

REVIEWER,

PLEASE REVIEW, COMPLETE THE HIGHLIGHTED FIELDS, SIGN
THE LER FORM, AND RETURN TO ME FOR PROCESSING.

THANKS.

KELLY
X5248

LER # 2010-02
LICENSEE NAME: CANBERRA
PACKAGE ACCESSION # ML103210084
DOCUMENT ACCESSION # ML

DOCUMENT AVAILABILITY: PUBLIC
NON-PUBLIC

TO REVIEWER (NAME/DATE):

TO SCANNING (DATE): _____

TO HQS (DATE): _____

RI - DNMS Licensee Event Report Disposition

Licensee:	Canberra				
Event Description:	Leaking sources				
License No:	06-15099-01	Docket No:	03008562	MLER-RI:	2010-012
Event Date:	10/12/10	Report Date:	11/03/2010	HQ Ops Event #:	

1. REPORTING REQUIREMENT

<input type="checkbox"/> 10 CFR 20.1906 Package Contamination <input type="checkbox"/> 10 CFR 20.2201 Theft or Loss <input type="checkbox"/> 10 CFR 20.2203 30 Day Report <input type="checkbox"/> Other	<input checked="" type="checkbox"/> 10 CFR 30.50 Report <input type="checkbox"/> 10 CFR-35.3045 Medical Event <input checked="" type="checkbox"/> License Condition
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2. REGION I RESPONSE

<input type="checkbox"/> Immediate Site Inspection <input type="checkbox"/> Special Inspection <input type="checkbox"/> Telephone Inquiry <input type="checkbox"/> Preliminary Notification/Report <input checked="" type="checkbox"/> Information Entered in RI Log <input type="checkbox"/> Report Referred To:	<table style="width: 100%;"> <tr> <td style="width: 50%;">Inspector/Date</td> <td style="width: 50%;"></td> </tr> <tr> <td>Inspector/Date</td> <td></td> </tr> <tr> <td>Inspector/Date</td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td>Daily Report</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Review at Next Inspection 11/2013</td> </tr> </table>	Inspector/Date		Inspector/Date		Inspector/Date		<input type="checkbox"/>	Daily Report	<input checked="" type="checkbox"/>	Review at Next Inspection 11/2013
Inspector/Date											
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Inspector/Date											
<input type="checkbox"/>	Daily Report										
<input checked="" type="checkbox"/>	Review at Next Inspection 11/2013										

3. REPORT EVALUATION

<input checked="" type="checkbox"/> Description of Event <input type="checkbox"/> Levels of RAM Involved <input type="checkbox"/> Cause of Event	<input checked="" type="checkbox"/> Corrective Actions <input type="checkbox"/> Calculations Adequate <input checked="" type="checkbox"/> Additional Information Requested from Licensee 12/10/10
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4. **N/A** MANAGEMENT DIRECTIVE 8.3 EVALUATION **N/A**

<input type="checkbox"/> Release w/Exposure > Limits <input type="checkbox"/> Repeated Inadequate Control <input type="checkbox"/> Exposure 5x Limits <input type="checkbox"/> Potential Fatality If any of the above are involved: <input type="checkbox"/> Considered Need for IIT Decision/Made By/Date:	<input type="checkbox"/> Deliberate Misuse w/Exposure > Limits <input type="checkbox"/> Pkging Failure > 10 rads/hr or Contamination > 1000x Limits <input type="checkbox"/> Large# Indivs w/Exp > Limits or Medical Deterministic Effects <input type="checkbox"/> Unique Circumstances or Safeguards Concerns <input type="checkbox"/> Considered Need for AIT
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5. MANAGEMENT DIRECTIVE 8.10 EVALUATION (additional evaluation for medical events only)

