



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON DC

24 Sep 12

MEMORANDUM FOR NRC Region IV (Mr. Elmo Collins, Ms Jackie Cook)

FROM: AFMSA/SG3PB

SUBJECT: Report: Loss of Radioactive Material – Smith's Detection Ionscan Model 400B, Event No. 48337

1. IAW 10 CFR 20.2201(b)(2)(ii), we are providing a written report for the loss of radioactive material. The loss of material was reported on 24 Sep 2012; 1) telephonically to NRC Operations Center, Event No. 48337 and 2) via E-Mail to NRC, Region IV (Ms. Cook). The following information addresses the reporting requirements:

a. Description of the licensed material: The subject device contained nickel 63 (Ni-63), one source, at 15 millicuries. The source is encapsulated in a hollow brass cylinder which in turn is sealed in a ceramic shield as referenced in Sealed Source & Device Registry (SS&DR) NR-0163-D-102-E, dated 19 Oct 2010. This generally licensed device (GLD) was used by USAF Security Forces Personnel (802nd SFS) of Lackland AFB, San Antonio, TX.

b. Description of circumstances for loss: The missing Ionscan 400B was added to the Installation Radiation Safety Officers inventory of all GLDs on Lackland AFB in May 2010. The serial number of the missing source is 10859. It was surveyed semi-annually until November 2011. At that point, the Lackland AFB installation radiation safety officer was told that particular device had been sent in October 2011 to the manufacturer for maintenance along with four (4) other devices. In November 2011, three (3) of the repaired devices had been returned from maintenance and were checked. The remaining two (2) units were assumed to still be at the manufacturer. During the May 2012 leak test/inventory of GLDs, the two (2) devices were assumed to still be at the repair facility. The Lackland AFB Radiation Safety Officer (RSO) again raised the question as to the location and was assured the two (2) devices would be returned soon. In August 2012, when the devices had not been returned, the unit initiated a concerted effort to find the devices. The Air Force Radioisotope Committee was contacted to report the missing devices.

c. Statement of disposition: One (1) device has been located at the manufacturer's repair facility. According to Smith's Detection personnel, the serial number of the other missing device (10859) is not a valid serial number. The device in question with that serial number was inventoried and leak tested in May 2010, November 2010 and May 2011. The USAF believes that this is a valid serial number for the missing Ionscan.

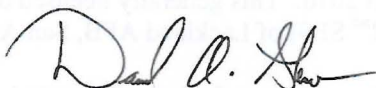
d. Exposures to individuals: Because the device contains Ni-63, which is sealed and incorporated into the Ion Mobility Spectrometer assembly, the radiation level surrounding the device would be indistinguishable from background and dose to radiation workers or the general public is and will be negligible.

e. Actions taken: Numerous contact has been made with Smith's Detection to attempt to locate the missing device. Lackland personnel have used their chain of command to determine if the source was

transferred to any other Air Force location. The storage area where the devices were stored have been searched. During the next 30 days, all Security Forces equipment will be moved to another location and special attention will be devoted in an attempt to locate the missing Ionscan. To date, the source has not been located.

f. Procedures/measures to rectify future loss: The installation radiation safety officer will reinforce the policies outlined in Air Force Instruction (AFI) 40-201, *Managing Radioactive Materials in the United States Air Force* for procurement and shipping and receiving of radioactive material. The shipper will require receipt confirmation from the manufacture when items are shipped for maintenance or repair.

2. If you have any questions, please contact me at 703-681-7855 or E-Mail at daniel.shaw@pentagon.af.mil or David Cessor-Culver at 703-681-6946 or E-Mail at david.cessor-culver.ctr@pentagon.af.mil.



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