ELECTRICAL PROTECTION	02/10/94	1.	F
TPC206	D.C. EQUIPMENT AND CONTROLS	05/04/94	1.	F
TPC207	SINGLE PHASE MOTORS	02/04/94	1.	F
TPC208	THREE-PHASE MOTORS	05/12/92	1.	F
TPC209	AC CONTROL EQUIPMENT	06/08/95	1.	F
TPC210	ELECTRICAL TROUBLESHOOTING	06/28/95	1.	F
TPC211	SEMICONDUCTORS	07/19/95	1.	F
TPC221	INTRODUCTION TO PROCESS CONTROL	11/19/92	1.	F
TPC222	FUNDAMENTALS OF MEASUREMENT INSTRUM	11/18/92	1.	F
TPC223	PRESSURE MEASUREMENT	12/01/92	1.	F
TPC224	FORCE, WEIGHT, AND MOTION	12/14/92	1.	F
TPC225	FLOW MEASUREMENT I	12/15/92	1.	F
TPC226	FLOW MEASUREMENT II	12/22/92	1.	F
TPC227	LEVEL MEASUREMENTS	12/28/92	1.	F
TPC228	TEMPERATURE MEASUREMENT	12/29/92	1.	F
TPC229	FINAL CONTROL ELEMENTS	01/05/93	1.	F
TPC230	SAFETY, CALIBRATION & TESTING PROCEDURE	10/22/92	1.	F
TRG2923A	WIPP HAZARDOUS WASTE PERMIT ATTACHMENT H	02/10/92	1.	F
TRG293	SUBJECT MATTER EXPERT / ON THE JOB TRAINER	11/20/00	4.	F
TRG293	SUBJECT MATTER EXPERT / ON THE JOB TRAINER	01/24/92	4.	F

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Course	Title	Date	Hrs	F/I
TRG296	ROOT CAUSE ANALYSIS	02/10/92	6.	F
TRG296A	PHOENIX METHOD OF ROOT CAUSE ANALYSIS	05/10/07	24.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	11/06/13	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	11/16/11	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	11/04/10	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	11/03/08	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	11/16/06	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	11/04/04	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	11/05/02	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	09/26/00	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	10/19/98	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	10/22/96	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	12/14/94	4.	F
TRG298ZZ	SUBJECT MATTER EXPERT/ON THE JOB TRAINER REFRESHER 90 DAY EXTENSION	09/21/15	2.	I
TRG302	SME/OJT EVALUATION EXAM	12/31/97	2.	F
VEN080	ELECTRICAL SAFETY, POTENTIAL HAZARDS AND SAFETY	04/23/93	40.	F
VEN090	KURZ SERIES 155 MASS FLOW COMPUTER/TRNSM	08/31/93	8.	F
VEN102	FIRE ALARMS	03/21/11	3.	I
WH002	TRUPACT-II / HalfPACT COMPLIANCE TRAINING	05/19/08	4.	I
	PRIVATE INFORMATION	Total Hours:	1887.5	

FSM

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Company: NWP Department: OPERATIONS Section: FACOPS

Course	Title	Date	Hrs	F/I
ALA104	ALARA TRAINING FOR MANAGERS AND ENGINEERS	10/24/11	1.	F
BE100	WIPP CHRONIC BERYLLIUM DISEASE PREVENTION PROGRAM	07/29/08	1.	F
BUS100	BUSINESS ENGLISH	01/26/93	32.	F
CAR101	WIPP ELECTRIC CART TRAINING	07/29/09	1.	F
CAR101	WIPP ELECTRIC CART TRAINING	01/10/95	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	07/28/14	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	07/29/13	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	07/30/12	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	07/06/11	1.	F
CAR101A	WIPP ELECTRIC CART OPERATION REFRESHER	07/14/10	1.	F
CON004	PROCUREMENT QUALIFICATION TRAINING	11/14/00	1.	F
CON006	PROCUREMENT SERVICES ADVANCED TRAINING - SELF PACED	11/14/00	1.	F
DDC101	DEFENSIVE DRIVING COURSE	09/27/12	8.	F
DDC101	DEFENSIVE DRIVING COURSE	01/17/94	8.	F
DRL01	EMERGENCY PLAN DRILL - FY2001	05/01/01		I
DRL02	EMERGENCY PLAN DRILL - FY2002	11/30/01		I
RL03	EMERGENCY PLAN DRILL - FY2003	09/18/03		I
DRL03	EMERGENCY PLAN DRILL - FY2003	03/03/03		I
DRL03	EMERGENCY PLAN DRILL - FY2003	12/09/02		I
DRL03	EMERGENCY PLAN DRILL - FY2003	12/09/02		I
DRL04	EMERGENCY PLAN DRILL - FY2004	12/22/03		I
DRL05	EMERGENCY PLAN DRILL - FY2005	10/28/05		I
DRL05	EMERGENCY PLAN DRILL - FY2005	05/25/05		I
DRL05	EMERGENCY PLAN DRILL - FY2005	03/01/05		I
DRL05	EMERGENCY PLAN DRILL - FY2005	10/13/04		I
DRL06	EMERGENCY PLAN DRILL - FY2006	07/12/06		I
DRL06FO	EMERGENCY DRILL - FY2006 (FACOPS)	12/07/06		I
DRL06FO	EMERGENCY DRILL - FY2006 (FACOPS)	07/12/06		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	05/09/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	01/19/12		I
DRL12FO	EMERGENCY DRILL FY 2012 (FSM)	11/22/11		I
DRL13FO	EMERGENCY DRILL FY 2013 (FSM)	07/02/13		I
DRL13FO	EMERGENCY DRILL FY 2013 (FSM)	06/05/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	07/31/14		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	07/26/14		I

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DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	04/09/14		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	11/19/13		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	11/19/13		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	05/05/15		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	01/19/15		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	11/20/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	09/23/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	07/31/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	07/28/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	05/27/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	05/24/14		I
EAB101	EMPLOYEE AWARENESS BRIEFING - DEMONSTRATORS	05/15/98		I
ELC103	ELECTRICAL SAFETY	05/07/99	4.	F
ELC103	ELECTRICAL SAFETY	05/15/98	4.	F
ELC103	ELECTRICAL SAFETY	05/13/97	4.	F
ELC103	ELECTRICAL SAFETY	05/06/96	4.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/10/15	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/28/14	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/14/13	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/13/12	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/25/11	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/26/10	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/06/09	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/19/08	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/21/07	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/12/06	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/13/05	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/13/04	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/16/03	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/17/02	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/29/01	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	05/29/00	2.	F
EM100	EMERGENCY RESPONSE ORGANIZATION OVERVIEW TRAINING	10/20/14	8.	F
EM100	EMERGENCY RESPONSE ORGANIZATION OVERVIEW TRAINING	12/12/02	8.	F
EM101	EOC STAFF REFRESHER TRAINING	01/23/15	2.	F

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EM101	EOC STAFF REFRESHER TRAINING	01/27/14	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/25/13	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/16/12	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/13/11	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/27/10	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/14/09	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/29/08	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/29/07	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/24/06	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/21/05	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/07/04	2.	F
EM101	EOC STAFF REFRESHER TRAINING	01/29/03	2.	F
EM192	UNDERGROUND FIRE RESPONSE 12-ER4911	07/31/14	1.	F
EMS101	ENVIRONMENTAL MANAGEMENT SYSTEMS	02/04/97		I
EOC101	MINE RESCUE TRAINING - INITIAL	03/24/95		I
EOC102A	CRISIS MANAGEMENT TEAM ANNUAL RE-TRAINING	01/04/01	8.	F
OC103	EMERGENCY RESPONSE CONTROLLER AND EVALUATOR TRAINING	11/07/07	1.	F
EOC106	ADVANCED MINE RESCUE	03/30/05	2.	I
EOC106	ADVANCED MINE RESCUE	03/15/05	2.	I
EOC106	ADVANCED MINE RESCUE	02/03/05	2.	I
EOC106	ADVANCED MINE RESCUE	01/14/05	2.	I
EOC106	ADVANCED MINE RESCUE	04/21/04	2.	I
EOC106	ADVANCED MINE RESCUE	01/29/04	2.	I
EOC106	ADVANCED MINE RESCUE	11/13/03	2.	I
EOC106	ADVANCED MINE RESCUE	09/18/03	2.	I
EOC106	ADVANCED MINE RESCUE	07/17/03	2.	I
EOC106	ADVANCED MINE RESCUE	05/29/03	2.	I
EOC106	ADVANCED MINE RESCUE	04/02/03	2.	I
EOC106	ADVANCED MINE RESCUE	03/27/03	2.	I
EOC106	ADVANCED MINE RESCUE	02/26/03	2.	I
EOC106	ADVANCED MINE RESCUE	12/12/02	2.	I
EOC106	ADVANCED MINE RESCUE	11/14/02	2.	I
EOC106	ADVANCED MINE RESCUE	10/05/02	2.	I
EOC106	ADVANCED MINE RESCUE	07/24/02	2.	I
EOC106	ADVANCED MINE RESCUE	05/30/02	2.	I