<input type="checkbox"/> Timeliness - Inspection Meets Requirements (5 days for overdose / 10 days for underdose) <input type="checkbox"/> Medical Consultant Used-Name of Consultant/Date of Report: _____ <input type="checkbox"/> Medical Consultant Determined Event Directly Contributed to Fatality <input type="checkbox"/> Device Failure with Possible Adverse Generic Implications <input type="checkbox"/> HQ or Contractor Support Required to Evaluate Consequences	
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6. SPECIAL INSTRUCTIONS OR COMMENTS

<input type="checkbox"/> Non-Public <input checked="" type="checkbox"/> Public-SUNSI REVIEW COMPLETE	Inspector Signature: <u><i>A. D. Modes</i></u> Branch Chief Initials: <u><i>SAS</i></u>	Date: <u>12-10-10</u> Date: <u>12/14/10</u>
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CANBERRA

RECEIVED
REGION I

2010 NOV -8 AM 11: 28

November 3, 2010

Director
Office of Federal and State Materials and Environmental Management Programs
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Subject: Report of Leaking sources
Canberra Industries, Inc. License Number: 06-15099-01
Docket Number: 03008562

Dear Sir or Madam:

In accordance with 10 CFR 30.50 (c)(2) and as required by Condition 16F of our USNRC License Number 06-15099-01, Canberra Industries, Inc. offers the following Report of Leaking sources:

1. DESCRIPTION OF THE EVENT

On 12 October 2010, Canberra Industries, Inc. in Meriden CT became aware of visual degradation of foil on Eu152/Am241 sources from our CSNV, Olen, Belgium office.

The Canberra Meriden Physics Department began an investigation of similar sources located in Meriden and similar visual degradation was seen on the Eu152/Am241 sources in Meriden.

Eu152 and Am241 Activity is measured on one of the covers of the source holder*. We began investigating all holder covers and other sources. From this point on, it was assumed that all items in proximity of the three Eu152/Am241 sources in Meriden could potentially be contaminated.

All associated items were isolated in a well controlled area and handled with disposable gloves which in turn were disposed in a separate radiological waste container.

On 13 October 2010, it was clear that the inside of all covers were contaminated, and thus likely that all three (3) Meriden Eu152 / Am241 sources were compromised and they were removed from use.

We notified our CSNV office situation and instructed them to discontinue use of their two Eu152/Am241 sources and begin investigating their sources and holders, using similar precautions.

*NOTE: The Eu152 / Am241 sources are mounted with a separate holder and by procedure are not routinely removed from the holder. Also when not in use a cover is placed over the holder that completely covers the source to prevent accidental contact with the source.

2. THE EXACT LOCATION OF THE EVENT.

These sources (in the separate holders) are used for detector characterization in the ISOCS counting room in the Canberra Meriden facility.

Canberra Industries, Inc.

800 Research Parkway - Meriden, Connecticut 06450 - Tel. 203-238-2351 - Fax 203-235-1347

3. THE ISOTOPES, QUANTITIES, AND CHEMICAL AND PHYSICAL FORM OF THE LICENSED MATERIAL INVOLVED.

See the enclosed copies of the three (3) source certificates from Eckert & Ziegler Analytics, the manufacturer of these leaking sources.

The Am-241 / Eu-152 sources were evaporated on a 9 mg/cm² thick plastic disk (IPL type M) with an approximate activity of 4 microcuries each.

The Source covering is 0.8 mg/cm² aluminized mylar.

4. CORRECTIVE ACTIONS TAKEN OR PLANNED AND THE RESULTS OF ANY EVALUATIONS OR ASSESSMENTS.

As a result of these Eckert & Ziegler Analytics leaking sources, the corrective action is to change the specification for an alternative source for the ISOCS measurements and redesign the source fixture. We expect to have this completed by March 31, 2011.

5. THE EXTENT OF EXPOSURE OF INDIVIDUALS TO RADIATION OR TO RADIOACTIVE MATERIALS.

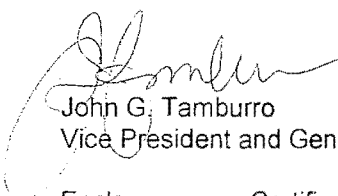
After the discovery of the leaky sources, all sources and contaminated parts were stored in Station 1 of the Physics Lab with radiation signs and notes posted. The Physics Lab has controlled access and the room is secure.

