



# CARNEGIE SCIENCE

Geophysical Laboratory

Viktor Struzhkin  
Senior Staff Scientist  
202 478 8952  
vstruzhkin@carnegiescience.edu

*Br. 2*

US Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, Pennsylvania 19406-1415

December 29th, 2016

Re: License No. 08-00604<sup>06</sup>, request to terminate

Dear NRC Officer,

We would like to request a termination of the materials license No. 08-00604, due to our decision to permanently cease principal activities covered by this license. We have disposed all radioactive material (sealed sources) and performed limited radiation survey at our site, as described in the attached documentation. For your information, we also include the copy of the license.

Please let us know if we are required to perform other activities to comply with NRC requirements to release the site for general use.

Sincerely,

Viktor Struzhkin, PhD,

Radiation safety officer

REC-REG 10110-17 AM 07:18

*06/03038189*

*592774*

NUCLEAR MATERIALS-001



UNITED STATES  
**NUCLEAR REGULATORY COMMISSION**  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

December 29, 2009

Docket No. 030-38189  
Control No. 144300

License No. 08-00604-06

Russell J. Hemley, Ph.D.  
Director, Geophysical Laboratory  
The Carnegie Institution of Washington  
5251 Broad Branch Road, NW  
Washington, DC 20015-1305

**SUBJECT: THE CARNEGIE INSTITUTION OF WASHINGTON, CORRECTED COPY OF  
LICENSE, CONTROL NO. 144300**

Dear Dr. Hemley:

Enclosed is the Corrected Copy of your new license, License No. 08-00604-06. During administrative processing of the document on December 24, 2009, we realized that the docket number listed on the license was incorrect. This Corrected Copy is issued to correct the docket number from 030-38289 to 030-38219.

We apologize for any inconvenience this error may have caused.

Sincerely,

***Original signed by Judith A. Joustra***

James P. Dwyer, Chief  
Commercial and R&D Branch  
Division of Nuclear Materials Safety

Enclosure:  
Corrected Copy of Amendment No. 1

cc:  
Viktor V. Struzhkin, Ph.D., Radiation Safety Officer

## U.S. NUCLEAR REGULATORY COMMISSION

## MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. The Carnegie Institution of Washington	3. License number 08-00604-06
2. 5251 Broad Branch Road, NW Washington, DC 20015-1305	4. Expiration date December 31, 2019
	5. Docket No. 030-38219 Reference No.

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Cobalt 57	A. Sealed Sources (Isotope Products Laboratory or Cyclotron Co, Ltd or Dupont NEN Models MOS-57 and NER072; and Cyclotron Co., Ltd Model MSCRA)	A. 40 millicuries per source and 200 millicuries total
B. Samarium 151	B. Sealed Sources (New England Nuclear Model NER 0868)	B. 200 millicuries per source and 200 millicuries total

## 9. Authorized use:

A. and B. Research and development as defined in 10 CFR 30.4.

## CONDITIONS

10. Licensed material may be used or stored only at the licensee's facilities located at the Geophysical Laboratory, 5251 Broad Branch Road, NW, Washington, DC.
11. Licensed material shall be used by, or under the supervision of, Viktor V. Struzhkin.
12. The Radiation Safety Officer for this license is Viktor V. Struzhkin.
13. The licensee shall not use licensed material in or on human beings.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET  
CORRECTED COPY**

