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OAK RIDGE NATIONAL LABORATORY
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OAK RIDGE, TENN.

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February 19, 1954

REPOSITORY MMFS/x-70

COLLECTION Health Sci. Research Div

BOX No. 4500 N, A-224

FOLDER Box 539, 1051-1000

Dr. Louis Smith
Dean of Berea College
Berea, Kentucky

Dear Dr. Smith:

Thank you for your letter of February 9th suggesting that Berea College can assist us in getting information on "fall out" in the Berea area during the coming weeks.

The Health Physics Division of the Oak Ridge National Laboratory is tentatively soliciting assistance from several educational institutions in a 150 mile radius surrounding Oak Ridge. We are desirous of locating at least one station North of the Cumberland Range and it appears that a location in your vicinity would be ideal for our purposes. Although this project is strictly a program of the Oak Ridge National Laboratory, the data obtained will be correlated with the work of other projects under the auspices of the Atomic Energy Commission.

Currently, there is no arrangement for giving financial reimbursement to the institutions which assist us in this project. The Laboratory will provide all necessary equipment and supplies. We hope that the contributing institutions will be able to provide technical personnel as well as electrical power and a site location for the equipment. Probably the major cost to the institution would be approximately 8 hours per week of a technician's time and about 700 kilowatt hours of 110 V electrical power per month. The site on which the equipment is located requires a minimum amount of space but the area must be relatively free of overhanging obstacles which would affect the wind currents. The top of a building or an open field serves adequately.

The basic equipment required for the project consists of the following:

- 2 Lapine Motor Blower Units for collecting air samples
- 1 30" x 30" x 4" aluminum tray for collecting rain water samples
- 1 scaler, scale of 64, with preamp and end window tube mount
- 1 aluminum mount 13" x 13" x 1/8" for exposing gum paper to the atmosphere

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Human Studies Project

February 19, 1954

The above equipment, with the exception of the scaler and accessories, is housed in a plywood structure mounted on four legs with an overall dimension of 30" x 30" x 48". The structure is similar to those used by the U. S. Weather Bureau for outside weather gauges.

Three basic types of samples will be collected. They are (1) samples collected by pulling air through filter paper, (2) rain water or water exposed to the atmosphere, and (3) samples collected by exposing "gum paper" (paper coated with a sticky substance) to the atmosphere. Methods of collecting samples should be discussed in detail at the time the station is installed. A brief description of these methods and techniques are given on the attached sheet.

I hope that this is adequate information for your committee to reach a decision on the establishment of this station at Berea. If possible, we would like to have a station operating in your vicinity by March 1st. If you have other questions regarding the system you might check with Dr. Noll or phone me here at the Laboratory.

Very truly yours,

J. C. Hart
Health Physics Division

DMD:JCH:cs

cc: C. E. Larson
K. Z. Morgan
J. C. Hart
D. M. Davis

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Collection Methods and Processing Techniques

1. Filter Type Samples

Two Lapine Motor Blower Units to be used to collect two types of filter samples -- one type to be collected on Whatman filter disc 1-1/8" in diameter and the other on a filter sheet 3" x 5" of C&S filter paper. This sample to be taken on a daily basis and counted on a standard scaler at periods of approximately 0 hours, 24 hours, 48 hours, and 96 hours after collection period ends. The filter sheet to be collected on a weekly basis and returned to ORNL for processing.

2. Wet Tray

Water samples to be collected on an aluminum tray 30" x 30" x 1/4". The tray should be kept wet with distilled water during periods in which there is no rainfall. The insoluble materials to be removed from the water by filtration through Whatman #42 filter paper. The filtrate will be evaporated to dryness and the residue, as well as the insoluble materials collected on the filter paper, to be counted with an end window GM tube.

3. Gum Paper

Sheets of gum paper approximately 13" x 13" to be exposed to the atmosphere for 24 hours and collected on a daily basis. The samples to be ashed and counted with an end window counter.

DMH KZM - [unclear]
Plan to [unclear]

ACTION!

February 9, 1954

OFFICE OF THE DEAN

Mr. J. C. Hart
Div. of Health Physics
Oak Ridge National Laboratory
Oak Ridge, Tennessee

Dear Mr. Hart:

A few days ago Dr. Waldemar Noll asked about the possibility of our installing here one of the radiation downfall measurement stations being established over the United States by the Atomic Energy Commission.

We are quite favorably inclined to establish such a station here on our campus. We want to cooperate with the commission in its program and we also realize that this activity would likely interest a good many of our students in the whole area of atomic development.

The college committee in charge of such matters voted favorably on this possibility some days ago, subject to having additional information as to the details of the program. I wish you would send me additional information on this.

When I have received this information I will refer it again to our committee and I am confident that very shortly thereafter I will write you of our formal acceptance of your invitation, which I understand you tendered to Dr. Noll earlier.

Very sincerely yours,

Louis Smith

Louis Smith
Dean of Berea College

LS:MK

2-10-54

Dear Jim:

You probably have
a letter from Dean
Joris Smith, author of
the project we
talked about.

Cordially,
Mal

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POST OFFICE BOX P
OAK RIDGE, TENN.

February 19, 1954

Dr. Waldemar Noll
Berea College
Berea, Kentucky

Dear Wally:

Enclosed is a copy of our reply to Dr. Smith which I hope will suffice. When and if the committee rules favorably, we shall dispatch a man to Berea with the necessary equipment. The outdoor housing is demountable and will fit in the trunk compartment of an ordinary automobile. Either I or Doyle will make the trip and will spend enough time to get the equipment set up and assist you with details.

K. Z. asks that I extend his thanks to you for your willingness to help in this very important matter.

Very truly yours,

J. C. Hart

JCH:cs

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-WIRE RECEIVED BY TELEPHONE 11:00 AM, 2-25-54

BEREA COLLEGE WILL BE GLAD TO HAVE DOWN FALL
~~XIXIXIX~~ MEASUREMENT STATION INSTALLED ON CAMPUS
ACCORDING TO TERMS OF YOUR RECENT LETTER.

LOUIS SMITH

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