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SAMOS
box 37.

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DEPARTMENT OF THE AIR FORCE
SAMOS PROJECT OFFICE
Air Force Unit Post Office
Los Angeles 45, California

SAFSP

10 October 1960

SAMOS PROGRAM PROGRESS REPORT
Month Ending 30 September 60
DD-DR&E(M) 397

FOREWORD

Attached is the report covering the SAMOS Program progress during the month of September 1960. This report is directed by Secretary of Defense memorandum to the Secretary of the Air Force, dated 27 February 1960.

Robert E. Greer

ROBERT E. GREER, Brig. Gen., USAF
Director of SAMOS Project
Office of the Secretary of the Air Force

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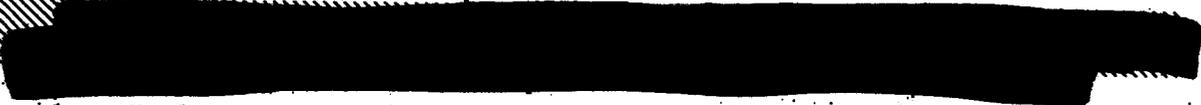
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1. PROGRAM MANAGEMENT

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a. On 13 September 1960, a memorandum was issued by the Secretary of the Air Force to the Chief of Staff, USAF, which announced that the SAMOS Project would henceforth be managed in the office of the Secretary of the Air Force. Accordingly, the SAMOS Project Office at AFBMD was established with direct access to the Secretary's office for all phases of management of the Program, with no intervening reviews or approvals. Brig Gen Robert E. Greer has been assigned as Director of the SAMOS Project. (SAFSP). As a concurrent action, within the office of Secretary of the Air Force, a Director of Missiles and Space Programs was established to assist the Secretary in the discharge of special management functions. Brig Gen Richard D. Curtin has been assigned as Director (SAFMS). Both Directors are authorized staffs and manning of their staffs is in progress. General Greer has appointed Col Harry L. Evans as Vice Director SAMOS Project, Col William G. King as Vice Director of Technical Matters, Col Gwynne S. Curtis Jr., as Deputy Director for Plans and Programming, Lt Col Robert G. Atwood as Acting Deputy Director for Engineering, Lt Col Robert W. Yundt as Acting Deputy Director for Operations. Each of these echelons is in process of being manned. The SAMOS Project will rely heavily on the various project offices and staff elements of AFBMD for support. The interface between the SAMOS Project and AFBMD is being studied in detail.


c. Implementation of major realignments of LMSD contracts in keeping with the new Development Plan has been almost completed during the time period.

2. TECHNICAL STATUS

a. Satellite Vehicles

(1) First Flight Vehicle: SAMOS satellite 2101, the first flight vehicle, was transferred from the Missile Assembly Building, Vandenberg AFB, to Pad 1, Point Arguello, on 3 September. Satellite/launch control system compatibility tests were successfully completed on 8 September. Systems tests of the AGENA stage and the dual visual/ferret payloads were satisfactorily completed on 16 September. The AGENA was then mounted on the ATLAS booster for simulated flight tests. These tests were successfully concluded on 24 September, one day ahead of schedule. The ATLAS booster was Flight Readiness Fired (FRF) on 23 August 1960. All preparations are on schedule for the first flight.

(2) Second and Third Flight Vehicles: The remaining two AGENA "A" dual visual/ferret payload satellites are being modified and tested at the Systems Test Facility, Sunnyvale, California. The second flight vehicle, AGENA 2102, is being systems tested. This is the final

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checkout prior to transfer to Vandenberg AFB, scheduled for 17 October. This is five days ahead of the Lockheed master schedule. AGENA satellite 2103, the third flight vehicle (for the last dual payload flight) is being modified and the subsystems tested. Some delays have been encountered due to recent engineering changes and parts shortages.

(3) AGENA "B" Vehicles: AGENA satellite 2120, the first AGENA "B" single payload flight vehicle is in the final assembly phase of manufacturing. This vehicle will carry the visual reconnaissance payload with the 36-inch focal length camera. Eastman Kodak is expected to deliver the E-2 payload on 1 October. This vehicle will transfer to systems test in late October. AGENA 2301, the first ferret (F-2) payload flight article, and AGENA 2121, the second E-2 visual payload flight article, are being manufactured.

b. Payloads

(1) Initial acceptance testing of the E-2 visual payload for the first flight was completed at Eastman Kodak. This payload operated satisfactorily during the continuous 48-hour acceptance test run. However, film resolution after reconstruction and processing was slightly below specifications. Analysis led to the belief that the resolution problem was due to thermal stresses in the camera. The difficulty should be corrected with minor modifications. This payload is expected to be ready for the first flight as scheduled. The payload test console and power supply have been delivered to Lockheed.

(2) The first two deliverable ferret (F-2) payloads are in the components acceptance test phase at Airborne Instruments Laboratory. Testing is continuing on a two-shift, first priority basis. The first F-2 flight article is scheduled for delivery to Lockheed Sunnyvale on 14 December. The F-2 checkout console and ground data handling equipment is being readied on schedule.

(3) A thermal model of the E-5 recovery payload was delivered to Lockheed on 8 September. Tests in the high altitude simulator are now underway.

c. Recovery Capsules

(1) Aerodynamic/thermodynamic analyses have indicated re-entry temperatures higher than anticipated for the E-5 recoverable payload capsule. As a result the nose cone fairings will be fabricated from beryllium rather than Titanium.

(2) Force oscillation tests to determine the dynamic stability characteristics of the E-5 recovery capsule are underway at the NASA, Langley Field facility. The tests will cover a wide range of Mach numbers.

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Shock tunnel tests of this capsule at high angles of attack and low Reynolds numbers begin in early October at Cornell Aeronautical Laboratories. Aerodynamic/thermodynamic tests of the ablative heat shield will also be initiated by Avco in October.

(3) Recovery Equipment Test Unit drop tests begin in October and continue through November. The main, air pickup and stabilization chutes will be evaluated for stability, rate of descent, and structural integrity. Two initial drops will be made over Point Mugu from a C-130 at 10,000 feet to obtain data on stability and parachute sink rates. Six subsequent drops will be made from B-52 aircraft at altitudes from 40,000 to 50,000 feet.

d. Aircraft Modifications

Installation of All-American Engineering Company recovery gear and Cook Electric direction finding equipment in the C-130B recovery aircraft is on schedule at Warner-Robins Air Force Base, Georgia. The first of the six recovery aircraft will be delivered to Edwards Air Force Base on 15 December; the others at two week intervals.

3. PROBLEMS ENCOUNTERED

No unusual problems were encountered during September.

4. WORK SCHEDULES

Work schedules for each component are shown under Technical Status.

5. FACILITIES

(1) The facilities and support equipment needed for the first SAMOS launch are complete and checked out. Satellite Test Center building modifications to provide an R&D reconnaissance readout data processing capability are on schedule. Installation of the Eastman Kodak reassembly printers will provide this capability for the second SAMOS flight. Reassembly of visual data from the first flight will be accomplished on a manual printer. All other Test Center equipment is in readiness for the first flight.

6. REVISIONS TO FLIGHT SCHEDULES

The first flight has been rescheduled from 4 to 11 October 1960 for technical and support reasons.

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