UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER
Safety and Environmental Compliance Office
Safety Division

November 21, 2008

Art Howell
Director
NRC
612 East Lamar Blvd Ste 400
Arlington TX 76011-4125

Dear Mr. Howell:

Attached is a letter regarding our leaking Ni63 source. We have removed it from service, and stored it safely. I also sent an email to you on November 21st.

Our license number is 05-11997-01.

Please contact me if you have any questions, or need further information. My phone number is 303-497-3912 or by email Rhonda.S.Carpenter@NOAA.gov.

Sincerely,

Rhonda Carpenter, CIH
Radiation Safety Officer
Field Safety Manager
NOAA
325 Broadway MC 4X1
Boulder CO 80305

Subject: leaking nickel 63 sealed source
From: "Rhonda.S.Carpenter" <Rhonda.S.Carpenter@noaa.gov>
Date: Fri, 21 Nov 2008 11:10:59 -0700
To: Art Howell <Art.Howell@nrc.gov>
CC: Roberto Torres <RJT@nrc.gov>, James Verlaque <James.Verlaque@noaa.gov>, Thomas Altvater <Thomas.Altvater@noaa.gov>, "Bruce.A.Zaczynski@noaa.gov" <Bruce.A.Zaczynski@noaa.gov>, Roger Carter <Roger.Carter@noaa.gov>

Dear Mr. Howell:

Attached is a report regarding a leaking nickel 63 source in our Idaho Falls, Idaho Laboratory. We wipe tested it November 18, discovered it was leaking and immediately took it out of service. Our license number is 05-11997-01.

Please contact me if you have any questions, or need further information. My phone number is 303-497-3912 or by email Rhonda.S.Carpenter@noaa.gov .

I will also mail a copy of this notification letter.

Sincerely,

Rhonda Carpenter, CIH
Safety Officer
Safety Manager

Broadway MC 4X1
80305

Rhonda
Radiation
Field
NOAA
325
Boulder CO

Rhonda Carpenter, C.I.H.
Field Industrial Hygienist/Safety Manager
NOAA Safety and Environmental Compliance Office (SECO)

NRCleakreport.doc	**Content-Type:** application/msword **Content-Encoding:** base64

Report of Positive Leak Test for a General License Nickel-63 Sealed Source

Nov. 18, 2008

NOAA Air Resources Laboratory Field Research Division (FRD)
1750 Foote Dr.
Idaho Falls, ID 83402

Source identification: Valco model 140BN Electron Capture Detector (ECD), serial number N206
(General License device, Sealed Source Registry No. TX-658-D-102-G, 5 millicuries Ni-63)

On the morning of Nov. 18, 2008, routine semiannual ECD leak tests were conducted in the FRD laboratory at 1750 Foote Dr., Idaho Falls, ID. A wipe test on the inlets and outlets of the above source showed the presence of 0.011 microcuries of contamination. The wipe was counted on a Ludlum 3030 Alpha Beta Sample Counter that was specifically calibrated for Ni-63 by the Idaho National Laboratory Health Physics Instrumentation Laboratory. Annual calibration was completed on Nov. 12, 2008. The limit of detection for the instrument was calculated as 0.00031 microcurie of Ni-63.

When the high count was observed, the smear was immediately sealed in a ziplock plastic bag. The work area where the wipe was done was immediately checked for contamination. Tools (tweezers, pens, notepad) used, table tops, gloves, and the Ludlum instrument itself were wiped with smears and each one counted. The counts on all smears were much less than the instrument limit of detection indicating 0 activity.

Once it was established that no measurable contamination was present in the environment, steps were taken to isolate the detector. Immediately after the wipe test was completed, all inlets and outlets were recapped and the detector replaced in the locked cabinet where it had been stored. The detector was then removed from the cabinet again and all six sides of the rectangular housing were wiped with a smear. This was counted and showed 0 activity indicating that no contamination was on the outside of the detector housing. The detector was placed in a plastic ziplock bag and put in a paint can. The plastic bag containing the smear that counted high was also placed in the can. The can was closed and the outside wiped and counted, again showing 0 activity. Further wipe tests were then conducted on the inside of the storage cabinent where the detector was stored, the tables around the gas chromatograph (GC) where the detector was last used and the interior surfaces of the GC. All counts indicated 0 activity. Based on these contamination tests, we believe that all leakage is contained within the device which is isolated in the paint can. There was no exposure to the public and neglible exposure to the personnel conducting the leak tests.

