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20 July 1966

MEMORANDUM FOR: Director of Reconnaissance, CIA

SUBJECT: OSP's NRO Quarterly Report on NRP SATELLITE SYSTEMS

Attached for your consultation into an overall CIA Reconnaissance Report is OSP's NRO Quarterly Progress Report.

JOHN J. CROWLEY
Director
Office of Special Projects

Attachment: As stated

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QUARTERLY PROGRESS REPORT

SATELLITE SYSTEMS

1 April 1966 through 30 June 1966

I. CORONA PROGRAM

A. Major Events

1. J-3 System Progress

Full scale engineering at all payload contractor facilities got underway during the period. The Payload System Requirements Specification RO-J3-001 was released in April, and the coordinated 241 Program Master System Specification in May. By the end of the reporting period, all major mechanical and electrical interface documents had been approved and released.

2. Mission 1033

The first operational use of The Corona program's Orbit Adjust System (OAS) was demonstrated on Mission 1033. Perfect orbit period control was maintained, providing the community with a circularized orbit which obtained daily ascending and descending coverage of high priority missile targets.

3. CALEX I & II

Two command post exercises were conducted with the Satellite Operations Center (SOC) in final preparation for the introduction of the improved Corona payload command system. All details of both the hardware and software appear complete.

4. DNRO Briefing and Orientation

On 6 June a briefing and tour of the AP facility was provided to the DNRO and his staff. The status of both the J-1 and J-3 programs was covered.

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5. Pan Geometry

Payload system PG-1 (J-36) completed systems test at AP in June, and a briefing was provided to the "user" community on the problems experienced with this system. Instrument system PG-2 was accepted by the Government at Itek on 21 June. Preliminary indications are that instrument repeatability has been achieved on the PG-2 system.

6. Color Experiment

Payload system J-37 completed systems test at AP in June, and results obtained prove that color film can be handled effectively by the Corona system. A detailed report on the J-37 test experience is being prepared for the DNRO, and the system will be held in storage at AP pending his decision on the color requirement.

B. Camera

1. During the period April - June 1966 final details on the J-3 Camera system was completed and assembly of cameras 299, 300, and 301 began. A final design review on the J-3 camera will be held in August, and a demonstration of the operation of instrument 299 (QR-1) will be provided.

2. The final version of the J-3 exposure control device will allow both selected exposures and multiple film types. A test series to examine the full potential of the exposure control device was begun under the guidance of the performance evaluation team (PET), under the project title EKIT.

3. Design changes introduced into PG-2 appear to have solved the problem of camera system repeatability which had caused concern on system PG-1. Problems in film stability are still plaguing the PG calibration work however, and a program has been initiated to coat emulsion on invar sheets for the PG base calibration.

C. SRV

1. Full scale engineering on the 800 series (J-3) SRV

was initiated during the quarter, and by the end of the period interfaces and packaging were near completion. SRV AGE functions have also been agreed upon. The only open SRV interface at this time is the capsule cover parachute interface for the new MK V C parachute. A recoverable tape recorder will be flown on the first four J-3 flights to obtain orbital and reentry environmental and engineering data.

2. It is anticipated that the final design review on the 800 series SRV will be held in later August or early September.

D. Spacecraft

1. Engineering and Interface coordination on the J-3 System programmed will during the three month period. The following preliminary (P) and final (F) design reviews were held at AP:

20 April	Pyro System (F)
5 May	Power (P)
25 May	Telemetry (P)
27 May	Slope (V/H) Programer (P)
10 June	Airframe (P)
27 June	Command System (P)

2. The major problem area at AP is one of a manpower shortage. The shortage of manpower is causing schedule slippage on several critical designs such as the T/M box, the SLP conditioner and the Slope Programer. An attempt is being made to reduce the impact of the manpower shortage through use of overtime and cancellation of vacations. At this time, there is no reason to believe the overall J-3 schedule cannot be maintained.

3. Two J-1 Payloads, J-32 and J-38 have been fully instrumented to determine if the Corona ascent environment will be affected by the introduction of the Thorad booster. The first Thorad launch is now scheduled for August.

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E. Operations

1. Mission Summary

Brief summaries of the missions for the April - June period are shown below:

a) Mission 1031 (J-30)

Mission 1031 was launched to obtain the 75° inclination angle orbit in a tail-first attitude. All subsystems performed satisfactorily during the "A" mission. The duration of the "A" mission was seven (7) days and was the first "A" mission of this duration. A failure in the film transport of the Slave camera resulted in an abort for the Slave camera during the "B" mission. Total mission life was eleven (11) days and both capsules were air recovered.

b) Mission 1032 (J-28)

Mission 1032 was launched to obtain the 80° inclination angle orbit in a nose-first attitude. The payload did not orbit due to failure of the Thor-Agena to separate.

c) Mission 1033 (J-33)

Mission 1033 was successfully flown in a 66° inclination orbit. This orbit provided daily ascending and descending coverage of certain prime targets. The performance of major subsystems was satisfactory except for the "B" stellar camera. The total mission was eleven days and the first operational use of the Orbit-Adjust-System was successfully demonstrated. Both capsules were recovered by air-catch.

d) Mission 1034 (J-31)

Mission 1034 was flown in a tail-first 80° inclination orbit. The flight was a successful ten day mission. However, the V/h programmer stopped after four revolutions. With the failure of the programmer, the selection of cycle rate

was limited to one of eleven fixed rates per acquisition. This permitted some IMC control but was less than desired. The PMU system developed a leak on the supply line and was depleted by the end of the second day on orbit. Both capsules were recovered by air-catch.

2. Mission Details

Mission No.	1031	1032	1033	1034
Booster No.	474	465	469	466
Agena No.	1627	1625	1630	1626
Payload No's.	J-30	J-28	J-33	J-31
Instrument No's.	184/185	180/181	194/195	186/187
SI No's.	D83/86	D81/80	D91/84	D85/87
DRCG No.	537	534	543	538
SRV No's.	711/712	707/708	717/718	713/714
Flight Date	4/7/66	5/3/66	5/23/66	6/21/66
Pounds Payload				
Flown	159.6	159.5	159.3	159.4
Transferred	81.0/39.8	-	82.0/77.3	79.6/79.3
Recovery Date	4/14/66-4/18/66	-	5/28/66-6/3/66	6/26/66-7/1/66

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NOTICE OF REMOVED PAGES

Pages 7 through 20 are not provided because their full text does not contain CORONA, ARGON, LANYARD programmatic information.