License Number  
08-00604-06

Docket or Reference Number  
030-38219

14. The licensee shall not use licensed material in field applications where it is released except as provided otherwise by specific condition of this license.
15. A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed six months or at the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State.
- B. In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State, prior to the transfer, a sealed source received from another person shall not be put into use until tested and the test results received.
- C. Sealed sources need not be tested if they contain only hydrogen-3; or they contain only a radioactive gas; or the half-life of the isotope is 30 days or less; or they contain not more than 100 microcuries of beta- and/or gamma-emitting material or not more than 10 microcuries of alpha-emitting material.
- D. Sealed sources need not be tested if they are in storage and are not being used; however, when they are removed from storage for use or transferred to another person and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.
- E. The leak test shall be capable of detecting the presence of 0.005 microcurie (185 becquerels) of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie (185 becquerels) or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(c)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations.
- F. Tests for leakage and/or contamination, limited to leak test sample collection, shall be performed by the licensee or by other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services. The licensee is not authorized to perform the analysis; analysis of leak test samples must be performed by persons specifically licensed by U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
- G. Records of leak test results shall be kept in units of microcuries and shall be maintained for 5 years.
16. The licensee shall conduct a physical inventory every six months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 5 years from the date of each inventory and shall include the radionuclides, quantities, manufacturer's name and model numbers, and the date of the inventory.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET  
CORRECTED COPY**

License Number  
08-00604-06

Docket or Reference Number  
030-38219

17. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
18. The licensee is authorized to hold byproduct material with a physical half-life of less than or equal to 120 days for decay-in-storage before disposal without regard to its radioactivity if the licensee:
  - A. Monitors byproduct material at the surface before disposal and determines that its radioactivity cannot be distinguished from the background radiation level with an appropriate radiation detection survey meter set on its most sensitive scale and with no interposed shielding; and
  - B. Removes or obliterates all radiation labels, except for radiation labels on materials that are within containers and that will be managed as biomedical waste after they have been released from the licensee; and
  - C. Maintains records of the disposal of licensed materials for 3 years. The record must include the date of disposal, the survey instrument used, the background radiation level, the radiation level measured at the surface of each waste container, and the name of the individual who performed the disposal.
19. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET  
CORRECTED COPY**

License Number  
08-00604-06

Docket or Reference Number  
030-38219

20. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Application dated October 28, 2009 (ML093240087)

For the U.S. Nuclear Regulatory Commission

Date December 29, 2009

By

***Original signed by Elizabeth Ullrich***

\_\_\_\_\_  
Elizabeth Ullrich  
Commercial and R&D Branch  
Division of Nuclear Materials Safety  
Region I  
King of Prussia, Pennsylvania 19406



Radiation Service Organization

June 13, 2016

Viktor Sturzhkin  
Carnegie Institute  
Geophysical Laboratory  
5251 Broad Branch Road, NW  
Washington, DC 20015-1305

Re: Radioactive Material Inventory Disposal

Dear Mr. Sturzhkin:

RSO, Inc. (RSO) is pleased to provide the following quotation for the disposal of the radioactive materials inventory listed in Attachment No. 1. The material is located at the Geophysical Laboratory in Washington, DC.

Scope of Work

1. RSO will schedule a RSO Radioactive Materials Technician to collect the waste.
2. RSO will complete DOT marking, labeling, surveying, and manifesting to the designated facilities.
3. RSO will arrange for the solid waste to be processed at the Energy Solutions, LLC (ES) Oakridge, TN processing facility and buried at the ES Clive, UT disposal site. The sources will be encapsulated and shipped to the Waste Control Specialists, LLC disposal site in Andrews TX.
4. RSO will provide a final certificate of disposal.

Disposal Pricing

1. 2-each Hours labor, Radioactive Waste Technician, shipment preparation, \$120.00 per hour	\$ 240.00
2. 1-each Lot packaging supplies	\$ 139.00
3. 1-each Lot sources for encapsulation and burial	\$ 2,240.00
4. 1-each Pail, contaminated lead shielding	\$ 620.00
5. 1-each Fiberboard box, 1.3 ft <sup>3</sup> , solid waste, PPE	\$ 206.00
6. 1-each Collection and Shipping Charge	<u>\$ 345.00</u>
Total	\$ 3,790.00

RSO will schedule the services on a mutually agreeable work day. A method of payment will need to be established prior to scheduling services. RSO can accept credit cards as a form of payment. All on site work will be completed under the direction and control of the radiation safety office.