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Course	Title	Date	Hrs	F/I
EOC106	ADVANCED MINE RESCUE	05/29/02	2.	I
EOC106	ADVANCED MINE RESCUE	04/04/02	2.	I
EOC106	ADVANCED MINE RESCUE	04/03/02	2.	I
EOC106	ADVANCED MINE RESCUE	01/17/02	2.	I
EOC106	ADVANCED MINE RESCUE	11/02/01	2.	I
EOC106	ADVANCED MINE RESCUE	10/18/01	2.	I
EOC106	ADVANCED MINE RESCUE	10/04/01	2.	I
EOC106	ADVANCED MINE RESCUE	09/13/01	2.	I
EOC106	ADVANCED MINE RESCUE	08/16/01	2.	I
EOC106	ADVANCED MINE RESCUE	07/12/01	2.	I
EOC106	ADVANCED MINE RESCUE	05/24/01	2.	I
EOC106	ADVANCED MINE RESCUE	03/29/01	2.	I
EOC106	ADVANCED MINE RESCUE	03/28/01	2.	I
EOC106	ADVANCED MINE RESCUE	02/15/01	2.	I
EOC106	ADVANCED MINE RESCUE	01/11/01	2.	I
EOC106	ADVANCED MINE RESCUE	11/16/00	2.	I
EOC106	ADVANCED MINE RESCUE	10/30/00	2.	I
EOC106	ADVANCED MINE RESCUE	07/13/00	2.	I
EOC106	ADVANCED MINE RESCUE	07/05/00	2.	I
EOC106	ADVANCED MINE RESCUE	06/01/00	2.	I
EOC106	ADVANCED MINE RESCUE	01/20/00	2.	I
EOC106	ADVANCED MINE RESCUE	12/09/99	2.	I
EOC106	ADVANCED MINE RESCUE	11/11/99	2.	I
EOC106	ADVANCED MINE RESCUE	08/27/99	2.	I
EOC106	ADVANCED MINE RESCUE	06/18/99	2.	I
EOC106	ADVANCED MINE RESCUE	06/17/99	2.	I
EOC106	ADVANCED MINE RESCUE	04/12/99	2.	I
EOC106	ADVANCED MINE RESCUE	04/08/99	2.	I
EOC106	ADVANCED MINE RESCUE	03/26/99	2.	I
EOC106	ADVANCED MINE RESCUE	03/18/99	2.	I
EOC106	ADVANCED MINE RESCUE	12/10/98	2.	I
EOC106	ADVANCED MINE RESCUE	10/08/98	2.	I
EOC106	ADVANCED MINE RESCUE	10/02/98	2.	I
EOC106	ADVANCED MINE RESCUE	09/24/98	2.	I
EOC106	ADVANCED MINE RESCUE	07/08/98	2.	I

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EOC106	ADVANCED MINE RESCUE	06/23/98	2.	I
EOC106	ADVANCED MINE RESCUE	06/22/98	2.	I
EOC106	ADVANCED MINE RESCUE	05/29/98	2.	I
EOC106	ADVANCED MINE RESCUE	05/28/98	2.	I
EOC106	ADVANCED MINE RESCUE	03/26/98	2.	I
EOC106	ADVANCED MINE RESCUE	02/12/98	2.	I
EOC106	ADVANCED MINE RESCUE	02/11/98	2.	I
EOC106	ADVANCED MINE RESCUE	02/10/98	2.	I
EOC106	ADVANCED MINE RESCUE	01/23/98	2.	I
EOC106	ADVANCED MINE RESCUE	10/31/97	2.	I
EOC106	ADVANCED MINE RESCUE	10/03/97	2.	I
EOC106	ADVANCED MINE RESCUE	10/02/97	2.	I
EOC106	ADVANCED MINE RESCUE	09/19/97	2.	I
EOC106	ADVANCED MINE RESCUE	05/14/97	2.	I
EOC106	ADVANCED MINE RESCUE	04/11/97	2.	I
EOC106	ADVANCED MINE RESCUE	04/10/97	2.	I
EOC106	ADVANCED MINE RESCUE	03/14/97	2.	I
EOC106	ADVANCED MINE RESCUE	02/14/97	2.	I
EOC106	ADVANCED MINE RESCUE	10/11/96	2.	I
EOC106	ADVANCED MINE RESCUE	08/08/96	2.	I
EOC106	ADVANCED MINE RESCUE	06/13/96	2.	I
EOC106	ADVANCED MINE RESCUE	05/10/96	2.	I
EOC106	ADVANCED MINE RESCUE	04/16/96	2.	I
EOC106	ADVANCED MINE RESCUE	04/15/96	2.	I
EOC106	ADVANCED MINE RESCUE	03/15/96	2.	I
EOC106	ADVANCED MINE RESCUE	02/21/96	2.	I
EOC106	ADVANCED MINE RESCUE	02/16/96	2.	I
EOC106	ADVANCED MINE RESCUE	01/12/96	2.	I
EOC106	ADVANCED MINE RESCUE	12/15/95	2.	I
EOC106	ADVANCED MINE RESCUE	10/13/95	2.	I
EOC106	ADVANCED MINE RESCUE	07/21/95	2.	I
EOC106	ADVANCED MINE RESCUE	07/20/95	2.	I
EOC106	ADVANCED MINE RESCUE	06/21/95	2.	I
EOC106	ADVANCED MINE RESCUE	06/20/95	2.	I
EOC106	ADVANCED MINE RESCUE	05/29/95	2.	I

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Course	Title	Date	Hrs	F/I
EOC106	ADVANCED MINE RESCUE	05/11/95	2.	I
EOC106	ADVANCED MINE RESCUE	04/21/95	2.	I
EOC106	ADVANCED MINE RESCUE	03/17/95	2.	I
EOC106	ADVANCED MINE RESCUE	02/17/95	2.	I
EOC106	ADVANCED MINE RESCUE	10/28/94	2.	I
EOC106	ADVANCED MINE RESCUE	08/11/94	2.	I
EOC106	ADVANCED MINE RESCUE	08/05/94	2.	I
EOC106	ADVANCED MINE RESCUE	07/01/94	2.	I
EOC106	ADVANCED MINE RESCUE	06/30/94	2.	I
EOC106	ADVANCED MINE RESCUE	05/13/94	2.	I
EOC106	ADVANCED MINE RESCUE	04/07/94	2.	I
EOC106	ADVANCED MINE RESCUE	02/11/94	2.	I
EOC106A	MINE GASES	07/09/08	4.	F
EOC106A	MINE GASES	11/29/04	4.	F
EOC106A	MINE GASES	01/07/99	4.	F
EOC106B	ADVANCED MINE RESCUE - VENTILATION	04/28/98	4.	F
EOC106H	ADVANCED MINE RESCUE - U/G REQUIREMENT	08/18/05	8.	I
EOC106H	ADVANCED MINE RESCUE - U/G REQUIREMENT	05/18/05	8.	I
EOC106H	ADVANCED MINE RESCUE - U/G REQUIREMENT	03/17/05	8.	I
EOC106H	ADVANCED MINE RESCUE - U/G REQUIREMENT	03/16/05	8.	I
EOC106H	ADVANCED MINE RESCUE - U/G REQUIREMENT	12/13/04	8.	I
EOC108-2	ERT - CPR	01/08/89	4.	F
EOC108-6	ERT FIREFIGHTING	06/30/88	4.	F
EQP402	FORKLIFT SAFETY (DUPONT)	10/01/08	1.	F
EQP405	EQUIPMENT TAGOUT/LOCKOUT	03/29/05	4.	F
EQP405	EQUIPMENT TAGOUT/LOCKOUT	07/18/90	4.	F
ERT104	PATIENT ASSESSMENT	01/23/98	8.	F
ERT106A1	ROPE RESCUE I	09/03/98	4.	F
ERT106A2	ROPE RESCUE I	09/03/98	4.	F
ERT106B	ROPE RESCUE I - DAY 2	09/03/98	8.	F
ERT106C	ROPE RESCUE I - DAY THREE	09/03/98	8.	F
ESO101	MINE OPERATIONS EQUIPMENT SPOTTER/OBSERVER	07/30/08	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	07/06/11	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	07/14/10	2.	F

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ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	07/07/09	2.	F
ESO103	WIPP SURFACE OPERATIONS EQUIPMENT SPOTTER/OBSERVER (WASTE HANDLING)	07/30/08	2.	F
FPT101	ESS-2015-02, WASTE HANDLING BUILDING (WHB) FIRE SUPPRESSION SYSTEM	10/09/15		F
FPT102	COMBUSTIBLE CONTROL PROGRAM	10/09/15		
FWS101	FIELD WORK SUPERVISOR	10/27/15	6.	F
GET101	GENERAL EMPLOYEE TRAINING	04/22/88	24.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	04/26/94	8.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	04/07/93	8.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	01/25/93	8.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	01/19/92	8.	F
GET195A	GENERAL EMPLOYEE TRAINING REFRESHER	07/10/95	1.	F
GET196A	GENERAL EMPLOYEE TRAINING REFRESHER	07/24/96	1.	F
GET197A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/21/97	1.	F
GET198A	GENERAL EMPLOYEE TRAINING -REFRESHER	07/20/98	4.	F
GET199A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/21/99	8.	F
GET200A	GENERAL EMPLOYEE TRAINING REFRESHER	07/24/00	1.	F
GET201A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/25/01	8.	F
GET202A	GENERAL EMPLOYEE TRAINING REFRESHER	07/24/02	1.	F
GET203A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/17/03	8.	F
GET204A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/21/04	1.	F
GET205A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/19/05	1.	F
GET206A	GENERAL EMPLOYEE TRAINING REFRESHER	07/19/06	1.	F
GET207A	GENERAL EMPLOYEE TRAINING REFRESHER	07/16/07	1.	F
GET208A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/06/08	1.	F
GET209A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/10/09	1.	F
GET210A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/14/10	1.	F
GET211A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/06/11	1.	F
GET212A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/30/12	1.	F
GET212A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/30/12	1.	F
GET213A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/29/13	1.	F
GET214A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/28/14	1.	F
GET215A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/21/15	1.	F
HEARING	ANNUAL HEARING TEST	05/06/15	1.	I
HEARING	ANNUAL HEARING TEST	06/03/14	1.	I

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HEARING	ANNUAL HEARING TEST	05/08/13	1.	I
HEARING	ANNUAL HEARING TEST	05/07/12	1.	I
HEARING	ANNUAL HEARING TEST	03/16/11	1.	I
HEARING	ANNUAL HEARING TEST	03/25/10	1.	I
HEARING	ANNUAL HEARING TEST	08/25/09	1.	I
HEARING	ANNUAL HEARING TEST	07/07/08	1.	I
HEARING	ANNUAL HEARING TEST	09/13/07	1.	I
HEARING	ANNUAL HEARING TEST	09/02/05	1.	I
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	10/22/15	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	09/20/13	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	09/27/11	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	01/27/10	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	01/24/08	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	01/19/06	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	01/28/04	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	01/16/02	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	10/30/96	16.	F
HMT102Z	HAZARDOUS MATERIAL TRANSPORTATION	09/01/15		I
HMT104	DOT EMERGENCY RESPONSE INFORMATION	10/27/15	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/23/13	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/27/11	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/16/09	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/11/07	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/14/05	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/23/03	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/10/01	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/03/99	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	11/24/97	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	04/29/94	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	04/23/92	3.	F
HMT104Z	DOT EMERGENCY RESPONSE INFORMATION (30 DAY EXTENTION)	09/01/15	0.	F
HMT110	WTS HAZARDOUS MATERIAL TRANSPORTATION SECURITY PLAN	12/11/03	1.	F
HPI101	HUMAN PERFORMANCE IMPROVEMENT FUNDAMENTALS	09/17/09	3.	F
HPI101	HUMAN PERFORMANCE IMPROVEMENT FUNDAMENTALS	02/25/09	3.	F
HPI104	HPI TOOLS	03/05/09	4.	

