

AFHQ-31 (FORM 10)

HEADQUARTERS UNITED STATES AIR FORCE

ROUTING AND RECORD SHEET

TALLY NO.	
FILE NO.	

SUBJECT: (Confidential) Requirement for Studies on Radiation Versus Immunity and Susceptibility to Disease

TO: Assistant for Atomic Energy, DCS/O

DATE JUL 20 1952

FROM: Armament Division, D/R&D, DCS/D

COMMENT NO. 4  
Major Fasolas/mbb/73556  
AFDRD-AR/3

Your attention is invited to the inclosed letter from this Headquarters to Headquarters ARDC wherein ARDC was directed to conduct a literature survey in the field of the effects of radiation on the susceptibility to infection. If there is insufficient information upon which to base target analysis and/or defensive measures, ARDC will be directed to establish a project to obtain the necessary information.

Incl  
ltr to ARDC (15 Jul 52)  
w/incl

*Otto J. Glasser*  
OTTO J. GLASSER  
Lt Colonel, USAF  
Chief, Special Munitions Branch

DECLASSIFIED  
Authority WD917505  
By [Signature] NARA, Date 8/14/94

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AFOAT TS 52/449-A

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Entry 199

Box # 2/1 1952

4 Aug 94

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AUTH CS, USAF

APR 8 1952

Wrtn: 8 Apr 52

Rewrtn: 11Apr52 (for FROM: line)

(Confidential) Requirement for studies on radiation effects on immunity and susceptibility to disease

Dir of Professional Services, The Surgeon General, USAF  
Director of Requirements, DCS/D  
Director of Research & Development, DCS/D

APR 14 1952

INDEX IS FIRM

1  
Maj Davis/atg/72087  
AFDAM

FROM: AFM Division, Office, Asst DCS/C for Atomic Energy

1. In 1949, the University of California, Berkeley, collaborated with the Radiological Defense Laboratory, US Naval Shipyard, San Francisco, on "Investigation of the Relationship of Radiation to Immunity."
2. It was concluded from data obtained from test animals that irradiation in sub-lethal dosages greatly increased the susceptibility of the animals to an infective organism. It was also concluded that irradiation in sub-lethal dosages caused subsequent immunization with avirulent pasteurilla pestis organisms to be fatal.
3. The conclusions mentioned above were based on preliminary experiments. They were, however, indicative of a potential effect that may be important to both offensive and defensive planners. If further investigations will substantiate the preliminary results, it may be possible to predict that the combined effects of BW and AW would yield casualties far in excess of those now being discussed. The possible effects of irradiation on immunization should be of vital concern to defense planners. The radiation effects from the atomic bomb are well known. If these radiation effects can also be shown to increase the susceptibility of man to disease organisms combined with the possible deleterious effect on immunization practices, the impact on friendly as well as an enemy population under atomic attack would be of no small magnitude.
4. Recent information indicates that current investigations in this area are insignificant. No studies are being carried out at HANPH-1 or HUL. It is understood that a small project is currently in force at MRDL, but this may be terminated. In view of the foregoing discussion, it is believed that a requirement exists for more extensive investigations on the relation between radiation and pathology. They should include studies on BW organisms of importance. In view of the potential importance of this subject to future Air Force planning, it is recommended that the Director, Research and Development, consider the establishment of a project with a suitable contractor supported by Air Force research and development funds.

AND G. BUNKER  
Surgeon General, USAF

for Atomic Energy

APDAM  
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 HEADQUARTERS UNITED STATES AIR FORCE  
 AUTH CS, USAF  
**ROUTING AND RECORD SHEET**  
 15 APR 1952

TALLY NO.	
FILE NO.	

SUBJECT: (Confidential) Requirement for Studies on Radiation Versus Immunity and Susceptibility to Disease

TO: Director of Requirements, DCS/D  
 Director of Research & Development, DCS/D  
 Asst. DCS/O for Atomic Energy  
 IN TURN  
 DATE 15 April 1952  
 COMMENT NO. 2  
 AFCSG-10  
 Col Duff/mlc/Code 192, X-54

FROM: The Surgeon General, USAF

1. The preliminary data presented in Comment 1 are of extreme importance in the medical aspects of defense against BW in the case of combined effects of BW and AW.
2. A requirement exists for research to determine all possible factors of radiation upon susceptibility to infection and upon immunization procedures that would be necessary in case of BW.

*F. L. Duff*  
 FRATIS L. DUFF  
 Colonel, USAF (MC)  
 Acting Director, Professional Services  
 Office of The Surgeon General

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ADDED TS CONT. NO. 52343

FOAT TS 52/449A  
 AFHQ Control No. 15-1-57

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1 CS, USAF

<b>ROUTING AND RECORD SHEET</b>	TALLY NO.	
	FILE NO.	

