

## ACCEPTANCE REVIEW MEMO

Licensee: Dept of Army, Pine Bluff Arsenal

License No.: 03-02868-04

Docket No.: 030-08612

Mail Control No.: 470861

Type of Action: Term Date of Requested Action: 02-03-06

Reviewer Assigned: Date Assigned to Reviewer: 02-16-06

Reviewer(s) Who Performed Review: Gaines

Response Received	Deficiencies Noted During Acceptance Review
	1.
	2.
	3.
	4.

Reviewer's Initials: \_\_\_\_\_

Date: \_\_\_\_\_

Branch Chief's and/or SR. HP's Initials: \_\_\_\_\_

Date: \_\_\_\_\_

- ☐ Yes ☐ No Action - decommissioning notification should be issued within 30 days.
- ☐ Yes ☐ No Termination request < 90 days from date of expiration
- ☐ Yes ☐ No Action to be expedited
- \_\_\_\_\_ Medical emergency
- \_\_\_\_\_ Licensee in noncompliance (i.e. no RSO, location of use/storage not on license, radioactive material in possession not on license)
- \_\_\_\_\_ National Security
- \_\_\_\_\_ Other (\_\_\_\_\_)

Branch Chief's and/or Sr. HP's Initials: \_\_\_\_\_

Date: \_\_\_\_\_

### SISP Review

☐ Yes ☒ No

**Non-Publicly Available, Sensitive** if any item below is checked

\_\_\_\_\_ Radionuclides, forms, and quantities

\_\_\_\_\_ Location of RAM

\_\_\_\_\_ Building drawings with locations of RAM

\_\_\_\_\_ Security of RAM (locks, alarms, etc.)

\_\_\_\_\_ SS&D Catalog information

\_\_\_\_\_ Specifics of Emergency Plan (routes to and from RAM, response to security events, etc.)

\_\_\_\_\_ Safeguards Information

Branch Chief's and/or Sr. HP's Initials: ADG

Date: 2/16/06

NRC FORM 314

(6-2004)  
10 CFR 30.36(j)(1); 40.42(j)(1);  
70.38(j)(1); and 72.54(j)(1)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0028

EXPIRES: 06/30/2007

## CERTIFICATE OF DISPOSITION OF MATERIALS

Estimated burden per response to comply with this mandatory collection request: 30 minutes. This submittal is used by NRC as part of the basis for its determination that the facility is released for unrestricted use. 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 [infocollects@nrc.gov](mailto:infocollects@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0028), 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.

## LICENSEE NAME AND ADDRESS

Department of the Army  
Commander, Pine Bluff Arsenal, ATTN: AMSCM-OPPB-RRS  
Pine Bluff, AR 71602-9500

## LICENSE NUMBER

03-02868-04

## DOCKET NUMBER

030-08612

## LICENSE EXPIRATION DATE

04/30/2007

## A. LICENSE STATUS (Check the appropriate box)

- ☐ This license has expired. ☒ This license has not yet expired; please terminate it.

## B. DISPOSAL OF RADIOACTIVE MATERIAL

(Check the appropriate boxes and complete as necessary. If additional space is needed, provide attachments)

The licensee, or any individual executing this certificate on behalf of the licensee, certifies that:

- ☐ 1. No radioactive materials have ever been procured or possessed by the licensee under this license.
- ☒ 2. All activities authorized by this license have ceased, and all radioactive materials procured and/or possessed by the licensee under this license number cited above have been disposed of in the following manner:
- ☒ a. Transfer of radioactive materials to the licensee listed below:
- ☒ b. Disposal of radioactive materials:
- ☐ 1. Directly by the licensee:
- ☐ 2. By licensed disposal site:
- ☒ 3. By waste contractor:
- ☒ c. All radioactive materials have been removed such that any remaining residual radioactivity is within the limits of 10 CFR Part 20, Subpart E, and is ALARA.

## C. SURVEYS PERFORMED AND REPORTED

- ☐ 1. A radiation survey was conducted by the licensee. The survey confirms:
- ☐ a. the absence of licensed radioactive materials
- ☐ b. that any remaining residual radioactivity is within the limits of 10 CFR 20, Subpart E, and is ALARA.
- ☐ 2. A copy of the radiation survey results:
- ☐ a. is attached; or ☐ b. is not attached (Provide explanation); or ☐ c. was forwarded to NRC on: \_\_\_\_\_ Date \_\_\_\_\_
- ☒ 3. A radiation survey is not required as only sealed sources were ever possessed under this license, and
- ☐ a. The results of the latest leak test are attached; and/or ☒ b. No leaking sources have ever been identified.

The person to be contacted regarding the information provided on this form:

NAME	TITLE	TELEPHONE (Include Area Code)	E-MAIL ADDRESS
Richard G. Sabin	Installation Radiation Safety Officer	(870) 540-3047	

Mail all future correspondence regarding this license to:  
ATTN: AMSCM-OPPB-RRS, Bldg. 10-030, Pine Bluff Arsenal, Pine Bluff, AR 71602-9500 rick.sabin@pba.army.mil

## C. CERTIFYING OFFICIAL

I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT

## PRINTED NAME AND TITLE

Stephen D. Redman, Chief of Safety

## SIGNATURE



## DATE

02/03/2006

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECT. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

Attachment to NRC FORM 314  
License Number 03-02868-04  
Docket Number 030-08612

Section B, Item 2

All radioactive materials on license above were removed from storage locations on Pine Bluff Arsenal by qualified and authorized contractor personnel. Two Cobalt 60 sources and two Cesium 137 sources were transferred to pallets, secured from movement or potential damage on pallets and shipped. One Nickel 63 source was packed in a drum and shipped as waste. Radioactive materials ( two Cobalt 60 sources and two Cesium 137 sources) will be reclaimed for future use by Ohmart/Vega Corporation while Duratek Consolidation and Services Facility disposed of as waste (One Nickel 63 source) per regulatory guidance.

Section B, Item 2.a.

Date of Transfer for: 10/25/2005 (two 600 mCi Cobalt 60 sources, SNs 1873HD and 1874HD and two Cesium 137 sources, (1) 500 mCi source SN B206 and (1) 100mCi source SN B4712 )

Recipient: Ohmart/Vega Corporation  
4170 Rosslyn Drive  
Cincinnati, Ohio 45209-1183

Contact Name: Candy Brock  
Customer Support Manager  
Field Service Department  
Phone (513) 272-0131

Recipient State of Ohio Agreement License Number 03212310063.

Section B, Item 2.b.

Material for Disposal: (one 1.50E+01 mCi Nickel 63 source, SN N610-0133)

Recipient: Duratek Consolidation and Service Facility  
16043 Dunbarton Blvd.  
Barnwell, South Carolina 29812

Contact Name: N. Reynolds Black  
Facility Coordinator  
Phone (803) 541-1781

Recipient NRC or Agreement State License Number: not provided in documentation

Section B, Item 2.c.

Residual radioactivity where radioactive materials were stored is zero.



Ohmart/VEGA Corporation  
4170 Rosslyn Drive  
Cincinnati, Ohio 45209-1183  
USA

(800) FOR LEVEL Toll-Free in USA & Canada  
(513) 272.0131 Telephone  
(513) 272.0133 FAX

<http://www.ohmartvega.com> URL  
[info@ohmartvega.com](mailto:info@ohmartvega.com) E-mail

November 2, 2005

Rick Sabin  
Pine Bluff Arsenal  
10-020 Kabrich Circle  
Pine Bluff, AR 71602

Re: Your P.O. #EMS 2005-29  
Ohmart C.O. AR05-120-3987

Sir:

This is to acknowledge the receipt of the following:

Two (2) SHLG-3 source holders each containing 600 mCi (22.2 GBq) Cobalt-60, serial numbers 1873HD and 1874HD, original Ohmart order AR96-021-3487

One TN Model 5206 source holder containing 500 mCi (18.5 GBq) Cesium-137, serial number B206

One TN Model 5190 source holder containing 100 mCi (3.70 GBq) Cesium-137, serial number B4712.

This shipment was received on Ohmart Receiving Record #6939, dated October 25, 2005.

We accept this material and the transfer of ownership to Ohmart. We will handle it in strict accordance with the provisions of our license, with the regulations of the U.S. Nuclear Regulatory Commission, the regulations of the U.S. Department of Transportation and any other applicable laws or regulations.

If you have any additional questions, please do not hesitate to contact us.

Sincerely,

Candy Brock  
Customer Support Manager  
Field Service Department

Ohmart's State of Ohio License Number 03212310063

c: File  
Thom Dias (EMS; P.O. Box 31324; Walnut Creek, CA 94598)

# Ohmart/VEGA Corp.

4241 Allendorf Drive

Cincinnati, OH 45209

Phone (513) 272-0131 Fax (513) 272-0133

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## Leak Test Report

### Customer Information:

Richard Sabin

Pine Bluff Arsenal

10-020 Kabrich Circle

Pine Bluff, AR 71602-9500

Original SO/CO: TN  
Source Holder: 5206  
Customer Tag # : Disposal  
Test Performed On: 10/19/2005

### Test Information:

Analyzed By: David Brink                      Testing Interval:  
Equipment #: NS-0012                      Next Test Due:  
Calibration Due: 6/24/2006                      Analysis Date: 10/25/2005  
Result OK: ☒ (Activity less than 0.005 ( $\mu$ Ci) [200Bq]  
Defective: ☐

### Measurement Data:

Leak Test CPM: 16  
Background CPM: 15

Source Serial #:	Isotope:	mCi	GBq
B206	Cs-137	500	18.5

Ohmart/VEGA's leak test analysis is done per work instruction NSI-0006 in compliance with Ohio DOH License 03212310036.