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HRM101	EMPLOYEE APPRAISAL PROCESS	08/08/97		I
HWR101	HAZARDOUS WASTE RESPONDER	05/08/09	16.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	05/05/11	8.	F
HWR101A	HAZARDOUS WASTE RESPONDER REFRESHER	05/05/10	8.	F
HWS101	HAZARDOUS WASTE WORKER SUPERVISOR	08/04/09	8.	F
HWS101A	HAZARDOUS WASTE WORKER SUPERVISOR REFRESHER	08/30/11	8.	F
HWS101A	HAZARDOUS WASTE WORKER SUPERVISOR REFRESHER	08/04/10	8.	F
HWW101	HAZARDOUS WASTE WORKER, INITIAL	10/28/99	24.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	08/27/15	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	08/27/14	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	08/22/13	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	08/30/12	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	08/03/11	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	08/13/10	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	08/05/09	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	08/20/08	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	08/02/07	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	08/16/06	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	09/15/05	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	09/01/04	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	09/03/03	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	09/04/02	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	09/18/01	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	10/10/00	8.	F
ICS300	INTERMEDIATE ICS FOR EXPANDING INCIDENTS	10/05/07		I
ICS400	ADVANCED ICS COMMAND AND GENERAL STAFF - COMPLEX INCIDENTS	10/05/07		I
INF104	ESS-2014-03 REV 4 INFORMAL BRIEFING	08/08/14		I
INF106	2014-ESS-09 AND EM-FP-2014-01	08/16/14		I
INF119	EOC TRANSITION BRIEFING	12/18/14		
INF122	ANNUAL LO/TO PROGRAM REVIEW	02/04/15		
INF129	CAM ALARM VIDEO	01/13/15		
INF139	BRIEFING, SURFACE FIRE RESPONSE PROCEDURE 12-ER4908	03/03/15		I
INF147	INTERIM VENTILATION SYSTEM (IVS) PHASE I, PAD CONSTRUCTION	04/18/15		
INF150	WP 04-EM4200 (rev 26) and 4903 (rev 22)	04/24/15		
INF161	WP 04-VU1001, REV 41, SURFACE UNDERGROUND VENTILATION AND FILTRATION SYSTEM	05/22/15		

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Course	Title	Date	Hrs	F/I
INF162	WP 04-VU4605, REV 27, UVFS ALARM RESPONSE	05/22/15		
INF167	WP 12-4903, RADIOLOGICAL INCIDENT RESPONSE	06/01/15		
INF218	EA04AD3008-31-0, Rev. 8	06/12/15		I
INF301	WORK CONTROL PROCESS AND JOB HAZARD ANALYSIS REVISION	09/24/14	4.	I
INF302	REVISION TO PRE-JOB BRIEFINGS, POST JOB REIVEW, AND CHECKLIST	03/28/15		I
INF305	REVISION TO WORK CONTROL PROCESS AND NEW MATERIAL REQUEST FORM	05/21/15		I
INF408	WP 12-ER4925, 4926, 4920	06/04/15		
INF408	WP 12-ER4925, 4926, 4920	06/04/15		
INF513	12-ER4925, CMR INCIDENT RECOGNITION RESPONSE	10/09/15		
INF514	12-ER4926, CMR EXPANDED STAFFING OPS	10/09/15		
IS100B	INTRODUCTION TO THE INCIDENT COMMAND SYSTEM	11/29/99		I
IS200B	ICS FOR SINGLE RESOURCES AND INITIAL ACTION INCIDENTS	11/29/99		I
IS700A	NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS) AN INTRODUCTION	05/18/06		I
IS800B	NATIONAL RESPONSE FRAMEWORK, AN INTRODUCTION	09/30/12		I
LOTO103	EQUIPMENT LOCKOUT/TAGOUT (AUTHORIZING SUPERVISOR)	07/09/15	6.	F
MAN102A	CRANE AND HOIST INSPECTION REFRESHER	03/04/13	2.	F
MAS-02	SPECIAL PARTICIPATION - MAST PROGRAM (31 MODULES)	05/10/96	1.	F
MAS129	TRAINING & QUALIFICATION	07/31/01	1.	F
MAS321	INTRODUCTION TO EFFECTIVE CORRECTIVE ACTION PLANNING	09/23/09	2.	F
MAS400S	MANAGEMENT AND SUPERVISOR TRAINING - SITE SPECIFIC	09/21/15		
MED101	FIRST AID & CPR	11/06/96	12.	F
MED101A	FIRST AID & CPR REFRESHER	02/23/05	8.	F
MED101A	FIRST AID & CPR REFRESHER	02/04/04	8.	F
MED101A	FIRST AID & CPR REFRESHER	02/19/03	8.	F
MED101A	FIRST AID & CPR REFRESHER	02/27/02	8.	F
MED101A	FIRST AID & CPR REFRESHER	02/06/01	8.	F
MED101A	FIRST AID & CPR REFRESHER	02/14/00	8.	F
MED101A	FIRST AID & CPR REFRESHER	01/06/00	8.	F
MED101A	FIRST AID & CPR REFRESHER	01/26/99	8.	F
MED101A	FIRST AID & CPR REFRESHER	01/29/98	8.	F
MMT101	MATERIAL MONITORING TRAINING - OVERVIEW	10/10/05	3.	I
NCS001	NUCLEAR CRITICALITY SAFETY	10/08/08	1.	F
NEO100	NEW EMPLOYEE ORIENTATION	04/15/88	3.	F
OFF1339	BEGINNING ACCESS 7.0 - WINDOWS '95	10/01/97		I

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Course	Title	Date	Hrs	F/I
REP107	OSHA/RCRA OVERVIEW	01/09/91	2.5	F
RIG001	INCIDENTAL RIGGER	07/07/09	16.	F
RIG001A	INCIDENTAL RIGGER REFRESHER	07/06/11	1.	F
SAC001A	SPECIFIC ADMINISTRATIVE CONTROLS - MANAGERS	05/23/05	3.	I
SAF102	STRAINS AND SPRAINS PREVENTION	06/26/96	2.	I
SAF104	FITNESS FOR DUTY - GENERAL EMPLOYEE	11/06/96		I
SAF106	WIPP DOCUMENTED SAFETY ANALYSIS CONTENT OVERVIEW	11/05/08	8.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	11/12/13	4.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	03/13/13	4.	F
SAF106A	WIPP DSA/TSR OVERVIEW REFRESHER	03/09/11	4.	F
SAF106Y	EXTENTION FOR SAF106 LETTER OP:10:00112	10/26/10		I
SAF106Z	WIPP DOCUMENTED SAFETY ANALYSIS REVISION 1 CHANGES	02/26/09	2.	F
SAF108	RCRA PERMIT SCREENING	06/27/02	1.	F
SAF122A	CHANGES TO EQUIPMENT LOCKOUT/TAGOUT PROCEDURE REVISION 15	10/07/15		
SAF404	RADIATION WORKER A	06/27/88	8.	F
SAF406	ATMOSPHERE SUPPLYING RESPIRATOR	11/18/91	4.	F
SAF408	HAND/FOOT MONITOR SURVEYS	01/18/89	5.	F
SAF501	40 HR INEXPERIENCED MINER	11/16/92	40.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	08/17/11	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	08/05/10	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	08/18/09	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	08/27/08	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	02/02/05	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	02/18/04	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	02/05/03	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	02/13/02	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	02/07/01	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	03/30/00	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	03/23/99	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	04/15/98	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	04/02/97	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	04/03/96	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	04/06/95	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	04/28/94	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	04/06/93	8.	F

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Course	Title	Date	Hrs	F/I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	08/14/09	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	07/06/09	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	07/07/08	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	08/19/04	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	08/18/03	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	08/15/02	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	08/30/01	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	09/15/00	1.	I
SAF631M	MEDICAL EXAMINATION - PHYSICAL	10/29/99	1.	I
SAF634	UNREVIEWED SAFETY QUESTION DETERMINATION	10/17/00	24.	F
SAF634A	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER	10/16/02	4.	F
SAF634A	UNREVIEWED SAFETY QUESTION EVALUATOR REFRESHER	10/17/01	4.	F
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	09/22/14	1.	F
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	11/14/96	1.	F
SAF645	RCRA EMERGENCY COORDINATOR (SS)	10/04/95	1.	F
SAF650	HAZARD RECOGNITION AND ACCIDENT PREVENTION	05/18/11	2.	F
AF651	OPEN AND COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT	11/19/12	8.	
SAF651A	OPEN & COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT REFRESHER	12/01/14	3.	F
SEC100	COUNTERINTELLIGENCE BRIEFING	07/14/10		I
SEC100	COUNTERINTELLIGENCE BRIEFING	08/05/05		I
SEC100	COUNTERINTELLIGENCE BRIEFING	07/21/04		I
SEC100	COUNTERINTELLIGENCE BRIEFING	07/17/03		I
SEC100	COUNTERINTELLIGENCE BRIEFING	07/24/02		I
SEC100	COUNTERINTELLIGENCE BRIEFING	07/25/01		I
SEM008	TABLETOP TRAINING DESIGN	09/19/96		I
SEM008	TABLETOP TRAINING DESIGN	09/06/96		I
SKL273	PLANT COMMUNICATION SKILLS	07/18/90	4.	F
START5	SUPERVISOR TRAINING/ACCIDENT REDUCTION TECHNIQUES - 1-4	01/12/94	1.	I
STC003	WASTE HANDLING EQUIPMENT	07/30/08	1.	F
STC015	REMOTE HANDLED WASTE HANDLING EQUIPMENT	10/27/06		F
TQA100	TOTAL QUALITY AWARENESS	05/11/90	8.	F
TQA101	TEAM CREATIVE PROBLEM SOLVING	05/30/91	4.	F
TRG2923A	WIPP HAZARDOUS WASTE PERMIT ATTACHMENT H	06/12/90	1.	F
TRG293	SUBJECT MATTER EXPERT / ON THE JOB TRAINER	09/24/12	4.	F