*EW*  
*2 May 54*

**SUBJECT:** (Conf) Requirement for Studies on Radiation Versus Immunity and Susceptibility to Disease

**TO:** Director of Research and Development, DCS/D

**DATE:** 20 MAY 1954

**FROM:** Directorate of Requirements, DCS/D

**COMMENT NO. 3**  
Capt Stone/mlw/71608  
AFDRQ-SA/M

1. This Directorate agrees that there is a valid need for information on the relationship between radiation and pathology. Such information could be of considerable importance to both the offensive and defensive planner.
2. Since work is presently being carried out by the Brookhaven National Laboratories on the effect of radiation on immunization against disease, by the Oak Ridge National Laboratories on the protection of bacteria against radiation and quite possibly by many of the universities, a literature review of the entire subject would appear mandatory before the establishment of any specific research project. The required information may already be available.
3. It is recommended that the Air Targets Division be consulted before any specific research project or literature review is initiated. It ~~will~~ be their responsibility to translate the information obtained from such projects to effects on potential targets.

*C. P. Lessig*  
C. P. Lessig  
Colonel, USAF  
Deputy Director of Requirements

ADDED TO CONT. NO. 52343

AFOAT TS. 52/449A  
AFDRQ Control No. 15-1-57

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Authority: MMRPI17105  
By: [Signature] NARA, Date: 8/4/94

AFDRD-AR/3

SUBJECT: ~~(Confidential)~~ Complementary Employment of BW and AW

TO: Commanding General  
Air Research and Development Command  
P.O. Box 1395  
Baltimore 3, Maryland

1. Reference is made to the inclosed letter from the Director, U.S. Naval Radiological Defense Laboratory subject, "Complementary use of AW and BW, defensive aspects of", dated 16 March 1951.

2. The U.S. Naval Radiological Defense Laboratory is pursuing the effects of radiation on the changes in susceptibility to disease from a defensive aspect, however, there appears to be a significant BW offensive aspect in this type of information. It has been indicated that other workers and laboratories in this field may also have information bearing on the subject.

3. It is requested that your Headquarters initiate action to have a complete literature survey conducted on the field in general. This information will be utilized by this Headquarters to conduct air target analysis as to the advisability of the complementary use of AW and BW and to determine the defensive measures necessary to defend friendly personnel from such a combined attack.

4. If the information obtained from the survey is inadequate to compute target analysis and/or defensive measures your Headquarters will be requested to take the necessary action to obtain additional information.

5. The U.S. Naval Radiological Defense Laboratory is under the direct control of the Bureau of Ships, Office of the Chief of Naval Operations and the initial contact with the laboratory should be made to code 348, Bureau of Ships, Department of the Navy through this Headquarters.

BY COMMAND OF THE CHIEF OF STAFF:

1 Incl  
ltr USNDRL (16 Mar 51)

/s/ Lt. Col. Skelton  
R. I. JARRON  
Colonel, USAF  
Chief, Armament Division  
Directorate of Research and  
Development, DCS/D

Coord: Col Fatten  
11/1/51

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AFDRD 52/449A



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AFOIN-3X

26 June 1952

c/s

~~SECRET~~  
~~SECRET~~

Re: Changes in Susceptibility to Infection Following  
Sublethal Doses of Radiation

AFOIN-3X  
Colonel Todd

26 June 1952

AFOIN-3X

1

For coordination.

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19 June 1952

*Ted*  
COLONEL GRAHAM:

Letter from Director USN Radiological Defense Laboratory, San Francisco to Director of Research and Development, Hq USAF, dated 16 March 1951, describes preliminary experiments indicating that there are changes in susceptibility to infection following sub-lethal doses of radiation.

R&R Comment No. 1 from Assistant DCS/O for Atomic Energy to the Surgeon General USAF, Director of Requirements, DCS/D and Director of Research and Development, DCS/D, recommends that the Director of Research and Development consider the establishment of a project to make further investigation along the lines of the relation between radiation and pathology. Comment No. 2 from the Surgeon General states that a requirement exists for research to determine all possible factors of radiation upon susceptibility to infection. Comment No. 3 from Director of Requirements to Director of Research and Development recommends that a literature review of the entire subject be made before the establishment of any specific research project. It points out that Air Targets Division should be consulted even before a literature review is initiated, since it would be the responsibility of Targets to translate the information obtained from such a research project. to effects on potential targets.

The attached letter requiring coordination is from Director of Research and Development, DCS/D to the Air Research and Development Command. It requests that ARDC initiate action to have a complete

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Authority

4 62091705  
BY M. M. NARA 06/27/88

*Grant*

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literature survey conducted on the subject of effects of radiation on changes in susceptibility to disease.

Physical Vulnerability Branch (Lt. Col. Ault) has already coordinated on this letter.

Coordination needed - Target Research Branch and Air Targets Division.

Upon completion, please return to Mr. K. T. Johnson, ext. 63953) who will get paper back to originator.

*W.P.L.*

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