Signature

10-25-05

Date

# Ohmart/VEGA Corp.

4241 Allendorf Drive

Cincinnati, OH 45209

Phone (513) 272-0131 Fax (513) 272-0133

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## Leak Test Report

### Customer Information:

Richard Sabin

Pine Bluff Arsenal

10-020 Kabrich Circle

Pine Bluff, AR 71602-9500

Original SO/CO: TN  
Source Holder: 5190  
Customer Tag # : Disposal  
Test Performed On: 10/19/2005

### Test Information:

Analyzed By: David Brink                      Testing Interval:  
Equipment #: NS-0012                      Next Test Due:  
Calibration Due: 6/24/2006                      Analysis Date: 10/25/2005  
Result OK: ☒ (Activity less than 0.005 (μCi) [200Bq]  
Defective: ☐

### Measurement Data:

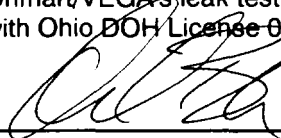
Leak Test CPM: 19  
Background CPM: 15

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Source Serial #:	Isotope:	mCi	GBq
B4712	Cs-137	100	3.7

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Ohmart/VEGA's leak test analysis is done per work instruction NSI-0006 in compliance with Ohio DOH License 03212310036.



Signature

10-25-05

Date

# Ohmart/VEGA Corp.

4241 Allendorf Drive  
Cincinnati, OH 45209  
Phone (513) 272-0131 Fax (513) 272-0133

---

## Leak Test Report

### Customer Information:

Richard Sabin  
Pine Bluff Arsenal  
10-020 Kabrich Circle  
Pine Bluff, AR 71602-9500

Original SO/CO: 1873HD  
Source Holder: SHLG-3  
Customer Tag # : Disposal  
Test Performed On: 10/19/2005

### Test Information:

Analyzed By: David Brink                      Testing Interval:  
Equipment #: NS-0012                      Next Test Due:  
Calibration Due: 6/24/2006                      Analysis Date: 10/25/2005  
Result OK: ☒ (Activity less than 0.005 (μCi) [200Bq]  
Defective: ☐

### Measurement Data:

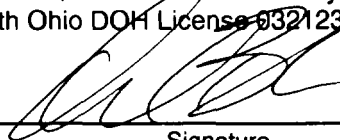
Leak Test CPM: 13  
Background CPM: 15

---

Source Serial #:	Isotope:	mCi	GBq
1873HD	Co-60	600	22.2

---

Ohmart/VEGA's leak test analysis is done per work instruction NSI-0006 in compliance with Ohio DOH License #3212310036.



Signature

10.25.05

Date

# Ohmart/VEGA Corp.

4241 Allendorf Drive  
Cincinnati, OH 45209  
Phone (513) 272-0131 Fax (513) 272-0133

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## Leak Test Report

### Customer Information:

Richard Sabin  
Pine Bluff Arsenal  
10-020 Kabrich Circle  
Pine Bluff, AR 71602-9500

Original SO/CO: AR96-021-3487  
Source Holder: SHLG-3  
Customer Tag # : Disposal  
Test Performed On: 10/19/2005

### Test Information:

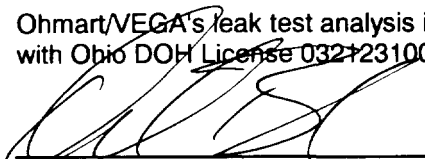
Analyzed By: David Brink                      Testing Interval:  
Equipment #: NS-0012                      Next Test Due:  
Calibration Due: 6/24/2006                      Analysis Date: 10/25/2005  
Result OK: ☒ (Activity less than 0.005 ( $\mu$ Ci) [200Bq]  
Defective: ☐

### Measurement Data:

Leak Test CPM: 23  
Background CPM: 15

Source Serial #:	Isotope:	mCi	GBq
1874HD	Co-60	600	22.2

Ohmart/VEGA's leak test analysis is done per work instruction NSI-0006 in compliance with Ohio DOH License 03212310036.

  
\_\_\_\_\_  
Signature

10-25-05  
\_\_\_\_\_  
Date



ATSC

## STRAIGHT BILL OF LADING - SHORT FORM

ORIGINAL - NOT NEGOTIABLE

ROADWAY EXPRESS

(Name of Carrier)

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading. From: Company Pine Bluff Arsenal

Address: 10-020 Kabrich Circle / Pine Bluff, AR 71602

The property described below, in apparent good order, except as noted (content and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) in Official Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, the transportation of this shipment, and the said terms and conditions are hereby agreed to by the

580



580-716851-0

Roadway's tariffs are incorporated herein (copies available upon request). Roadway's tariffs limit its liability. This shipment is subject to the terms and conditions of the Uniform Straight Bill of Lading as stated in the NMFC 100 series tariff.

Consigned to Ohmart/VEGA Corporation

Destination 4241 Allendorf Drive; Cincinnati, OH 45209

Route

CKR	PCS	Q/B UNIT	DEST
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No. Pkg.	H / M	Kind of Packages, Description of Articles, Special Marks and Exceptions	Weight Sub. to Car.	Principal Radioactive Contents	Activity of Contents	T.I.	Type Label
1	H	RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, 7, UN 3332	445.46g	CO-60	44.46Bq (1200mCi)	1.0	yellow II
1	H	RADIOACTIVE MATERIAL, TYPE A PACKAGE, 7, UN 2915  Physical and Chemical Form Solid, Metallic. For Gas Ion Chambers Only ARGON, COMPRESSED, 2.2, UN1006 (DOT - E 8472). IN METAL CYLINDERS (ITEM NO. 85880)  This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to applicable regulations of the Department of Transportation. 24 Hour Emergency Contact: <i>Thomas J. Thompson</i> <i>Chemtree</i> 800-424-9300	90.9kg	CS-137	22.26Bq (600mCi)	0.3	yellow II

Bill To:

Environmental Management Services Inc

3075 Citrus Circle - #160  
Walnut Creek, CA  
94598

Third Party Bill To:

SHIPPER'S REF. NO. AR05-120-3987

MATERIAL RETURN AUTHORIZATION NO. 102920

Prepaid ☒

Collect

NAME OF SHIPPER

Environmental Management Services Inc  
Pine Bluff Arsenal

RECEIVED BY

*Richard*  
*Howard*

Permanent post office address of shipper:

10-020 Kabrich Circle / ARSCM-OPB-RPS  
Pine Bluff, AR 71602

Received date

10-20-05

Shipper's signature

*Thomas J. Thompson*  
*for AFSC*

Date signed

1 SKID AND 1 DRUM  
10-20-05

## Shipper Inventory, Inspection, and Survey Form

Shipment No. USA 2005-003

Page 1 of 1

Radiation Level on container surface (mR/hr)

Radiation Level at one meter (mR/hr) \_\_\_\_\_

Radioactive contamination Level on container surface (dpm/100cm2) < 1000

Type of container labels \_\_\_\_\_

[illegible]

Ci  
6.0000E-01

**TOTALS**

\_\_\_\_\_

mCi	1.80E+03
MBq	6.66E+04

**Shipment Total**

\_\_\_\_\_

mCi

MBq 0.00E+00

**FIGURE 4.3.1**  
**EMS**  
**RADIOLOGICAL SURVEY REPORT**

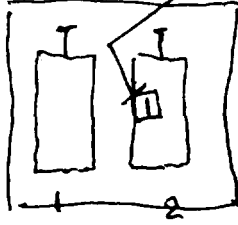
Date: 10/19/05	Time: 12:30	Surveyor (printed name): Thomas Dias
Surveyor (signature): <i>Thomas Dias</i>		
Reviewed by:		Date:
Purpose of Survey: Roadway Express Shipment to Ohmsted UG2		
Location: Pine Bluff Arsenal, Pine Bluff, AR		

**INSTRUMENTS USED**

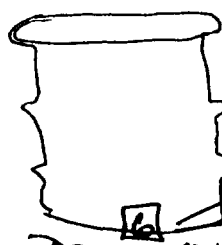
MODEL NO.	SERIAL NO.	CAL. DUE DATE	BKGRD
1. Ludlum 16	11781	July 06	
2. 44-38	PR 225702	"	
3. 44-9	PR-697241	"	

ITEM OR LOCATION • Smear locations are circled	Dose Rate Mr/hr	Contamination counts/minute Per 100 cm2		Distance or smear location
		Alpha	B-G	
1. MAX D/R on Surface of Skid #01	30.0	N/A	N/A	1"
2. MAX D/R 1m from Skid #01	1.0	N/A	N/A	1M
3. Smear of Containers on Skid-01	N/A	<10	<100	
4. (Large Area Smear)				
5.				
6. MAX D/R on Surface of Drum #01	9.5	N/A	N/A	1"
7. (Bottom of Drum)				
8. MAX D/R 1m from Drum #01	.3	N/A	N/A	1M
9. Smear of Drum #01	N/A	<10	<100	
10.				
11.				

Remarks:



Skid - 01



Drum - 01



**Duratek™**

Consolidation and Services Facility  
16043 Dunbarton Boulevard  
Barnwell, South Carolina 29812  
803-541-1781 fax 803-541-7302  
[www.duratekinc.com](http://www.duratekinc.com)

October 24, 2005

US Army; HQ, Army Field Support Command  
ATTN: AMSFS-SF(Kelly Crooks)  
1 Rock Island Arsenal  
Building 350, 3rd Floor SE  
Rock Island, Illinois 61299-6000

Attention: Kelly Crooks

Reference: Radioactive Waste Shipment- USA 2005-003  
(SCN-0031-05)  
Pine Bluff Arsenal  
10-020 Kabrich Circle  
Pine Bluff, Arkansas 71602

Dear Mr. Crooks,

As required by 10CFR Part 20, South Carolina Title A, and Duratek Consolidation and Services Facility Radioactive Material Inventory and Control Procedure (DF-AD-010), you are hereby notified that the shipment referenced above has been received at the Duratek Consolidation and Services Facility.

A signed copy of the Form 540 for this shipment is attached as acknowledgment of the acceptance of the waste shipment. This material meets all the requirements of the Duratek Consolidation and Services Facility acceptance criteria at the point of receipt inspection. You will be notified by our facility if the material is found to be in non-compliance during processing.

If you have any questions regarding this letter, please contact me at (803) 259-1119, ext. 5064, fax (803) 259-1797 or e-mail [NRBLACK@DURATEKINC.COM](mailto:NRBLACK@DURATEKINC.COM).

