

Estimated burden per response to comply with this information collection request: 45 minutes. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (1-5 P52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [infocollect@nrc.gov](mailto:infocollect@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOF-10202, (3150-0164), 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		Energy Solutions/Bear Creek		5. SHIPPER - NAME AND FACILITY		SHIPMENT ID NUMBER		7. FORM 540 AND 540A		PAGE 1 OF 1 PAGE(S)		8. MANIFEST NUMBER	
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST		Philotechnics @ Knoxville College Site		1672-080614EN		FORM 541 AND 541A		1 PAGE(S)		1 PAGE(S)		(Use this number on all continuation pages)	
SHIPPING PAPER		901 Knoxville College Dr.		X COLLECTOR		FORM 542 AND 542A		1 PAGE(S)		NONE PAGE(S)			
		Knoxville, TN 37921				ADDITIONAL INFORMATION						1672-080614EN	
1. EMERGENCY TELEPHONE NUMBER (Include Area Code)		T-TN024-L14		SHIPMENT NUMBER		GENERATOR TYPE		9. CONSIGNEE - Name and Facility Address		CONTACT			
800-424-9300		T-TN024-L14		1672-080614EN		(Specify)		Energy Solutions/Bear Creek		Donnie Brackett			
ORGANIZATION		CONTACT		TELEPHONE NUMBER		TELEPHONE NUMBER		1560 Bear Creek Road		(Include Area Code)		(865) 220-1629	
CHEMTREC		Gary Aquero		(315) 368-7687		(315) 368-7687		Oak Ridge, TN 37830		DATE			
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT?		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST		1		EPA I.D. NUMBER		TNR000030544		10. CERTIFICATION			
[ ] YES		=====				SHIPPING DATE		08/20/2014		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.			
[X] NO						TELEPHONE NUMBER		(865) 466-4812		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			
4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT?		EPA MANIFEST NUMBER		N/A		CONTACT		Justin Button		AUTHORIZED SIGNATURE		TITLE	
[ ] YES						SIGNATURE - Authorized carrier acknowledging waste receipt		DATE		8/20/14		HP Tech	
[X] NO						13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIONUCLIDES		16. TOTAL PACKAGE ACTIVITY MBq	
If "Yes", provide Manifest Number =====>		12. DOT LABEL "RADIOACTIVE"		NA		NA		C-14 ; CO-60 ; CS-137 ; EU-152 ; K-40 ; RA-226 ; TH-232 ; U-234 ; U-238		17. LSA/SCO CLASS		18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)		12. DOT LABEL "RADIOACTIVE"		NA		NA		C-14 ; CO-60 ; CS-137 ; EU-152 ; K-40 ; RA-226 ; TH-232 ; U-234 ; U-238		17. LSA/SCO CLASS		18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	
UN2910, Radioactive material, excepted package-limited quantity of material, 7		NA		NA		NA		C-14 ; CO-60 ; CS-137 ; EU-152 ; K-40 ; RA-226 ; TH-232 ; U-234 ; U-238		17. LSA/SCO CLASS		18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	
DAW/COMPACT		NA		NA		NA		C-14 ; CO-60 ; CS-137 ; EU-152 ; K-40 ; RA-226 ; TH-232 ; U-234 ; U-238		17. LSA/SCO CLASS		18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	
1 - 5 GALLON DRUM		NA		NA		NA		C-14 ; CO-60 ; CS-137 ; EU-152 ; K-40 ; RA-226 ; TH-232 ; U-234 ; U-238		17. LSA/SCO CLASS		18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	
		NA		NA		NA		C-14 ; CO-60 ; CS-137 ; EU-152 ; K-40 ; RA-226 ; TH-232 ; U-234 ; U-238		17. LSA/SCO CLASS		18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	
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		NA		NA		NA		C-14 ; CO-					



Estimated burden per response to comply with this information collection request: 3.3 hours. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding this information collection burden estimate to the Records and FOIA/Privacy Services Branch (7-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [infocoll@nrc.gov](mailto:infocoll@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOF-10202, (3150-J-166), for the information collection. The NRC cannot conduct or sponsor and a person is not required to respond to the information collection, unless it displays a currently valid OMB control number.