Please feel free to contact me if you have any questions at (301) 953-2482 ext. 306.

Sincerely,

David E. Wellner  
Manager, Radioactive Material Services

**Attachment No. 1**  
**RSO, Inc.**  
**The Carnegie Institution of Washington**  
**Disposal Inventory**

Item No.	Iso.	Original Act mCi.	Date	Decayed Act mCi	s/n	Description
1	Co-57	40.2	7/3/1995	1.37E-07	795711	~1" mossbauer sealed source
2	Co-57	41.3	11/1/1997	1.29E-06	1197805	~1" mossbauer sealed source
3	Co-57	40	7/3/1993	2.12E-08	08*****	~1" mossbauer sealed source
4	Co-57	40	4/1/2002	7.32E-05	846-81	~1" mossbauer sealed source
5	Sm-151	200	11/17/1980	152.1	102-873	~1" mossbauer sealed source, leaking
6	Co-57	53.8	3/6/2008	0.02	47-08	~1" mossbauer sealed source
7	Co-57	40	1/25/2011	0.27	133-10	~1" mossbauer sealed source
8	Fe-55	0.01	2/1/1991	1.60E-06	none	2 "disk source
	<b>Total</b>			<b>1.52E+02</b>		
9	Sm-151	<0.10	6/3/2016		n/a	1.3 ft3 box solid waste, PPE
10	Sm-151	<0.10	6/3/2016		n/a	pail contaminated lead pigs



RS 17473

16657

# RSO, Inc.

# Receipt

PO Box 1430  
 5204 Mianick Rd.  
 Laurel, Maryland 20725-1430  
 Bell. (410) 792-2444 Wash. (301) 953-2482  
 FAX (301) 477-6363

Company: <b>Garnegie Institute</b>	
Address: <b>2251 Broad Branch Rd NW</b>	City: <b>Washington</b>
State: <b>DC</b>	Zip: <b>20039</b>
Contact: <b>Walter Stenoble</b>	Telephone: <b>202-478-1932</b>
Contract #/PO#: <b>82 17473</b>	Special: <b>TECHNICAL SERVICE</b>

## Radioactive Material Collected

Qty	Size	Type
X	3.0 FT <sup>3</sup>	SOILS DEBRIS & SPONGE, NON-RECYCLABLE
X		SOILS DEBRIS & SPONGE, NON-RECYCLABLE
X	2.7 FT <sup>3</sup>	SUPER SACK OF GARBAGE
X		SOILED LINEN, TROUSERS, SHOES
X		SOILS DEBRIS
X	NA	HOURED TO NEW LABORS EACH

COMMENTS:

## Supplies

Qty	Size	Type
X	55 GAL	STEEL DRUM NEW
X	55 GAL	STEEL DRUM RECONDITIONED
X	30 GAL	STEEL DRUM NEW
X	30 GAL	STEEL DRUM (CERTIFIED TYPE A NEW)
X	5 GAL	STEEL DRUM (CERTIFIED TYPE A NEW)
X	3.0 FT <sup>3</sup>	FIBERBOARD INSULATED BOTTOM
X	3.0 FT <sup>3</sup>	FIBERBOARD BOX WARE BOTTOM
X	2.7 FT <sup>3</sup>	SUPER SACK OF GARBAGE

X Walter Stenoble  
 Signature of Company Representative

6/22/85

Date

Original - Accounting

Copy 1 - Accounting

Copy 2 - Warehouse

Copy 3 - Customer



P.O. Box 817 -- Kingston TN 37763 -- (865) 220 8501

Re: **Texas Compact Waste Shipment Verification Form**

In order to ship wastes into the State of Texas Compact Disposal Facility in Andrews, Texas, Bionomics is required to make a number of certifications and notifications to the Site Operator (WCS), TCEQ, Texas DSHS and the Texas Compact Commission (TLLRWCC).