Sincerely,

N. Reynolds Black  
Duratek Consolidation and Services Facility  
Facility Coordinator

925 938-0105  
original DCF

FORM 540 CHEM-NUCLEAR CONSOLIDATION FACILITY UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER				5. SHIPPER - NAME AND FACILITY EMS at Pine Bluff Arsenal 10-030 Kahrlich Circle Pine Bluff, AR 71802		SHIPMENT I.D. NUMBER SCN-0031-05		7. FORM 540 AND 540A FORM 541 AND 541A FORM 542 AND 542A ADDITIONAL INFORMATION		8. MANIFEST NUMBER (Use this number on all continuation pages) USA 2005-003 DCF	
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) 800-434-6399				3. C. TRANSPORT PERMIT NUMBER 9157-00-05-E		SHIPMENT NUMBER USA 2005-003 DCF		X GENERATOR TYPE (Specify) G		9. CONSIGNEE - Name and Facility Address Chem-Nuclear Systems, LLC Chem-Nuclear Consolidation Facility Hwy 64 (1 mile west of Snelling) Bartlett, SC 29612	
ORGANIZATION Environmental Management Services, Inc.				CONTACT Thomas J. Dias		TELEPHONE NUMBER (Include Area Code) 810-838-0982		CONTACT <del>John East</del> <u>REN Black</u>		TELEPHONE NUMBER (Include Area Code) 803-259-4440 1781	
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST ===== 1		6. CARRIER - Name and Address Fed EX Dangerous Goods Department PO Box 727 DEPT 4634 MEMPHIS, TN 38194		EPA I.D. NUMBER NA		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.	
4. DOES EPA REGULATE WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? If "Yes," provide Manifest Number =====				EPA MANIFEST NUMBER NA		CONTACT NA		SHIPPING DATE NA		DATE 10-21-05	
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	
Radioactive Material, Type A Package, non-special form, non-fissile, 7, UN2915 Sealed sources/Devices				Yellow II		1		Solid Oxides		H-3 Kr-85 Ni-63 Pm-147 Th-232	
										16. TOTAL PACKAGE ACTIVITY mCi	
										7.4296E+04 (2.0060E+03)	
										17. LSA/SCO CLASS	
										NA	
										18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	
										40. LBS; 1.34 FT3	
										19. IDENTIFICATION NUMBER OF PACKAGE	
										DCF-01 USA DOT 7ATYPERA	
FOR CONSIGNEE USE ONLY				101 Bay SORT		20. "Certification is hereby made to the South Carolina Department of Health and Environmental Control that this shipment of low-level radioactive waste has been inspected in accordance with the requirements of South Carolina Radioactive Material License 287-04 as amended, and the effective consolidation facility acceptance criteria, within 48 hours prior to shipment, and further certification is made that the inspection revealed no items of non-compliance with all applicable laws, rules, and regulations."					
						Date <u>10/19/05</u> Signature <u>Thomas J. Dias</u>					
						Title and Organization <u>BR0462 Environmental Mgmt. Svcs.</u>					
						Telephone No. (510) <u>828-4962</u>					

<b>FORM 540</b> <b>CHEM-NUCLEAR CONSOLIDATION FACILITY</b> <b>UNIFORM LOW-LEVEL RADIOACTIVE</b> <b>WASTE MANIFEST</b> <b>SHIPPING PAPER</b>			5. SHIPPER -- NAME AND FACILITY EMS at Pine Bluff Arsenal 10-020 Kabrich Circle Pine Bluff, AR 71602			SHIPMENT I.D. NUMBER <b>SCN-0031-05</b>		7. FORM 540 AND 540A FORM 541 AND 541A FORM 542 AND 542A ADDITIONAL INFORMATION		PAGE 1 OF 1 PAGE(S) PAGE(S) PAGE(S)		8. MANIFEST NUMBER (Use this number on all continuation pages) <b>USA 2005-003 DCF</b>			
			S.C. TRANSPORT PERMIT NUMBER 0137-00-05-E		SHIPMENT NUMBER USA 2005-003 DCF		COLLECTOR PROCESSOR		GENERATOR TYPE (Specify) G		9. CONSIGNEE - Name and Facility Address <b>Chem-Nuclear Systems, LLC</b> <b>Chem-Nuclear Consolidation Facility</b> <b>Hwy 64 (1 mile west of Snelling)</b> <b>Barnwell, SC 29812</b>		CONTACT <b>John East Ren Black</b> TELEPHONE NUMBER (Include Area Code) <b>803-259-4449 1781</b>		
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) <b>800-424-9300</b>			CONTACT Thomas J. Dias			TELEPHONE NUMBER (Include Area Code) <b>510-828-4962</b>		SIGNATURE - Authorized consignee acknowledging waste receipt		DATE					
ORGANIZATION Environmental Management Services, Inc.			6. CARRIER -- Name and Address Fed EX Dangerous Goods Department PO Box 727 DEPT 4634 MEMPHIS, TN 38194			EPA I.D. NUMBER NA		SHIPPING DATE NA		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 =====> 1		CONTACT NA		TELEPHONE NUMBER (Include Area Code) <b>901-344-3000</b>		DATE		AUTHORIZED SIGNATURE <b>Thomas J. Dias</b>		TITLE <b>Broker for ARS</b>		DATE <b>10/19/05</b>	
4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? If "Yes," provide Manifest Number =====>		EPA MANIFEST NUMBER NA		SIGNATURE -- Authorized carrier acknowledging waste receipt		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		17. LSA/SCO CLASS	18. TOTAL WEIGHT OR VOLUME (Use appropriate units)		19. IDENTIFICATION NUMBER OF PACKAGE		
Radioactive Material, Type A Package, non-special form, non-fissile, 7, UN2915 Sealed sources/Devices			Yellow II	1	Solid Oxides	H-3 Kr-85 NI-63 Pm-147 Th-232		7.4296E+04 (2.0080E+03)		NA	40. LBS; 1.34 FT3		DCF-01 USA DOT 7A+4EA		
FOR CONSIGNEE USE ONLY						20. "Certification is hereby made to the South Carolina Department of Health and Environmental Control that this shipment of low-level radioactive waste has been inspected in accordance with the requirements of South Carolina Radioactive Material License 287-04 as amended, and the effective consolidation facility acceptance criteria, within 48 hours prior to shipment, and further certification is made that the inspection revealed no items of non-compliance with all applicable laws, rules, and regulations."									
						Date <u>10/19/05</u> Signature <u>Thomas J. Dias</u> Title and Organization <u>Broker, Environmental Mgmt Svcs. Inc.</u> Telephone No. (510) <u>581-3244</u>									

FORM 541  CHEM-NUCLEAR CONSOLIDATION FACILITY  <b>UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST</b>  CONTAINER AND WASTE DESCRIPTION  Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste		1. MANIFEST TOTALS							2. MANIFEST NUMBER USA 2005-003 DCF							
		NUMBER OF PACKAGES/ DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT	SPECIAL NUCLEAR MATERIAL (grams)											
					U-233	U-235	Pu	TOTAL								
		1	m3 1.3400	kg 18.1437	NP	NP	NP	NP								
		ACTIVITY							SOURCE							
ALL NUCLIDES		TRITIUM	C-14	Tc-99	I-129											
MBq	7.4296E+04	7.1780E+04	NP	NP	NP	(kgs)	8.4500E-03									
mCi	2.0080E+03	1.9400E+03	NP	NP	NP	(lbs)	1.8629E-02	SHIPMENT ID NUMBER SCN-0031-05								
DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER									
5. CONTAINER IDENTIFICATION NUMBER / S.C. TRANSPORT PERMIT NUMBER	6. CONTAINER DESCRIPTION (See Note 1 & Note 1A)	7. VOLUME (m3) (ft3)	8. WASTE AND CONTAINER WEIGHT (kg) (lb)	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 & Note 3A)	14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION		16. WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C	
					ALPHA	BETA-GAMMA					CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF>0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT			
DCF-01/0137-00-08-E 10-020 Kabrich Circle Pine Bluff, AR 71602	4	0.0379  1.3400	18.1437  40.0000	1.0000E-02  1.0000E+00	<3.6740E-07  <2.200E+01	<3.6740E-06  <2.200E+02	36-H	0.0379  1.3400	100 100	Oxides/None	N/P	H-3 Kr-85 Ni-63 Pm-147 Th-232 [8.4500E-03 kgs] 7.1780E+04 9.2600E+02 9.2600E+02 6.6600E+02 3.5261E-02		1.9400E+03 2.5000E+01 2.5000E+01 1.8000E+01 9.5300E-04	AU	
												Subtotal ***** Total		7.4296E+04 ***** 7.4296E+04	2.0080E+03 ***** 2.0080E+03	
												Source: [8.4500E-03 kgs]				
Shipment Totals		0.0379  1.3400	18.1437  40.0000									Source: [8.4500E-03 kgs]		7.4296E+04	2.0080E+03	

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	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	19. Other. Describe in Item 6, or additional page.
7. Polyethylene Tank or Liner	
8. Fiberglass Tank or Liner	

Note 1A: Barnwell Specific Container Description Codes. (Choose one code as may be applicable.)

A High Integrity Container - Poly
B High Integrity Container - Poly with Steel Shell
C High Integrity Drum Overpack - Poly
D High Integrity Container - Stainless Steel
E High Integrity Container - Fiberglass
F Liner - Steel

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 carcass)
25. Aqueous Liquid	34. Organic Liquid (except oil)	43. Activated Material
26. Filter Media	35. Glassware or Labware	59. 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: Barnwell Specific Waste Descriptor Codes (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	94. Vinyl Ester Styrene
90. Cement	99. Other. Describe in item 13, or additional page
91. Concrete	
92. Bitumen	
93. Vinyl Chloride	100. None Required.