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Course	Title	Date	Hrs	F/I
TRG293	SUBJECT MATTER EXPERT / ON THE JOB TRAINER	07/19/90	4.	F
TRG296	ROOT CAUSE ANALYSIS	10/15/90	6.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	09/23/14	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	09/02/10	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	09/24/08	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	09/14/06	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	09/09/04	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	09/18/02	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	09/19/00	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	09/04/98	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	10/15/96	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	10/19/94	4.	F
TRG298ZZ	SUBJECT MATTER EXPERT/ON THE JOB TRAINER REFRESHER 90 DAY EXTENSION	09/21/15	2.	I
VEN024	TRANSCOM OPERATIONS	06/05/89	8.	F
VPP101	VOLUNTARY PROTECTION PROGRAM	03/05/10	8.	F
WCC101	WORK AUTHORIZATION TRAINING	11/07/88	4.	F
WCC101	WORK AUTHORIZATION TRAINING	10/25/88	4.	F
WHT106	WASTE HANDLING OVERVIEW	03/06/90	3.	F

PRIVATE INFORMATION Total Hours: 2087.5

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Attachment 5

Central Monitoring Room Operator

(19 Pages)

CMRO

Name: ORR, PAUL D. Badge No: HSPD7158 Termination Date:

Company: NWP Department: OPERATIONS Section: FACOPS

Course	Title	Date	Hrs	F/I
CMP619	WORDPERFECT 5.1 (BEGINNING)	07/02/93	8.	F
DDC101	DEFENSIVE DRIVING COURSE	07/29/14	8.	F
DDC101	DEFENSIVE DRIVING COURSE	07/27/12	8.	F
DDC101	DEFENSIVE DRIVING COURSE	04/08/94	8.	F
DRL01	EMERGENCY PLAN DRILL - FY2001	06/13/01		I
DRL01	EMERGENCY PLAN DRILL - FY2001	05/16/01		I
DRL01	EMERGENCY PLAN DRILL - FY2001	11/28/00		I
DRL02	EMERGENCY PLAN DRILL - FY2002	07/30/02		I
DRL02	EMERGENCY PLAN DRILL - FY2002	07/30/02		I
DRL03	EMERGENCY PLAN DRILL - FY2003	04/04/03		I
DRL03	EMERGENCY PLAN DRILL - FY2003	03/03/03		I
DRL03	EMERGENCY PLAN DRILL - FY2003	03/03/03		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	04/04/14		I
DRL14FO	EMERGENCY DRILL FY 2014 (FSM)	04/01/14		I
DRL15CMR	EMERGENCY DRILL FY 2015 (CMRO)	09/16/15		I
DRL15CMR	EMERGENCY DRILL FY 2015 (CMRO)	05/28/15		I
DRL15CMR	EMERGENCY DRILL FY 2015 (CMRO)	04/28/15		I
DRL15CMR	EMERGENCY DRILL FY 2015 (CMRO)	01/19/15		I
DRL15CMR	EMERGENCY DRILL FY 2015 (CMRO)	01/06/15		I
DRL15CMR	EMERGENCY DRILL FY 2015 (CMRO)	12/10/14		I
DRL15CMR	EMERGENCY DRILL FY 2015 (CMRO)	11/20/14		I
DRL15CMR	EMERGENCY DRILL FY 2015 (CMRO)	11/12/14		I
DRL15CMR	EMERGENCY DRILL FY 2015 (CMRO)	11/12/14		I
DRL15CMR	EMERGENCY DRILL FY 2015 (CMRO)	10/15/14		I
DRL15CMR	EMERGENCY DRILL FY 2015 (CMRO)	09/17/14		I
DRL15CMR	EMERGENCY DRILL FY 2015 (CMRO)	07/23/14		I
DRL15CMR	EMERGENCY DRILL FY 2015 (CMRO)	05/16/14		I
DRL15FO	EMERGENCY DRILL FY 2015 (FSM/FSE)	04/28/15		I
ELC103	ELECTRICAL SAFETY	02/15/00	4.	F
ELC103	ELECTRICAL SAFETY	02/18/99	4.	F
ELC103	ELECTRICAL SAFETY	02/03/98	4.	F
ELC103	ELECTRICAL SAFETY	03/14/97	4.	F
ELC103	ELECTRICAL SAFETY	04/15/96	4.	F
ELC103	ELECTRICAL SAFETY	04/13/95	4.	F
ELC103	ELECTRICAL SAFETY	04/07/94	4.	F

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Course	Title	Date	Hrs	F/I
ELC103	ELECTRICAL SAFETY	02/10/93	4.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/26/15	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/09/14	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/24/13	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/12/12	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	01/31/11	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/11/10	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/10/09	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/11/08	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/12/07	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/15/06	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/16/05	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/17/04	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/19/03	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/19/02	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/22/01	2.	F
EM182	TERMINATION, REENTRY AND RECOVERY	09/18/14	0.5	F
EM184	HAZARDOUS MATERIAL SPILL AND RELEASE RESPONSE	09/18/14	0.5	F
EM185	SURFACE AND UNDERGROUND RADIOLOGICAL EVENT RESPONSE	09/18/14	0.5	F
EM186	SECURITY EMERGENCY RESPONSE	09/18/14	0.5	I
EM187	SURFACE AND UNDERGROUND MEDICAL RESPONSE	09/18/14	0.5	F
EM188	EVACUATION/SHELTERING IN PLACE	09/18/14	0.5	F
EM189	SURFACE FIRE RESPONSE	09/18/14	0.5	F
EM191	EARTHQUAKE RESPONSE	09/18/14	0.5	F
EM192	UNDERGROUND FIRE RESPONSE 12-ER4911	08/21/14	1.	F
EMS101	ENVIRONMENTAL MANAGEMENT SYSTEMS	02/26/97		I
EQP405	EQUIPMENT TAGOUT/LOCKOUT	04/22/09	4.	F
FPT101	ESS-2015-02, WASTE HANDLING BUILDING (WHB) FIRE SUPPRESSION SYSTEM	10/14/15		F
FPT102	COMBUSTIBLE CONTROL PROGRAM	10/14/15		
GET101	GENERAL EMPLOYEE TRAINING	11/04/91	24.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	04/05/94	8.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	04/22/93	8.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	11/30/92	8.	F
GET195A	GENERAL EMPLOYEE TRAINING REFRESHER	07/19/95	1.	F
GET196A	GENERAL EMPLOYEE TRAINING REFRESHER	07/18/96	1.	F

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Course	Title	Date	Hrs	F/I
GET197A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/15/97	1.	F
GET198A	GENERAL EMPLOYEE TRAINING -REFRESHER	07/13/98	4.	F
GET199A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/14/99	8.	F
GET200A	GENERAL EMPLOYEE TRAINING REFRESHER	07/28/00	1.	F
GET201A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/27/01	8.	F
GET202A	GENERAL EMPLOYEE TRAINING REFRESHER	07/11/02	1.	F
GET203A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/25/03	8.	F
GET204A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/08/04	1.	F
GET205A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/22/05	1.	F
GET206A	GENERAL EMPLOYEE TRAINING REFRESHER	07/03/06	1.	F
GET207A	GENERAL EMPLOYEE TRAINING REFRESHER	07/10/07	1.	F
GET208A	GENERAL EMPLOYEE TRAINING - REFRESHER	07/28/08	1.	F
GET209A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/05/09	1.	F
GET210A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/21/10	1.	F
GET211A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/31/11	1.	F
GET212A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/29/12	1.	F
GET213A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/28/13	1.	F
GET214A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/07/14	1.	F
GET215A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/26/15	1.	F
HEARING	ANNUAL HEARING TEST	01/07/15	1.	I
HEARING	ANNUAL HEARING TEST	01/09/14	1.	I
HEARING	ANNUAL HEARING TEST	11/04/11	1.	I
HEARING	ANNUAL HEARING TEST	11/23/09	1.	I
HEARING	ANNUAL HEARING TEST	11/20/08	1.	I
HEARING	ANNUAL HEARING TEST	11/09/07	1.	I
HEARING	ANNUAL HEARING TEST	10/29/07	1.	I
HEARING	ANNUAL HEARING TEST	10/23/06	1.	I
HEARING	ANNUAL HEARING TEST	10/25/05	1.	I
HEARING	ANNUAL HEARING TEST	10/25/04	1.	I
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/28/15	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/09/13	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/27/11	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	10/30/09	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	10/23/07	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	10/26/05	3.	F

