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By Dm LRA Date 8/15/05~~SECRET~~This document consists of 3 pages  
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Greenhouse Vol. #1

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31 July 1950

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My dear Mr. Secretary:

The Atomic Energy Commission is aware through our association with the Military Liaison Committee of some of the difficulties that are arising in the Department of Defense with regard to supporting the atomic weapons tests scheduled for Enewetak in the spring of 1951 (Operation GRINDWICH). We are informed further that in discussing a continental test site as a supplement or alternative for Enewetak, the question has been raised whether large scale tests may be dispensed with at this time. It is the purpose of this memorandum to inform you briefly the reasons why such tests are a vital part of the atomic weapons program.

The test program planned for Operation GRINDWICH has three aspects of outstanding importance:

- (1) it has an immediate bearing on the quality of the United States stockpile of atomic bombs;
- (2) it is intended to develop an important body of information on the blast and radiological effects of atomic weapons;
- (3) it is expected to make a direct and significant contribution to our understanding of the technical and economical feasibility of a thermonuclear weapon, which is now inadequate.

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
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Both of these bombs will have new nuclear configurations which, in combination with newly designed non-nuclear components, will mark a considerable extension of the known weapons art.

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The primary importance of this latter task is that it may be carried by smaller aircraft than are required to carry the present stockpile weapon, and for the same reason will be better adapted for use in the most promising guided missiles now under development. It should therefore increase the feasibility of use of atomic weapons, as in tactical operations in the field.

The alternative to continuing these weapons would necessarily be either to stockpile precariously improved but untested weapons or else to continue more conservatively to stockpile weapons believed far less effective than now available designs.

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In regard to the importance of these tests in securing information on weapons effects, the principal goals are to provide data to assist the United States in preparing against atomic bombing and to enable more effective military planning for possible use of atomic weapons by United States forces. There is involved a rather extensive program of structures and instruments, conducted largely by elements of the Armed Forces, to determine the effects of blast and radiation. The Commission understands, but is not in the best position to speak in detail of, the advantages expected to accrue to the Armed Forces from these tests; however, we are clearly aware of the need for information of this sort for use in preparing the United States against atomic attack. We believe that our level of understanding of atomic phenomena has now reached the point where it will be most useful to conduct those physical tests, and we wish to see them completed as soon as possible.

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With regard to the effect of GREENHOUSE on the thermonuclear program, large scale tests are essential to rapid progress in the program which the President directed on January 11 of this year for determining the feasibility of a thermonuclear weapon, and for which a supplemental appropriation of \$260 million has been requested from the Congress. It is highly unlikely that the feasibility of the thermonuclear weapon can be proved one way or the other without a series of large atomic tests, the first one of which, having to do with initiating the reaction, should take place at the earliest time permitted by practice in the laboratory. Certainly, without the information which can be obtained only through such tests, the work would continue indefinitely to be largely theoretical and research diffuse, and the program would necessarily be slowed. Two different methods of initiating the thermonuclear reaction are being considered for tests in the spring of 1951.

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Since the recent turn of events in Korea the Commission has been reexamining with the Department of Defense test sites other than Eniwetok which might be both available and suitable for some of the presently planned large scale tests. It believes that a joint Atomic Energy Commission-Department of Defense team should be formed immediately to survey all possible sites both in and outside the continental United States.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION

Gordon Dean  
Chairman

Honorable Louis A. Johnson  
The Secretary of Defense

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