Note 3A: Barnwell Specific Solidification and Stabilization Media Codes (Choose this code if applicable)

M Wax Binder
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**UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST  
ISOTOPES REPORT**

**For Manifest # USA 2005-003 DCF  
CHEM-NUCLEAR CONSOLIDATION FACILITY**

<u>Isotope</u>	<u>Total Activity</u>	
	<u>(MBq)</u>	<u>(mCi)</u>
H-3	7.1780E+04	1.9400E+03
Kr-85	9.2500E+02	2.5000E+01
Mi-63	9.2500E+02	2.5000E+01
Pm-147	6.6600E+02	1.8000E+01
Th-232	3.5261E-02	9.5300E-04



**SHIPPER'S DECLARATION FOR DANGEROUS GOODS** (Provide at least three copies to the airline)**Shipper:**

Thomas J. Dias  
Environmental Management Services Inc.  
3075 Citrus Circle Suite #160  
Walnut Creek, CA 94596  
510-828-4962

Air Waybill No.

8532-6653-2460

Page

1 of 1

Pages

Shipper's Reference Number USA 2005-003  
(optional)**Consignee:**

Duratek Consolidation Facility  
Hwy 64 (1 mile west of Snelling)  
Barnwell, SC US 29812  
Attn: Ren Black  
803-259-1119

**FedEx**

**Two completed and signed copies of this Declaration must be handed to the operator.**

**WARNING**

Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.

**TRANSPORT DETAILS**

This shipment is within the limitations prescribed for  
(delete non-applicable)

Airport of Departure

~~PASSENGER  
AND CARGO  
AIRCRAFT~~

CARGO  
AIRCRAFT  
ONLY

Airport of Destination

Shipment type: (delete non-applicable)

~~NON-RADIOACTIVE~~

RADIOACTIVE

**NATURE AND QUANTITY OF DANGEROUS GOODS**

Dangerous Goods Identification					Quantity and type of packaging	Packing Inst.	Authorization
Proper Shipping Name	Class Or Division	UN or ID No.	Pack- ing Group	Subsidiary Risk			
Radioactive material, Type A Package, non-special form, non-fissile	7	UN 2915			H3, 1.05e5 MBq Ni63, 7.17e4MBq PM147, 6.7e2 MBq Th232, 3.52e-2 MB Kr-85, 9.25e2 MBq All packaged in one Type A Package	Yell ow II TI.1 DIMS 35cm x 42cm	

**Additional Handling Information:** "I DECLARE THAT ALL OF THE APPLICABLE AIR TRANSPORTATION REQUIREMENTS HAVE BEEN MET"

**Emergency Telephone Number:** CHEMTREX 1-800-424-9300

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.

**Name/Title of Signatory**

Thomas J. Dias

**Place and Date**

Pine Bluff, AR 10/19/05

Signature

(see warning above)



REPLY TO  
ATTENTION OF:

DEPARTMENT OF THE ARMY  
HEADQUARTERS, U.S. ARMY FIELD SUPPORT COMMAND  
1 ROCK ISLAND ARSENAL  
ROCK ISLAND, IL 61299-6500

September 22, 2005

Safety/Rad Waste Directorate

Ms. Rita Houskie  
Central Interstate Low-Level  
Radioactive Waste Commission  
1033 O Street, Suite 530  
Lincoln, Nebraska 65808

Dear Ms. Houskie:

While it is our position that the law does not allow us to pay for an export authorization, we will keep you informed of the excess radioactive material that we export from your compact region. We will export materials during October 2005 from the following location:

AMSCM-OPPB-RRS/Mr. Rick Sabin  
Pine Bluff Arsenal  
10-020 Kabrich Circle  
Pine Bluff, Arkansas 71602-9500

We will ship approximately 18 cubic feet of instruments and articles.

The point of contact is Ms. Tracey Cook or Ms. Judy Woodson, AMSFS-SF, (309) 782-0351/1886 respectively, facsimile (309) 782-2988, electronic mail address afsc-ofc.sf@afsc.army.mil.

Sincerely,

//signed//

Rosalene E. Graham  
Director, Safety/Rad Waste  
Directorate

## Shipper Inventory, Inspection, and Survey Form

Shipment No. USA 2005-003

Page 1 of 1

Radiation Level on container surface (mR/hr) \_\_\_\_\_

Radiation Level at one meter (mR/hr) \_\_\_\_\_


Radioactive contamination Level on container surface (dpm/100cm<sup>2</sup>) < 1000

Type of container labels Yellow II[illegible]TOTALS ☐

mCi	2.01E+03	2.01E+00
MBq	7.43E+04	

Shipment Total ☐

11

mCi   
MBq 0.00E+00

South Carolina Department of Health and Environmental Control  
Radioactive Waste Shipment Certification Form

General Instructions and Information: This is a two part form to be used by shippers and carriers of radioactive waste. The certifications contained herein satisfy the requirements of Section 13-7-150, of Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act. This certification along with a copy of the prior notification form shall accompany each shipment of radioactive waste into and within the State of South Carolina. The shipper is to complete his portion of the form and present it to the carrier as part of the shipping documents. Upon receipt, the carrier shall complete his portion of the form. Upon delivery of the shipment to the consignee, a copy of this certification form, and a copy of the Prior Notification and Manifest form with the consignee acknowledgment, shall be returned to the Department.

Part I: Shipper's Certificate of Compliance

1. Name of Shipper and Address:

US Army, Industrial Operations Command (IOC)  
Rock Island, IL 61299-6000

Attention: AMSIO-SF/(Crooks)

Telephone No.: 309-782-0338

2. Shipment Identification No.:

USA 2005-003-DCF

3. Transport Permit No.:

0148-00-05-E

In compliance with Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, I hereby certify on behalf of the above named shipper to the South Carolina Department of Health and Environmental Control that the above named shipper has complied with all provisions of Act No. 499 of 1980, and all applicable laws and administrative rules and regulations, both State and Federal, regarding the packaging, transportation, storage, disposal and delivery of such wastes. I further certify that this shipment of radioactive waste has been inspected within 48 hours of the time of departure and that no items of non-compliance with applicable laws, rules or regulations were found.

Date: 10/19/05

Thomas J. Dias for IOC

Typed Name and Title of Agent or Shipper



Signature

Part II: Carrier's Certification

1. Name of Carrier and Address:

Federal Express  
P.O. Box 727 Dept 4634  
Memphis, TN 38194

Telephone No.: 901-344-3000

2. Shipment Identification No.

USA-2005-003-DCF

3. Transport Trailer No.

4. Scheduled Date of Departure of Shipment:

10/19/05

5. Estimated Date of Arrival of Shipment:

10/20/05

Certification is hereby made to the South Carolina Department of Health and Environmental Control that: (a) the shipper has provided the carrier with a copy of the shipment manifest, the certificate of compliance, and the routing instructions; (b) the shipment of radioactive waste has been properly placarded for transport according to applicable U.S. Department of Transportation Regulations; (c) all shipping papers originated or reproduced by the carrier have been properly executed; (d) the transport vehicle has been inspected according to applicable State and Federal regulations within the prescribed intervals and that all safety and operational components are in good working order and meet the requirements of regulations; (e) all drivers who will operate the vehicle within the state of South Carolina are qualified to transport hazardous material as specified by applicable U.S. Department of Transportation regulations; (f) the Department shall be immediately notified of any variance, occurring after departure from the shipper's notification of primary routes in South Carolina and estimated date of arrival; (g) All applicable laws and administrative rules and regulations, both State and Federal, regarding the transportation of radioactive wastes will be complied with.

Date: 10/19/05

Driver.

Typed or Printed Name and Title

X

Signature

**SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL**  
**Radioactive Waste Shipment Prior Notification and Manifest Form**

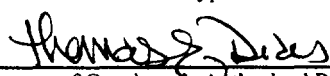
[Failure to Complete ALL Entries Will Result in Return of Form and Constitute Noncompliance.]

See Reverse Side for Instructions

1. Name and Address of Shipper/Generator: HQ, US Army, Field Support Command (AFSC) Attn.: AMSIO-SF/(Crooks) Rock Island, IL 61299-6000 Pine Bluff Arsenal		2. Person Responsible for Waste Shipment: a) Name: Kelly Crooks b) Title: Health Physicist c) Telephone: (309) 782-0338	
3. Radioactive Waste Transport Permit No. 0148-00-05-E		4. Shipment Identification No.: USA 2005-003-DCF	
5. Location from which waste will be shipped: AMSCM-OPPB-CO Pine Bluff Arsenal 10-020 Kabrich Circle, Pine Bluff, AR 71602-9500		6. Name and Address of Consignee: Duratek Consolidation Facility Snelling, SC 29812	
7. Scheduled Date of Departure of Shipment: 10/19/2005		8. Estimated Date of Arrival of Shipment: 10/20/2005	
9. Carrier: Federal Express	10. Trailer No. & Owner: (if avail.)	11. Type Transport Vehicle: Closed Van	
12. Routes shipment will follow in State of South Carolina (Be Spe US 278, SC Hwy 64)			
13. Type Package or Cask Metal Drums	14. Type Container in Cask: N/A	15. Package or Cask Spec. USA DOT 7A Type A, UN/1A2 Steel drums	
16. Complete Waste Description (Be Specific): Sources, dials, gauges, items, devices, DAW			
17. Physical & Chemical Form: solid metals & oxides	18. Total No. of Packages: 1	19. Prominent Radionuclides: H-3 Ni-63 Pm-147 Th-232 Kr-85	
20. Total Curies: 2.0080E+03	21. Waste Class & Stability: AU	22. Total Cubic Feet: 1.34	
23. DOT Sub Type: Type A non special form, non fissile	24. DOT Class. & Hazard Class UN No.: Class 7, Type A, non-special form, non-fissile UN 2915	25. Hwy. Route Controlled: (Large Quantity) [ ] Yes [X] No	

I hereby certify on behalf of the above-named shipper/generator to the South Carolina Department of Health and Environmental Control that the information provided herein is complete and correct to the best of my knowledge; and that the shipper/generator has complied with all the provisions as required by Act No. 429 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, and Department Regulation 61-83.

