# RI - DNMS Licensee Event Report Disposition

Licensee: Drexel University College of Medicine

Event Description: Leaking Sealed Source Report

License No: 37-04594-11 Docket No: 03015739 MLER-RI: 2005-026

Event Date: 4-28-05 Report Date: 5-2-05 HQ Ops Event #:

1. REPORTING REQUIREMENT

- [ ] 10 CFR 20.1906 Package Contamination
- [ ] 10 CFR 20.2201 Theft or Loss
- [ ] 10 CFR 20.2203 30 Day Report
- [ ] Other
- [ ] 10 CFR 30.50 Report
- [ ] 10 CFR 35.3045 Medical Event
- [X] License Condition

2. REGION I RESPONSE

- [ ] Immediate Site Inspection — Inspector/Date
- [ ] Special Inspection — Inspector/Date
- [ ] Telephone Inquiry — Inspector/Date
- [ ] Preliminary Notification/Report
- [X] Information Entered in RI Log
- [ ] Report Referred To:
- [ ] Daily Report
- [Y] Review at Next Inspection

REPORT EVALUATION

- [X] Description of Event
- [Y] Levels of RAM Involved
- [Y] Cause of Event
- [X] Corrective Actions
- [ ] Calculations Adequate
- [ ] Additional Information Requested from Licensee

MANAGEMENT DIRECTIVE 8.3 EVALUATION

- [ ] Release w/Exposure > Limits
- [ ] Repeated Inadequate Control
- [ ] Exposure 5x Limits
- [ ] Potential Fatality
- [ ] Deliberate Misuse w/Exposure > Limits
- [ ] Pkging Failure>10 rads/hr or Contamination>1000x Limits
- [ ] Large# Indivs w/Exp>Limits or Medical Deterministic Effects
- [ ] Unique Circumstances or Safeguards Concerns

If any of the above are involved:

- [ ] Considered Need for IIT
- [ ] Considered Need for AIT

Decision/Made By/Date:

MANAGEMENT DIRECTIVE 8.10 EVALUATION (additional evaluation for medical events only)

- [ ] Timeliness - Inspection Meets Requirements (5 days for overdose / 10 days for underdose)
- [ ] Medical Consultant Used-Name of Consultant/Date of Report:
- [ ] Medical Consultant Determined Event Directly Contributed to Fatality
- [ ] Device Failure with Possible Adverse Generic Implications
- [ ] HQ or Contractor Support Required to Evaluate Consequences

SPECIAL INSTRUCTIONS OR COMMENTS

Review at next materials inspection

- [X] Public
- [ ] Non-Public

Inspector Signauture: Date: 6/2/05

Branch Chief Initials: Date: 6/22/5

Location of File: G:\Reference\Blank Forms\2004 LER FORM.wpd

Rev. 02/01/05

PUBLIC-SISP REVIEW COMPLETE FMC

DREXEL UNIVERSITY COLLEGE OF MEDICINE

FACSIMILE TRANSMISSION SHEET

Office of Research Compliance
New College Building, 2nd Floor, Room 2-105
245 N. 15th Street
Mail Stop 444
Philadelphia, PA 19102-1192

(Telephone 215-762-3453)
(Fax 215-762-3722)

TO: NRC

DEPARTMENT/ COMPANY

FAX NUMBER: (610) 337-5241

TEL. NUMBER:

FROM: Kent Lambert

DEPARTMENT: OFFICE OF RESEARCH COMPLIANCE

TEL. NUMBER: 215-762-3453

NUMBER OF PAGES TO BE TRANSMITTED
(INCLUDING THIS PAGE 3 )

DATE: 5/2/05 NUMBER OF ATTEMPTS:

TIME:

SPECIAL COMMENTS:

UNIVERSITY

Radiation Safety Office



May 2, 2005

VIA FACSIMILE (610-337-5241 & REGULAR MAIL
U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Re: License No. 37-04594-11

## Leaking Sealed Source Report

Dear Sir or Madam:

This is to report the incidence of and events surrounding a leaking sealed source. A nickel-63 plated source (Amersham model NCB23, serial number 9340BZ) containing 10 mCi activity on July 13, 2000 was tested for leakage as a part of the routinely performed semi-annual leak tests on April 28, 2005. The test revealed the presence of activity greater than 0.005 μCi of removable contamination. The source has been removed from service and placed in a sealed container awaiting final disposition (decontamination or disposal). The following provides additional detail associated with the incident.

On April 27, 2005, Radiation Safety Office staff observed the installation of the above referenced source into the mass spectrograph. The source was due for its semi-annual leak test, therefore, samples were taken and measured for removable contamination. Components of the electron capture device did not fit together; therefore, the installation was abandoned. The wipe tests were counted the evening of April 27, 2005 and recounted the morning of April 28, 2005 (to allow any chemoluminescence and/or photoluminescence to abate). The tests revealed the presence of 0.175 μCi of removable contamination on the source housing.

Subsequent wipe tests were performed and contamination was found on the forceps used to manipulate the source (0.022 μCi) and the inside of vial in which the source had been stored (1.06 μCi). A direct wipe of the source with isopropyl alcohol wetted gauze resulted in removable activity in excess of the ability of the liquid scintillation counter to measure.

When viewed under an optical microscope, there appeared to be corrosion of the foil. A representative of the source manufacturer confirmed that these sources are subject to corrosion.

The source was not previously used; therefore, it remained in its original shipping vial until 4/27/05. The source was previously tested for leakage on 10/12/2004; no removable

contamination was found. Only the outside of the storage vial was wiped for this and other previously conducted leak tests.

Some minor (few thousand dpm/100 $cm^2$) laboratory contamination was found during contamination surveys conducted upon discovery of the leaking source. The room and equipment has been decontaminated.

We plan to dispose of the source as radioactive waste. The source will be stored in a leak-proof container until it is disposed.

Other similar sources are currently mounted in mass spectrograph units. No contamination was detected around the units, including at the air exhausts. The sources and source housings will be tested for removable contamination the next time the unit is disassembled.

If you have any questions regarding this matter, please feel free to contact me.

Sincerely,

Kent Lambert, M.S., CHP
Radiation Safety Officer

cc: Sreekant Murthy, Ph.D.