

RI - DNMS Licensee Event Report Disposition

Licensee: Dept of the Army - Redstone Arsenal, Alabama

Event Description: Leaking Ni-63 Source

License No: Gen Lic Docket No: _____ MLER-RI: 2005-74
 Event Date: Oct 05 Report Date: Nov 05 HQ Ops Event #: _____

1. REPORTING REQUIREMENT

<input type="checkbox"/>	10 CFR 20.1906 Package Contamination	<input type="checkbox"/>	10 CFR 30.50 Report
<input type="checkbox"/>	10 CFR 20.2201 Theft or Loss	<input type="checkbox"/>	10 CFR 35.3045 Medical Event
<input type="checkbox"/>	10 CFR 20.2203 30 Day Report	<input type="checkbox"/>	License Condition
<input checked="" type="checkbox"/>	Other <u>10 CFR 31.5 (4) (5)</u>		

2. REGION I RESPONSE

<input type="checkbox"/>	Immediate Site Inspection	Inspector/Date	_____
<input type="checkbox"/>	Special Inspection	Inspector/Date	_____
<input type="checkbox"/>	Telephone Inquiry	Inspector/Date	_____
<input type="checkbox"/>	Preliminary Notification/Report	<input type="checkbox"/>	Daily Report
<input checked="" type="checkbox"/>	Information Entered in RI Log	<input type="checkbox"/>	Review at Next Inspection
<input type="checkbox"/>	Report Referred To:	_____	

3. REPORT EVALUATION

<input checked="" type="checkbox"/>	Description of Event	<input checked="" type="checkbox"/>	Corrective Actions
<input checked="" type="checkbox"/>	Levels of RAM Involved	<input checked="" type="checkbox"/>	Calculations Adequate
<input type="checkbox"/>	Cause of Event	<input type="checkbox"/>	Additional Information Requested from Licensee

4. MANAGEMENT DIRECTIVE 8.3 EVALUATION

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

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

6. SPECIAL INSTRUCTIONS OR COMMENTS

Non-Public

Public-SISP REVIEW COMPLETE

Inspector Signature: _____

Branch Chief Initials: _____

Date: 12/30/05

Date: 1/8/06



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
UNITED STATES ARMY AVIATION AND MISSILE COMMAND
REDSTONE ARSENAL, ALABAMA 35898-5000

Safety Office

Attention: Mr. Jim Dwyer
U.S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406

2005 NOV -4 PM 1:25
RECEIVED
REGION I

Dear Mr. Collins:

The Radiation Protection section of the AMCOM Safety Office has discovered a leaking Ni-63 source in a gas chromatograph and has taken it out of service per 10 CFR 31.5(c)(5). Specifics are as follows:

6890N Network GC System
Agilent Technologies
Model No. G1530N
Serial No. US10237033
Cell Model G2397A
ECD Serial No. U4688
Ni-63 15 millicuries

The gas chromatograph in question was purchased in September 2002 by Mr. Edward Hayes of the US Army Research, Development and Engineering Command, Propulsion and Structures Directorate, Building 7120 Redstone Arsenal, AL. Mr. Hayes has been using AEA Technology QSA to evaluate leak tests performed on the gas chromatograph. On October 17, 2005 Mr. Hayes was notified of results indicating leaking contamination in excess of $0.005 \mu\text{Ci}$ on the Inlet Sample. Mr. Hayes immediately notified our office and took the gas chromatograph out of service. On October 18, 2005 AEA Technology QSA retested their wipes and the AMCOM Radiation Safety Officer performed another leak test which it sent to the U.S. Army Test, Measurement, and Diagnostic Equipment Activity (USATA) on Redstone Arsenal for counting. The USATA results and the AEA Technology QSA results confirmed leakage on the ECD inlet. Copies of the leak tests are enclosed.

Mr. Hayes has contracted with Agilent Technologies of Wilmington, DE to remove the ECD, install a new one and ship the leaking ECD back to their company. The AMCOM RSO will oversee the swap-out and perform a leak test on the new ECD.

Questions concerning this action should be directed to Keith Rose, (256) 313-2114, Fax (256) 313-2111 or email keith.rose@redstone.army.mil.

Sincerely,

Arthur Keith Rose
ARTHUR KEITH ROSE, CHP
Health Physicist
AMCOM RSO

Enclosures



AEA Technology QSA
6765 Langley Drive
Baton Rouge, Louisiana 70809
Telephone: 225-751-5893
Fax: 225-756-0365

Edward Hayes
U S Army RDECOM
AMSRD-AMR-PS-S, Bldg 7120
Redstone Arsenal, AL 35898

This is to advise results of the leak test samples analyzed by AEA Technology.

Isotope	Serial Number	Date of Test	Results
Ni-63			
Sample # 1 (Inlet)	U4688	9-26-05	.0063 uCi
Ni-63			
Sample # 2 (Outlet)	U4688	9-26-05	.0032 uCi
Ni-63			
Sample # 3 (Housing)	U4688	9-26-05	.00022 uCi

These samples were taken from a Agilent Ni-63 Cell Model G2397A s/n U4688.
Sample # 1 exceed the limit of .005 uCi indicating a leaking source.

Analyzed by Rusty Barrett

Date Analyzed: 10-21-05

MEMORANDUM FOR AMSAM-SF-A (Mr. Keith Rose)

SUBJECT: Sealed Source Leak Tests

1. The results of leak tests performed at the Research, Development & Engineering Center, Propulsion Directorate, Propulsions Research Division at this facility on 18 October 2005, which this laboratory received on 18 October 2005, are indicated below.

SAMPLE ID	MICROCURIES (μ Ci) Ni-63 Beta	DPM Ni-63 Beta
1	0.003	5888
2	0.000005	11
3	0.000002	4.9

Note: Limit of Detection (LD) is 0.000005 μ Ci (11.8 dpm) for Nickel-63 Beta. Results exceeding the limit of decision are reported as defined by NCRP 58.

2. Traceability to NIST is provided by a Ni-63 source, SN: Ni63-4226C-2-59, last calibrated date: 9 Apr 2004. All counters used to evaluate your leak/wipe tests were calibrated with sources calibrated at or traceable to NIST. The NIST calibration documents are maintained on file at this facility. This laboratory is ISO-9001:2000 registered.

3. Point of contact for this correspondence is Carla J. White, voice on DSN 746-7666, commercial (256) 876-7666, e-mail at carla.white@us.army.mil; or the undersigned, voice on DSN 746-0472, commercial (256) 876-0472, e-mail at stephenv-howard@us.army.mil.


STEPHEN V. HOWARD, CHP
Lead Health Physicist, Nuclear Counting
and Special Projects