Date 10/19/05

Thomas J. Dias  
 Typed Name  
  
 Signature of Consignor's Authorized Representative

**CONSIGNEE ACKNOWLEDGMENT**

Date of Delivery \_\_\_\_\_

Signature of Consignee's Authorized Representative \_\_\_\_\_

\_\_\_\_\_  
 Typed or Printed Name and Title

**FIGURE 4.3.1**  
**EMS**  
**RADIOLOGICAL SURVEY REPORT**

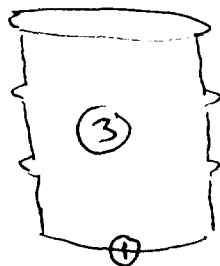
Date: 10/19/05	Time: 1:30	Surveyor (printed name): Thomas J. Dins
Surveyor (signature): <i>Thomas J. Dins</i>		
Reviewed by:		Date:
Purpose of Survey: Federal Express Shipment to DCF		
Location: Pine Bluff Arsenal, Pine Bluff, AR.		

**INSTRUMENTS USED**

MODEL NO.	SERIAL NO.	CAL. DUE DATE	BKGRD
1. Ludlum 16	11281	July 06	
2. 44-38	PR 225702	"	
3. 44-9	PR 097241	"	

ITEM OR LOCATION * Smear locations are circled	Dose Rate Mr/hr	Contamination counts/minute Per 100 cm <sup>2</sup>		Distance or smear location
		Alpha	B-G	
1. MAX D/R @ Surface of Container	1.0	N/A	N/A	1"
2. MAX D/R @ 1m from Surface	0.1	N/A	N/A	1M
3. Smears of Container Surface -	N/A	<10	<100	SMEAR
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				

Remarks:



Container Survey Prior to  
transfer to FED-X-  
Container # DCF-01

# STRAIGHT BILL OF LADING - SHORT FORM

ORIGINAL - NOT NEGOTIABLE

(Name of Carrier)

RECEIVED, subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading. **From:**  
Company Pine Bluff Arsenal

Address: 10-020 Kabrich Circle / Pine Bluff, AR 71602

The property described below, in apparent good order, except as noted (content and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading Set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classifications or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Consigned to Ohmart/VEGA Corporation

Destination 4241 Allendorf Drive; Cincinnati, OH 45209

Route \_\_\_\_\_

No. Pkg.	H / M	Kind of Packages, Description of Articles, Special Marks and Exceptions	Weight Sub. to Cor.	Principal Radioactive Contents	Activity of Contents	T.I.	Type Label
1	H	RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, 7, UN 3332	445.4kg	CO-60	44.46Bq (1200mCi)	1.0	yellow II
1	H	RADIOACTIVE MATERIAL, TYPE A PACKAGE, 7, UN 2915  <i>Physical and Chemical Form</i> <i>Solid, Metallic.</i> <i>for Gas Ion Chambers Only</i> ARGON, COMPRESSED, 2.2, UN1006 (DOT - E 8472). IN METAL CYLINDERS (ITEM NO. 85880)  This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to applicable regulations of the Department of Transportation.  24 Hour Emergency Contact: <i>Mike Thompson</i> <i>Chemtree</i> 800-424-9300	90.9kg	CS-137	22.26Bq (600mCi)	0.3	yellow II

Third Party Bill To:

SHIPPER'S REF. NO. AR05-120-3987

MATERIAL RETURN AUTHORIZATION NO. 102320

Prepaid ☒

Collect

NAME OF SHIPPER

Environmental Management Services Inc  
Pine Bluff Arsenal

RECEIVED BY \_\_\_\_\_

Permanent post office address of shipper:

10-020 Kabrich Circle / AMSCM-OPB-RPS  
Pine Bluff, AR 71602

Received date \_\_\_\_\_

Shipper's signature

Thomas G. Dail for AFSC

Date signed \_\_\_\_\_



4241 Allendorf Drive  
Cincinnati, Ohio 45209  
513.272.0131 Fax 513.272.4381  
e-mail gbrown@ohmartvega.com

## Emergency Response Guide for Ohmart/VEGA Corp.

**Proper Shipping Name** RADIOACTIVE MATERIAL NOS UN2982  
or RADIOACTIVE MATERIAL, TYPE A PACKAGE UN2915

### 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.
- Type A packages identified as "Type A" by marking on packages or by shipping papers contain non-life endangering amounts. Partial releases might be expected if "Type A" packages are damaged in moderately severe accidents.
- Radioactive White-I labels indicate radiation levels outside single, isolated, undamaged packages are very low (less than 0.005 mSv/h (0.5 mrem/h)).
- Radioactive Yellow-II and Yellow-III labeled packages have higher radiation levels. The transport index (TI) on the label identifies the maximum radiation level in mrem/h one meter from a single, isolated, undamaged package.
- Radioactive materials used in Ohmart/VEGA equipment can be detected by commonly available instruments.
- Water from cargo fire control may cause pollution.

### FIRE OR EXPLOSION

- **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, call 800-543-8668.**
- **Priorities for rescue, life-saving, first aid, and control of fire 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.
- Isolate spill or leak area immediately for at least 15 to 30 meters (50 to 100 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 against internal radiation exposure, but not external radiation exposure.

### EVACUATION

#### 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.

#### 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 Fires

- Dry chemical, CO<sub>2</sub>, 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.
- Damp surfaces on undamaged or slightly damaged packages are seldom an indication of packaging failure.

### 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, 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.

: <http://hazmat.dot.gov/guidebook.htm>



**Evaluation and Testing of Source Holders for Compliance With  
Dot Spec. 7A Requirements for Welded Steel lead filled devices  
manufactured by other manufacturers**

This document is a review of the testing and evaluation that was performed on models of source holders manufactured by companies other than Ohmart/VEGA. These source holders use only ANSI rated sealed source capsules. Materials of construction consist of a cast steel or welded steel and lead filled housing. The source capsule assembly is held in place with a threaded plug or other tamper proof retainer. All of these devices are similar in design and have the same characteristics as the various models of Ohmart/VEGA designs. The shipper is required to inspect each container and verify that there is no excessive rust or corrosion. The shutter mechanism must be lock or secured with other tamper proof methods to prevent the shutter from opening.

**49 CFR – Part 173.410    General design requirements  
(Items A through H)**

The source holder is designed to meet or exceed all design requirements and considerations as listed in 49 CFR, Part 173.410.

**49 CFR – part 173.412    Additional design requirements for Type A Packages.**

- (a) The label is riveted over the loading port or safety wires and seals are placed through the heads of the bolts.
- (b) All external overall dimensions on this package are greater than 10 centimeters (4 inches).
- (c) The temperature range of  $-40^{\circ}\text{C}$  to  $70^{\circ}\text{C}$  is well within the operating range of these materials. There are no internal or external stresses induced on this source holder that would create brittle fracture, nor would there be any loss of shielding.
- (d) This package is designed for solid sealed sources. There is no contained air space that could allow for the build up of pressure. These source holders have provisions for a padlock, when in the off position,

which would require being removed to open the shutter.

- (e) The cast steel or welded steel and lead construction of these devices has shown no radiolytic decomposition in over forty years of use.
- (f) The containment system will retain the radioactive contents under loss of ambient pressure because the material is a solid sealed source capsule and there is no pressure containing area. The source holder will retain its shape with no affect to the internal cavity at a reduced pressure of 25 kPa (3.6 pounds per square inch).
- (g) There are no valves on the package.
- (h) The type of construction, solid castings or welded steel, retains consistent shielding. The radiation label covers the access hole to the source. Therefore, access to the source is not visible and removal of the label is prohibited. When the radiation label is in place, no shielding or contents can be removed from the source holder.
- (i) External tie down attachments to these source holders will not affect the ability of these source holders to meet all the requirements of this subpart.
- (j) When subjected to the tests and requirements specified in Part 173.465 or evaluated by methods authorized in Part 173.461, the source holder will prevent loss or dispersal of the radioactive contents, and will have no significant increase in the surface radiation field of the source holder.
- (k) These source holders are to be used for radioactive source capsules that contain solid material only.
- (l) These source holder are to be used for radioactive source capsules that contain solid material only.

#### **49 CFR – Part 173.465    Type A packaging tests**

- (m) These source holders are capable of withstanding all test prescribed in the section. Representative samples of various models have been tested or evaluated.
- (n) Water Spray Test: All the external surfaces of these source holders are made of solid construction castings and carbon steel. This material is

non-hygroscopic. Water spray simulating 2 inches of rain per hour will have no effect on these source holders.

- (o) Free Drop Test: Representative samples of various designs were dropped several times and onto different sides from a height of four feet onto a non-yielding surface. These tests did not reveal any damage affecting the safety or usability of these source holder. Photographs documented these tests.
- (p) Stacking test: The main housing of the source holders is fabricated of solid construction castings or lead filled carbon steel. If placed under a load five times the weight of the source holder, there is not enough internal cavity to collapse that would reduce the shielding capability of the unit.
- (q) Penetration test: A bar of 3.2 centimeters (1.25 inches) in diameter with a hemispherical end, weighing 6 kilograms (13.2 pounds) was dropped with its longitudinal axis vertical onto the top surface and onto the sides of representative samples of each model. These tests did not reveal any damage that would affect the safety or usability of these source holders.



George Brown  
Radiation Safety Officer  
June 24, 2003

**Evaluation and Testing of Source Holders for Compliance With**  
**Dot Spec. 7A Requirements for Ohmart Source Holders**

Models SH-F, SHD, SHLG, SR, SHRD, MDTs, SHLM-B&BR, SHLM-C&CR&CP, SHRM-B&BW

This document is a review of the testing and evaluation that was performed on all models of Ohmart source holders. These source holders use only ANSI rated sealed source capsules. Materials of construction consist of a cast steel or welded steel and lead filled housing. The source capsule assembly is held in place with a threaded plug or other tamper proof retainer.

**49 CFR – Part 173.410    General design requirements**  
(Items A through H)

The source holder is designed to meet or exceed all design requirements and considerations as listed in 49 CFR, Part 173.410.

