



OSEH
Occupational Safety &
Environmental Health

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Terrance G. Alexander, Executive Director

May 22, 2008

Dr. Charles Miller, Director
Office of Federal and State Materials and Environmental Management Programs
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

ATTN: GLTS

RE: Apparent Leaking Nickel-63 ECD Source

Dear Dr. Miller:

In accordance with 10 CFR 31.5(c)(5), please be advised that the University of Michigan (U-M) – Radiation Safety Service staff identified an apparent leaking sealed (plated) radioactive source. The apparent leaking source was identified during a routine semi-annual leak test procedure on April 25, 2008. A swab test identified approximately 0.009 microcuries (μCi) of Ni-63 activity on the outer surface of the detector cell assembly which contains a plated nickel-63 foil as part of an Electron Capture Detector (ECD).

The ECD is a Varian, Inc. / Model 02-1972-00 / Serial #A-339. This 8 millicurie Ni-63 ECD source was received at the U-M under General License from Varian, Inc. in May, 1977. Historically, this ECD exhibited no evidence of leakage. In November, 2007 the ECD showed minor contamination (less than 0.005 μCi) and was removed from the U-M research laboratory in which it was stored and transferred to OSEH / Radiation Safety Service to be returned to Varian, Inc. The ECD was leak tested again on April 25, 2008 and showed approximately 0.009 μCi of contamination.

The leak test was conducted using a cotton swab and a Packard Tri-Carb 2900TR liquid scintillation counter (LSC) (Serial Number 422606) was used to count the swab. The total net counts per minute were found to be 8,720 cpm. Using a conservative LSC efficiency of 45% for Ni-63, 19,378 dpm or approximately 0.009 μCi of Ni-63 activity was estimated from the swab test.

A thorough radiological survey was conducted in the research laboratory in which this device was used. No contamination was identified during that survey.

The ECD was returned to Varian, Inc. for disposal on May 14, 2008. The ECD was received at Varian, Inc. on May 15, 2008. This was confirmed by Mr. Larry Steinwadt, Radiation Safety Officer at Varian, Inc. in Walnut Creek, CA.

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Thank you for your time and consideration in this notification. Please do not hesitate to contact me at Radiation Safety Service / OSEH [(734) 647-2251] should you have any questions or comments regarding this leaking Ni-63 ECD source.

Sincerely,



Mark L. Driscoll
Director / Radiation Safety Officer
Radiation Safety Service / OSEH

cc: Darrell Wiedeman, Nuclear Regulatory Commission, Region III
Ruthann Nichols, Ph.D. Chair, Radiation Policy Committee
Terry Alexander, Director, Occupational Safety & Environmental Health