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REGION 1

2007 JUL 24 PM 1:04



TELEDYNE  
BROWN ENGINEERING, INC.

A Teledyne Technologies Company

Cummings Research Park  
300 Sparkman Drive, NW  
P.O. Box 070007  
Huntsville, Alabama 35807-7007  
256.726.1000

MS 16

J-1

NSSII-07-0032

July 20, 2007

U.S. Nuclear Regulatory Commission, Region I  
475 Allendale Road  
King of Prussia, PA 19406-1415  
ATTN: Ms. Michelle Beardsley, Health Physicist,  
Mail Control No. 140557

01-25393-03

03036614

Subject: Response to Request for Additional Information Concerning Application for Termination of License,  
Control No. 140557

Dear Ms. Beardsley:

This letter is in response to your June 29, 2007 letter requesting additional information on Teledyne Brown Engineering's (TBE's) request to terminate Nuclear Regulatory Commission (NRC) Material License Number 01-25393-03. The numbered responses below correspond to the numbered requests contained in your letter.

1. Since TBE's license only included sealed sources and the most recent leak tests demonstrated that the sealed sources did not leak while in our possession, per the "Consolidated NMSS Decommissioning Guidance" (NUREG-1757) cited in your June 29, 2007 letter, our license qualifies for Group 1 Decommissioning. Consequently, in accordance with the guidance contained in Section 8.2 of NUREG-1757, enclosed are the completed NRC Form 314, "Certificate of Disposition of Materials," and final pre-transfer leak tests and the initial post-transfer leak tests demonstrating that the sources did not leak while in TBE's possession.
2. All of the sources covered by License No. 01-25393-03 were used at "temporary" Army facilities located on Pine Bluff Arsenal in Arkansas that were designed to treat waste associated with chemical weapons. Specifically, the N63 sealed sources were employed in analytical instruments used at the Pine Bluff Binary Destruction Facility (BDF) and the H3 sealed source was contained in an analytical instrument used at the Rapid Response System (RRS).

The BDF only operated from December 2005 until October 2006. Beginning in November 2006, the BDF facility, including the laboratory in which the N63 sources were located, was completely demolished and all debris removed and landfilled offsite.

The RRS consisted of a series of trailers for waste processing, laboratory operations and administrative functions and transportable "conex" storage units. When RRS operations at Pine Bluff concluded in November of 2006 site closure operations commenced and all of the trailers and conex units were removed from the Arsenal by May of 2007.

140557

With the above information in mind, below are the responses to the specific questions identified in your letter:

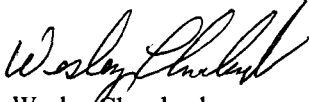
- a) The buildings which housed the sources have been transported off the site or no longer exist.
- b) When in use, the N63 sources were in a laboratory. The instrument with the H3 source was used infrequently at an outdoor location to confirm the proper installation of carbon filters. When not in use, it was stored in a conex storage unit.
- c) Both facilities were located on an Army installation. Surrounding land use would best be described as industrial and office space.
- d) Not applicable – the RRS did not operate in buildings and the BDF building has been demolished (but was not of historical significance).
- e) The instruments that contained the N63 sources were last used in April 2006 and were stored until they were transferred to the Army in October 2006. The instrument containing the H3 source was last used in the summer of 2006 and was stored until transfer in May 2007.

I hope the information provided is sufficient to allow you to complete your review of our termination request. However, if any questions or need any additional information, please contact Mr. John Newton at (256) 726-1667, FAX (256) 726-2159, or via e-mail at [john.newton@tbe.com](mailto:john.newton@tbe.com). Please direct all correspondence regarding the subject request to:

Mr. John Newton (MS-30)  
Teledyne Brown Engineering  
300 Sparkman Drive  
P.O. Box 070007  
Huntsville, AL 35807-7007

Sincerely,

TELEDYNE BROWN ENGINEERING, INC.