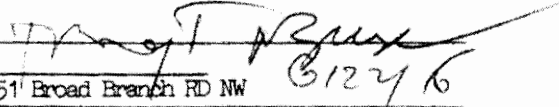
One of these requirements is that the Original Generator is required to sign the Texas Compact Waste Shipment Verification Form that Bionomics submits for each shipment of waste destined to the Andrews disposal site. This is required even though Bionomics has prepared the shipment and is using our Generator Certification to ensure compliance with the burial site regulations.

By signing in this section, the individual generators are indicating that they are an Original Generator of waste contained in this shipment. Generators are not attesting to any other information contained in the Shipment Verification Form.

Generator  
Authorized Person

Carnegie Institution of Washington  
Viktor Struzhkin

Signature  
Date  
Contact Information

  
5251 Broad Branch RD NW  
Washington DC 20015-1305

6/24/16

## Shipment Preparation and Waste Return Conditions

### PREPERATION OF WASTE SHIPMENTS

Unless prior arrangements have been made, our agreements call for clients to provide us with containerized wastes ready for shipment. Broker functions (manifesting, labeling, loading, etc.) are typically not considered a licensed activity, however some jurisdictions view any assistance in placing wastes into containers, no matter how minimal, as a licensed activity.

Please review the following and check the box that applies to the type of work Bionomics performs at your facility.

- Work under Facility license; Bionomics may assist in shipment preparation and will work under our facility license under direct supervision of facility personnel.
- N/A  Reciprocity of Bionomics License; Reciprocity of the Bionomics Tennessee license is required for assisting in the preparation of wastes at this facility.
- Wastes are prepared by facility personnel, Bionomics provides Broker functions.

### WASTE RETURN

Before wastes are shipped from client's locations, a disposal outlet for those wastes has been established. While it is not anticipated that disposal of wastes will be a problem in the future, the State of Tennessee requires that each generator shipping waste to a Tennessee facility indicate that they can and will accept return of their waste. Please indicate below that your facility acknowledges this condition.

- Our facility acknowledges that we are able and will accept back our wastes.

Facility	<u>Carnegie Institution of Washington</u>
Radioactive Materials License #	<u>08-00604-06</u>
Authorized Person	<u>Viktor Struzhkin</u>

If you have any questions or need information please contact us at 865-220-8501.

Return requested:    Fax:            865-220-8532  
                                 Or Email:    Laura@Bionomics-Inc.com  
                                 Or Mail:     Bionomics, Inc.  
                                 PO Box 817  
                                 Kingston, TN 37763

# RSO, Inc.

## Receipt

PO Box 1450  
5204 Minnick Rd.  
Laurel, Maryland 20725-1450  
Balt. (410) 792-7444 Wash. (301) 953-2482  
FAX (301) 497-6363

COMPANY NAME: <b>Carnegie Institute</b>		
ADDRESS: <b>5251 Broad Branch RD NW</b>		
CITY: <b>Washington</b>	STATE: <b>DC</b>	ZIP: <b>20015</b>
CONTACT: <b>Victor Strushkin</b>	TELEPHONE: <b>202-478-8952</b>	FAX:
CONTRACTOR PO NO.: <b>RS 17473</b>	EMAIL:	TECHNICIANS INITIALS: <b>DW, GE</b>

### Radioactive Material Collected

QTY	SIZE	TYPE	QTY	SIZE	TYPE
	X	DRUM(S) LIQUID SCINTILLATION VIALS		X	3.9FT <sup>3</sup> BOX(S) DECAY & STORAGE, INCINERATION
	X	DRUM(S) SOLID WASTE, COMPACTION & BURIAL		X	BOX(S) DECAY & STORAGE, INCINERATION
	X	DRUM(S) SOLID WASTE, INCINERATION & BURIAL		X	27FT <sup>3</sup> SUPER SACK OR CUBIC YARD BOX
1	X	1.25ft <sup>3</sup> BOX(S) SOLID WASTE, INCINERATION & BURIAL		X	SOLIDIFIED URANIUM, THORIUM, BURIAL
	X	DRUM(S) AQUEOUS LIQUID, INCINERATION		X	SEALED SOURCES
1	X	5gal Drum sealed sources		X	N/A HOUR(S) TECHNICIAN LABOR X _____ EACH
1	X	35gal Lead		X	