**49 CFR – part 173.412    Additional design requirements for Type A Packages.**

- (a) The label is riveted over the loading port or safety wires and seals are placed through the heads of the bolts.
- (b) All external overall dimensions on this package are greater than 10 centimeters (4 inches).
- (c) The temperature range of -40° C to 70° C is well within the operating range of these materials. There are no internal or external stresses induced on this source holder that would create brittle fracture, nor would there be any loss of shielding.
- (d) This package is designed for solid sealed sources. There is no contained air space that could allow for the build up of pressure. These source holders have provisions for a padlock, when in the off position, which would require being removed to open the shutter.
- (e) The cast steel or welded steel and lead construction of these devices has

shown no radiolytic decomposition in over forty years of use.

- (f) The containment system will retain the radioactive contents under loss of ambient pressure because the material is a solid sealed source capsule and there is no pressure containing area. The source holder will retain its shape with no affect to the internal cavity at a reduced pressure of 25 kPa (3.6 pounds per square inch).
- (g) There are no valves on the package.
- (h) The type of construction, solid castings or welded steel, retains consistent shielding. The radiation label covers the access hole to the source. Therefore, access to the source is not visible and removal of the label is prohibited. When the radiation label is in place, no shielding or contents can be removed from the source holder.
- (i) External tie down attachments to these source holders will not affect the ability of these source holders to meet all the requirements of this subpart.
- (j) When subjected to the tests and requirements specified in Part 173.465 or evaluated by methods authorized in Part 173.461, the source holder will prevent loss or dispersal of the radioactive contents, and will have no significant increase in the surface radiation field of the source holder.
- (k) These source holders are to be used for radioactive source capsules that contain solid material only.
- (l) These source holder are to be used for radioactive source capsules that contain solid material only.

#### 49 CFR – Part 173.465 Type A packaging tests

- (m) These source holders are capable of withstanding all test prescribed in the section. Representative samples of each model have been tested or evaluated.
- (n) Water Spray Test: All the external surfaces of these source holders are made of solid construction castings and carbon steel. This material is non-hygroscopic. Water spray simulating 2 inches of rain per hour will have no affect on these source holders.

- (o) Free Drop Test: Representative samples of each model were dropped several times and onto different sides from a height of four feet onto a non-yielding surface. These tests did not reveal any damage affecting the safety or usability of these source holder. Photographs documented these tests.
- (p) Stacking test: The main housing of the source holders is fabricated of solid construction castings or lead filled carbon steel. If placed under a load five times the weight of the source holder, there is not enough internal cavity to collapse that would reduce the shielding capability of the unit.
- (q) Penetration test: A bar of 3.2 centimeters (1.25 inches) in diameter with a hemispherical end, weighing 6 kilograms (13.2 pounds) was dropped with its longitudinal axis vertical onto the top surface and onto the sides of representative samples of each model. These tests did not reveal any damage that would affect the safety or usability of these source holders.

George Brown  
Radiation Safety Officer  
January 12, 2000

F.S. # AR05-120-3987MRA # 102820SKID # 12HIGHEST SURFACE FIELD 201 21

(SEE NOTE #3)

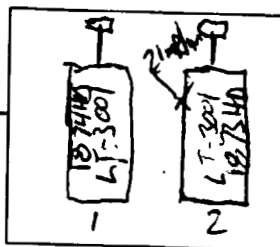
TRANSPORT INDEX 1.0

(SEE NOTE #4)

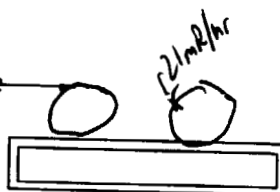
SOURCE HOLDER(S) PACKED ON SKID 2

IN BOX \_\_\_\_\_

SEE NOTES #1 &amp; 2



SEE NOTES #1 &amp; 2



1# SO/CO# AR96-021-3487  
 SOURCE HOLDER LOCKED "OFF" yes  
 SOURCE HOLDER MODEL SHL6-3  
 SOURCE MAT'L CO-60  
 SOURCE ACTIVITY 600 mCi (mCi=0.037GBq)  
 SOURCE SERIAL NO. 1874HD  
 ORIGINAL SHIP DATE 11/97  
 GROSS CONTAMINATION CHECKED OK  
 LEAK TEST PERFORMED M. Thompson

3# SO/CO# \_\_\_\_\_  
 SOURCE HOLDER LOCKED "OFF" \_\_\_\_\_  
 SOURCE HOLDER MODEL \_\_\_\_\_  
 SOURCE MAT'L \_\_\_\_\_  
 SOURCE ACTIVITY \_\_\_\_\_ mCi (mCi=0.037GBq)  
 SOURCE SERIAL NO. \_\_\_\_\_  
 ORIGINAL SHIP DATE \_\_\_\_\_  
 GROSS CONTAMINATION CHECKED \_\_\_\_\_  
 LEAK TEST PERFORMED \_\_\_\_\_

2# SO/CO# AR96-021-3487  
 SOURCE HOLDER LOCKED "OFF" yes  
 SOURCE HOLDER MODEL SHL6-3  
 SOURCE MAT'L CO-60  
 SOURCE ACTIVITY 600 mCi (mCi=0.037GBq)  
 SOURCE SERIAL NO. 1874HD  
 ORIGINAL SHIP DATE 11/97  
 GROSS CONTAMINATION CHECKED OK  
 LEAK TEST PERFORMED M. Thompson

4# SO/CO# \_\_\_\_\_  
 SOURCE HOLDER LOCKED "OFF" \_\_\_\_\_  
 SOURCE HOLDER MODEL \_\_\_\_\_  
 SOURCE MAT'L \_\_\_\_\_  
 SOURCE ACTIVITY \_\_\_\_\_ mCi (mCi=0.037GBq)  
 SOURCE SERIAL NO. \_\_\_\_\_  
 ORIGINAL SHIP DATE \_\_\_\_\_  
 GROSS CONTAMINATION CHECKED \_\_\_\_\_  
 LEAK TEST PERFORMED \_\_\_\_\_

## SURVEY METER

MFR OHMARTMODEL 2402SERIAL NO. 164657LAST CALIBRATION DATE 3/4/2005SURVEYED BY M. Thompson DATE 3/4/2005

## LABELING

DOT TYPE 7A PACKAGE yesOVERPACK yesHAZARDOUS MATERIAL IDENTIFICATION yesWHITE 1 mR/hr SURFACE (SURFACE<0.5mR/hr)YELLOW 11 21 mR/hr SURFACE (0.5<SURFACE<50mR/hr)REPORTABLE QUANTITY (RQ) No

## NOTES:

- 1) INDICATE POSITION OF SOURCE HOLDER ON SKID OR IN BOX.
- 2) CHECK EACH SOURCE HOLDER OR EACH SIDE OF BOX FOR THE HIGHEST SURFACE FIELD. INDICATE WHERE THIS FIELD IS LOCATED BY DRAWING AN ARROW ( ).
- 3) WRITE THE HIGHEST SURFACE FIELD READING IN THE FIELD AT THE TOP OF THIS FORM.
- 4) SURVEY AT 1 METER (39.4 INCHES) FROM THE SURFACE/EDGE OF THE PALLET/BOX AND PAY PARTICULAR ATTENTION TO THE AREA OUT FROM THE HIGHEST SURFACE FIELD. THE TRANSPORT INDEX IS THE DIMENSIONLESS NUMBER (ROUNDED UP TO THE FIRST DECIMAL PLACE) EXPRESSING THE MAXIMUM RADIATION LEVEL IN MILLIREM PER HOUR AT ONE METER (3.3 FEET) FROM THE EXTERNAL SURFACE OF THE PACKAGE.

USER NAME Pine Bluff Arsenal  
 USER ADDRESS 10-020 Kahrach Circle  
Pine Bluff, AR 71602  
 P.O.# 2005-29  
 CONTACT Thomas Dier  
 TELEPHONE # (501)828-4962

OHMART IDENTIFICATION NUMBER 56058

OHMART THE OHMART CORPORATION  
 421 ALLODOR DRIVE, CINCINNATI, OHIO 45244 USA

### RETURNED-SOURCE PACKAGE RADIATION FIELD SURVEY

THIS DOCUMENT INCLUDES INFORMATION WHICH IS PROPRIETARY TO THE OHMART CORPORATION. NEITHER THIS DOCUMENT NOR THE INFORMATION DISCLOSED HEREIN SHALL BE USED OR DISCLOSED TO OTHERS FOR MANUFACTURING OR ANY OTHER PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY THE OHMART CORPORATION. THIS DOES NOT APPLY TO INFORMATION FURNISHED BY VENDORS OR OTHERS OUTSIDE THE OHMART CORPORATION.

MADE FROM  
C-49056

DATE 9-30-94

CHECKED BY DATE

C-56058

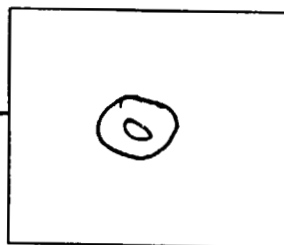
F.S. # AR05-120-3987MRA # 102820SKID # 2 of 2HIGHEST SURFACE FIELD 9.5  
(SEE NOTE #3)  
TRANSPORT INDEX 0.3  
(SEE NOTE #4)

SOURCE HOLDER(S) PACKED ON SKID

CCB NUMBER	SYN	REVISED BY	DATE

cylinder 2  
IN BOX

SEE NOTES #1 &amp; 2



SEE NOTES #1 &amp; 2



1# SO/CO# Texas Nuclear  
SOURCE HOLDER LOCKED "OFF" yes  
SOURCE HOLDER MODEL CN5206  
SOURCE MAT'L CS-137  
SOURCE ACTIVITY 500 mCi (mCi=8837GBq)  
SOURCE SERIAL NO. B200  
ORIGINAL SHIP DATE 2-89  
GROSS CONTAMINATION CHECKED OK  
LEAK TEST PERFORMED M. Thompson

3# SO/CO#   
SOURCE HOLDER LOCKED "OFF"   
SOURCE HOLDER MODEL   
SOURCE MAT'L   
SOURCE ACTIVITY  mCi (mCi=8837GBq)  
SOURCE SERIAL NO.   
ORIGINAL SHIP DATE   
GROSS CONTAMINATION CHECKED   
LEAK TEST PERFORMED