FORM 541										Energy Solutions/Bear Creek										2. MANIFEST NUMBER 1672-080614EN									
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST										SPECIAL NUCLEAR MATERIAL (grams)										3. PAGE 1 OF 1 PAGE(S)									
CONTAINER AND WASTE DESCRIPTION										NET WASTE VOLUME										NET WASTE WEIGHT									
1										m <sup>3</sup> 0.01926 kg 6.80385										U-233 U-235 Pu TOTAL									
										ft <sup>3</sup> 0.68000 lb 15.00000										NP NP NP NP									
ALL NUCLIDES										ACTIVITY (MBq/mCi) (LLD UNITS IN µCi/cc)										SOURCE									
MBq 18.8367766640										TRITIUM C-14 Tc-99										I-129									
mCi 0.5091020720										NP NP 7.3556370000 0.1968010000										NP NP kg 0.0000820160									
																				lb 0.0001808153									
DISPOSAL CONTAINER DESCRIPTION										WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										15. RADIOLOGICAL DESCRIPTION									
5. CONTAINER IDENTIFICATION NUMBER/GENERATOR NUMBER										11. WASTE DESCRIPTOR (See Note 2)										12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER									
6. CONTAINER DESCRIPTION AND PROCESS REQUESTED (See Note 1A) BURIAL/DISPOSITION (See Note 2A)										13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)										14. CHEMICAL DESCRIPTION									
7. VOLUME										12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER										14. CHEMICAL DESCRIPTION									
8. WASTE CONTAINER WEIGHT										12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER										14. CHEMICAL DESCRIPTION									
9. SURFACE RADIATION LEVEL										12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER										14. CHEMICAL DESCRIPTION									
10. SURFACE CONTAMINATION										12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER										14. CHEMICAL DESCRIPTION									
11. WASTE DESCRIPTOR (See Note 2)										12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER										14. CHEMICAL DESCRIPTION									
12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER										12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER										14. CHEMICAL DESCRIPTION									
13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)										12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER										14. CHEMICAL DESCRIPTION									
14. CHEMICAL DESCRIPTION										12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER										14. CHEMICAL DESCRIPTION									
15. RADIOLOGICAL DESCRIPTION										12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER										14. CHEMICAL DESCRIPTION									
16. WASTE CLASSIFICATION										12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER										14. CHEMICAL DESCRIPTION									
17. WASTE CLASSIFICATION										12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER										14. CHEMICAL DESCRIPTION									
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61. WASTE CLASSIFICATION										12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER										14. CHEMICAL DESCRIPTION									

Estimated burden per response to comply with this information collection request: 45 minutes. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to infocollect@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOF-10202, (3150-0165), 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.

NRC FORM 542 (7-2001)		Energy Solutions/Bear Creek				1. WASTE COLLECTOR/PROCESSOR			2. MANIFEST NUMBER										
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST  MANIFEST INDEX AND REGIONAL COMPACT TABULATION						SHIPPER USE ONLY			1672-080614EN										
						NAME Philotechnics @ Knoxville College Site													
						IDENTIFICATION NUMBER 1672													
List all original "PROCESSED WASTE" generators (if any) before "COLLECTED WASTE" generators						SHIPPING DATE 08/20/2014			PAGE 1 OF 1 PAGE(S)										
4.	GENERATOR IDENTIFICATION NUMBER	5.	GENERATOR NAME PERMIT NUMBER (IF APPLICABLE), AND TELEPHONE NUMBER	6.	GENERATOR FACILITY ADDRESS	7.	PREPROCESSED WASTE (OR MATERIAL) VOLUME  m <sup>3</sup>	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				
	1672		Knoxville College Site EPA #: CESQG (315) 368-7687		901 Knoxville College Dr. Knoxville, TN 37921		0.01926		Onsite Generation 07/30/2014		C		TN	0.0000820160	NP	18.83677666	0.01926		
															TOTALS OF ALL PAGES (FORMS 542 AND 542A)		18.8367766640	NP	0.01926