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29 April 1966

MEMORANDUM FOR: Director of Reconnaissance, CIA

SUBJECT : OSP's Quarterly Report on NRP Satellite Systems

Attached for your consolidation into an overall CIA reconnaissance report is OSP's Quarterly Progress Report.

JOHN N. McMAHON
Deputy Director
Office of Special Projects

Attachment: A/s

Distribution:

[redacted]

DD/S&T/OSP/JNMcMahon: [redacted] (29 Apr 66)

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Pages 1 through 4 are not provided because their full text does not contain CORONA, ARGON, LANYARD programmatic information.

QUARTERLY PROGRESS REPORT

SATELLITE SYSTEMS

1 October 1965 to 31 March 1966

I. CORONA PROGRAM

Major Events:

A. 1 October - First major customer design review on J-3 camera was completed. Decision reached to proceed with nodding IMC approach. UTB feasibility demonstrated.

B. 6 October - Final design review held on ISIC. All ISIC work terminated except for cut and splice development.

C. 15 October - Studies begin on J-3 SRV repackaging at General Electric.

D. 21 October - First PG lenses evaluated and accepted at Itek. P.G. instrument conversion begins.

E. 23 November - Preliminary Design Review on GE J-3 repackaging held in Philadelphia.

F. December - A series of accelerometer tests were begun with Payload JX27 (Mission 1028) after a decision was reached that a broader data basis must be developed to reduce the on-orbit environmental unknowns. These tests will provide baseline data for J-1, and increased emphasis on ascent data with the introduction of J-2 (Thorad), and a broad expansion of on-orbit and reentry data for J-3.

G. 13 December - First major DISIC design review held at Fairchild.

H. 1 January 1966 - J-3 camera requirements specification, design control specs, and work statements finalized.

I. 7 January - P.G. designs and procedures finalized.

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J. 11 January - Joint CIA/AF CORONA Improvement Program status review held in Los Angeles.

K. 14 January - D/NRO briefed on J 3 SRV proposals. General concurrence received with exception of ESM flight demonstration. Further ESM/PN studies requested.

L. 18 January - Contract negotiations in process with Itek on P.G. and J-3 camera systems.

M. 19 January - First P.G. instruments accepted by Government.

N. 26 January - J-3 recovery programmer and beacon design reviews held in Philadelphia.

O. 21 February - Exposure control and color conferences held with NRO and NPIC in Washington.

P. 15 March - J-3 exposure control and calibration criteria finalized.

Q. 19 March - Design approval received on J-3 spacecraft work at Lockheed.

R. 22 March - Final review held on Calico computer program.

S. 31 March - J-3 camera interfaces complete.

II. CAMERA

A. During the period October-March major progress has been made on the design and development of the J-3 constant rotator camera. All camera interfaces are now complete and most procurement documents have been released. Contract negotiations with Itek are in process.

B. The J-3 camera system has been enthusiastically received by consumer agencies. The stability afforded by the improved P.G. provisions, and the flexibility inherent in the variable film loading, are capabilities beyond those envisioned at the beginning of the reporting period.

C. The first of the J-1 P.G. cameras was delivered to the Government by Itek in January, and integration work is underway at Lockheed A/P. Although technical problems

in the lens/collimator area have been experienced with the J-1 P.G. design, it is believed that these problems will not affect the ultimate success of the P.G. concept. First P.G. flight is scheduled for June 1966.

D. A modification to the J-1 circuitry was introduced to allow operations of the stellar-index camera in the event of a master instrument failure.

III. SRV

A. Progress on J-3 SRV development was limited during the period to the completion of interface agreements with the camera contractors, and the preparation of packaging layouts and design proposals.

B. A briefing was given to the D/NRO on the J-3 SRV proposals in January, and broad technical guidance was received.

C. A flight demonstration of a new squib-activated recovery battery was approved on payload J-28 (scheduled for May flight). Approval of the use of ESM on the J-3 SRV was withheld pending the completion of further technical requirements studies.

D. On the J-1 SRV's the modifications necessary to provide A-to-B transfer and thrust cone redundancy were incorporated.

IV. SPACECRAFT

A. Toward the end of the reporting period a go-ahead was received from the D/NRO for design and mock-up work on the J-3 system at the A/P. Work on the interface specifications was nearing completion by 31 March. Progress on the J-1 systems during the October-March period has included:

1. Introduction of a new command system;

2. Incorporation of a delay in the instrument operate lines to eliminate the mono overlap at the beginning and end of the camera operations;

3. Incorporation of the early A-to-B transfer provisions to allow for film take-up in the "B" SRV prior to "A" bucket recovery.

[redacted]

V. OPERATIONS

A. In support of [redacted] operations two computer programs were developed in early 1966. The CACTUS program is designed to provide a listing by frame number and position on frame of all COMOR targets taken during the mission. CACTUS outputs have been extremely useful to NPIC in the photo-analysis work.

B. The CALICO program is designed to assist the [redacted] in cutting camera programs for the new dual-intermix command system. A test of CALICO is scheduled for May, with first operational use in June.

VI. MISSION FLIGHT HISTORY

Mission #	Launch Date	Recovery Date
1025	5 Oct 65	-1 10 Oct 65 -2 15 Oct 65
1026	28 Oct 65	-1 3 Nov 65 -2 7 Nov 65
1027	9 Dec 65	-1 10 Dec 65 -2 11 Dec 65
1028	24 Dec 65	-1 29 Dec 65 -2 2 Jan 66
1029	2 Feb 66	-1 7 Feb 66 -2 12 Feb 66
1030	9 Mar 66	-1 14 Mar 66 -2 19 Mar 66

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