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ARMY SERVICE FORCES
UNITED STATES ENGINEER OFFICE
MANHATTAN DISTRICT
OAK RIDGE, TENNESSEE

IN REPLY REFER TO EIDMT-1

707340

26 April 1946.

REPOSITORY Oak Ridge Ops Office
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FOLDER None

Col. Stafford L. Warren,
Chief of Medical Section,
Manhattan District,
Oak Ridge, Tenn.

Dear Colonel Warren:

As a result of several of our previous discussions and in keeping with your recent request, I am transmitting some of the ideas on biological research which I believe would be of value to the Manhattan Engineer District.

During the short time which I have had to review the possible research facilities which could be made available at Western Reserve University School of Medicine, it is certain that integral parts of the main program indicated below could be started there in conjunction with my new department. I would be very glad to undertake this work as part of the department's activity and as part of the general overall medical school research program. It is the intent of the University to continue a strong interest in the field of bio-physics and to promote biological research related to atomic energy and nuclear physics by the application of radio isotopes in biological and bio-chemical research.

In general, the broad objectives which are dictated primarily by the needs of the Manhattan Project, may be outlined as follows:

1. An investigation of the toxic effects of thorium and its isotopes. Prospective uses of this element make it necessary to understand the possible medical hazards involved in exposure to this element. The study of thorium and its isotopes includes the following: a) Establishment of the toxicity levels by ingestion and parenteral injection; b) Establishment of the mechanism of damage by determining the site and character of injury in the organism; c) The study of the distribution and excretion which would probably best be accomplished by use of one of the radioactive isotopes of thorium.

2. An investigation of radiation tissue dosages by comparing radiation from internally distributed radioactive materials with radiation from external sources. The basis for comparison would be energy absorption of tissue; alpha emitters such as thorium, polonium and radium, and beta emitters such as radiophosphorus and radiostrontium would be particularly useful for studying the effects of internally distributed radioactive elements.

The studies will require accurate localization in tissue of the specific elements and careful assay of the deposited radioactivity.

Classification Changed to UNCLASSIFIED
By Authority of DOE
Classification Authority
Nelson Thelen
ANALYSAS CORP. 1-12-94
JAN 24 1994

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To: Col. S. L. Warren 26 April 1940.

3. A small portion of the total activity (not to exceed 20%) could be utilized for the application of radioactive isotopes to fundamental biological research. This would include the application of radioactive elements for functional studies (circulation rates and peripheral blood flow); for therapeutic purposes (treatment of Cancer with radiophosphorus, radio-iodine and radio-strontium); and for investigation of fundamental metabolic problems (use of C^{14}). Section 3 concerns itself with more distantly related problems then those indicated in Sections 1 & 2. They are nevertheless of great fundamental interest. It is considered necessary in any well-organized research program to permit the pursuit of academic problems in order to provide stimulus and broaden the concepts of those working with the more practical problems outlined in Sections 1 & 2.

The program outlined here can be easily integrated with other existing biological research, yet may exist independently. The data and results would definitely serve to augment and fortify the information already obtained.

It is recommended that negotiations be instituted for the above program with the School of Medicine, Western Reserve University.

Very sincerely yours,

Hymer L. Friedell

HYMER L. FRIEDELL,
Lt. Col., Medical Corps.

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TENTATIVE PERSONNEL AND BUDGET REQUIREMENTS

Head Chemistry Section		$ 5,000
Head Metabolism Section		5,000
Head Instrumentation Section		5,000
Head Radiology Section		5,000
Head Physics Section		5,000
5 Research Associates @ $3000.		15,000
10 Technicians @ $2500.		25,000
Supplementary Personnel		
Instrument Workers and Secretaries		10,000
Instrument Material and Supplies		100,000
Contingencies		25,000
	TOTAL:	200,000

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MANHATTAN DISTRICT ROUTING SLIP

ROUTED BY Medical Division FILE NO. MAN

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Maj. A. T. Rose (Mil. Insp.)			Maj. D. C. Bogart (Fiscal Br.)			R. Kidd (Bldg. Main.)		
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Capt. W.F. Brown (War Bonds)			M. Wishnefsky (Finance)			D.E. Russell (Mat.& Equip.)		
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Lt.Col.W.P.Cornelius(K-25 Cst)								
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D. M. Clarke(Elec.Power Br.)								

REMARKS:

Col Vanden Bulck for your info & [illegible] to Medical Division

Court shit being drafted. It will be ready if and when Program is approved. [illegible]

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