While contamination was observed on the inside of the holder covers and the source holders, there was no immediate evidence of contamination beyond that point (the location where the technician would be touching the holder) and a more thorough investigation was undertaken during the week of 18 October 2010, and it was determined that the separate holder and cover tools were not contaminated so there was no exposure of individuals to radiation or to radioactive materials

The three (3) sources and all source holders and covers were placed into separate plastic bags and are currently in the RSO storage locker for future disposal.

Should you have any questions, please get in touch with the undersigned or with the Radiation Safety Officer, Mr. T.W. Schwager at 203-639-2462 or tschwager@canberra.com.

Sincerely,
Canberra Industries, Inc.


John G. Tamburro
Vice President and General Counsel

Enclosures: Certificates of Calibration for three (3) Eckert & Ziegler Analytics sources: S/N 74790-121, S/N 74791-121 and S/N 74792-121

cc: U.S. Nuclear Regulatory Commission,
Regional Administrator
Region 1
475 Allendale Road
King of Prussia, PA 19406

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

07-6
26

74790-121

Point Source on Plastic Disk Mounted in 25.4 mm Diameter x 3.2 mm
Thick Aluminum Holder

This standard radionuclide source was prepared gravimetrically from calibrated master solutions. The Am-241 was calibrated by liquid scintillation counting. The Eu-152 was calibrated by the Department Des Applications Et De La Metrologie Des Rayonnements Ionisants (DAMRI), Paris, France, as Number 25134.

Radionuclide purity and calibration were checked with a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

4.0514 uCi *4.0324 uCi*

CALIBRATION DATE: April 9, 2007 12:00 EST

ISOTOPE:	Am-241	Eu-152
ACTIVITY (Bq):	1.492 E5	1.499 E5
HALF LIFE:	4.322 E2 Y	1.352 E1 y
RELATIVE EXPANDED UNCERTAINTY (k=2):	2.0%	2.0%

Impurities: γ -impurities <0.1%, α -impurities <0.1%
Eu-154 5.247 E2 Bq, Gd-153 4.500 E1 Bq
(other gamma products) <0.1%

Source evaporated on 9 mg/cm² thick plastic disk (IPL Type M).
Source covering 0.8 mg/cm² aluminized mylar.

No expiration date has been given for this source due to the fragile nature of the mylar covering. This source should be carefully tested for leakage at least every six months. If leakage is detected this source should be disposed of by approved radioactive waste disposal procedures.

P O NUMBER RV48137, Item 1

SOURCE PREPARED BY: *N. E. Kiesman*
N. E. Kiesman, Radiochemist

Q A APPROVED: *JM. Meyer* *4-16-07*

Disposal

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

07-2
R6

74791-121

Point Source on Plastic Disk Mounted in 25.4 mm Diameter x 3.2 mm
Thick Aluminum Holder

This standard radionuclide source was prepared gravimetrically from calibrated master solutions. The Am-241 was calibrated by liquid scintillation counting. The Eu-152 was calibrated by the Department Des Applications Et De La Metrologie Des Rayonnements Ionisants (DAMRI), Paris, France, as Number 25134.

Radionuclide purity and calibration were checked with a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

4.037 Bq *4.054 Bq*
CALIBRATION DATE: April 9, 2007 12:00 EST

ISOTOPE:	Am-241	Eu-152
ACTIVITY (Bq):	1.494 ⁰ E5	1.500 E5
HALF LIFE:	4.322 E2 Y	1.352 E1 y
RELATIVE EXPANDED UNCERTAINTY (k=2):	2.0%	2.0%

Impurities: γ -impurities <0.1%, α -impurities <0.1%
Eu-154 5.251 E2 Bq, Gd-153 4.500 E1 Bq
(other gamma products) <0.1%

Source evaporated on 9 mg/cm² thick plastic disk (IPL Type M).
Source covering 0.8 mg/cm² aluminized mylar.

