

*Roberto
Completed as you requested.
Jim Elkin*

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of Oceanic and Atmospheric Research
Earth System Research Laboratory
325 Broadway – David Skaggs Research Center
Boulder, Colorado 80305-3337

September 17, 2008

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Nuclear Regulatory Commission (NRC)
Attn: Document Control Desk
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To Whom It May Concern:

This report follows up a telephone conversation between Roberto J. Torres, Senior Health Physicist of the NRC, Region IV, and Rhonda Carpenter, Radiation Safety Officer for NOAA Corporate Services on the morning of 15 September 2008. He told us to report the lost of radioactive sources to NRC's Operations Center. Rhonda Carpenter, our Radiation Safety Officer, reported a lost of three sources on 16 September to the Center with a notification time of 1637. She also submitted an unsigned version of this report where only the address and this first paragraph are different than printed here. This report covers a separate incident of lost sealed Nickel-63 beta sources used as electron capture detectors (ECDs) in gas chromatographs (GCs). The total number of lost sources is three.

Two Hewlett Packard (HP) gas chromatographs with three HP Nickel-63 detectors at a source strength of 15 millicuries each were determined to be missing from their stored warehouse (Building #4) at NOAA ESRL laboratory in Boulder, CO by Dr. James W. Elkins on 29 March 2007. A search was begun with the belief that the sources had been moved or used by someone in the NOAA facility because Building #4 was used as a temporary post office for about one year and our boxes may have been moved to other locations on the site. The serial numbers of the missing sources were L1231 and L1941 in an HP model 5890 II GC with serial number 2518A05469, and M2087 in another HP model 5890 II GC with serial number 2518A05471. We use the ECDs in a worldwide network to measure atmospheric substances (freons) that destroy stratospheric ozone. The network includes stations at Pt. Barrow, Alaska; Niwot Ridge, Colorado; Mauna Loa, Hawaii; American Samoa, and South Pole, Antarctica. Source serial#s L1231 and L1941 were last wipe tested on 24 July 2001. The GC containing those sources was then retired from service at Niwot Ridge and placed in storage on 20 August 2001. Source serial# M2087 was last wipe tested on 7 February 2000. The GC containing those sources was retired from service from American Samoa and placed in storage. On 9 August 2002, all sources were moved to Building #4 for long term storage. They were not wipe tested further since they were inactive.

Building #4 is locked 24 hours, seven days a week, and occasionally left opened during working hours without security monitors or staff members in the storage area. The Boulder DoC campus is guarded with access control, but not fenced in. The following activities were investigated to locate the three missing stored sources:

(1). The Department of Commerce Laboratories in Boulder stores all excess property in Building #4 to make it ready for transport to the Denver Federal Center for posting of availability of excess property to all government agencies. If the excess property was not transferred to another government agency over a year period, then it will be sold to general public. The thought was that the shipper had taken the instruments with their sources by accident to the Denver Federal Center. We contacted the shipper and the Denver Federal Center, and both reported that they were never picked up prior to 2007. The procedure also requires that



each piece of excessed property be sealed with plastic on a pallet with paper work attached, so this possibility was ruled out in 2007.

(2). Jim Elkins contacted all current employees in the group to make sure that the sources were not loaned out. Nothing was discovered.

(3). Jim Elkins contacted all past employees in the group to make sure that they had not borrowed the sources without our knowledge. Nothing was discovered.

(4). Jim Elkins contacted HP, now Agilent Technologies, to see if anyone reported the instruments with the sealed sources as being serviced. Nothing was discovered.

(5). Geoff Dutton of ESRL/GMD contacted all observatory staff and inspected all spares parts at our observatories (except American Samoa) over the past year to see if they were there. This required a year for someone from our group to visit each site, including South Pole since it is only opened three months each year. Nothing was discovered.

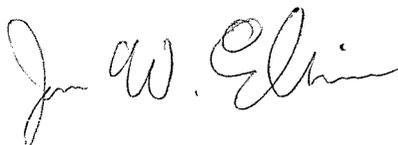
(6). Jim Elkins contacted LabX, a web site where used laboratory equipment is sold, to see if the instruments with the missing sources were sold on LabX. Nothing was discovered.

(7). Many members of the NOAA/ESRL/GMD searched the complete DoC site and all rental storage facilities in Boulder were completed on 15 August 2008. Nothing was discovered.

Jim Elkins concluded that these three sources were lost on 28 August 2008 after investigating all of the leads above. The probable outcome is that the sources and their instruments were moved out of NOAA property in Boulder. They are either misplaced or stolen. Jim Elkins only contacted one used instrument web site, LabX, a eBay type service, ---they only providing a listing service. In the used instrument market, these instruments are being sold for as high as \$12K each. They are the most expensive items that our group currently stores. They are sealed low level beta sources. There is little or no risk to any individuals that worked with them and they do not create a problem for the public at large.

If you have any questions on this missing source, then please contact me at 1 (303) 497-6224, office, or 1 (303) 898-5424, mobile. My E-mail address is james.w.elkins@noaa.gov.

Sincerely yours,



James W. Elkins, Chief
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Radiation Safety Officer
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↓ Cc: R. Torres

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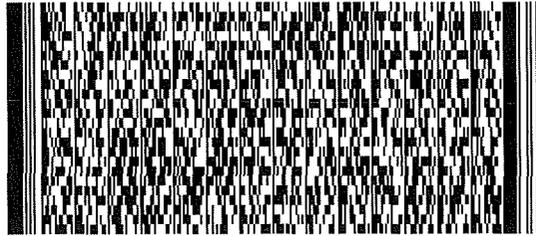


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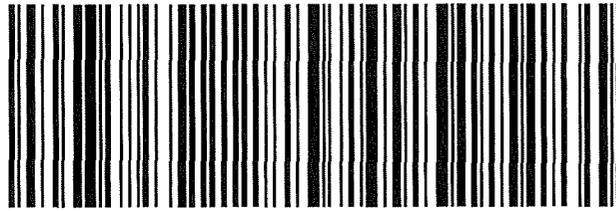
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