VIRGINIA TECH

Radiation Safety Office

Blacksburg, Va. 24061
(703)961-5364

June 23, 1987

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Paul Guinn
USNRC, Region II
Suite 2900
101 Marietta St.
Atlanta, Ga. 30303

Dear Mr. Guinn:

RE: Mail Control No. 251590

This letter is in response to our phone conversation on June 8 regarding Va Tech's broad license 45-09475-30 renewal application. I have attached the additional information requested concerning temporary job sites.

If you have further questions, please call me.

Sincerely,

Douglas C. Smiley

Douglas C. Smiley
Radiation Safety Officer

Encl:

Official Copy

TEMPORARY JOB SITE ADDITIONAL INFORMATION

All radioactive material is transported to and from temporary job sites in accordance with DOT regulations. Once the radioactive material is at the job site, it is either in use or locked up (key control by the user). Contamination control is achieved using the procedures required for any on-campus activities. Contamination surveys of the work areas are performed daily (weekly when H-3 is used) when unsealed sources are used.

The Radiation Safety Committee approves all temporary job sites that involve the use of unsealed sources. Whenever moisture/density gauges are not used on Va Tech property, a letter of consent is required from the land owner.

Radioactive material is used at the University of Virginia Mountain Lake Biological Station located in Giles County, Virginia. The study site is composed of two 14 x 14 grid areas with one live capture trap at each grid station. Both areas are approximately 7.5 acres. Twelve isotopes are used at this research station. They are: Cr-51, Fe-59, Sc-46, Se-75, Zn-65, Hg-203, Cd-109, Cs-134, Sn-113, Hf-181, Nb-95 and I-125. The half-lives of these isotopes are less than one year with the exception of Cd-109 (453 days) and Cs-134 (752 days). The total quantity at the station will not exceed 5 mCi.

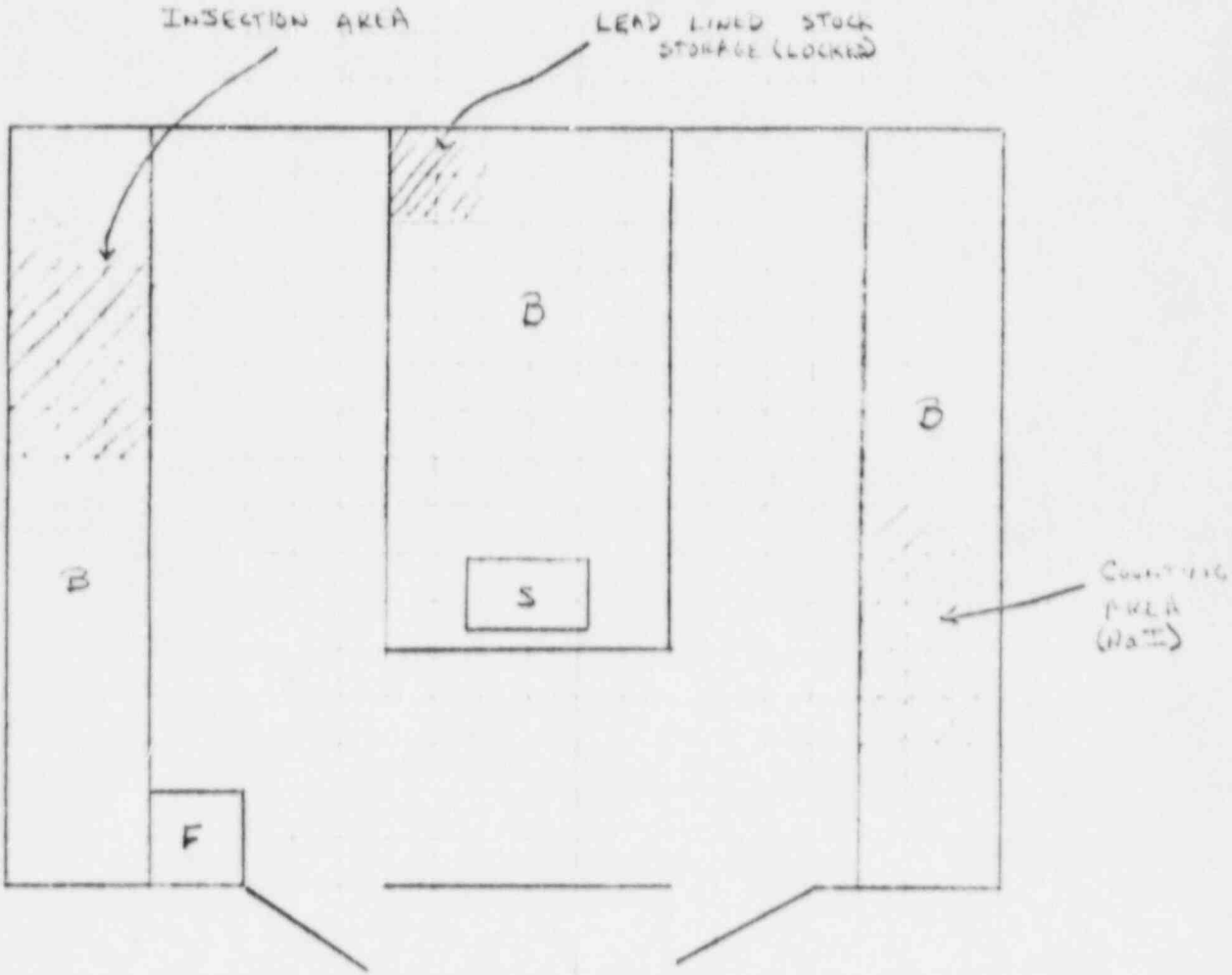
The overall objective is to study the social organization and movement of mice. The family unit (mother-young) is emphasized. Pregnant mice are intraperitoneally injected with a maximum of 30 uCi total of up to three isotopes. All injections are performed in the lab building at the Station. The injected label is passed to the progeny allowing for positive identification of their mother using a NaI detector. The majority of the isotope work is performed during the breeding seasons of April-June and September-November.

There is essentially no pathway to man for these experimental mice. Their range is about 1/10 of an acre. Approximately 50-70% of the animals should remain on the study grids while the remainder reside in the adjacent forest space. The maximum distance that a mouse might disperse is one mile. The surrounding area is sparsely populated. The closest inhabited area is 1.5 miles to the south of the study site. The remainder of the site is surrounded by uninhabited areas within the Jefferson National Forest. The relatively short life expectancy of these mice provide additional protection from human contact. Adults are expected to live for 7 weeks after initial capture while juveniles should live for 5 weeks. Predation must also be considered as a possible link to man. Foxes, weasels, hawks and owls prey on these mice.

Since these predators have hunting ranges in excess of several square miles, the probability of any one predator consuming large numbers of experimental mice is very low. Additionally, none of these predators are hunted for human consumption nor do they frequent human dwellings.

Adequate radiation safety precautions are observed. Radioactive material is only injected in the lab. The storage area is locked when not in use and the lab is locked when not in use. Daily contamination surveys are performed in the lab to ensure no spread of the isotopes. All waste and contaminated items are returned to Va Tech for proper disposal or decontamination. Radioactive material is transported in accordance with DOT regulations.

B = BENCH TOP
F = REFRIGERATOR
S = SINK



UVA MOUNTAIN LAKE STATION ISOTOPE LAB