



P. Guinn
RSS

A LAND-GRANT UNIVERSITY

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

OFFICE OF THE VICE PRESIDENT FOR ADMINISTRATION AND OPERATIONS (703) 961-6235

February 12, 1985

Paul R. Guinn
U.S. Nuclear Regulatory Commission
Region II
Suite 2900
101 Marietta St., N.W.
Atlanta, Georgia 30303

85 FEB 19 A10:35

Dear Mr. Guinn:

It is requested that the Virginia Polytechnic Institute & State University broad license 45-09475-30 be amended.

The requested changes are attached. Please expedite this request.

If there are any questions, contact Mr. Doug Smiley at (703)961-5364.

Sincerely yours,

William R. Van Dresser
William R. Van Dresser
Vice President for Administration
and Operations

U.S. NRC
LIC. FEE MGMT. BRANCH

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PROPOSED NRC AMENDMENT TO LICENSE #45-09475-30

We would like to add a subsection to condition 10 of our broad license. This request deals with the proposed use of radioactive material at the University of Virginia Mountain Lake Biological Station located in Giles County, Virginia. The study site is composed of two 14 x 14 grids of about 7.5 acres each with one live capture trap located at each grid station.

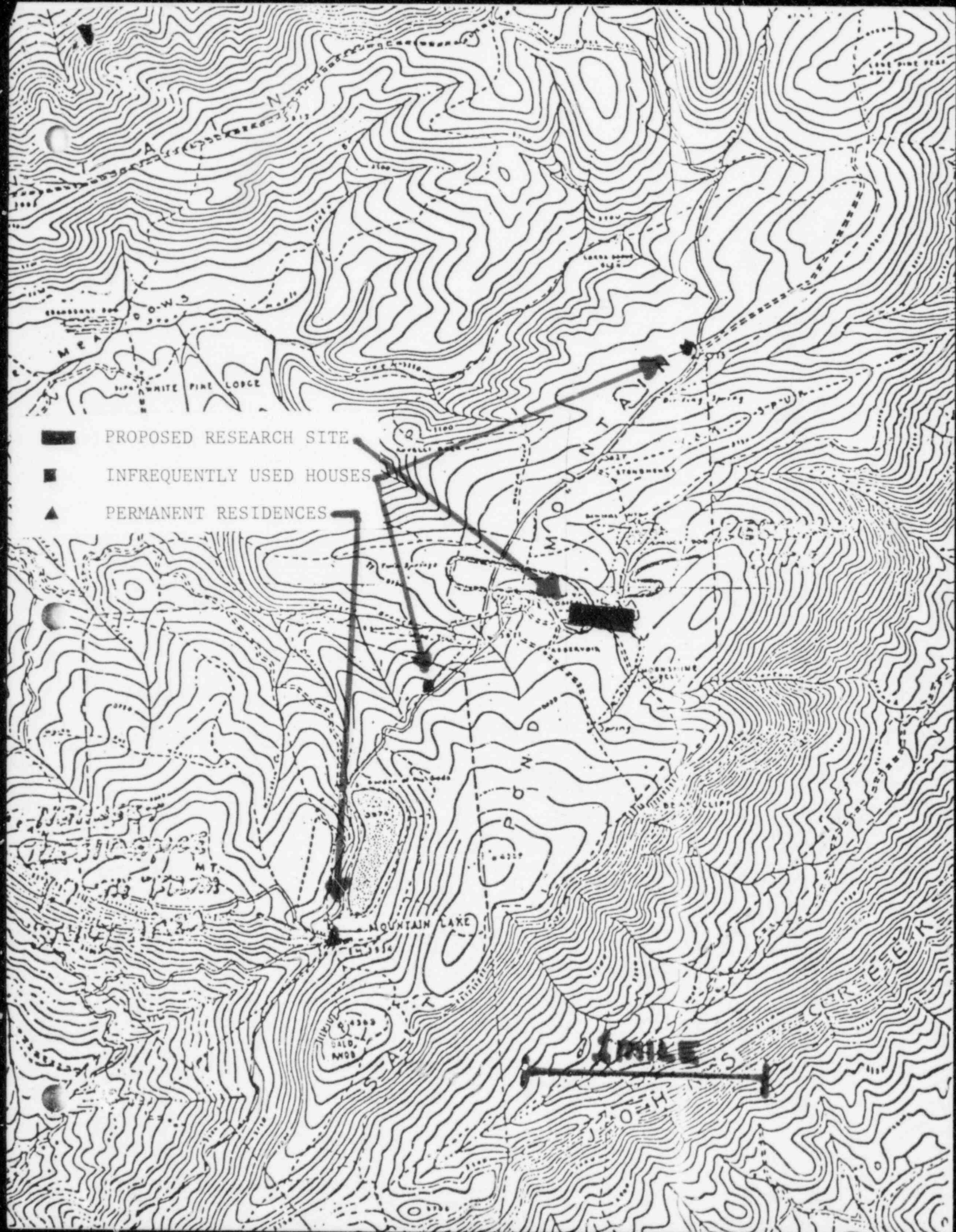
A total of 14 isotopes are planned to be used at this research station. They are: Cr-51, Fe-59, Mn-54, Sc-46, Se-75, Zn-65, Hg-203, Cd-109, Cs-134, Sn-113, Hf-181, Y-88, Nb-95 and I-125. The half-lives of these isotopes are less than one year with the exception of Cd-109 (453 days) and Cs-134 (752 days). The total quantity at the station will not exceed 5 mCi.

The overall objective is to study the social organization and movement of mice. Emphasis will be placed on the family unit (mother-young) with pregnant mice being intraperitoneally injected with a maximum of 30 uCi total of up to three isotopes. This label will be passed to the progeny allowing for positive identification of their mother using a NaI detector. The majority of the isotope work will be 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 with each grid being 7.5 acres. From 50-70% of the animals should remain on the study grids with the remainder becoming residents in the adjacent forest space. The maximum distance that a mouse might disperse is one mile. The surrounding area is sparsely populated with the closest inhabited area being 1.5 miles to the south of the study site. The remainder of the site is surrounded by the Jefferson National Forest uninhabited lands. Refer to the attached map of the area for more detailed information.

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 are expected to live only 5 weeks. Predation must also be considered as a possible link to man. Foxes, weasels, hawks and owls prey on these mice. However, 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 will be observed. Transport of the isotopes will be done in accordance with DOT regulations. Daily contamination surveys will be performed in the lab to ensure no spread of the isotopes. All waste and contaminated items will be returned to Va Tech for proper disposal or decontamination.



- PROPOSED RESEARCH SITE
- INFREQUENTLY USED HOUSES
- ▲ PERMANENT RESIDENCES

1 MILE