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23 JAN 1970

MEMORANDUM FOR: Director, CIA Reconnaissance Programs

SUBJECT : OSP's NRO Quarterly Report on NRP Satellite Systems

Attached for your consolidation into an overall CIA Reconnaissance Report is OSP's NRO Quarterly Progress Report. Two additional copies are attached for Dr. McLucas and [redacted] and one copy each of CORONA and [redacted] is attached for forwarding to [redacted]

[redacted]

Attachments: a/s

[redacted]

[redacted]

[redacted]

SUBJECT: OSP's NRO Quarterly Report on NRP Satellite Systems

Distribution:
Cys [redacted]

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QUARTERLY PROGRESS REPORT

SATELLITE SYSTEMS

1 September 1969 through 31 December 1969

I. CORONA PROGRAM

A. System Status

1. Mission 1108 (CR-9) launch occurred successfully 4 December 1969. The Performance Evaluation Team will convene 13 and 14 January to evaluate the flight. Initial evaluation by NPIC assigned MIP ratings of 105 and 100 to the "A" and "B" portions respectively. It should be noted that this mission was flown at perigees from approximately 80 nm to 100 nm. The primary anomalies noted during this flight were:

a. Main camera slit-width failed safe.

b. Switch programmer malfunctioned.

c. DISIC failed to operate after rev. 205.

During the "A" portion of the mission, the overall image quality of the forward looking camera was rated as fair and the aft looking as good. Although the forward camera provided the MIP frame for this portion, the aft looking camera image quality was reported as less variable. The "B" portion forward camera result again provided the MIP frame with the overall imagery rating as fair; the aft camera imagery was reported as good and again less variable. The color (SO-242) results were "overall image quality, color balance, and color saturation is considered good." The best ground resolution was comparable to the best color from Mission 1106, which used SO-121 color film.

2. Post flight review of Mission 1108 flight anomalies mentioned above indicates:

a. Slit width fail safe attributed to either a short circuit or foreign particle. This anomaly was able to be handled operationally with no effect on mission results. Corrective actions were reviewed and assembly and acceptance inspection procedures were re-emphasized. Historical review of the CR-8 switch programmer failed to provide a clue to the suspected short or any other potential hardware problem.

b. The minor slope programmer malfunction appears to have resulted from the Haydon timer. This is a recurrence. More stringent EMC tests of future Haydon timers will be conducted. In addition, proposals are being requested from the Agostat and Dian companies for a more reliable timer. This failure had no impact on mission operations or product.

c. DISIC failure most probable cause is a 400 cycle inverter failure. Analysis still in progress.

B. Illtra-Thin Base Film Usage

An in-depth review of the results of tests conducted utilizing ultra-thin base film in systems CR-11 (Mission 1109) resulted in a decision to fly UTB. Mission parameters are being examined to optimize the performance using UTB.

C. Low R.H. Film Test

Tests have been completed and the rolls of SO-380 are at Westover Photographic Center for measurements. Results are expected to be available in February 1970.

D. Proposals and Future Change

1. Glass Filters

Itek is continuing with the endeavor to provide glass filters, both .040 and .037 inches. Most substrate is available at Itek, W-21's, W-23's, W-25's, W-28's and clear glass filters are involved.

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2. Splices

To evaluate further the ultrasonic splices, the AP Facility will order film with ultrasonic splices and utilize these for ground system tests other than HIVOS. These results will be evaluated and a decision made either to continue the permacel splices or change to ultrasonics.

E. CR-8 Refurbishment

Evaluation of major structure and reassembly of major sub-assemblies is in progress and on schedule.

F. Move of AP to buildings [redacted] and [redacted] was approved and should be completed by September 1970.

G. Missions Completed This Quarter:

Mission No. 1108
Booster No. 69-039
Agena No. 1655
Payload No. CR-9
Instrument No. 316/317
S.I. No. S/N 12
Film Type - Main Instrument - 3404/SO-242
Flight Date - 4 December 1969
Feet Payload Flown - 31, 500 (3404) 800 ft. (SO-242)
Feet Payload Recovered - 31, 500 (3404) 800 ft. (SO-242)
Recovery Dates - 11 December 1969
22 December 1969

H. Mission Planned for Next Quarter

Date - 18 February 1970
Mission - 1109
Payload - CR-11

[redacted]

NOTICE OF REMOVED PAGES

Pages 4 through 22 are not provided because their full text does not contain CORONA, ARGON, LANYARD programmatic information.