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E.O. 12958, Sec. 3.6

NW: 972006A  
By DM KA Date 7/6/05

October 23, 1951

SWPTS 400.112

SUBJECT: Military Weapons Effects Test of Atomic Weapons  
Early in 1953

TO : Chief of Naval Operations, Department of the Navy,  
Washington 25, D. C.

1. The purpose of this letter is to advocate the conduct of an atomic test for the purpose of determining the military effects of atomic weapons. A differentiation is made between a military effects test and an Atomic Energy Commission development test. The former employs an atomic device of generally standardized construction and predictable yield in order to determine results and effects, whereas a development test is conducted to test new concepts of the atomic device itself.

2. Since the atomic attacks on Japan in 1945, the United States has conducted the following operations involving tests of atomic devices:

a. Operation CROSSROADS - an effects test, conducted primarily to determine the effects of known atomic weapons on ships.

b. Operation SANDSTONE - a development test, conducted for the purpose of proving new concepts concerning atomic weapons.

c. Operation RANGER - a development test for testing theories concerning low yield weapons.

d. Operation GREENHOUSE - as originally conceived, a development test of fission and thermonuclear reactions. Subsequently, one shot became primarily an effects test.

3. A combined test, Operation BUSTER-JANGLE, is now in progress at the Nevada Test Site. BUSTER is a development test involving a minimum of effort in the effects field, while JANGLE is entirely an effects test designed to discover the relative merits of surface and underground atomic explosions. Advance plans are being made for SNAPPER, a development test of a currently undetermined number of relatively low-yield atomic devices at the Nevada Test Site in the Spring of 1952. Operation IVY, a development test of a very high-yield device originally

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scheduled to be held at Eniwetok in the spring of 1952, has been postponed until the winter of 1952-53 by the AEC. Recent information from the AEC indicates the probability that another development test may be held, at the Nevada Test Site, at about the same time as IVY.

4. The Federal Civil Defense Administration has proposed that an effects test using an atomic weapon of approximately 20-KT yield be conducted to determine the effects on civil defense structures and material, and for indoctrination and publicity in connection with the civil defense program. The DOD has been invited to participate in and assist with the support of the test. The JCS, in July 1951, considered that, from a purely military point of view, the expenditure of fissionable material for the expressed purposes of this test would not be justifiable, but that if the test is approved, the DOD should consider nominal support, if requested, and stated that the degree of participation and material support for the test should be held to the absolute minimum. The AEC has agreed that, if the test is approved, the AEC will provide the atomic bomb and certain specified support. At this time, it appears improbable that the FCDA test will be conducted in the near future. The AFSWP is of the opinion that participation by the military, in the status of guests and in a subordinate supporting position, in a test conducted by and primarily for the FCDA would be undesirable at best; but that, if the need for a military weapons effects test is established, the FCDA might be invited to participate to an extent limited to tests of civil defense structures and materials under conditions stipulated by the DOD.

5. The AFSWP has received the effects programs proposed by the three services for accomplishment in conjunction with the development test to be conducted in the spring of 1952, SNAPPER. Some programs are incompatible with a development test and several will be difficult to integrate into the test because of time, space and other considerations. It is recognized that by their very nature, weapons development tests cannot be planned far in advance whereas some weapons effects tests must be. Development tests, by reason of their laboratory nature, are not susceptible to early knowledge of the magnitude of yield of the various shots, sequence of shots, type of detonation (tower or air drop), or areas relative to ground zero which will be available to the military participants for construction of test structures, instrumentation, and exposure of material. Between the two types of tests there is an inherent conflict involving mutual interference, divergence of interests, competition for local facilities and labor, complexity of control or command, difficulty of accounting and general incompatibility.

6. Certain types of effects projects, in which the military have a great interest, are of such a nature that they can be included in an AEC development test either wholly or to a limited extent. Effects projects in this category which should continue to be included in development tests are those which involve no large outlay of equipment, extensive construction or procurement of instruments, and which will not severely interfere with the development test program. These will be generally limited to research projects, checking of test procedures for future effects tests, tests of atomic warfare operations which require continual evaluation or tests not sensitive to weapon yield.

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7. It is now definitely indicated that the military should conduct a weapons effects test at the Nevada Test Site in the spring of 1953. The advantages accruing from such a test and pertinent considerations are as follows:

a. The yield of the weapon would be established in advance, thereby permitting orderly planning of a test program. The time interval of 17 months would insure complete evaluation of GREENHOUSE and BUSTER-JANGLE data and integration thereof into the test program, organization of staff to conduct the test, and adequate time for construction and instrumentation.

b. The military would control factors of time, allocation of area surrounding ground zero to desired projects, types of shots (air burst, surface or underground), allocation of air space in general vicinity, personnel involved and radiological safety operations in the test area.

c. Reduced security regulations, consistent with data obtained, would expedite release of information and allow maximum participation. There is no need for "Restricted Data" classification of the results of exploding a 10 to 30 KT equivalent bomb. This is manifestly opposite from a development test, wherein the yield is "Restricted Data" which hampers seriously the compilation and distribution of test data and studies.

d. Maximum utilization of terrain would be afforded for maneuver purposes under conditions as realistic as safety conditions would permit.

e. An all-military operation would afford an opportunity for one or more of the services to test operational procedures for delivery, including the assembly of a stockpile weapon with nuclear components of the desired yield, transportation from the designated national storage area to the test site, and final delivery with the desired ground zero as the target.

f. For early 1953, there is no other announced atomic test. Scientific personnel, project personnel, instruments and other equipment will have served their purpose at the tests planned for 1952, including IVY as now scheduled, and will be available.

8. The type of detonation which now is most generally desired is an air burst of a device having an approximate yield of 20 KT.

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As a result of JANGLE, it is probable that further information on either a surface or an underground burst, or both, may be necessary for the proper evaluation of this type of weapon and another experiment of this nature may be necessary.

9. It is recommended that you request the JCS to:

a. Obtain Presidential approval of a military effects test to be conducted by the military services early in

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1953 in the Nevada Test Site employing not more than three atomic devices; recommendations as to specific yields and methods of firing to be submitted after preliminary evaluation of BUSTER-JANGLE.

b. Upon approval of the test by the President, request the AEC to make the Yucca Flat area of the Nevada Test Site and associated facilities available to the DOD from completion of the AEC development tests in the fall of 1952, until the completion of the proposed military test, not later than 1 June 1953.

c. Authorize the AFSWP to inform the FCDA of these plans and to incorporate, insofar as may be practicable without jeopardizing the DOD program, the desires of the FCDA for tests of structures and materials in plans for the tests.

10. Similar letters have been sent to the Chief of Staff, U.S. Army and Chief of Staff, U. S. Air Force.

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