



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
OFFICE OF RESEARCH AND DEVELOPMENT  
NATIONAL RISK MANAGEMENT RESEARCH LABORATORY  
CINCINNATI, OHIO 45268

October 16, 2015

Administrator  
USNRC, Region III,  
2443 Warrenville Road, Suite 210,  
Lisle, IL 60532-4352

Dear Sir or Madam:

I am providing this written report as a follow-up to the telephone report made to the NRC Operations Center on 10/16/2015 at 14:18.

On August 5, 2015 the United States Environmental Protection Agency in Cincinnati, Ohio (US EPA Cincinnati) received a letter from the NRC dated July 30, 2015 regarding the possession of generally licensed devices. The letter listed an address for our facility that had not been effective since the 1980's. I contacted Mr. Hector Rodriguez-Luccioni as directed by the letter to obtain more information on the specific devices. Mr. Rodriguez-Luccioni provided the following information:

Manufacturer: TSI Incorporated  
Model: 3054, aerosol neutralizer  
Serial Nos.: 290T and 291T  
Isotope: Kr-85, 10 mCi per device

With this information, it was determined US EPA Cincinnati did not possess these two devices. The manufacturer was contacted for additional information and stated that the devices were purchased on April 21, 1977 by Mr. Bob Danner, former radiation safety committee chairman. Mr. Danner has not worked at the US EPA for many years. This information was reported to Mr. Rodriguez-Luccioni and to the NRC Office of Nuclear Material Safety and Safeguards as listed on the July 30<sup>th</sup> letter and further investigation initiated.

The most probable disposition for the sources was the transfer to a specific license holder for disposal or to another research facility. Members of our staff completed an exhaustive search of all available records and located radioactive source inventories dating back to 1983, but could not locate any records prior to this year. The 1983 inventory did not list the Kr-85 sources in question. The manufacturer was contacted and requested to check any available records to determine if these sources were returned to the manufacturer in the years following 1977. EPA Cincinnati was notified by the manufacturer on October 16, 2015 that due to the extent of time which has passed since the source purchases, they were unable to find any records pertaining to the sources or their return to the manufacturer.

In addition, the US EPA facility in Research Triangle Park was contacted and requested to review their records. This location was known to also utilize this make and model of aerosol neutralizer. The site had no record of the sources.

Finally, prior records of correspondence with the NRC were reviewed. A letter dated Dec 9,

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1981 was found which referred to an inspection conducted November 18, 1981. That letter found no items of noncompliance and referenced the closure of findings from a December 7, 1978 inspection. A copy of the 1978 inspection report was not available. However, the closure of findings indicates that the sources in question were either under proper control at the time or had been transferred during the period between 1977 and 1981. If transferred during this period, then per our understanding of the regulations at the time, retention of records of transfer was required for 5 years, thus possibly explaining the failure to locate any records at this time.

The design of the devices includes inert Kr-85 gas sealed completely inside a stainless-steel tube with wall thickness of 0.05 millimeters. The tube is shielded by a metal outer housing. There are no known exposures of individuals to radiation and the design and nature of the devices make it unlikely to result in a dose to persons in unrestricted areas.

The US EPA Cincinnati maintains a comprehensive radiation safety program. Our program was audited by the NRC as recently as September 2014 and no violations were identified. In addition EPA Cincinnati performs an annual internal audit of its radiation safety program. EPA Cincinnati performs semiannual inventories and leak tests of all sealed sources (under general and specific license) and marks all instruments containing such devices with warnings to not move or transfer the material from its present location without authorization from the RSO. All users of radioactive material are trained annually regarding proper control and use of radioactive materials.

This information is provided per the requirements of 10 CFR 20.2201. If further information is required, I have provided my contact information.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen Musson", with a long horizontal flourish extending to the right.

Stephen Musson, PhD, CIH, CHMM  
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