~~Control System~~ [redacted]

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QUARTERLY PROGRESS REPORT

SATELLITE SYSTEMS

1 October 1966 through 31 December 1966

I. CORONA PROGRAM

A. Major Events

1. J-3 System Progress

The following milestones were passed during the period:

Mockup 95% complete
Test procedures and preparation on schedule.
System checkout console mods for J-3 95% complete.
All interface drawings signed off except the T33-100 interface payload complete which will be ready for sign off in July 1967.
All AGE specifications released.
Payload Qual Test Spec and Acceptance Test Specs were approved on 14 Dec. 1966.
All system specifications released except System Thermal (January 1967), VAFB Launch (March 1967), and Mating Requirements Spec. (January 1967).
Test plan and matrix in process.
The J-3 thermal math model completed.

Using 1 December data, the PERT schedule indicated 3.4 weeks behind schedule for a launch readiness date of 24 July 1967.

Present weight estimates indicate a payload weight about 25 pounds in excess of 1750 pound maximum called out in the Requirement Specification.

2. Mission 1037

Accelerometers were installed in the structures and in the 'A' SRV for transmission of ascent vibration data via the modified 'A' blossom T/M. The successful Mission 1037 utilized second Thorad and demonstrated the second operational use of the PG system; one drag make up rocket was fired. The yaw programmer was not flown.

3. PIM

A Program Information Meeting was held at A/P on 3 October which was attended by the user community as well as the payload contractors. On 4 October a PG Meeting and a Disic Interface Meeting were conducted. Other than good information transfer a major result of meetings was to tentatively confirm useability and repeatibility of J-1 PG calibration pending results of user evaluation.

4. Color Experiment

Payload system J37 scheduled for a color mission in October was cancelled and is presently available for rescheduling in Spring 1967 if Comor approves.

5. Factory to Pad

The final interim phase three factory to pad procedure was utilized on Mission 1037. The first full factory to pad will be employed on Mission 1038 in January 1967.

6. Program Managers Meetings

Meetings were held at A/P on 4-5 October, 8-10 November and 13 December. J1 and J3 status and payload problem areas were reviewed and appropriate action initiated. A major item for these meetings was to plan and implement the "Stretch-out" Corona flight schedule; i.e., 10 flights in FY 1967, 10 in FY 1968, 9 in Fy 1969 and 6 in FY 1970. Also major emphasis was placed on insuring that all associate contractors stress the need for better Quality Control and attention to components and subsystems for the J-1 payloads.

7. Briefings

On 22 November, Murphy and [redacted] gave a briefing at [redacted] on J-3 operational capabilities. Maj. Gen. John Thomas, Asst. Chief of Staff (Intelligence) USAF, was given a brief orientation on the program and tour of the facility.

8. Pan Geometry

PG systems through PG 7 have been delivered to A/P. PG-8 is in calibration at Boston and will be shipped in January. On 23-24 January 1967 meetings will be held with the DNRO to review the current PG calibration on J-1 instruments, the preliminary user evaluation of PG-2 data and projected PG capability of the J-3 Payload.

9. AP Facilities at VAFB

[redacted] met with Murphy and Worthington at [redacted] and made the following agreements:

a. Office area for AP engineers, the computer and TWX facility to be provided in building [redacted] and will be in operation about 15 July 1967.

b. The MAB [redacted] will be augmented to handle the personnel displaced from [redacted]

c. Building [redacted] will be reserved for AP as a holding area and possible readiness facility for payloads if required in emergencies.

d. There will be suitable and adequate security provisions for the new AP engineering and TWX Rooms and in the holding building [redacted]

B. Camera

1. QR-2 (300/301), the first J-3 CR system was accepted by the Government. Delivery to A/P is expected on 3 January 1967. CR-1 (302/303) is expected to be accepted and delivered in mid-January.

2. Because of program "stretch-out", arrangements have been made for storage of three systems at Itek Vidya, Palo Alto. J-47 (PG-9) will be the first system to be stored there. Adequate security provisions have been arranged.

3. The EKIT program is being slowed due primarily to aircraft availability. Test plans have been made but flights and equipment have not been available. In addition, some tests are being rerun contributing to program stretch out.