COMMENTS:

6/21/97  
7/17/16

### Supplies

QTY	SIZE	TYPE	QTY	SIZE	TYPE
	X	55 GAL STEEL DRUM NEW		X	5 GAL 4MIL POLYETHYLENE LINER(S)
	X	55 GAL STEEL DRUM RECONDITIONED		X	30 GAL 4MIL POLYETHYLENE LINER(S)
	X	30 GAL STEEL DRUM NEW		X	55 GAL 4MIL POLYETHYLENE LINER(S)
	X	30 GAL STEEL DRUM CERTIFIED TYPE A NEW		X	BAG(S) PORTLAND CEMENT
1	X	5 GAL STEEL DRUM CERTIFIED TYPE A NEW		X	BAG(S) ABSORBENT
	X	3.9FT <sup>3</sup> FIBERBOARD BOX WAXED BOTTOM	1	X	3.5gal PAIL, OPENHEAD W/LID
1	X	1.3FT <sup>3</sup> FIBERBOARD BOX WAXED BOTTOM		X	POLYPROPYLENE DRUM NEW
	X	27FT <sup>3</sup> SUPER SACK OR CUBIC YARD BOX		X	

X Victor Strushkin Signature of Company Representative 6/21/97 Date

Original - Accounting

Copy 1 - Accounting

Copy 2 - Warehouse

Copy 3 - Customer

<b>FORM 541</b> <b>UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST</b> <b>CONTAINER AND WASTE DESCRIPTION</b> Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste	Radiation Service Organization		1. MANIFEST TOTALS					2. MANIFEST NUMBER	
	NUMBER OF PACKAGES/DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT	SPECIAL NUCLEAR MATERIAL (grams)				Total	16657
				U-233	U-235	Pu			
	3	m3 0.0691	kg 15.8757	NP	NP	NP	NP	3. PAGE 1 OF 1 PAGE(S)	
	lb 2.4400	lb 35.0000					4. SHIPPER NAME Carnegie Institute of Washington		
		ACTIVITY		SOURCE (N)			SHIPMENT ID NUMBER NA		
ALL NUCLIDES		TRITIUM	C-14	Tc-99	I-129				
MBq 5.6422E+03		NP	NP	NP	NP	(kg) NA			
mCi		1.5249E+02	NP	NP	NP	(lbs) NA			