Wesley Cleveland  
Radiation Safety Officer

cc:

TBE/John Newton  
TBE/Brett Sims  
TBE/Mark Gradkowski  
TBE/Heather Peek  
CM/DM Files  
Task 0005 File  
Task 0006 File  
NSSC II file

**Completed NRC Form 314 – Certificate of Disposition of Materials**

## 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 [infocollect@nrc.gov](mailto:infocollect@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

Teledyne Brown Engineering  
P.O. Box 070007  
Huntsville, AL 35807-7007

## LICENSE NUMBER

01-25393-03

## DOCKET NUMBER

030-36614

## LICENSE EXPIRATION DATE

07/31/2014

- ☐ This license has expired. ☒ **A. LICENSE STATUS (Check the appropriate box)**  
☒ 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:  
All sources were transferred to the Department of the Army, License No. 19-10306-01. The N63 sources were transferred in October 2006 and the POC is Mr. Leonard Buettner, (410) 436-4822. The H3 source was transferred in May 2007 and the POC is Edward Parshley, (410) 436-6993.
- ☐ 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: John W. Newton, Jr. TITLE: Environmental & Safety Manager TELEPHONE (Include Area Code): (256) 726-1667 E-MAIL ADDRESS: [john.newton@tbe.com](mailto:john.newton@tbe.com)

Mail all future correspondence regarding this license to:  
Teledyne Brown Engineering, P.O. Box 070007, Huntsville, AL 35807-7007, Attn: John Newton, MS30

**C. CERTIFYING OFFICIAL**  
**I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT**

PRINTED NAME AND TITLE

Wesley Cleveland, Radiation Safety Officer

SIGNATURE



DATE

7/20/07

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.

**Final Pre-Transfer Leak Test and Initial Post-Transfer Leak Test Data for the N63  
Sources**



**PARTICLE  
MEASURING  
SYSTEMS**

5475 Airport Blvd., Boulder, CO 80301  
303-443-7100 1-800-238-1801 FAX: 303-449-6870  
Customer Response Center: 1-877-475-3317  
Instrument Service & Support: 1-800-557-6983  
[www.pmeasuring.com](http://www.pmeasuring.com)

## ***Radioactive Source Leak Test Certificate***

This certifies that the Ion Mobility Spectroscopy Cell listed below was found to have less than 0.005 microcuries (11,000 DPM) of removable radioactive material.

<b>Date Tested:</b>	May 11, 2006
<b>Cell Serial Number:</b>	1778
<b>Isotope:</b>	Ni-63
<b>Analyzer S/N:</b>	776 AN

<b>Present Owner of Analyzer:</b>	EAI Corporation / TBE
<b>Location:</b>	504 <sup>th</sup> Street, Bldg. 53-210 Pine Bluff Arsenal White Hall, AK 71612

***Note: The next leak test is required six months after the date listed above.***

<b>Measuring Device Used:</b>	LKB Wallac Liquid Scintillation Counter Model: 1219-003 S/N: 190489
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Signature

Bruce Jablonski  
Radiation Safety Officer



**PARTICLE  
MEASURING  
SYSTEMS**

5475 Airport Blvd., Boulder, CO 80301  
303-449-7100 1-800-238-1801 FAX: 303-449-8870  
Customer Response Center: 1-877-475-3317  
Instrument Service & Support: 1-800-557-6363  
[www.pmeasuring.com](http://www.pmeasuring.com)

## ***Radioactive Source Leak Test Certificate***

This certifies that the Ion Mobility Spectroscopy Cell listed below was found to have less than 0.005 microcuries (11,000 DPM) of removable radioactive material.

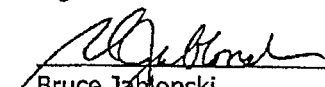
<b>Date Tested:</b>	May 5, 2006
<b>Cell Serial Number:</b>	3007
<b>Isotope:</b>	Ni-63
<b>Analyzer S/N:</b>	1026 AN

<b>Present Owner of Analyzer:</b>	EAI Corporation / TBE
<b>Location:</b>	504 <sup>th</sup> Street, Bldg. 53-210 Pine Bluff Arsenal Whitehall, AR 71612

***Note: The next leak test is required six months after the date listed above.***

<b>Measuring Device Used:</b>	LKB Wallac Liquid Scintillation Counter Model: 1219-003 S/N: 190489
-------------------------------	---

Signature

  
\_\_\_\_\_  
Bruce Jablonski  
Radiation Safety Officer

**LEAK TEST ANALYSIS RESULTS FORM**  
**US ARMY EDGEWOOD CHEMICAL BIOLOGICAL CENTER**  
**RISK REDUCTION OFFICE, CB SERVICES DIRECTORATE**

**RSO: Eric Kujala**  
**410-436-1381/4411**

### Case Narrative for LRFY07-020:

These are semi-annual leak tests of Permit 1 beta sources in E-5265.

The samples were counted on liquid scintillation counter LSC 2 using a nickel-63 quench curve was used to determine the efficiencies. The nickel-63 Minimum Detectable Activity (MDA) was  $2 \times 10^{-6}$  microCurie per wipe.

