

DECLASSIFIED

Authority NW 44472

FOR OFFICIAL USE ONLY

MAR 5 1962

COVERING BRIEF

TO: The Deputy Secretary of Defense

Signed: Gerald W. Johnson

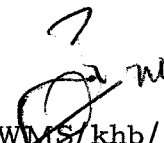
FROM: The Assistant to the Secretary of Defense (Atomic Energy)

In a letter dated January 26, 1962, at Tab A, the Chairman, Atomic Energy Commission, outlines the background and scope of the Commission's interest in the long range genetic and ecological effects of nuclear war, and invites comments and suggestions on the proposed Atomic Energy Commission program, now being undertaken.

Past efforts in this area have, more or less, been made on an "ad-hoc" basis. I agree with Dr. Seaborg, that the multi-variate and complex elements of this over-all problem demand that a comprehensive analysis be accomplished on a continuing basis.

In a letter prepared for your signature, at Tab B, the Department of Defense strongly supports the Atomic Energy Commission's proposal and in addition cites specific problem areas of concern to the Department of Defense. This letter also proposes the formation of a working group to be chaired by the Atomic Energy Commission with membership of experts designated by interested agencies. I intend to follow this program very closely.

Your signature is recommended at Tab B.


GWJ/WFB/WMS/khb/26 Feb 62
ATSD(AE) 3E1074 x 75162

DECLASSIFIED
E.O. 12958, Sec. 3.4

FOR OFFICIAL USE ONLY

NW 44472
PJG Date 11/1/62

W
W

AWZ Ecology Study
Free Target Studies

MAR 6 1962

Dear Glenn:

I refer to your letter of January 26, 1962, in which you outlined the background and scope of the Commission's interest in the effects of nuclear war.

I concur in your views as expressed and wish to emphasize the extreme importance which the Department of Defense attaches to continued study and evaluation in this area of short and long term biological and environmental consequences of nuclear warfare. The justification for and present concepts of strategic nuclear warfare notwithstanding, the consequences of such military action should be defined as clearly as possible.

For some time, it has become increasingly evident to me that more work is required to be devoted to a more complete evaluation of the consequences of nuclear warfare; not only with respect to immediate effects on populations at risk but also to the longer range effects on populations exposed to close in as well as long range fall-out. I concur in the need for additional investigative effort in those areas as outlined on page 2 of your letter of January 26. In addition, there is an urgent need from the viewpoint of the Department of Defense, for a better resolution of the following:

a. Shift in relative importance of weapons effects as affected by yields, fission to fusion ratios and burst geometry (air burst, contact surface burst, underground and underwater bursts).

b. An estimate of the total number of mortalities and casualties within the United States as well as the USSR, resulting from direct and indirect effects on a population at risk, as affected by a variation of the following parameters:

- (1) Level of Attack
- (2) Definition of target system.

White (card) added 3/6/62

(3) Shielding protection, time of attack, population behavior and warning time.

(4) Burst geometry: Of specific interest are the cases where all weapons are surface detonations, all weapons are low altitude bursts and the case where all are burst at high altitude (100-150 kilo feet).

c. An evaluation of the total mortality and casualty estimate as affected by the above parameters and in addition:

(1) An evaluation of the effect of the employment of clean weapons using presently achievable fission to fusion ratios.

(2) An application of clean weapons, assuming one hundred percent fusion capability.

d. The long range effects on populations directly at risk as well as the world population, as a consequence of genetic and ecological changes resulting from the type of attacks considered in subparagraphs b, and c above.

e. The estimated consequences of a nuclear anti-submarine warfare operation with consideration given to:

(1) Variations in numbers of weapons employed, and duration of operations.

(2) Variations in area of operations; Mediterranean, Atlantic and Pacific Ocean areas.

(3) Radioactive uptake by marine life and effect on populations via marine food consumption.

It has become increasingly evident to me that the scope and complexity of the problems in this area are such that proper definition will not be achieved by an "ad-hoc" approach. It appears most necessary to develop procedures to analyze these problems on a continuing

FOR OFFICIAL USE ONLY

basis with a current study of this type available and updated annually with inputs from the interested agencies. I strongly endorse your proposal to conduct these studies.

In regard to the related question of consideration of the programs of other interested agencies, I feel that a high degree of inter-agency coordination will be required to assure the accuracy and completeness of such continuing studies. I suggest, therefore, the establishment of a working group composed of appropriate experts as designated by the interested agencies and offices, under the Chairmanship of the Atomic Energy Commission. The Department of Defense is ready to provide liaison as well as working members. For further information in this regard, you may contact Dr. Gerald W. Johnson, my Assistant for Atomic Energy.

I recognize that the first step in the proceedings will be a comprehensive analysis of work accomplished to date in this area as well as an investigation of relevant programs and capabilities. In this regard, I understand that the Department of Defense has made the appropriate arrangements for field visits by the Atomic Energy Commission representatives as requested in a letter from the Director of Military Application, dated January 26, 1962. However, I am fairly certain that appropriate and continuing research will be required if meaningful inputs to such studies can be made on a regular basis.

I am reluctant to raise the matter of time scales; however, the urgency and importance of this matter leaves no alternative. The resolution of the problems I have referred to above, will have an impact in many areas of current Department of Defense interest; weapon development, constraint considerations in strategic planning as well as the future composition of the national stockpile. Specifically, the Department of Defense requires an initial report, based on such information as is available, at the earliest practicable date and I would suggest a target date of May 1, 1962. I further suggest an updated report by January 1, 1963 and annually thereafter on January 1.

Sincerely,

Signed
ROSWELL L. GILPATRIC
Deputy Secretary of Defense

Dr. Glenn T. Seaberg
Chairman
U. S. Atomic Energy Commission

cc: Dr. Pittman, ATSD(XCD)

FOR OFFICIAL USE ONLY



National Security Archive,
Suite 701, Gelman Library, The George Washington University,
2130 H Street, NW, Washington, D.C., 20037,
Phone: 202/994-7000, Fax: 202/994-7005, nsarchiv@gwu.edu