DISPOSAL CONTAINER DESCRIPTION					WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										16. WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C	
5. CONTAINER IDENTIFICATION NUMBER/GENERATOR ID NUMBER	6. CONTAINER DESCRIPTION (See Note 1) PROCESS REQUESTED (See Note 1A) BURIAL/DISPOSITION (See Note 2A)	7. VOLUME (m3) (NS)	8. WASTE AND CONTAINER WEIGHT (kg) (B)	9. SURFACE RADIATION LEVEL (mSv/hr) (mrem/hr)	10. SURFACE CONTAMINATION (MBq/100 cm2) (dpm/100cm2)		11. WASTE DESCRIPTOR (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3) (FT3)	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14. CHEMICAL FORM/ CHELATING AGENT	15. WEIGHT (% CHELATING AGENT IF > 0.1%)	15. RADIOLOGICAL DESCRIPTION				
					ALPHA	BETA GAMMA						INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
												RADIONUCLIDES		MBq	mCi	
60703/CIWGL	4	0.0190	6.8039	2.0000E-04	<1.6700E-06	<1.6700E-06	36	0.0190	NA	Sealed Sources/NP	NP	C0-57	1.0733E+01	2.9007E-01	AU	
												Fe-55	5.9200E-05	1.6000E-06		
												Sm-151	5.6277E+03	1.5210E+02		
												Subtotal	5.6384E+03	1.5239E+02		
												Total	5.6384E+03	1.5239E+02		
60704/CIWGL	19 FIBERBOARD BOX D/E	0.0368	4.3359	2.0000E-04	<1.6700E-06	<1.6700E-06	59-INCINERABLE TRASH	0.0368	NA	Lab Trash/NP	NP	Sm-151	3.7000E+00	1.0000E-01	AU	
												Subtotal	3.7000E+00	1.0000E-01		
												Total	3.7000E+00	1.0000E-01		
60705/CIWGL	3 D/E	0.0133	4.3359	2.0000E-04	<1.6700E-06	<1.6700E-06	59-Lead	0.0133	NA	Contaminated lead pigs/NP	NP	Eu-152	3.7000E-03	1.0000E-04	AU	
												Sm-151	3.7000E-02	1.0000E-03		
												Subtotal	4.0700E-02	1.1000E-03		
												Total	4.0700E-02	1.1000E-03		
Shipment Totals		0.0691	15.8757										5.6422E+03	1.5249E+02		
		2.4400	35.0000													

**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	9. Demineralizer
2. Metal Box	10. Gas Cylinder
3. Plastic Drum or Pail	11. Bulk Unpackaged Waste
4. Metal Drum or Pail	12. Unpackaged Components
5. Metal Tank or Liner	13. High Integrity Container
6. Concrete Tank or Liner	18. Other Describe in Item 5, or additional page
7. Polystyrene Tank or Liner	
8. Fiberglass Tank or Liner	

**Note 1A: Process Requested**

C	Compaction
SR	Steam Reforming
DI	Direct Incineration
SI	Sart & Incinerate
D	Decon
G	Green is Clean
M	Metal Melt
T	Trans-Ship
L1	Liquid for Incineration
DI	Oil for Incineration
O	Other (describe)

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

20. Charcoal	29. Demolition Rubble	38. Evaporator Bottoms/Sludges/ Concentrates
21. Incinerator Ash	30. Cation Ion-exchange Media	39. Compactible Trash
22. Soil	31. Anion Ion-exchange Media	40. Noncompactible Trash
23. Gas	32. Mixed Bed Ion-exchange Media	41. Animal Carcass
24. Oil	33. Contaminated Equipment	42. Biological Material (except animal carcasses)
25. Aqueous Liquid	34. Organic Liquid (except oil)	43. Activated Material
26. Filter Media	35. Glassware or Labware	44. Other Describe in Item 11, or additional page
27. Mechanical Filter	36. Sealed Source/Device	
28. EPA or State Hazardous	37. Paint or Plating	

**NOTE 2A: Burial/Disposition Site**

B	Barnwell Waste Management
E	Envirocare
R	Richland, WA
PR	Process and Return
O	Other