The Action Limit for beta-gamma emitters is 5 X E-04 microCurie per wipe or 1000 disintegrations per minute.

No samples exceeded the Action Limit.

[illegible]



**Pre-Transfer Leak Test and Initial Post-Transfer Leak Test Data for the H3 Source**



**TELEDYNE  
BROWN ENGINEERING, INC.**  
A Teledyne Technologies Company  
2508 Quality Lane  
Knoxville, TN 37931-3133

MAR 18 2005

Teledyne Brown Engineering  
Attn: Martin V. Webb  
2508 Quality Lane  
Knoxville TN 37931-3133

### Report of Analysis/Certificate of Conformance

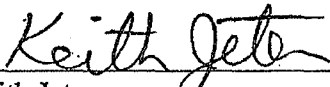
3/15/2005

LIMS #: L25138  
Project ID#: TE555-WASTEWATER  
Received: 2/14/2005  
Delivery Date: 3/16/2005  
P.O. #: N/A  
Release #:  
SDG #: N/A

This is to certify that Teledyne Brown Engineering - Environmental Services located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.

  
\_\_\_\_\_  
Keith Jeter  
Operations Manager

*Cross Reference Table*

Client ID	Laboratory ID	Station ID (if applicable)
LMP-10#0076	L25138-1	
LMP-10#0076	L25138-2	

# Report of Analysis

3/15/2005 3:05:17PM

L25138

Teledyne Brown Engineering



Martin V. Webb

TE555-WASTEWATER

Sample ID/Station: LMP-10#0076					Collect Start: 02/09/05 1:45			Matrix: Swipes (SW)						
LIMS Number: L25138-1					Collect Stop: 02/09/05 1:50			Volume:						
Description:					Received: 02/14/05			% Moisture:						
Radionuclide	SOP #	Activity Conc	Uncertainty (2 Sigma)	MDC	Units	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Time Units	Flag Values		
H-3		<		1.72E+001	DPM/TOTAL	100.000	%		03/11/05	5	M	U		

Comments:

Sample ID/Station: LMP-10#0076					Collect Start: 02/09/05 1:45			Matrix: Swipes (SW)						
LIMS Number: L25138-2					Collect Stop: 02/09/05 1:50			Volume:						
Description:					Received: 02/14/05			% Moisture:						
Radionuclide	SOP #	Activity Conc	Uncertainty (2 Sigma)	MDC	Units	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Time Units	Flag Values		
H-3		<		1.54E+001	DPM/TOTAL	100.000	%		03/11/05	5	M	U		

Comments:

Flag Values  
 U = Compound/Analyte not detected or less than 3 sigma  
 + = Activity concentration exceeds MDC and 3 sigma and peak identified(gamma only)  
 \* = Peak not identified, but forced activity concentration exceeds MDC and 3 sigma  
 High = Activity concentration exceeds customer reporting value  
 Spec = MDC exceeds customer technical specification

**Bolded text indicates reportable value.**

No = Peak not identified in gamma spectrum  
 Yes = Peak identified in gamma spectrum  
 \*\*\*\* Results are reported on an as received basis unless otherwise noted  
 MDC - Minimum Detectable Concentration

**LEAK TEST ANALYSIS RESULTS FORM**  
**US ARMY EDGEWOOD CHEMICAL BIOLOGICAL CENTER**  
**RISK REDUCTION OFFICE, CB SERVICES DIRECTORATE**

*RSO: Eric Kujala*  
*410-436-1381/4411*

**Case Narrative for LRFY07-095**

Survey of new LMP-10 for Permit 43 for H-3.

The beta samples were counted on liquid scintillation counter LSC 1 using an H-3 quench curve to determine the counting efficiency. The H-3 Minimum Detectable Activity (MDA) was 8 dpm.

The Leak Test Action Limit for beta/gamma-emitters is 1000 disintegrations per minute or 5 X E-04 microCurie.

The samples did not exceed the Action Limit for beta emitters. No samples exceeded our ALARA levels set at 100 dpm.

<b>Lab Id #</b>	<b>Wipe Date</b>	<b>Receive Date</b>	<b>Owner Permit</b>	<b>Test Type</b>	<b>Nuclide</b>	<b>Serial #</b>	<b>Comments</b>	<b>Leak Test Results (dpm)</b>
28905	1-May-07	1-May-07	D. Hall	Survey	H-3	76	LMP-10	9 $\pm$ 5