4. There is a shortage of DFD (S/I) Cameras due to the inability of Itek vendors to deliver shutters. This problem is not critical and is being alleviated but the shortage has required A/P to take systems through TASC without DFD's. Therefore, Itek has been directed to run a 36 hour thermal altitude test on some DFD's now being produced in order to certify them for flight.

C. SRV

1. During the quarter, interface meetings were held both at Philadelphia and at A/P to inspect and review the design and assembly of the AGE and to discuss the philosophy of J-3 field testing.

2. The diagnostic flights of vehicles 807 and 809 were cancelled due to an unexpectedly high cost proposal from GE. The two space recovery vehicles will be standard J-3 configuration.

3. An aluminum capsule cover proposed by GE for their 800 series vehicles was approved subject to qualification in their ETV (Engineering Test Vehicle) Qual Program.

4. The J-3 SRV mockup was shipped to A/P for a week of inspection and familiarization by A/P personnel. [redacted] representatives were also present to review the DISIC T/U installation and removal techniques.

5. At end of quarter the ETV has completed checkout with in house systems test equipment. AGE unit number 1 is completed and AGE unit number 2 is in assembly stage. The first J-3 SRV's, 801 and 802, have completed

assembly and are in test. These vehicles will be used in the system qualification test program at AP. The first flight SRV's are still scheduled for delivery to AP on 17 February 1967.

6. G.E. made the recommendation that the swing down ballast be replaced by a fixed ballast. The recommendation was approved by the Resident Officer subject to design review on 12 Jan 1967.

7. The calendar life will expire on the J-35 forebodies before the projected flight recovery dates. They were replaced and sent to Philadelphia for use as test forebodies on 801/802. The "Stretch-Out" flight schedule has caused the calendar life of about 2 to 4 other forebodies to be in jeopardy. It may be necessary to order additional forebodies.

D. Spacecraft

1. The J-3 PMU Final Design Review was held at AP on 10 October. All other AP design review for the quarter ending 31 December were rescheduled, because of time required to prepare a formal design review package, to the first quarter of 1967 as follows:

Electrical Subsystems	10 Jan (Final)
GHE Systems	7 Feb (Final)
AGE Subsystems	7 Feb (Final)
Systems Consoles	7 Feb (Final)
AirFrame	16 Feb (Final)
Payload and Vehicle System	16 Mar (Final)

2. A final readiness review of the Payload System will be conducted on 18 April 1967.

3. A major contributor to some AP schedule slippages is a manpower shortage due to workload increase ahead of personnel clearances and availability. Checking of test procedures is also adding to work-load in all engineering areas.

4. Procurement problems are affecting such components as pmu, exposure control, aft T/M box, slope programmer (V/H) bc , SLP conditioner, aft power box, CTI cables, qualification test console panels and TUNA. The procurement problem is primarily caused by the increased lead time required (a Vietnam effect) for receipt of components mainly electrical and electronic.

E. DISIC

1. The Government Acceptance of the Systems Qual Unit, the first DISIC system, was conducted on 13-14 December at N.Y. and the unit was shipped to AP arriving there on 15 December.

2. Field installation at AP of test equipment has been completed. Field representatives, one engineer and two technicians, have arrived at AP.

F. Operations

1. Mission Summary

The October and December missions were cancelled hence 1037 was the only mission flown during the quarter.

a. Mission 1037 (J-38/PG-2)

Mission 1037 was successfully launched in a tail first 100° inclination 8 day synchronous orbit. It carried instrumentation for playing out ascent vibration information. Flight duration was 12 days with the successful air catch of the 'A' capsule on the fourth day followed by air recovery of the 'B' on day twelve.

2. Mission Details

Mission No	1037
Booster No.	507
Agena No.	1632
Payload No.	J38
Instrument No's.	198/199
SI No's.	D101/D106
DRCG No.	544
SRV No's	727/728
Flight Date	11/8/66
Pounds Payload Flown	79.7/78.4
Pounds Payload Transferred	79.4/78.2
Recovery Dates	11/12/66, 11/20/66