

11 August 2010

Mr. James Mullauer U.S. NRC, Region III 2443 Warrenville Rd, Suite 210 Lisle, IL 60532-4352

Dear Mr. Mullauer,

This letter is in response to our email conversations and your inquiries regarding our license renewal.

Regarding the training and experience of Dr. Mari Hopper in using I-125, she was trained and used this isotope in 1982 doing radioimmunoassays for insulin in her research work. This work lasted for one year at the University of Texas-Austin. Upon expressing her desire to do this work here at USI, she took my radiation training class required of all potential authorized users. I am confident of her skills and understanding in the safe use of this isotope. I have inspected her laboratory and equipment to handle I-125 and all necessary precautions have been taken to enable its safe use.

Regarding the sealed sources used in our Modern Physics laboratory, paperwork for these are unavailable since they were purchased years ago, prior to our new construction and laboratory move. We possess two kits manufactured by Spectrum Techniques—the RSS-3 and the RSS-8, descriptions of which are shown below taken from the Spectrum Techniques website. All sources are in original containers and stored in a lead lined cabinet in our modern physics laboratory. Dates of manufacture for the RSS-8 sources indicate June 2005. The RSS-3 sources pre-date 2005.

Regarding your indication I should request removal of the exempt sources from our license, I have some questions. We initially sought licensing for the listed isotopes to enable research for our faculty. A survey of the authorized users indicated the potential use of these isotopes up to the 5 mCi activity. While currently we do not possess these sources at this activity, it does not mean there won't be a need in the near future. Currently I possess only exempt sources for my laboratory to work with students. I can foresee needing stronger sources, up to the 5 mCi level, for future use to calibrate efficiencies of detectors. That said, is it imperative that I request the removal of already approved isotopes from my license?

I appreciate your help in our license renewal.

Best Regards,

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Dr. Kent W. Scheller Associate Professor of Physics

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RSS-8

Designed for gamma spectroscopy, the RSS-8 contains eight different gamma emitting isotopes covering the entire energy range from 32 to 1333 keV. Also included in the set is a mixed source of Cs-137 and Zn-65 which students may use to identify an "unknown" isotope. The set consists of Ba-133, Cd-109, Co-57, Co-60, Cs-137, Mn-54. Na-22 and Cs/Zn. Source activities are all 1 uCi, except the Cs/Zn source, which is 0.5 uCi Cs and 1 uCi Zn.



The RSS-3 contains 1 each Po-210, Sr-90 and Co-60 emitting a range of alpha, beta and gamma radiation's. This set is ideal for demonstration and introductory nuclear labs covering basic characteristics of radiation.

RSS-3