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Course	Title	Date	Hrs	F/I
HMT104	DOT EMERGENCY RESPONSE INFORMATION	10/01/03	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	10/29/01	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	10/15/99	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	11/17/97	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	04/07/94	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	04/02/92	3.	F
HMT104Z	DOT EMERGENCY RESPONSE INFORMATION (30 DAY EXTENTION)	09/01/15	0.	F
HPI101	HUMAN PERFORMANCE IMPROVEMENT FUNDAMENTALS	10/29/09	3.	F
HRM101	EMPLOYEE APPRAISAL PROCESS	09/10/97		I
INF106	2014-ESS-09 AND EM-FP-2014-01	08/20/14		I
INF109	COMBUSTIBLE LOADING LIMITS AND GENERAL HOUSEKEEPING	10/10/14	0.5	I
INF119	EOC TRANSITION BRIEFING	11/11/14		
INF122	ANNUAL LO/TO PROGRAM REVIEW	12/31/14		
INF130	WP 12-ER4907 REV 18	02/02/15		I
INF139	BRIEFING, SURFACE FIRE RESPONSE PROCEDURE 12-ER4908	03/02/15		I
INF145	BRIEFING ON 12-ER4904	04/11/15		
NF147	INTERIM VENTILATION SYSTEM (IVS) PHASE I, PAD CONSTRUCTION	04/18/15		
INF150	WP 04-EM4200 (rev 26) and 4903 (rev 22)	04/23/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/22/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/22/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/20/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/20/15		
INF160	MD 1.10 REV 0 DISPATCH AND RESPONSE PROTOCOL	05/19/15		
INF161	WP 04-VU1001, REV 41, SURFACE UNDERGROUND VENTILATION AND FILTRATION SYSTEM	05/14/15		
INF162	WP 04-VU4605, REV 27, UVFS ALARM RESPONSE	05/14/15		
INF167	WP 12-4903, RADIOLOGICAL INCIDENT RESPONSE	06/02/15		
INF218	EA04AD3008-31-0, Rev. 8	05/27/15		I
INF237	WEB EOC WORKSHOP	08/11/15		I
INF302	REVISION TO PRE-JOB BRIEFINGS, POST JOB REIVEW, AND CHECKLIST	03/24/15		I
INF305	REVISION TO WORK CONTROL PROCESS AND NEW MATERIAL REQUEST FORM	05/11/15		I
inf408	WP 12-ER4925, 4926, 4920	06/04/15		
INF408	WP 12-ER4925, 4926, 4920	06/04/15		
IS100b	INTRODUCTION TO THE INCIDENT COMMAND SYSTEM	05/30/06		I
IS700a	NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS) AN INTRODUCTION	05/30/06		I

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Course	Title	Date	Hrs	F/I
ITC14001	IMMEDIATE TRAINING CHANGE - QUESTIONING SAFETY CULTURE	07/31/14	1.	I
ITC14001	IMMEDIATE TRAINING CHANGE - QUESTIONING SAFETY CULTURE	07/30/14	1.	I
ITC14001	IMMEDIATE TRAINING CHANGE - QUESTIONING SAFETY CULTURE	07/27/14	1.	I
ITC14001	IMMEDIATE TRAINING CHANGE - QUESTIONING SAFETY CULTURE	07/11/14	1.	I
LLS001	LOSS OF LOCKOUT/TAGOUT	04/18/93	1.	F
LLS002	FIREMAIN VALVE OUT OF REQUIRED POSITION	04/18/93	1.	F
LLS003	VEHICLE/PEDESTRIAN ACCIDENT	04/21/93	1.	F
LLS004	BREACHED TRUWASTE BOX AT INEL	04/21/93	1.	F
LOTO102	EQUIPMENT LOCKOUT/TAGOUT (OPERATIONS AUTHORIZED WORKER)	06/17/15	6.	F
MED101	FIRST AID & CPR	04/13/12	12.	F
MED101A	FIRST AID & CPR REFRESHER	04/09/15	8.	F
MED101A	FIRST AID & CPR REFRESHER	05/19/14	8.	F
MED101A	FIRST AID & CPR REFRESHER	04/17/13	8.	F
MED201	ADVANCED FIRST AID	05/11/94	16.	F
NEO100	NEW EMPLOYEE ORIENTATION	11/01/91	3.	F
OFF1343	COMMUNICATIONS FOR RESULTS	01/15/97		I
OFF1392	EMERGENCY MANAGEMENT SYSTEMS TOOLBOX	06/06/97		I
OFF1461	WIPP UNDERGROUND VENTILIATION OVERVIEW	02/11/99		I
OFF1461	WIPP UNDERGROUND VENTILIATION OVERVIEW	02/05/98		I
OFF1553	START II - THE WAY WE WORK	02/23/99		I
OFF1578	WIPP SECURITY BRIEF	09/08/99		I
OFF1642	EEO/DIVERSIRTY STANDOWN (CHRIS-000317)	04/05/00	2.	I
OFF1643	EEO DIVERSITY - PART II	05/11/00		I
OFF1759	ZERO INJURY	01/18/05	4.	I
OFF1775	DSA / TSR UPDATE FOR REVISION 3	06/17/11		I
OPS104	FSAR - OSR	02/12/92	4.	F
OPS105	LCO-OSR	02/12/92	2.	F
OPS106	SURVEILLANCE REQUIREMENTS	02/12/92	4.	F
OPS107	OCCURRENCE REPORTING - FACILITY MANAGEMENT	01/03/92	8.	F
OPS115	CONDUCT OF OPERATIONS	02/14/92	16.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	05/15/13	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	05/16/12	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	08/29/11	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	06/10/10	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	06/23/09	8.	F

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Course	Title	Date	Hrs	F/I
OPS115A1	CONDUCT OF OPERATIONS - QUARTERLY	03/23/15	1.	F
OPS115A2	CONDUCT OF OPERATIONS - QUARTERLY	08/05/15	1.	F
OPS115A3	CONDUCT OF OPERATIONS - QUARTER	10/30/15	1.	F
OPS115L	CONDUCT OF OPERATIONS PLACEHOLDER FOR CTS#	07/01/08	0.	F
OPS117A	PROCEDURES & SAFE OPERATING ENVELOPE - CONDUCT OF OPERATIONS	06/09/92	3.	F
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	03/27/09	4.	F
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	11/23/05	4.	F
OPS122A	WIPP TECHNICAL SAFETY REQUIREMENTS REFRESHER	03/30/15	1.	F
OPS122A	WIPP TECHNICAL SAFETY REQUIREMENTS REFRESHER	03/07/13	1.	F
OPS122A	WIPP TECHNICAL SAFETY REQUIREMENTS REFRESHER	03/25/11	1.	F
OPS123	REMOTE HANDLED - TECHNICAL SAFETY REQUIREMENTS	07/05/06	1.	F
OPS201	ADVANCED CONDUCT OF OPERATIONS - PROCEDURE COMPLIANCE	10/23/14	8.	F
OPS402	INCIDENTAL RIGGING	01/05/93	16.	F
PDI101	PROCEDURE GUIDELINES	10/10/96	1.	F
PPE101	PERSONAL PROTECTIVE EQUIPMENT INSTRUCTION	08/23/94	1.	I
PRO100	INTRODUCTION TO SUCCESSFUL PROFESSIONALS	07/06/92	1.	F
RO101	CUSTOMER ORIENTATION	07/30/92	8.	F
PRO107	SUPRO/ACCOUNTABILITY	02/11/93	1.	F
PRT103	PRINT READING	06/30/93	1.	F
RAD101	RADIOLOGICAL WORKER I, INITIAL	06/25/96	16.	F
RAD101	RADIOLOGICAL WORKER I, INITIAL	05/26/93	16.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	06/18/15	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	05/07/14	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/09/13	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/02/12	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/20/11	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/07/10	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/09/09	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/09/08	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/10/07	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/11/06	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/14/05	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/04/03	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/20/01	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/05/00	8.	F

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Course	Title	Date	Hrs	F/I
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/20/99	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	04/27/98	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	05/27/97	8.	F
RAD102R	RADIOLOGICAL WORKER I - ALTERNATE YEAR REFRESHER	04/26/04	1.	F
RAD102R	RADIOLOGICAL WORKER I - ALTERNATE YEAR REFRESHER	04/17/02	1.	F
RAD102Z	RAD WORKER 1 30 DAY EXTENSION	06/02/15	0.	F
RAD109	RADIOLOGICAL AREA ENTRY BRIEFING	05/04/00	1.	I
RAD111	WORKER RESPONSIBILITIES	03/05/14	2.	F
SAC001A	SPECIFIC ADMINISTRATIVE CONTROLS - MANAGERS	05/21/05	3.	I
SAF102	STRAINS AND SPRAINS PREVENTION	06/18/96	2.	I
SAF104	FITNESS FOR DUTY - GENERAL EMPLOYEE	11/06/96		I
SAF122A	CHANGES TO EQUIPMENT LOCKOUT/TAGOUT PROCEDURE REVISION 15	09/30/15		
SAF501	40 HR INEXPERIENCED MINER	05/04/92	40.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/21/15	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/15/14	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/23/13	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	03/21/12	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	02/23/11	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	02/17/10	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	02/18/09	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	03/19/08	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	02/21/07	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	02/01/06	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	02/02/05	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	02/04/04	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/08/03	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/29/02	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/30/01	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/13/00	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	01/14/99	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	02/11/98	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	03/04/97	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	04/10/96	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	04/04/95	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	04/04/94	8.	F