The detector had been taken out of service on August 23, 2007. It had passed all wipe tests prior to that date. The detector remains in the paint can in a locked metal cabinet inside the FRD laboratory. It will remain out of service until it can be repaired. We have contacted the manufacturer and other companies and are investigating options for repair of the unit.

Roger G. Carter
(208) 526-2745

Dennis Finn
(208) 526-0566

Follow on to the

Report of Positive Leak Test for a General License Nickel-63 Sealed Source

Nov. 20, 2008

NOAA Air Resources Laboratory Field Research Division (FRD)
1750 Foote Dr.
Idaho Falls, ID 83402

Source identification: Valco model 140BN Electron Capture Detector (ECD), serial number N206
(General License device, Sealed Source Registry No. TX-658-D-102-G, 5 millicuries Ni-63)

Bruce A. Zaczynski, NOAA Radiation Control Officer suggested that the smear from the original wipe test of N206 be allowed to sit open to the air for approximately 24 hours to allow radon daughter products to decay out and then be recounted. At approximately 16:45 on Nov. 19, 2008, the smear was placed in an open beaker. At approximately 15:30 on Nov. 20, the smear was again counted. It measured 0.0098 microcurie; slightly less, but still above the limit of 0.005 microcurie.

After counting, the smear was replaced in the ziplock bag. The area was checked for contamination by using smears to wipe the gloves and tools used to handle the smear and the table top. No contamination was found.

Detector N206 was then wipe tested again using the same procedure as was used on Nov. 18. This test showed only 0.00036 microcuries, which is well below the clean limit.

The detector and the one high count smear from Nov. 18 were returned to the paint can and placed in the storage cabinet.

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Licensee: NOAA

Docket No.: _____ License No.: (05-11997-01)

Document Date: 11/21/08 Date Received: 11/24/08

SUNSI Reviewer's (Inspector's) Initials: JL **SUNSI Review Date:** 2/9/09

NMIB - SUNSI Screening according to RIS 2005-31 (Dec. 22, 2005)

_____ Radioactive material (RAM), in any single location, < quantities in IAEA Category 3 (Table 1, RIS 2005-31; see next page); for multiple isotopes, use the Unity Rule. **Do not check if the Exact location of RAM is given.**

__✓__ RAM not listed in Table 1, RIS 2005-31

_____ Information on decommissioning or terminated materials sites (all radioactivity except diffuse contamination has been removed)

_____ Information available from open source literature (text books, web sites, etc.)

If any item above is checked, SUNSI screening is not necessary (If yes, remove or mark through security header/footer.) ☑ Yes, **screening is not necessary** ☐ No, **complete the screening**

Screening Criteria:

_____ Information on the Exact location of RAM, such as specific buildings or room numbers

_____ Authorized quantities and actual inventories of RAM

_____ Lists of licensees registered to use NRC-approved Part 71 transportation packages

_____ Design of structure and/or equipment (site specific, security requirements)

_____ Information on nearby facilities which could reasonably be useful to potential adversaries

_____ Detailed design drawings and/or performance info, especially indicating vulnerabilities

_____ Information related to emergency planning, emergency response and fire protection

_____ State or local government agency information designated as Sensitive

_____ Security Program information which could reasonably be useful to potential adversaries

_____ Vulnerability/security assessment/accident-safety analysis/risk assessments

_____ Manufacturers and model numbers of sealed sources and devices

_____ Mailing lists related to security purposes or high risk/vulnerable facilities

_____ Drawings that show specific locations of pathways or routes to and/or from RAM

_____ Site specific RAM security program information (guards, barriers, locks, alarms, etc.)

_____ Site specific response to security events and malevolent events, response of LLEA etc.

If **any** item above is checked, the document is declared Non-Publicly Available, Sensitive ☐ Yes, **non-public sensitive** ☑ No, **public nonsensitive**

Branch Chief's or Senior HP's Initials: RAC Date: 3/9/2009

Don't forget to screen for PPI.

~~Official Use Only–Security-Related Information~~