**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**

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

FORM 540 Radiation Service Organization UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER		5. SHIPPER - NAME AND FACILITY Carnegie Institute of Washington Geophysical Laboratory 5231 Broad Branch Road, NW Washington, DC 20015-1305		SHIPPER ID NUMBER NA <input type="checkbox"/> COLLECTOR <input type="checkbox"/> PROCESSOR <input checked="" type="checkbox"/> GENERATOR TYPE (Specify) <input type="checkbox"/>		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) 16657									
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) 1-800-424-9300		SHIPMENT NUMBER N/A		CONTACT Viktor Struzhkin		9. CONSIGNEE - Name and Facility RSO, Inc. 5204 Minnick Road Laurel, MD 20707		CONTACT David Wellner TELEPHONE (Include Area Code) (301)953-2482 DATE									
ORGANIZATION Chemtree, CCN19279		6. CARRIER - Name and Address RSO, Inc. 5204 Minnick Road Laurel, MD 20707		EPA I.D. NUMBER MD0-06-627-9669		SIGNATURE - Authorized consignee acknowledging waste receipt		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.									
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 3		Truck # Trailer # N/A		SHIPPING DATE 06/22/2016		TELEPHONE (Include Area Code) (301)953-2482									
4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? If "Yes," provide Manifest Number: _____		EPA MANIFEST NUMBER		CONTACT David Wellner		DATE 6/22/16		AUTHORIZED SIGNATURE David Wellner									
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. LMA/SCD CLASS		18. TOTAL WEIGHT OR VOLUME (Use appropriate units)		19. IDENTIFICATION NUMBER OF PACKAGE	
UN 2910, Radioactive material, excepted package-limited quantity of material, 7, Drum		NA		NA		Solid Sealed Sources		Co-57 Fe-55 Sm-151		5.6384E+03 1.5239E+02		NA		15 LBS; 0.67 FT3		60703	
UN 2910, Radioactive material, excepted package-limited quantity of material, 7, Box		NA		NA		Solid Lab Trash		Sm-151		3.7000E+00 1.0000E-01		NA		10 LBS; 1.3 FT3		60704	
UN 2910, Radioactive material, excepted package-limited quantity of material, 7, Pail		NA		NA		Solid Contaminated lead pigs		Eu-152 Sm-151		4.0700E-02 1.1000E-03		NA		10 LBS; 0.47 FT3		60705	
FOR CONSIGNEE USE ONLY										20							
TENNESSEE LICENSE FOR DELIVERY NO _____																	
SOUTH CAROLINA TRANSPORT PERMIT NO _____																	
US ECOLOGY GENERATOR NO _____																	
US ECOLOGY PERMIT NO _____																	

Viktor Struzhkin  
Geophysical Laboratory  
Carnegie Institution of Washington  
5251 Broad Branch Rd NW  
Washington DC, 20015



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dnms

US Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, Pennsylvania 19406-1415



**ACKNOWLEDGEMENT - RECEIPT OF CORRESPONDENCE**

**Name and Address of Applicant and/or Licensee**

The Carnegie Institute of Washington  
ATTN: Russell J. Hemley, Ph.D., Director  
Geophysical Laboratory  
5251 Broad Branch Road, NW  
Washington, DC 20015-1305

**Date**

January 17, 2017

**License Number(s)**

08-00604-06

**Mail Control Number(s)**

592774

**Licensing and/or Technical Reviewer or Branch**

Commercial, Industrial, R&D, & Academic Branch  
(Branch 2)

This is to acknowledge receipt of your:  Letter and/or  Application Dated: 12/29/2016

The initial processing, which included an administrative review, has been performed.

Amendment  Termination  New License  Renewal

There were no administrative omissions identified during our initial review.

This is to acknowledge receipt of your application for renewal of the material(s) license identified above. Your application is deemed timely filed, and accordingly, the license will not expire until final action has been taken by this office.

Your application for a new NRC license did not include your taxpayer identification number. Please complete and submit NRC Form 531, Request for Taxpayer Identification Number, located at the following link: <http://www.nrc.gov/reading-rm/doc-collections/forms/nrc531.pdf>  
Follow the instructions on the form for submission.

The following administrative omissions have been identified:

[Empty box for administrative omissions]

Your application has been assigned the above listed MAIL CONTROL NUMBER. When calling to inquire about this action, please refer to this control number. Your application has been forwarded to a technical reviewer. Please note that the technical review, which is normally completed within 180 days for a renewal application (90 days for all other requests), may identify additional omissions or require additional information. If you have any questions concerning the processing of your application, our contact information is listed below:

**Region I**  
U. S. Nuclear Regulatory Commission  
Division of Nuclear Materials Safety  
2100 Renaissance Boulevard, Suite 100  
King of Prussia, PA 19406-2713  
(610) 337-5260, (610) 337-5313,  
(610) 337-5398, or (610) 337-5239