

MEMORANDUM

NATIONAL SECURITY COUNCIL

SECRET

November 1, 1974

DOS REVIEWED 06 JAN 2011 NO OBJECTION TO DECLASSIFICATION

USAF REVIEWED 26-Jan-2011: DECLASSIFIED FOR RELEASE IN FULL

MEMORANDUM FOR: GENERAL SCOWCROFT *Thanks*

THROUGH: JAN LODAL *[Signature]*

FROM: DAN CHRISTMAN *[Signature]*

SUBJECT: Air Mobile Feasibility Demonstration

I traveled to Vandenberg Air Force Base on 23-24 October to observe the test firing of an air mobile Minuteman missile.

The principal objective of the air mobile Minuteman launch was to demonstrate the feasibility of an air mobile concept by extraction of a Minuteman from a C5A and ignition of the missile during free fall.

The air mobile feasibility test was originally scheduled for concept analysis of part of the MX program. Advancing the test date for air mobile feasibility using the Minuteman missile implied the following constraints:

- missile extraction could only be accomplished using parachutes; alternative extraction methods (e. g., "bomb-bay" release) would stress Minuteman beyond design specifications during powered ascent
- Minuteman accuracy during a full powered flight would be no greater than one nautical mile; extensive guidance modifications to the Minuteman missile and to Minuteman support systems would be required to improve Minuteman accuracy in an air mobile mode.

The Air Force planned five drops from a C-5A. The first two drops were build-up weight tests without a Minuteman missile. Drops 3 and 4 were inert missile tests.

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Drop 5, a live missile test with a full-thrust 10 second burn, took place on October 24 at 20,000 feet. The Air Force planned an approximately 50 second delay from missile extraction to missile engine ignition. The 50 second delay was imposed during the test for safety to ensure that Minuteman would not ascend beyond aircraft release height during powered flight. An operationally configured air mobile missile would probably remain suspended by parachute no more than 10 seconds before ignition. Extraction and ignition times for the test are shown at Tab A.

The director of the Minuteman Special Projects office indicated that an operational air mobile system using Minuteman and C5A components could easily be modified to permit the C5A to carry two missiles; however, configuring the C5A to accommodate three Minuteman missiles would require extensive modification to the pallet and track systems holding the Minuteman and descent cradle in the aircraft. Ten to twelve months might be required to design and test a pallet and track system that would permit the C5A to carry three Minutemen missiles. The payload of the C5A limits the number of Minuteman missiles to no more than three.

The live firing met all test objectives. Missile extraction and ignition occurred as planned and missile stability during descent and powered flight was within test objectives.

The 10 second burn produced no complications in any system components; system designers indicated that full powered flight of an air mobile Minuteman missile could be performed in subsequent tests with high confidence of success.

The contract for the air mobile feasibility demonstration, which was awarded on August 14, 1974, was terminated with the live missile test on October 24. Technology development for an air mobile system is continuing as part of the Advanced ICBM Technology Program. The Air Force will decide on specific actions for the next phase of air mobile testing by December 1, 1974.

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