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10 APR 1964

MEMORANDUM FOR THE PRESIDENT

SUBJECT: High yield nuclear weapons

I refer to National Security Action Memorandum No. 245, dated May 21, 1963, which requested that the Department of Defense and the Atomic Energy Commission re-examine the question of development of a very high yield nuclear weapon and also consider the question of developing a high yield warhead to be delivered by presently programmed missile systems.

Department of Defense studies which have been carried out in response to NSAM No. 245 indicate that while a [redacted] bomb is significantly superior to a [redacted] for attack of very hard targets, it offers only a slight margin of superiority over the equivalent [redacted] bombs. A [redacted], although these would not be delivered on one target by the same aircraft at the same time due to effects interference. The [redacted] are already in the stockpile and are compatible with [redacted]. Further, since a [redacted] would not advance appreciably the nuclear state-of-the-art, the effort and expenditure of resources for its development would be better directed toward the advancement of the state-of-the-art directed toward the attainment of very high yield weapons with advanced technology, [redacted] and higher yield for aircraft [redacted] delivery and/or missile delivery. Accordingly, I do not at this time recommend we proceed with the development of the proposed [redacted] for the [redacted].

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The Department of Defense and the Atomic Energy Commission have also examined the possibility of high yield warheads for delivery by presently programmed missile systems. Again, I do not believe that sufficient increase in capability can be realized to warrant a high yield warhead program for present missiles. The TITAN II is the only presently programmed missile system capable of delivering large payloads to ICBM ranges. The TITAN II ~~could~~, without atmospheric testing, be increased in yield from the present ~~level~~. In addition to the warhead development, a new re-entry vehicle and an extensive missile qualification flight test program would be required. I do not recommend these programs at this time. There are larger boosters potentially available which could provide a capability to deliver very high yield warheads. The facilities for missiles such as ATLAS F and TITAN II conceivably could be modified to accept such large boosters. This potential justifies effort to continue advancing our technology in very high yield weapons, ~~and~~ should it later be determined to utilize these boosters for warhead delivery.

While developing ~~technology~~ or ~~technology~~ available from present technology does not appear attractive, we are not able to assess accurately the military worth of future, even higher yields. The magnitude of the effects from very high yield detonations is poorly known, both with respect to vulnerabilities of our own system to Soviet explosives, and to our own ability to inflict damage on a potential enemy weapon complex. Thus, it is important for the Atomic Energy Commission to conduct a vigorous program of research, experimentation, and underground testing directed toward the advancement of the state-of-the-art to the extent possible under the Limited Test Ban Treaty for the development of very high yield weapons in the order of ~~one megaton~~. As part of the safeguards program, we are developing the ability to obtain effects information from high yield tests if atmospheric tests are resumed. The program would also shorten the lead time to production of very high yield weapons should circumstances later indicate that we should produce them.

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The Atomic Energy Commission has indicated that one aspect of this research and test program for ~~area~~ ground and airborne operations with large ballistic cases on the test aircraft at Kirtland Air Force Base, Albuquerque, New Mexico. These large shapes would be visible to the public during take-off, flight and delivery, and could possibly lead to some conjecture. However, the proposed tests may shorten the preparation time for testing high yield devices by as much as nine months to one year. In fact, the Atomic Energy Commission has advised me that in order to meet a three-month readiness posture for nuclear tests of high yield devices, authority is urgently required to carry out the ground and airborne operations mentioned above. A research and test program of this nature is also in accord with two of the Test Ban Treaty "safeguards"--readiness to resume testing and vigorous laboratory programs.

I believe this preparation to be of sufficient importance to make the risk of public conjecture acceptable and, with your approval, the Department of Defense and the Atomic Energy Commission will proceed with this test preparedness program.

The contents of this memorandum have been discussed with the Chairman, Atomic Energy Commission, and he has indicated concurrence with this approach.

Signed
CYRUS R. VANCE
Deputy Secretary of Defense

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