

Region I - DNMS Licensee Event Report

Licensee:

NASA

Event Description:

Report of a Leaking Sealed Source

License No:

45-01052-21

Docket No:

03015000

MLER-RI:

2005-003

Event Date:

1-7-05

Report Date:

1-7-05

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 checked="" type="checkbox"/> License Condition 15.F.
<input type="checkbox"/> Other _____	

2. REGION I RESPONSE

<input type="checkbox"/> Immediate Site Inspection	Inspector/Date
<input type="checkbox"/> Special Inspection	Inspector/Date
<input checked="" 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 checked="" type="checkbox"/> Review at Next Inspection
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 checked="" type="checkbox"/> Cause of Event	<input type="checkbox"/> Additional Information Requested from Licensee

4. MANAGEMENT DIRECTIVE 8.3 EVALUATION

<input checked="" type="checkbox"/> Release w/Exposure > Limits	<input checked="" type="checkbox"/> Deliberate Misuse w/Exposure > Limits
<input checked="" type="checkbox"/> Repeated Inadequate Control	<input checked="" type="checkbox"/> Pkging Failure > 10 rads/hr or Contamination > 1000x Limits
<input checked="" type="checkbox"/> Exposure 5x Limits	<input checked="" type="checkbox"/> Large# Indivs w/Exp > Limits or Medical Deterministic Effects
<input checked="" type="checkbox"/> Potential Fatality	<input checked="" type="checkbox"/> Unique Circumstances or Safeguards Concerns

If any of the above are involved:

<input checked="" type="checkbox"/> Considered Need for IIT	<input checked="" type="checkbox"/> Considered Need for AIT
Decision/Made By/Date:	2/3/05

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

<input checked="" type="checkbox"/> Timeliness - Inspection Meets Requirements (5 days for overexposure / 10 days for underexposure)	
<input checked="" type="checkbox"/> Medical Consultant Used-Name of Consultant/Date of Report:	
<input checked="" type="checkbox"/> Medical Consultant Determined Event Directly Contributed to Fatality	
<input checked="" type="checkbox"/> Device Failure with Possible Adverse Generic Implications	
<input checked="" type="checkbox"/> HQ or Contractor Support Required to Evaluate Consequences	

6. SPECIAL INSTRUCTIONS OR COMMENTS

Public:

Signature:

Steven R. Constantine

Non-Public:

Date:

1/28/2005

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

Rev. 11/18/04

SISP REVIEW COMPLETE:

[Signature]

James Dwyer, Branch Chief

[Signature]

TELEPHONE CONVERSATION RECORD	Date: January 7, 2005	Time: 09:00
Mail Control No.: N/A Inspection No.: N/A	License No.: 45-01052-21	Docket No.: 030-15000
Person Calling: Kim Merritt, Radiation Safety Officer	Licensee: NASA	Telephone No.: 757-864-3210
Person Called: Steven Courtemanche/(610) 337-5075		
Subject: Report of a leaking sealed source.		
<p><u>Summary:</u> Mr. Merritt called to report a leaking sealed source. The source was found in the drawer of a retired worker. A formal leak test was not done, so the degree of contamination is not available. The source was flaking and in bad condition and it was believed that doing a wipe of the source would spread the contamination throughout the drawer. Mr. Merritt described the source as a button source, manufactured in the 1960's, the manufacturer was unknown, the model number was FK1-10 and the isotope was marked as U-238. A review of the Sealed Source and Device Registry did not identify a match for this model number. The licensee has packaged up the source and has prepared it for a future disposal. The licensee has initiated action to have Human Resources put out a memo to every future retiree to inventory all of the hazardous materials in their laboratories and provide it to the appropriate regulatory personnel prior to their leaving the agency.</p>		
Action Required/Taken: Document for ADAMS		
Prepared by Steven Courtemanche	Date: January 7, 2005	

Report of leaking source, license 45-01052-21

On Monday, January 3, 2005 a box of sources was delivered to my office. These sources were found in a cabinet of a recent retiree. I conducted a quick inventory of the sources and found one which was obviously damaged. The source consists of a lightweight (plastic?) disc plated with U-238. The active surface of the source has an appearance similar to snake scales and some of the scales are flaking off. There was no obvious cause for the source to be flaking so my suspicion is that whatever bonding agent had been used to fix the material to the substrate has broken down due to age.

I did not swipe the actual source itself as I did not want to damage it further. The source was placed in a coin envelope and sealed up and the exterior of the envelope swiped to verify it free of contamination. The visible flakes were removed from the box containing the source and the box was swiped to verify it was free of further contamination. The flakes and gloves I was wearing were placed in a plastic bag for future disposal.

This box of sources had not been used in many years. I surveyed the cabinet where the sources were stored and found no contamination. Due to the low activity, and the fact that the sources had not been disturbed in a number of years there is no reason to suspect an unmonitored exposure of personnel.

Here is what I know about the source:

Manufacturer: Nuclear Chicago

Model: SK1-10

Isotope: U238

Activity: unknown, although it reads 100,000 cpm through the coin envelope using a pancake-type GM detector.

Serial number: unknown

Date of manufacture: unknown

I have attached a picture of the source.

I contacted the retiree to inquire about the history of the sources. He informed me that he could not recall exactly what they had been used for but that they had been used by several principle investigators in the 60's and 70's for instrument development activities associated with planetary probes. He stated that at some point long ago they had been informed that the sources were "unlicensed", which is why I had been unaware of the existence.

This source will be placed in the radioactive material storage facility and held for disposal at a future date. The Safety Office will review the employee checkout procedures in order to ensure proper transfer of radioactive materials upon employee termination.

RECEIVED
REGION 1
JAN 13 P 1:07

Please contact me if you require any further information.

Kim Merritt
Radiation Safety Officer
Maithia Technologies, Inc.
NASA Langley Research Center