2# SO/CO# Texas Nuclear  
SOURCE HOLDER LOCKED "OFF" yes  
SOURCE HOLDER MODEL SC5790  
SOURCE MAT'L CS-137  
SOURCE ACTIVITY 100 mCi (mCi=8837GBq)  
SOURCE SERIAL NO. B4712  
ORIGINAL SHIP DATE 1/83  
GROSS CONTAMINATION CHECKED OK  
LEAK TEST PERFORMED M. Thompson

4# SO/CO#   
SOURCE HOLDER LOCKED "OFF"   
SOURCE HOLDER MODEL   
SOURCE MAT'L   
SOURCE ACTIVITY  mCi (mCi=8837GBq)  
SOURCE SERIAL NO.   
ORIGINAL SHIP DATE   
GROSS CONTAMINATION CHECKED   
LEAK TEST PERFORMED

SURVEY METER:  
MFR OHMART  
MODEL 2402  
SERIAL NO. 164657  
LAST CALIBRATION DATE 3/4/2005  
SURVEYED BY M. Thompson DATE 10/19/05

LABELING:  
DOT TYPE 7A PACKAGE yes  
OVERPACK no  
HAZARDOUS MATERIAL IDENTIFICATION yes  
WHITE 1                      mR/hr SURFACE (SURFACE < 0.5 mR/hr)  
YELLOW 1 9.5 mR/hr SURFACE (0.5 SURFACE < 50 mR/hr)  
REPORTABLE QUANTITY (RQ) no

## NOTES:

- 1) INDICATE POSITION OF SOURCE HOLDER ON SKID OR IN BOX.
- 2) CHECK EACH SOURCE HOLDER OR EACH SIDE OF BOX FOR THE HIGHEST SURFACE FIELD. INDICATE WHERE THIS FIELD IS LOCATED BY DRAWING AN ARROW ( ).
- 3) WRITE THE HIGHEST SURFACE FIELD READING IN THE FIELD AT THE TOP OF THIS FORM.
- 4) SURVEY AT 1 METER (39.4 INCHES) FROM THE SURFACE/EDGE OF THE PALLET/BOX AND PAY PARTICULAR ATTENTION TO THE AREA OUT FROM THE HIGHEST SURFACE FIELD. THE TRANSPORT INDEX IS THE DIMENSIONLESS NUMBER (ROUNDED UP TO THE FIRST DECIMAL PLACE) EXPRESSING THE MAXIMUM RADIATION LEVEL IN MILLIREM PER HOUR AT ONE METER (3.3 FEET) FROM THE EXTERNAL SURFACE OF THE PACKAGE.

USER NAME Pine Bluff Arsenal  
USER ADDRESS 10-020 Kahrlich Circle  
Pine Bluff, AR 71602  
P.O.# 2005-29  
CONTACT Thomas Dias  
TELEPHONE # 510-828-4962

OHMART IDENTIFICATION NUMBER <u>56058</u>	
OHMART THE OHMART CORPORATION 421 ALLENDRY DRIVE, CINCINNATI, OHIO 45219 USA	
RETURNED-SOURCE PACKAGE RADIATION FIELD SURVEY	
THIS DOCUMENT INCLUDES INFORMATION WHICH IS PROPRIETARY TO THE OHMART CORPORATION. NEITHER THIS DOCUMENT NOR THE INFORMATION DISCLOSED HEREIN SHALL BE USED OR DISCLOSED TO OTHERS FOR MANUFACTURING OR ANY OTHER PURPOSE EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY THE OHMART CORPORATION. THIS DOES NOT APPLY TO INFORMATION FURNISHED BY VENDORS OR OTHERS OUTSIDE THE OHMART CORPORATION.	
DATE FROM C-49056	CHECKED BY/DATE LEE 9-30-94
C-56058	



## LEAK TEST AND SOURCE HOLDER REPORT

Field Service Order Number:

AR05-120-387

Customer: Pine Bluff Arsenal

TESTED BY M. Thompson

DATE 19-Oct-05

Address: 10-020 Kabrich Circle

RSO Richard Sabrin

Customer P.O. Number:

2005-27

Pine Bluff, AR 71602-9500

PHONE NO. 925-939-0687

Attn: Thomas Dicus

FAX NO. 925-938-0105

E-MAIL diastd@sbcbbal.net

A SOURCE THAT TESTS OKAY HAS REMOVABLE CONTAMINATION OF LESS THAN 0.005 MICROCURIES

WIPE NO.	SHOP ORDER	ISOTOPE	SERIAL #	mCi	SOURCE HOLDER	SHIP DATE	CUSTOMER SOURCE #	LEAK TEST PERFORMED	LEAK TEST RESULTS	SHUTTER OPERATION	HOLDER CONDITION	TAG CONDITION
1	AR 96-021-3487	CO-60	1874HD	600	SHLG-3	11/97	disposed	M. Thompson		ok	ok	ok
2	AR 96-021-3487	CO-60	1873HD	600	SHLG-3	11/97						
3	Texas Nuclear	CS-137	B206	500	CN5206	3/89						
4	Texas Nuclear	CS-137	B4712	100	SC5190	1/83						
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Amendment No. 19

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# OHIO DEPARTMENT OF HEALTH

## LICENSE FOR RADIOACTIVE MATERIAL

Pursuant to Chapter 3748 of the Ohio Revised Code, and in reliance on statements and representations made by the licensee, a license is hereby issued authorizing the licensee named herein to receive, acquire, possess, and transfer radioactive material as 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 applications of Chapter 3748 of the Ohio Revised Code and all applicable rules promulgated thereunder. This license is subject to all applicable rules, regulations and orders of the Ohio Department of Health now or hereinafter in effect and to any conditions specified below.

LICENSEE	LICENSE NUMBER
1. Ohmart/Vega Corporation	3. 63212310036
2. 4241 Allendorf Cincinnati, Ohio 45209	EXPIRATION DATE
	4. September 1, 2007
	BUREAU DOCKET NUMBER
	5. KK/KV15-07-00

6. RADIOACTIVE MATERIAL	7. CHEMICAL AND/OR PHYSICAL FORM	8. MAXIMUM QUANTITY THAT LICENSEE MAY POSSESS AT ANY ONE TIME UNDER THIS LICENSE
A. Iron-55	A. Sealed sources	A. 37 GBq (1 Ci)
B. Cobalt-60	B. Sealed sources	B. 11.1 TBq (300 Ci)
C. Nickel-63	C. Sealed sources	C. 37 GBq (1 Ci)
D. Krypton-85	D. Sealed sources	D. 3.7 TBq (100 Ci)
E. Strontium-90	E. Sealed sources	E. 1.85 TBq (50 Ci)
F. Cadmium-109	F. Sealed sources	F. 37 GBq (1 Ci)
G. Cesium-137	G. Sealed sources	G. 37 TBq (1000 Ci)
H. Promethium-147	H. Sealed sources	H. 370 GBq (10 Ci)
I. Californium-252	I. Sealed sources	I. 50 micrograms
J. Americium-241/Beryllium	J. Sealed sources	J. 185 GBq (5 Ci)
K. Americium-241	K. Sealed sources	K. 2.59 TBq (70 Ci)
L. Curium-244	L. Sealed sources	L. 74 GBq (2 Ci)
M. Cesium-137	M. Sealed Sources (3M Model 4P6M or Amersham Model 77302)	M. Two sources not to exceed 6.105 GBq (165 mCi) each
N. Any radioactive material	N. Sample media	N. As needed (see item 9 N, below)

Post-it® Fax Note	7671	Date	10/20	# of pages	5
To	Thom Dias	From	Candy Brock		
Co./Dept.			Ohmart/VEGA		
Phone #		Phone #	513-272-0524 x59		
Fax #	870-540-3059	Fax #	513-272-4381		

OHIO DEPARTMENT OF HEALTH  <b>LICENSE FOR RADIOACTIVE MATERIALS</b>  SUPPLEMENTARY SHEET	Page 2 of 5
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	Bureau Docket Number: KROCV15-07-00
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## 9. Authorized Use

## A. through L. For use and possession incident to:

- i) Research and development with sources in source holders, testing, and demonstration of gauging devices.
- ii) Installation into or removal from gauging devices.
- iii) Installation, relocation, repair and servicing of Ohmart/Vega devices and installation, relocation, and servicing of devices manufactured by other vendors.
- iv) Picking-up, storage, and transfer of sealed sources and devices used for gauging received from customers for transfer to specifically licensed recipients, including sealed sources and devices used for gauging not manufactured by Ohmart/Vega Corporation.
- v) Distribution of any Ohmart/Vega Corporation device or sealed source that has been evaluated, approved, and registered with the USNRC under the provision of 10 CFR 32.210 and redistribution of any Ohmart/Vega Corporation device or sealed source that has been evaluated, approved, and registered with the Agreement State of Kentucky and approved by an Ohio Sealed Source and Device registration, to persons authorized to receive the licensed material pursuant to the terms and conditions of a specific license issued by the USNRC or an Agreement State.
- vi) Instruction and training of individuals in the use of gauging devices.

M. To be used for calibration of the licensee's survey instruments and as a service to the licensee's customers.

N. Possession incident to leak testing Ohmart/Vega Corporation devices and as a service to the licensee's customers.

## CONDITIONS

- 10. A. Licensed material may be used at the licensee's facilities located at 4241 Allendorf Drive, Cincinnati, Ohio, and at temporary job sites of the licensee anywhere in the state of Ohio.
- B. Research and development with sealed sources and source holders shall be performed only at the licensee's facilities located at 4241 Allendorf Drive, Cincinnati, Ohio. Analysis of leak test samples shall be performed at the licensee's facilities located at 4241 Allendorf Drive, Cincinnati, Ohio and at temporary job sites of the licensee anywhere in the State of Ohio.
- 11. A. Licensed material shall be used by individuals who have successfully completed the licensee's in-house training program described in Exhibit D of letter dated August 16, 1989 to the USNRC, letters dated April 12, 1990 and February 28, 1995 to the USNRC, and have been approved in writing by the Radiation Safety Officer.
- B. Field service work shall be performed by individuals who have successfully completed the 20 hour minimum Ohmart/Vega Radiation Safety School described in Exhibit D of letter dated August 16, 1989 to the USNRC and letter dated April 12, 1990 to the USNRC. Records of this training shall be maintained for review by the Director.
- 12. The Radiation Safety Officer for this license is:  
*Mark A. Cornallisen*
- 13. All sealed sources that are used or obtained shall have been evaluated or approved under the provisions of rule 3701:1-46-49 of the Administrative Code; or by equivalent NRC, Agreement State, or NARM Licensing State regulation.
- 14. The training outlined in the 20 hour, minimum Ohmart/Vega Radiation Safety School described in Exhibit D of letter dated August 16, 1989 to the USNRC and letter dated April 12, 1990, to the USNRC, shall be performed by, or under the supervision of the Radiation Safety Officer.
- 15. A. Sealed Sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified by the certificate of registration referred to in OAC 3701:1-46-49.