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SAF502	MINE SAFETY ANNUAL REFRESHER	04/20/93	8.	F
SAF504	BASIC LIFE SUPPORT - CPR	03/15/93	8.	F
SAF505	HEARTSAVER AED (AUTOMATED EXTERNAL DEFIBRILLATION)	04/09/15	4.	F
SAF505	HEARTSAVER AED (AUTOMATED EXTERNAL DEFIBRILLATION)	05/19/14	4.	F
SAF507	HAZARD COMMUNICATION	02/05/92	2.5	F
SAF513	GROUND CONTROL & HAZARD RECOGNITION	05/08/92	4.	F
SAF516	FIRST RESPONDER	03/19/93	40.	F
SAF608	RADIATION MONITORING SYSTEM OVERVIEW	02/07/92	1.	F
SAF618	RADIATION WORKER - SITE SPECIFIC BRIEF	02/04/92	2.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	04/23/93	6.	F
SAF631A	RESPIRATORY PROTECTION PRACTICAL - DUST	04/23/93	1.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	04/23/93	1.	F
SAF631D	RESPIRATORY PROTECTION PRACTICAL - SCBA	04/23/93	1.	F
SAF631M	MEDICAL EXAMINATION - PHYSICAL	11/20/08	1.	I
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	08/24/14	1.	F
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	11/05/96	1.	F
SAF651	OPEN AND COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT	11/16/12	8.	
SAF651A	OPEN & COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT REFRESHER	11/25/14	3.	F
SEC100	COUNTERINTELLIGENCE BRIEFING	05/31/11		I
SEC100	COUNTERINTELLIGENCE BRIEFING	05/21/10		I
SEC100	COUNTERINTELLIGENCE BRIEFING	07/28/08		I
SEC100	COUNTERINTELLIGENCE BRIEFING	07/21/06		I
SEC100	COUNTERINTELLIGENCE BRIEFING	08/22/05		I
SEC100	COUNTERINTELLIGENCE BRIEFING	07/08/04		I
SEC100	COUNTERINTELLIGENCE BRIEFING	07/25/03		I
SEC100	COUNTERINTELLIGENCE BRIEFING	07/11/02		I
SEC100	COUNTERINTELLIGENCE BRIEFING	07/27/01		I
SKL273	PLANT COMMUNICATION SKILLS	11/14/91	4.	F
START5	SUPERVISOR TRAINING/ACCIDENT REDUCTION TECHNIQUES - 1-4	02/07/94	1.	I
TPC101	BLUEPRINTS	05/24/93	1.	F
TPC102	SCHEMATICS AND SYMBOLS	05/28/93	1.	F
TPC111	HOW POWER PLANTS WORK	09/30/92	1.	F
TPC112	GENERATING STEAM IN THE POWER PLANT	12/02/92	1.	F
TPC113	USING STEAM IN THE POWER PLANTS	01/08/93	1.	F

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Course	Title	Date	Hrs	F/I
TPC201	ELECTRICITY & ELECTRONICS	06/11/93	1.	F
TRG293	SUBJECT MATTER EXPERT / ON THE JOB TRAINER	05/20/14	4.	F
TRG293	SUBJECT MATTER EXPERT / ON THE JOB TRAINER	12/06/91	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	07/13/12	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	07/29/10	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	07/24/08	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	07/17/06	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	07/19/04	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	07/10/02	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	07/28/00	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	08/14/98	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	09/11/96	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	09/27/94	4.	F
TRG298ZZ	SUBJECT MATTER EXPERT/ON THE JOB TRAINER REFRESHER 90 DAY EXTENSION	09/21/15	2.	I
VEN092	DOE CONDUCT OF OPERATIONS AWARENESS	01/26/94	16.	F
	PRIVATE INFORMATION	Total Hours:	1017.	

CMRO

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Course	Title	Date	Hrs	F/I
CAR101	WIPP ELECTRIC CART TRAINING	08/17/09	1.	F
CAR101	WIPP ELECTRIC CART TRAINING	02/13/95	1.	F
DDC101	DEFENSIVE DRIVING COURSE	09/27/12	8.	F
DDC102	DEFENSIVE DRIVING ABRIDGED	12/02/14	2.	F
DRL02	EMERGENCY PLAN DRILL - FY2002	07/29/02		I
DRL15CMR	EMERGENCY DRILL FY 2015 (CMRO)	09/10/14		I
ELC103	ELECTRICAL SAFETY	09/28/99	4.	F
ELC103	ELECTRICAL SAFETY	10/06/98	4.	F
ELC103	ELECTRICAL SAFETY	11/03/97	4.	F
ELC103	ELECTRICAL SAFETY	10/11/96	4.	F
ELC103	ELECTRICAL SAFETY	08/01/94	4.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/24/15	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/24/14	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/26/13	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	02/27/12	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	03/29/11	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	09/14/10	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	09/14/09	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	09/17/08	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	09/18/07	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	09/19/06	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	09/19/05	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	09/22/04	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	09/23/03	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	09/26/02	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	09/24/01	2.	F
ELC103A	ELECTRICAL SAFETY REFRESHER	09/25/00	2.	F
EM184	HAZARDOUS MATERIAL SPILL AND RELEASE RESPONSE	09/10/14	0.5	F
EM185	SURFACE AND UNDERGROUND RADIOLOGICAL EVENT RESPONSE	09/10/14	0.5	F
EM186	SECURITY EMERGENCY RESPONSE	09/10/14	0.5	I
EM187	SURFACE AND UNDERGROUND MEDICAL RESPONSE	09/10/14	0.5	F
EM188	EVACUATION/SHELTERING IN PLACE	09/10/14	0.5	F
EM189	SURFACE FIRE RESPONSE	09/10/14	0.5	F
EM191	EARTHQUAKE RESPONSE	09/10/14	0.5	F
EM192	UNDERGROUND FIRE RESPONSE 12-ER4911	08/01/14	1.	F

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Course	Title	Date	Hrs	F/I
EMS101	ENVIRONMENTAL MANAGEMENT SYSTEMS	02/17/97		I
EOC101	MINE RESCUE TRAINING - INITIAL	11/30/90		I
EOC106	ADVANCED MINE RESCUE	04/15/97	2.	I
EOC106	ADVANCED MINE RESCUE	08/08/96	2.	I
EOC106	ADVANCED MINE RESCUE	07/26/96	2.	I
EOC106	ADVANCED MINE RESCUE	07/25/96	2.	I
EOC106	ADVANCED MINE RESCUE	05/23/96	2.	I
EOC106	ADVANCED MINE RESCUE	04/12/96	2.	I
EOC106	ADVANCED MINE RESCUE	04/11/96	2.	I
EOC106	ADVANCED MINE RESCUE	03/28/96	2.	I
EOC106	ADVANCED MINE RESCUE	03/08/96	2.	I
EOC106	ADVANCED MINE RESCUE	02/09/96	2.	I
EOC106	ADVANCED MINE RESCUE	01/05/96	2.	I
EOC106	ADVANCED MINE RESCUE	12/08/95	2.	I
EOC106	ADVANCED MINE RESCUE	07/21/95	2.	I
EOC106	ADVANCED MINE RESCUE	06/21/95	2.	I
EOC106	ADVANCED MINE RESCUE	06/20/95	2.	I
EOC106	ADVANCED MINE RESCUE	06/16/95	2.	I
EOC106	ADVANCED MINE RESCUE	05/29/95	2.	I
EOC106	ADVANCED MINE RESCUE	05/11/95	2.	I
EOC106	ADVANCED MINE RESCUE	04/21/95	2.	I
EOC106	ADVANCED MINE RESCUE	03/17/95	2.	I
EOC106	ADVANCED MINE RESCUE	02/17/95	2.	I
EOC106	ADVANCED MINE RESCUE	01/13/95	2.	I
EOC106	ADVANCED MINE RESCUE	10/28/94	2.	I
EOC106	ADVANCED MINE RESCUE	08/05/94	2.	I
EOC106	ADVANCED MINE RESCUE	06/30/94	2.	I
EOC106	ADVANCED MINE RESCUE	04/08/94	2.	I
EOC106	ADVANCED MINE RESCUE	02/25/94	2.	I
EOC106	ADVANCED MINE RESCUE	02/11/94	2.	I
EOC106	ADVANCED MINE RESCUE	01/07/94	2.	I
EOC106	ADVANCED MINE RESCUE	10/29/93	2.	I
EOC106	ADVANCED MINE RESCUE	09/30/93	2.	I
EOC106	ADVANCED MINE RESCUE	09/24/93	2.	I
EOC106	ADVANCED MINE RESCUE	09/10/93	2.	I

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Course	Title	Date	Hrs	F/I
EOC106	ADVANCED MINE RESCUE	06/11/93	2.	I
EOC106	ADVANCED MINE RESCUE	05/01/93	2.	I
EOC106	ADVANCED MINE RESCUE	04/23/93	2.	I
EOC106	ADVANCED MINE RESCUE	03/19/93	2.	I
EOC106	ADVANCED MINE RESCUE	02/19/93	2.	I
EOC106	ADVANCED MINE RESCUE	01/25/91	2.	I
EOC106	ADVANCED MINE RESCUE	09/20/90	2.	I
EQP402	FORKLIFT SAFETY (DUPONT)	11/23/88	1.	F
EQP402	FORKLIFT SAFETY (DUPONT)	11/11/88	1.	F
EQP405	EQUIPMENT TAGOUT/LOCKOUT	05/15/09	4.	F
EQP405	EQUIPMENT TAGOUT/LOCKOUT	07/26/90	4.	F
FPT101	ESS-2015-02, WASTE HANDLING BUILDING (WHB) FIRE SUPPRESSION SYSTEM	09/26/15		F
GET101	GENERAL EMPLOYEE TRAINING	10/04/88	24.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	04/19/94	8.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	04/28/93	8.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	11/06/92	8.	F
GET102	GENERAL EMPLOYEE TRAINING REFRESHER	11/26/91	8.	F
GET195A	GENERAL EMPLOYEE TRAINING REFRESHER	06/16/95	1.	F
GET196A	GENERAL EMPLOYEE TRAINING REFRESHER	06/28/96	1.	F
GET197A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/09/97	1.	F
GET198A	GENERAL EMPLOYEE TRAINING -REFRESHER	06/08/98	4.	F
GET199A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/10/99	8.	F
GET200A	GENERAL EMPLOYEE TRAINING REFRESHER	06/06/00	1.	F
GET201A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/07/01	8.	F
GET202A	GENERAL EMPLOYEE TRAINING REFRESHER	06/04/02	1.	F
GET203A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/07/03	8.	F
GET204A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/05/04	1.	F
GET205A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/04/05	1.	F
GET206A	GENERAL EMPLOYEE TRAINING REFRESHER	05/02/06	1.	F
GET207A	GENERAL EMPLOYEE TRAINING REFRESHER	05/01/07	1.	F
GET208A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/27/08	1.	F
GET209A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/30/09	1.	F
GET210A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/21/10	1.	F
GET211A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/21/11	1.	F
GET212A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/08/12	1.	F

