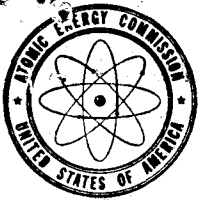


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UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON 25, D.C.



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OFFICE OF THE  
SECRETARY OF DEFENSE

Dear Mr. McNamara:

During the January 8, 1962, meeting of the Commission with Mr. Gilpatric and Dr. Johnson, I mentioned a recent decision by the Commission to extend its studies of the effects of nuclear war. The purpose of this letter is to further acquaint the Department with the scope and background of the Commission's interest in this subject, and to invite your comments and suggestions on the studies we have decided to undertake.

From time to time over the past six years the Atomic Energy Commission has responded to special requests from the President, the National Security Council, the Net Evaluation Subcommittee, and the Joint Committee on Atomic Energy to provide evaluations of the biological and environmental consequences of nuclear warfare. An example of such a request is the directive received by the Commission from the National Security Council in May 1958 asking that the Commission

"...undertake, in consultation with the Special Assistant to the President for Science and Technology, a study appraising the upper limits of massive, concentrated nuclear detonations and their by-products which could be tolerated by the peoples of the world and by the world itself."

The Commission's responses to such requests have been prepared on an ad hoc basis by various combinations of its staff under tight deadlines for completion of the work requested, and without the benefit of full liaison with the scientific staffs of other government agencies.

It has become increasingly evident that the scope and complexity of these requests warrant continuing study and evaluation. The Commission is now proposing to conduct such continuing studies. In so doing it is not the intent of the Commission to limit in any way the activities of the other government agencies with

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- 2 -

respect to studies of the biological and environmental effects of nuclear war, but rather to assure itself that its own responsibilities in this area are adequately discharged, and to clarify the interests, roles, and responsibilities of the AEC and the other agencies. We would also raise the related question as to how the programs of the various government agencies in this area of study can best satisfy the needs of the government, and assure that the information supplied to the President and the National Security Council is accurate and complete.

Past studies by the Commission of the biological effects of nuclear war have been confined to estimates of the extent of leukemia, bone cancer, life shortening, genetic effects, and effects on the thyroid which might be experienced by a normal, healthy population subjected to the average dose of radiation estimated for the survivors of an attack. These computations are subject to inherent uncertainties due both to the available biological data upon which they are based, and to the estimate of the average dose to survivors. In addition to further work to support such estimates, the Commission feels there is a need to consider the following:

- a. the totality of malignant neoplasms and other biological effects which would affect survivors; and the combined effect of external and internal exposure from alpha, beta, and gamma radiations in the production of each type of radiation-induced biological response,
- b. indirect effects on people resulting from direct effects of fallout and fire on wildlife, birds, insects, domestic stock, forests, and other factors of ecological importance, and the possible effects of large numbers of nuclear explosions on local and global weather,
- c. the accuracy with which predictions of the biological and environmental effects of nuclear war can be made, and the variations introduced in the final estimates by such factors as the weather, the season of the year, the weight and character of the attack, the amount of warning time, and the type and extent of the preparations made for passive defense.

To our knowledge no comprehensive study has been undertaken which attempts to include those factors as well as the short-term effects of blast, heat, initial radiations from weapons bursts, and early nuclear radiation from fallout.

*B. B. B.*  
JAN 30 1967

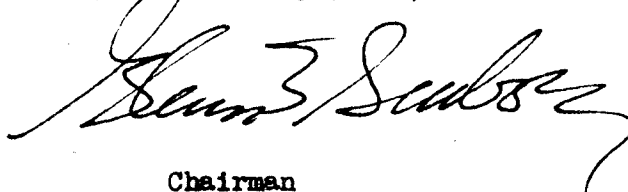
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- 3 -

I am directing a similar letter to the Director, Bureau of the Budget, the Chairman, Net Evaluation Subcommittee, the Director, Office of Emergency Planning, the Special Assistant to the President for National Security Affairs, and the Special Assistant to the President for Science and Technology.

Sincerely yours,



Chairman

The Honorable Robert S. McNamara  
Secretary of Defense

*Book*  
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