

REPLY IN DUPLICATE
AND REFERENCE TO

WILL BE APPRECIATED

NAVAL RESEARCH LABORATORY

ANACOSTIA STATION

RG/ejh

WASHINGTON, D. C.

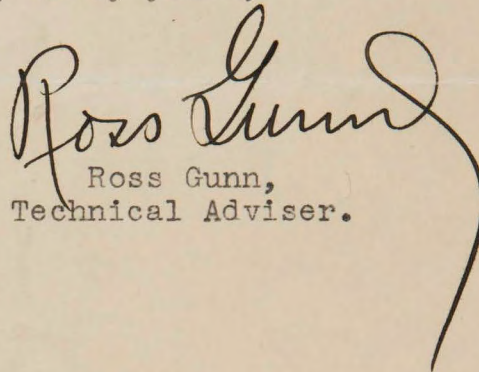
10 July 1939

Dr. Leo Szilard,
Department of Physics,
Columbia University,
New York, N.Y.

Dear Dr. Szilard:

The matter which we discussed at the Princeton meeting of the Physical Society has been carefully considered. As I indicated to you at that time, it seems almost impossible, in light of the restrictions which are imposed on Government contracts for services, to carry through any sort of an agreement that would be really helpful to you. I regret this situation but see no escape. We are anxious, however, to cooperate with you in every respect and appreciate your assistance on this important problem.

Very truly yours,



Ross Gunn,
Technical Adviser.

*Amble
prior*

July 13th, 1939

Mr. Ross Gunn
Naval Research Laboratory
Anacostia Station
Washington, D.C.

Dear Mr. Gunn:-

This is to thank you for your letter of July 10th. I am sorry to hear that restrictions which are imposed on Government contracts for services make it impossible to carry through an agreement which might be useful in speeding up our work.

Very truly yours,

(Leo Szilard)

REPLY IN DUPLICATE
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NAVAL RESEARCH LABORATORY

ANACOSTIA STATION

RG:LP

WASHINGTON, D. C.

26 June 1940

Dr. Leo Szilard
Department of Physics
Columbia University
New York, N. Y.

Dear Dr. Szilard:

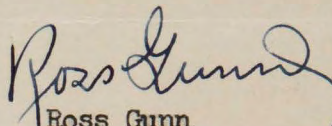
Professor Pegram has suggested that you have all the available information in regard to the best methods and procedure to be used in radium-beryllium mixtures.

We would appreciate specifications for such mixtures, giving proportions, etc., for the best results, which we could use in our proposed purchase of one gram of radium.

This mixture will be loaned to Columbia in accordance with Admiral Bowen's discussion with Professor Pegram.

Thanking you for your cooperation, I am

Sincerely yours,


Ross Gunn
Technical Adviser

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c/o Department of Physics
Columbia University
New York, N. Y.
July 3, 1940

Dr. Ross Gunn
Naval Research Laboratory
Anacostia Station
Washington, D. C.

Dear Dr. Gunn:

Enclosed I am sending you information which might give you a rough idea of the procedure to be followed in mixing radium with beryllium. It is, however, not advisable for anybody to proceed purely on the basis of written instructions and I would suggest that when you have decided upon the person who will actually carry out the mixing, a conference be arranged with this person and perhaps someone from Columbia be present during the actual mixing.

If the radium which you propose to use is not yet in your possession but is to be bought in the future, and if you should happen to buy it from the Radium Chemical Corporation, then an effort ought to be made to make it one of the conditions of the purchase that the mixing will be carried out by the Radium Chemical Corporation. This corporation is the representative of the Radium Belge and they have, in the past, prepared such mixtures in their New York Laboratory. In the last years they have, however, had those mixtures prepared in Brussels and this has now become impossible. They appear to be rather reluctant to take up "mixing" in their New York Laboratory again, but I believe that if a gram of radium is bought from them they ought to be willing to perform the mixing.

If you propose to buy the radium elsewhere, or if you propose to use radium which is already in your possession then I would try to arrange for a discussion with one of the employees of the Radium Chemical Corporation who has been actually carrying out the mixing in New York.

It would be preferable for us to have radium sulphate rather than radium chloride or bromide but I personally do not know how to go about mixing sulphate with beryllium. Still it would be worth while looking into this matter if we know that we could have radium sulphate. In which laboratory did you think you would want to do the mixing?

If radium chloride or bromide have to be used then the enclosed instructions will give you as much information as you may require for the present. Additional precautions can be discussed orally and we are, of course, particularly anxious to avoid any contamination of the outside of the container which would completely upset our measurements.

The actual amount of beryllium to be used and the form of the container ought to be decided rather carefully and I would like to talk about this point with Fermi who is at present out of town, before definitely deciding the issue. However, the amount will be not far from 30 to 50 grams of beryllium which corresponds to about 30 to 50 c.c. volume, and if possible, this beryllium should fill a sphere rather than a cylinder. Since we consider renting another gram of radium I would rather not put up these details for decision until we know whether we shall actually be able to rent a further gram. If, in the meantime, you should find it possible to obtain perhaps 70 grams of beryllium and powder it very finely this would certainly speed up matters considerably. Eimer and Amend will sell powdered beryllium but this powdered beryllium contains 10% beryllium oxide leading to a 7% loss in neutron intensity. Also their price is higher than it ought to be. If you can obtain pure beryllium and pulverize it finely, this would have advantages, but in an emergency we could put up, in order to save time, with the beryllium powder sold by Eimer and Amend.

I hope that this will give you an approximate picture of the situation. Would you be good enough to let me know:

a. whether you propose to use the radium which is already in your possession and if so, whether it is in the form of chloride, bromide, or sulphate;

b. whether you propose to buy Belgian, Canadian radium or radium from some other source;

c. whether you had any idea in what laboratory you would prefer to carry out the mixing operation.

It must be borne in mind that any laboratory in which such a separation is carried out will afterwards be "contaminated" and unsuitable for nuclear research.

Thanking you for your kind interest in this matter, I am

Yours sincerely,

(Leo Szilard)

Enclosure