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Course	Title	Date	Hrs	F/I
GET213A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/17/13	1.	F
GET214A	GENERAL EMPLOYEE TRAINING - REFRESHER	06/17/14	1.	F
GET215A	GENERAL EMPLOYEE TRAINING - REFRESHER	05/08/15	1.	F
HEARING	ANNUAL HEARING TEST	11/07/13	1.	I
HEARING	ANNUAL HEARING TEST	11/05/12	1.	I
HEARING	ANNUAL HEARING TEST	11/05/12	1.	I
HEARING	ANNUAL HEARING TEST	11/09/11	1.	I
HEARING	ANNUAL HEARING TEST	11/10/10	1.	I
HEARING	ANNUAL HEARING TEST	11/23/09	1.	I
HEARING	ANNUAL HEARING TEST	12/08/08	1.	I
HEARING	ANNUAL HEARING TEST	11/14/07	1.	I
HEARING	ANNUAL HEARING TEST	11/15/06	1.	I
HEARING	ANNUAL HEARING TEST	10/17/05	1.	I
HEARING	ANNUAL HEARING TEST	10/21/04	1.	I
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	06/05/96	16.	F
HMT102	HAZARDOUS MATERIAL TRANSPORTATION	05/06/93	16.	F
HMT103	HAZARDOUS MATERIAL TRANSPORTATION REFRESHER	06/10/94	2.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/09/13	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/14/11	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/15/09	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/17/07	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/19/05	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/17/03	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	09/10/01	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	10/26/99	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	11/10/97	3.	F
HMT104	DOT EMERGENCY RESPONSE INFORMATION	04/21/94	3.	F
HMT104Z	DOT EMERGENCY RESPONSE INFORMATION (30 DAY EXTENTION)	09/01/15	0.	F
HPI101	HUMAN PERFORMANCE IMPROVEMENT FUNDAMENTALS	08/20/09	3.	F
HRM101	EMPLOYEE APPRAISAL PROCESS	06/10/97		I
HWW101	HAZARDOUS WASTE WORKER, INITIAL	02/29/96	24.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	02/24/99	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	02/10/98	8.	F
HWW102	HAZARDOUS WASTE WORKER REFRESHER	02/28/97	8.	F
INF104	ESS-2014-03 REV 4 INFORMAL BRIEFING	08/05/14		I

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Course	Title	Date	Hrs	F/I
INF106	2014-ESS-09 AND ~~EM-FP-2014-01~~	08/22/14		I
INF109	COMBUSTIBLE LOADING LIMITS AND GENERAL HOUSEKEEPING	10/09/14	0.5	I
INF117	ESS-2014-03 REV 5A	11/23/14		
INF119	EOC TRANSITION BRIEFING	12/02/14		
INF122	ANNUAL LO/TO PROGRAM REVIEW	12/24/14		
INF129	CAM ALARM VIDEO	01/11/15		
INF130	WP 12-ER4907 REV 18	02/06/15		I
INF139	BRIEFING, SURFACE FIRE RESPONSE PROCEDURE 12-ER4908	03/06/15		I
INF145	BRIEFING ON 12-ER4904	04/11/15		
INF147	INTERIM VENTILATION SYSTEM (IVS) PHASE I, PAD CONSTRUCTION	04/18/15		
INF150	WP 04-EM4200 (rev 26) and 4903 (rev 22)	05/01/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/20/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/20/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/19/15		
INF159	IMPLEMENTATION OF NEW EM RESPONSE PROCEDURE STRUCTURE	05/19/15		
INF160	MD 1.10 REV 0 DISPATCH AND RESPONSE PROTOCOL	05/19/15		
NF161	WP 04-VU1001, REV 41, SURFACE UNDERGROUND VENTILATION AND FILTRATION SYSTEM	05/14/15		
INF162	WP 04-VU4605, REV 27, UVFS ALARM RESPONSE	05/14/15		
INF167	WP 12-4903, RADIOLOGICAL INCIDENT RESPONSE	06/16/15		
INF218	EA04AD3008-31-0, Rev. 8	06/16/15		I
INF302	REVISION TO PRE-JOB BRIEFINGS, POST JOB REIVEW, AND CHECKLIST	03/24/15		I
INF305	REVISION TO WORK CONTROL PROCESS AND NEW MATERIAL REQUEST FORM	05/19/15		I
INF408	WP 12-ER4925, 4926, 4920	06/16/15		
INF408	WP 12-ER4925, 4926, 4920	06/16/15		
INF513	12-ER4925, CMR INCIDENT RECOGNITION RESPONSE	10/08/15		
INF514	12-ER4926, CMR EXPANDED STAFFING OPS	10/08/15		
ITC14001	IMMEDIATE TRAINING CHANGE - QUESTIONING SAFETY CULTURE	07/17/14	1.	I
LLS001	LOSS OF LOCKOUT/TAGOUT	11/25/91	1.	F
LOTO103	EQUIPMENT LOCKOUT/TAGOUT (AUTHORIZING SUPERVISOR)	06/30/15	6.	F
MMT101	MATERIAL MONITORING TRAINING - OVERVIEW	10/17/05	3.	I
NEO100	NEW EMPLOYEE ORIENTATION	01/25/89	3.	F
OFF1150	TRANSPORTATION OF MINE SAFETY GEAR	06/19/90		I
OFF1343	COMMUNICATIONS FOR RESULTS	01/15/97		I
OFF1392	EMERGENCY MANAGEMENT SYSTEMS TOOLBOX	06/09/97		I

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Course	Title	Date	Hrs	F/I
OFF1553	START II - THE WAY WE WORK	02/27/99		I
OFF1578A	WIPP SECURITY BRIEF - VIDEO	09/27/99		I
OFF1633	ESSENTIALS OF COMMUNICATION	02/22/00		I
OFF1642	EEO/DIVERSIRTY STANDOWN (CHRIS-000317)	04/05/00	2.	I
OFF1643	EEO DIVERSITY - PART II	05/27/00		I
OFF1759	ZERO INJURY	01/10/05	4.	I
OFF1775	DSA / TSR UPDATE FOR REVISION 3	06/15/11		I
OFF668	HIGH VOLTAGE ELECTRICAL SAFETY	10/08/90		I
OPS104	FSAR - OSR	05/09/90	4.	F
OPS105	LCO-OSR	05/14/90	2.	F
OPS106	SURVEILLANCE REQUIREMENTS	05/14/90	4.	F
OPS111	OCCURRENCE REPORTING - ALL EMPLOYEE	10/22/90	1.	F
OPS115	CONDUCT OF OPERATIONS	04/16/91	16.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	12/02/14	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	11/05/13	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	01/29/13	8.	F
)PS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	07/19/11	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	05/06/10	8.	F
OPS115A	CONDUCT OF SHIFT OPERATIONS - REFRESHER	05/28/09	8.	F
OPS115A1	CONDUCT OF OPERATIONS - QUARTERLY	03/23/15	1.	F
OPS115A2	CONDUCT OF OPERATIONS - QUARTERLY	08/05/15	1.	F
OPS115L	CONDUCT OF OPERATIONS PLACEHOLDER FOR CTS#	05/01/08	0.	F
OPS117A	PROCEDURES & SAFE OPERATING ENVELOPE - CONDUCT OF OPERATIONS	06/26/92	3.	F
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	03/13/09	4.	F
OPS122	TECHNICAL SAFETY REQUIREMENTS (TSR)	11/14/05	4.	F
OPS122A	WIPP TECHNICAL SAFETY REQUIREMENTS REFRESHER	03/23/15	1.	F
OPS122A	WIPP TECHNICAL SAFETY REQUIREMENTS REFRESHER	03/25/13	1.	F
OPS122A	WIPP TECHNICAL SAFETY REQUIREMENTS REFRESHER	03/30/11	1.	F
OPS123	REMOTE HANDLED - TECHNICAL SAFETY REQUIREMENTS	06/11/06	1.	F
PDI101	PROCEDURE GUIDELINES	10/31/96	1.	F
PRO100	INTRODUCTION TO SUCCESSFUL PROFESSIONALS	09/01/92	1.	F
PRO101	CUSTOMER ORIENTATION	09/11/92	8.	F
PRT103	PRINT READING	02/25/91	1.	F
RAD101	RADIOLOGICAL WORKER I, INITIAL	06/10/93	16.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	05/13/15	8.	F

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Course	Title	Date	Hrs	F/I
RAD102	RADIOLOGICAL WORKER I REFRESHER	06/16/14	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	06/20/13	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	06/18/12	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	06/21/11	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	06/21/10	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	06/30/09	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	05/28/08	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	05/03/07	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	05/03/06	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	05/04/05	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	06/04/03	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	07/17/01	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	07/19/00	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	07/27/99	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	07/29/98	8.	F
RAD102	RADIOLOGICAL WORKER I REFRESHER	07/29/97	8.	F
RAD102R	RADIOLOGICAL WORKER I - ALTERNATE YEAR REFRESHER	05/05/04	1.	F
RAD102R	RADIOLOGICAL WORKER I - ALTERNATE YEAR REFRESHER	06/03/02	1.	F
RAD111	WORKER RESPONSIBILITIES	03/07/14	2.	F
RAD201	RADIOLOGICAL WORKER II, INITIAL	07/17/96	16.	F
RAD202	RADIOLOGICAL WORKER II REFRESHER	05/25/06	8.	F
REP100	RCRA OVERVIEW	03/03/88	1.	F
REP107	OSHA/RCRA OVERVIEW	01/14/91	2.5	F
SAC001A	SPECIFIC ADMINISTRATIVE CONTROLS - MANAGERS	05/22/05	3.	I
SAF104	FITNESS FOR DUTY - GENERAL EMPLOYEE	11/11/96		I
SAF122A	CHANGES TO EQUIPMENT LOCKOUT/TAGOUT PROCEDURE REVISION 15	09/25/15		
SAF402	RADIOLOGICAL WORKER	09/13/88	8.	F
SAF406	ATMOSPHERE SUPPLYING RESPIRATOR	03/20/91	4.	F
SAF408	HAND/FOOT MONITOR SURVEYS	01/10/89	5.	F
SAF501	40 HR INEXPERIENCED MINER	08/26/87	40.	F
SAF501	40 HR INEXPERIENCED MINER	08/12/87	40.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	05/22/98	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	05/01/97	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	04/03/96	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	03/15/95	8.	F