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- B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed three (3) months.
- C. In the absence of a certificate from a transferor indicating that a leak test has been made within the required leak test interval, a sealed source shall not be put into service until tested.
- D. Sealed sources need not be leak tested if:
- they contain only a radioactive gas; or
  - the half-life of the isotope is less than 30 days or less; or
  - they contain 3.7 MBq (100  $\mu$ Ci) or less of beta or gamma emitting material or 0.37 MBq (10  $\mu$ Ci) or less of alpha emitting material; or
  - they are in storage and are not being used. However, when they are removed from storage for use or transfer 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 185 Bq (0.005  $\mu$ Ci) of radioactive material on the test sample. If the test reveals the presence of 185 Bq (0.005  $\mu$ Ci) or more of removable contamination, a report shall be filed with the Ohio Department of Health and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Ohio Department of Health Regulations. The report shall be filed within 30 days of the date the leak test result is known with the Bureau of Radiation Protection - Ohio Department of Health, 246 N. High St., Bureau of Radiation Protection/7<sup>th</sup> Floor 35 Mid., P.O. Box 118, Columbus, Ohio 43216-0118. The report shall specify the source involved, the test results, and the corrective action taken submitted within 30 days after the end of each calendar quarter in which any such device is transferred to a generally licensed person.
- F. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically licensed by the Director, the USNRC or an Agreement State to perform such services.
- Sealed sources containing radioactive material shall not be opened.
  - The licensee shall conduct a physical inventory every 12 months to account for all sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 2 years from the date of each inventory.
  - Survey instruments shall be calibrated once every 12 months by any service company specifically licensed by the Director, the USNRC or an Agreement State to provide such service, or by individuals who have successfully completed the training described in letters dated May 2, 1997 and August 14, 1997 to the USNRC, in accordance with the statements, representations and procedures contained in letters dated May 2, 1997 and August 14, 1997 to the USNRC. The RSO will maintain records of individuals authorized to perform instrument calibrations.
  - The licensee shall survey the source housing during "on" and "off" modes of operation following installation and/or reinstallation of the device and shall provide a copy of the results to the client.
  - The licensee is authorized to transport licensed material only in accordance with the provisions Chapter 3701:1-60 "Packaging and Transportation of Radioactive Material" of the Administrative Code.
  - This license does not authorize commercial distribution of licensed material to persons generally licensed pursuant to Chapter 3701:1-46 of the Administrative Code, the NRC or an Agreement State, or to persons exempt from licensing pursuant to rule 3701:1-40-11 of the Administrative Code.
  - In addition to the possession limits in item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in rule 3701:1-40-18 of the Administrative Code for establishing decommissioning financial assurance.

OHIO DEPARTMENT OF HEALTH <b>LICENSE FOR RADIOACTIVE MATERIALS</b> SUPPLEMENTARY SHEET	Page 4 of 5
	License Number: 03212310036
	Bureau Docket Number: KKKV15-07-00
	Amendment No. 19

23. The following sealed source and device registrations, along with the statements and representations in the registration applications, are hereby incorporated into this license:
- A. OH-0522-D-0102-B dated June 11, 2003 for the SH-x and SH-Fx device model series;
  - B. OH-0522-S-0103-S dated March 21, 2005 for the model A-2100 sealed source;
  - C. OH-0522-S-0104-S dated March 21, 2005 for the model A-2102 sealed source;
  - D. OH-0522-S-0105-S dated July 6, 2001 for the model A-2104 sealed source;
  - E. OH-0522-S-0106-S dated March 21, 2005 for the model A-57878 sealed source;
  - F. OH-0522-S-0107-S dated March 21, 2005 for the model A-58804 sealed source;
  - G. OH-0522-S-0108-S dated March 21, 2005 for the model A-58765 sealed source;
  - H. OH-0522-S-0109-S dated May 19, 2005 for the model A-60324 sealed source;
  - I. OH-0522-D-110-B dated April 19, 2004 for the SHGL device model;
  - J. OH-0522-D-111-S dated May 6, 2004 for the SHLM-BR-x and SHLM-CR-x device model series;
  - K. OH-0522-D-112-S dated April 22, 2005 for the SHLM-B-x, SHLM-C-x, and SHLM-CP-x device model series;
  - L. OH-0522-D-113-S dated June 17, 2004 for the SHLM-SP-x device model series;
  - M. OH-0522-D-114-B dated August 6, 2004 for the MDTS device model series;
  - N. OH-0522-D-115-B dated February 3, 2005 for the SR-A, SR-1A and SR-2 device model series;
  - O. OH-0522-D-116-S dated February 4, 2005 for the SHLG device model series;
  - P. OH-0522-D-117-S dated December 16, 2004 for the SHRD device model series; and
  - Q. OH-0522-D-118-B dated February 4, 2005 for the SHRM-B, SHRM-B device model series.
24. The following inactivated sealed source and device registrations, along with the statements and representations in the registration applications, are hereby incorporated in this license, and may no longer be manufactured, distributed or redistributed.
- A. OH-0522-S-980-S dated January 26, 2004; and
  - B. OH-0522-D-981-S dated January 26, 2004

470861

OHIO DEPARTMENT OF HEALTH	Page 5 of 5
LICENSE FOR RADIOACTIVE MATERIALS	License Number: 03212310036
SUPPLEMENTARY SHEET	Bureau Docket Number: KKKV15-07-08
	Amendment No. 19

25. 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. The Ohio Department of Health's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

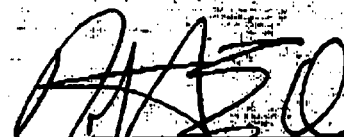
- A. Letter correspondence on USNRC license 34-00639-01, Amendment number 44;
- B. Facsimile dated July 13, 2000;
- C. Letter dated April 30, 2001;
- D. Letter dated September 4, 2002.
- E. Letters dated April 23, 2002 and October 4, 2002.
- F. Letter dated September 26, 2002.
- G. Letter dated December 18, 2002.
- H. Administrative correction, June 16, 2005 (Amendment 18).
- I. Letter dated July 12, 2005 (Amendment 19).

For the Ohio Department of Health

DATE:

8/2/05

BY:

  
Director, Ohio Department of Health

SEP 21 2006

This is to acknowledge the receipt of your letter/application dated 02-03-06, and to inform you that the initial processing, which includes an administrative review, has been performed.

DATE

☒ There were no administrative omissions. Your application will be assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

☐ Please provide to this office within 30 days of your receipt of this card:

The action you requested is normally processed within 90 days.

☐ A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned Mail Control Number 470861.  
When calling to inquire about this action, please refer to this mail control number.  
You may call me at 817-860-8103.

Sincerely,

*Colleen Murahan*

Licensing Assistant

BETWEEN:

License Fee Management Branch, ARM  
and  
Regional Licensing Sections

(FOR LEMS USE)  
INFORMATION FROM LTS  
-----

Program Code: 03800  
Status Code: 0  
Fee Category: EX 3P  
Exp. Date: 20150430  
Fee Comments:  
Decom Fin Assur Regd: N  
.....

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: ARMY, DEPARTMENT OF THE  
Received Date: 20060206  
Docket No: 3008612  
Control No.: 470861  
License No.: 03-02868-04  
Action Type: Termination

2. FEE ATTACHED

Amount: \_\_\_\_\_  
Check No.: \_\_\_\_\_

3. COMMENTS

Signed  
Date

*Allyson M. Jackson*  
2/15/06

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered / \_\_/)

1. Fee Category and Amount: \_\_\_\_\_

2. Correct Fee Paid. Application may be processed for:

Amendment \_\_\_\_\_  
Renewal \_\_\_\_\_  
License \_\_\_\_\_

3. OTHER \_\_\_\_\_

Signed  
Date

\_\_\_\_\_  
\_\_\_\_\_



1 From Please print and sign here  
 Date 10/19/05 Sender's FedEx Account Number 2109-1223-1

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 Company Environmental Aquat. Sols. Inc.

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 From 24 addresses will appear on invoice.

3 To  
 Recipient's Name REN BLACK Phone (803) 259-1781  
 Company Duratek consolidation Facility

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6 Special Handling  
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 HOLIDAY Delivery ☐  
 Available ONLY for FedEx 2Day, FedEx 3Day, and FedEx 2Day Freight to select ZIP codes  
 Insure ☐  
 Insure this shipment contains dangerous goods? ☐  
 No ☒ Yes ☐  
 Dangerous goods handling Dry Ice cannot be shipped in FedEx packaging  
 Dry Ice ☐  
 Dry Ice 1, 1A, 1B ☐  
 Cargo Aircraft Only ☐  
 Payment \$20 fee ☐  
 Recipient ☐  
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 Credit Card ☐  
 Cash/Check ☐  
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By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

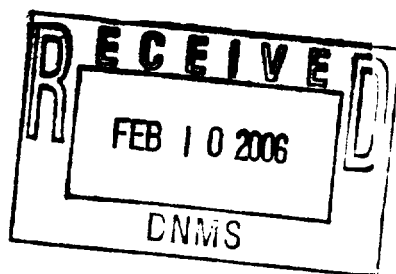
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# First Class Mail

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