No expiration date has been given for this source due to the fragile nature of the mylar covering. This source should be carefully tested for leakage at least every six months. If leakage is detected this source should be disposed of by approved radioactive waste disposal procedures.

P O NUMBER RV48137, Item 1

SOURCE PREPARED BY: *N. E. Kiesman*
N. E. Kiesman, Radiochemist

Q A APPROVED: *LM. Mj* *4-16-07*

Disposal

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

01-B
R-6

74792-121

Point Source on Plastic Disk Mounted in 25.4 mm Diameter x 3.2 mm
Thick Aluminum Holder

This standard radionuclide source was prepared gravimetrically from calibrated master solutions. The Am-241 was calibrated by liquid scintillation counting. The Eu-152 was calibrated by the Département Des Applications Et De La Metrologie Des Rayonnements Ionisants (DAMRI), Paris, France, as Number 25134.

Radionuclide purity and calibration were checked with a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

4.01 nCi *4.029 nCi*

CALIBRATION DATE: April 9, 2007 12:00 EST

ISOTOPE:	Am-241	Eu-152
ACTIVITY (Bq):	1.484 E5	1.491 E5
HALF LIFE:	4.322 E2 Y	1.352 E1 y
RELATIVE EXPANDED UNCERTAINTY (k=2):	2.0%	2.0%

Impurities: γ -impurities <0.1%, α -impurities <0.1%
Eu-154 5.214 E2 Bq, Gd-153 4.470 E1 Bq
(other gamma products) <0.1%

Source evaporated on 9 mg/cm² thick plastic disk (IPL Type M).
Source covering 0.8 mg/cm² aluminized mylar.

No expiration date has been given for this source due to the fragile nature of the mylar covering. This source should be carefully tested for leakage at least every six months. If leakage is detected this source should be disposed of by approved radioactive waste disposal procedures.

P O NUMBER RV48137, Item 1

SOURCE PREPARED BY: *N. E. Kiesman*
N. E. Kiesman, Radiochemist

Q A APPROVED: *JM. M...* *4-16-07*

U.S. NUCLEAR REGULATORY COMMISSION		Date: 12/10/2010
TELEPHONE CONVERSATION RECORD		Time: 12:10 PM
Mail Control or Report No(s).	LER-RI 2010-012	License No(s). 06-15099-01
		Docket No(s). 030-08562
Name of Licensee: Canberra		
Name of Participant(s): Terry Schwager, RSO for Canberra and Kathy Modes, NRC		
Telephone No. 203-639-2462		
Subject: Leaking Eu-152/Am-241 source <small>(NOTE: This will be used as the Documents Title in ADAMS)</small>		
<p>I asked the licensee to provide the following additional information:</p> <ol style="list-style-type: none"> 1. Cause: what caused the source to leak...was it the fragility of the mylar window? Currently unknown (licensee considering changing source vendors) 2. Provide copy of last two leak tests (the one before identification of the leak and the most current) 3. Provide copy of radiation survey of physics laboratory 4. Licensee indicated that these sources are not distributed to customers who purchase the ISOCs units. 		
Action Required: Response due 12/17/2010		
<p>Document Availability: <input checked="" type="checkbox"/> Publicly Available <input type="checkbox"/> Non-Publicly Available</p> <p><input checked="" type="checkbox"/> Non-Sensitive <input type="checkbox"/> Non-Sensitive Copyright <input type="checkbox"/> Sensitive- Proprietary</p> <p><input type="checkbox"/> Sensitive – Privacy Act/ PII <input type="checkbox"/> Sensitive – Internal <input type="checkbox"/> Sensitive – Security-Related</p> <p><input type="checkbox"/> Immediate Release <input type="checkbox"/> Normal Release Date: <input type="checkbox"/> Delayed Release Date:</p> <p>SUNSI Review Completed By: K Modes / RA / Document Accession #: _____</p>		