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Course	Title	Date	Hrs	F/I
SAF502	MINE SAFETY ANNUAL REFRESHER	04/18/94	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	05/04/93	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	08/19/92	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	08/30/91	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	08/14/90	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	08/16/89	8.	F
SAF502	MINE SAFETY ANNUAL REFRESHER	08/10/88	8.	F
SAF503	HEATED ROOM TRAINING	01/30/89	4.	F
SAF503	HEATED ROOM TRAINING	07/07/87	4.	F
SAF504	BASIC LIFE SUPPORT - CPR	03/29/93	8.	F
SAF507	HAZARD COMMUNICATION	11/17/87	2.5	F
SAF510	HEATED ROOM REFRESHER	12/09/88	4.	F
SAF510	HEATED ROOM REFRESHER	07/12/88	4.	F
SAF512	AIR PURIFYING RESPIRATOR TRAINING	03/20/91	4.	F
SAF513	GROUND CONTROL & HAZARD RECOGNITION	07/02/90	4.	F
SAF513	GROUND CONTROL & HAZARD RECOGNITION	01/11/89	4.	F
SAF516	FIRST RESPONDER	04/02/93	40.	F
SAF518	WORKING IN PROPER PERSPECTIVE	12/05/90	4.	F
SAF519	HAZARD COMMUNICATIONS REFRESHER	03/14/91	1.	F
SAF606	TLD TRAINING	08/16/88	1.	F
SAF608	RADIATION MONITORING SYSTEM OVERVIEW	06/06/90	1.	F
SAF613	U/G VENTILATION OVERVIEW	08/13/90	3.	F
SAF615	RADIATION WORKER REFRESHER	08/20/92	8.	F
SAF615	RADIATION WORKER REFRESHER	10/23/90	8.	F
SAF617	INJURED CONTAMINATED PATIENT	05/20/91	4.	F
SAF619	COMPRESSED GAS CYLINDER SAFETY	01/13/95	4.	F
SAF619	COMPRESSED GAS CYLINDER SAFETY	03/17/94	4.	F
SAF630	RESPIRATORY PROTECTION - CLASSROOM	03/21/96	6.	F
SAF631C	RESPIRATORY PROTECTION PRACTICAL - FFAP	04/12/96	1.	F
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	11/04/14	1.	F
SAF641	FALL PREVENTION: ELEVATED WORK SURFACE	02/15/95	1.	F
SAF651	OPEN AND COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT	11/05/12	8.	
SAF651A	OPEN & COLLABORATIVE SAFETY CONSCIOUS WORK ENVIRONMENT REFRESHER	12/01/14	3.	F
SEC100	COUNTERINTELLIGENCE BRIEFING	05/28/08		I

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Course	Title	Date	Hrs	F/I
SEC100	COUNTERINTELLIGENCE BRIEFING	05/03/07		I
SEC100	COUNTERINTELLIGENCE BRIEFING	05/29/06		I
SEC100	COUNTERINTELLIGENCE BRIEFING	05/04/05		I
SEC100	COUNTERINTELLIGENCE BRIEFING	05/05/04		I
SEC100	COUNTERINTELLIGENCE BRIEFING	05/07/03		I
SEC100	COUNTERINTELLIGENCE BRIEFING	06/04/02		I
SEC100	COUNTERINTELLIGENCE BRIEFING	06/07/01		I
SKL273	PLANT COMMUNICATION SKILLS	01/28/91	4.	F
START5	SUPERVISOR TRAINING/ACCIDENT REDUCTION TECHNIQUES - 1-4	12/11/93	1.	I
STC001	ELECTRICAL SYSTEM TRAINING COURSE	11/17/94	8.	F
SUP260	STOP I	06/27/88	2.	F
SUP260	STOP I	03/03/88	2.	F
SUP261	STOP II	06/27/88	2.	F
SUP262	STOP III	09/22/89	2.	F
SUP262	STOP III	06/27/88	2.	F
SUP263	STOP IV	07/28/88	2.	F
SUP264	STOP V	11/17/89	2.	F
SUP264	STOP V	07/28/88	2.	F
SUP265	STOP VI	12/01/89	2.	F
SUP265	STOP VI	07/28/88	2.	F
SUP266	STOP VII	12/08/89	2.	F
SUP266	STOP VII	08/11/88	2.	F
TPC109	SAFETY AND HEALTH	08/12/91	1.	F
TQA100	TOTAL QUALITY AWARENESS	06/21/90	8.	F
TRG293	SUBJECT MATTER EXPERT / ON THE JOB TRAINER	09/28/90	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	08/13/14	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	08/13/12	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	08/19/10	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	08/19/08	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	09/19/06	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	09/09/04	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	10/22/02	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	11/20/00	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	11/17/98	4.	F
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	12/12/96	4.	F

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Course	Title	Date	Hrs	F/I
TRG298	SUBJECT MATTER EXPERT / ON THE JOB TRAINER REFRESHER	12/14/94	4.	F
TRG298ZZ	SUBJECT MATTER EXPERT/ON THE JOB TRAINER REFRESHER 90 DAY EXTENSION	09/21/15	2.	I
WCC101	WORK AUTHORIZATION TRAINING	04/11/90	4.	F
WHT107	BIN SCALE HAZARDS	05/11/90	4.	F

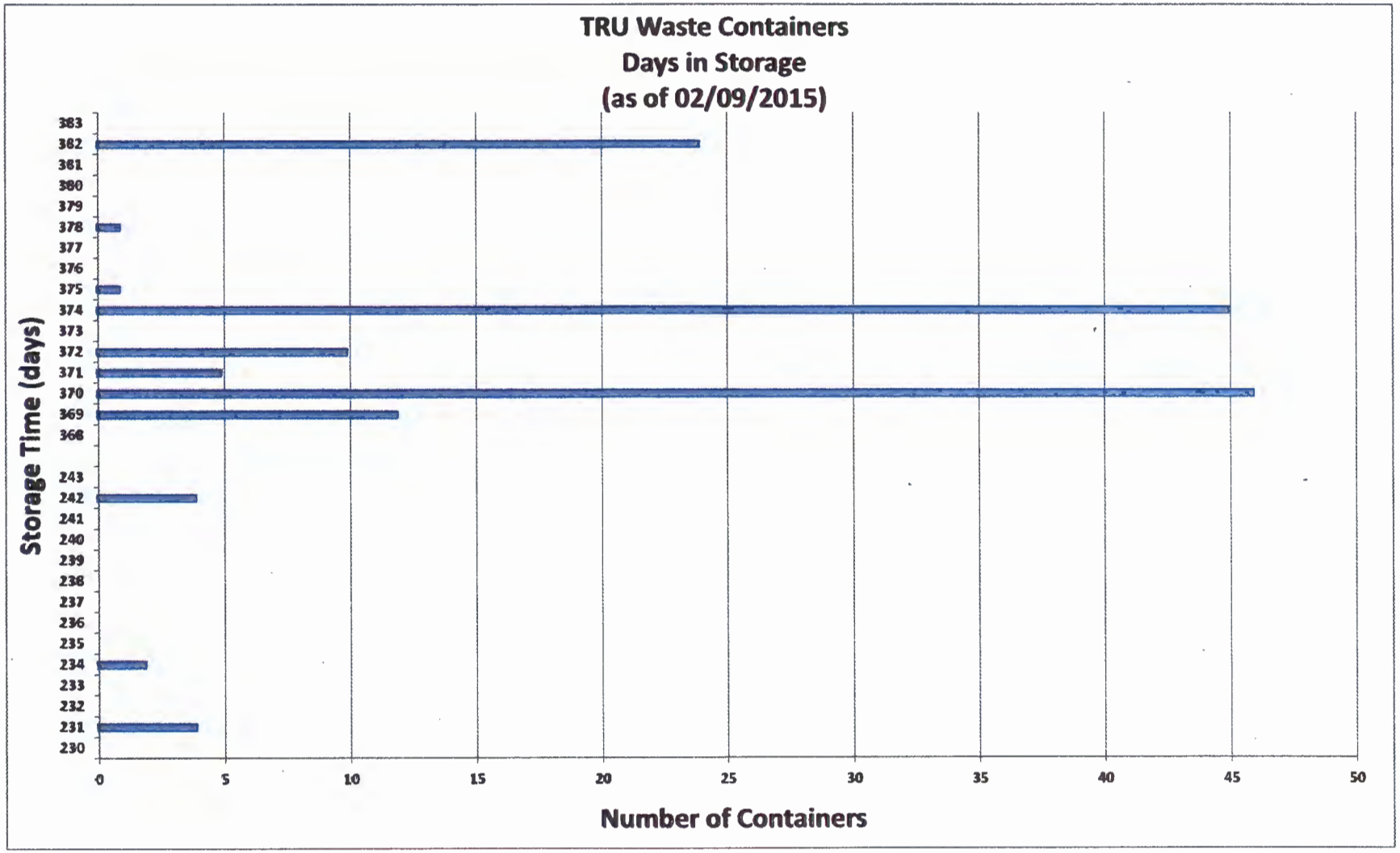
PRIVATE INFORMATION Total Hours: 1121.

QUESTION 5

2015 WIPP Permit Inspection: NMED Request Description (5 items)

5. Generate and provide a histogram from the WWIS data base, plotting number of containers versus number of days in storage, demonstrating whether storage times were ever exceeded from December 9 2014 through February 9, 2015. Permit Conditions Attachment F, F1, and F2.

   (Note: Permit Conditions Attachments F, F1, and F2 apply to item number four of this request for information. The appropriate Permit condition for this item is 3.1.1.7 CH TRU Mixed Waste Storage Time Limit)

Total Number of Pages: 1

Storage Time (days)	Site-Derived Cntrs
230	0
231	4
232	0
233	0
234	2
235	0
236	0
237	0
238	0
239	0
240	0
241	0
242	4
243	0
	Received Cntrs
368	0
369	12
370	46
371	5
372	10
373	0
374	45
375	1
376	0
377	0
378	1
379	0
380	0
381	0
382	24
383	0
Total:	**154**