



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

June 28, 2005

Docket No. 03030971
Control No. 136921

License No. 45-25034-01

John A. Hufnagel
Radiation Safety Officer
Washington and Lee University
Biology Department
Howe 301B
116 North Main Street
Lexington, VA 24450-0303

SUBJECT: WASHINGTON AND LEE UNIVERSITY, REQUEST FOR ADDITIONAL
INFORMATION CONCERNING APPLICATION FOR RENEWAL OF LICENSE,
CONTROL NO. 136921

Dear Mr. Hufnagel:

This is in reference to your application dated March 29, 2005 requesting to renew Nuclear Regulatory Commission License No. 45-25034-01. In order to continue our review, we need the following additional information:

1. In the application section titled, "Radiation Monitoring Instruments," it is stated that you use 3 Victoreen 2000A dosimeters and chargers as dosimeters for the use of those using gamma emitters of ^{35}S during procedures to determine absorbed doses. The application section titled, "Calibration", states, "The pencil dosimeters cannot be calibrated but must be replaced when they are no longer able to be properly "zeroed" by the charger." 10 CFR 20.1501(b) requires, "The licensee shall ensure that instruments and equipment used for quantitative radiation measurements are calibrated periodically for radiation measured." Please describe how you will ensure that quantitative measurements of absorbed dose are made in accordance with NRC regulations.
2. The application listed a BICRON "Surveyor M" portable count rate instrument with a GM probe. It appears that the probe is very insensitive to beta particles as the application section titled, "Radiation Monitoring Instruments," states that beta particles must be > 45 MeV to be detected. Please verify the detection capability of beta particles by portable radiation detectors.
3. The application has described the Indiana University Radiation Safety Series video recording as a means for training personnel, including the title of each video tape but not including any information on the topics discussed in the video tapes. Please submit a description of the topics covered by each of the video recordings.
4. In the application section entitled, "Material Receipt and Accountability," it states that the Radiation Safety Officer will make all radioactive material orders personally by telephone. Contrary to this statement, section H of the Radiation Safety Manual

suggests that the purchasing department processes the order. Please clarify the process for controlling ordering of radioactive material.

5. In the application section titled "Safe Use of Radionuclides and Emergency Procedures," and in the Radiation Safety Manual section III.E, you describe instruments that are available for each user to perform contamination surveys "after each use of the radionuclide." The training program you described, however, did not include any information regarding training of individuals to perform radiation surveys. Please provide information, such as that included in Appendix Q to NUREG-1556, Volume 7, regarding training provided to individuals designated to perform surveys.

The application appears to be in conflict with the regulations in 10 CFR Part 20. Please note that regulation supercedes all non-conservative requirements or statements unless a specific exemption is requested and granted. The specific section you may wish to review includes:

The Radiation Safety Manual, section III, part C, number 1, discusses your marking and labeling procedural requirements. While the description is close to the requirements as listed in 10 CFR 20.1902(e) and 10 CFR 20.1903©), there are differences in the stated amounts of natural uranium and thorium, and with regards to the distance at which radiation measurements are to be made (regulations state 30 centimeters).

Current NRC regulations and guidance are available at the NRC web site at <http://www.nrc.gov/materials/miau/mat-toolkits.html> and <http://www.nrc.gov/who-we-are/governing-laws.html> or by contacting the Government Printing Office (GPO) toll-free at 1-888-293-6498. The GPO is open from 7:00 a.m. to 9:00 p.m. EST, Monday through Friday (except Federal holidays).

We will continue our review upon receipt of this information. Please reply to my attention at the Region I Office and refer to Mail Control No. 136921. If you have any technical questions regarding this deficiency letter, please call Dennis Lawyer at (610) 337-5366.

In order to continue prompt review of your application, we request that you submit your response to this letter within 30 calendar days from the date of this letter.

Sincerely,

Original signed by Todd J. Jackson, CHP

Todd J. Jackson, CHP
Senior Health Physicist
Commercial and R&D Branch
Division of Nuclear Materials Safety

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