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Copy 10 of 14
26 September 1969

MEMORANDUM FOR: Director of Special Projects

SUBJECT: Photo Reconnaissance Systems Report No. 7

I. CORONAA. Accomplishments

1. J-46 (Mission 1052) was successfully launched on 22 September. All systems functioned normally except the V/H programmer. During the first forty revs, the programmer failed to start on three instances. In the first case (rev 21) the failure was discovered after any corrective action could have been taken. The result was approximately fifty per cent mismatch in V/H. In the next two instances, corrective action was initiated in real time, keeping the mismatch to less than five per cent.

2. CR-8 has successfully completed a confidence run prior to starting qual program. The vibration test is scheduled to start 26 September.

3. CR-10's Delta ramp-up problem was found to be caused by questionable amplifiers. The amplifiers have been returned to Itel for evaluation. CR-10 has resumed normal testing at the AP.

4. A review was held at P.E. of the CRYSPER Computer Program. CRYSPER is a program which allows calculation of on-orbit system performance including all the effects of camera performance, atmospheric degradation, sun angles, target location, etc. CRYSPER will allow prediction of Ground Resolved Distance (GRD) for an actual mission and actual targets. CRYSPER is now implemented on Headquarters computers, and the meeting was to give Headquarters personnel a better understanding of the program details. CRYSPER includes an empirical

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"atmospheric model" that is photometrically oriented. A review was also held at E.K. to familiarize Headquarters personnel with the KSCOPE Program, which is a more complete atmospheric model that is spectrally oriented. This more complete atmospheric model will allow evaluation of on-orbit camera performance with different films (color, for example) and different filters. This new atmospheric model is being implemented on Headquarters computers and will eventually replace the atmospheric model now in CRYSPER.

5. The CORONA counterpart of CRYSPER (CASSANDRA) is also being implemented on Headquarters computers. This will allow direct comparison (on-orbit) of CORONA and HEXAGON performance in a directly comparable manner. CASSANDRA is due to be tested on mission 1108.

B. Problems

1. J-46 - Failure analysis of the V/H programmer is underway.

2. CR-9 - A question between Itek (Boston) focusing data versus Itek field service data arose. Evaluation of the resolution data resulted in a decision to remove the shim, visually inspect a filter and rerun the resolution test. The necessity to conduct an ambient "Dr. A" test is being evaluated and, if necessary, will be accomplished prior to resolution test. This problem concerns only instrument No. 317.

C. Projected Status

1. CR-8 - Qual Testing.
2. CR-9 - Special Resolution Tests.
3. CR-10 - Compatibility checks.
4. CR-11 - CTI Continuity testing.
5. CR-12 - Acceptance Testing.
6. CR-13 - Instrument mods at Page Mill Facility.

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II. HEXAGONA. General

1. Dr. Sorrels of the Bureau of the Budget visited Itak on 24 September for a review of the HEXAGON S.I. Camera and the CORONA camera and visited Perkin-Elmer on 25 September for a review of the HEXAGON panoramic camera. Detailed comments will be provided at the weekly Project meeting.

2. The steam lines at Wright-Patterson Air Force Base are back in operation, and testing on film sticking has resumed. [] has secured a pressure regulator that will allow incremental readings to 1/4 psi with 1% accuracy.

3. P.E. was requested to measure the RH of each of the 40% film stacks to insure that the material is suitable for the sticking tests and to get a closer reading of the RH than the 40% \pm 3% that E.K. has given us.

4. The remainder of the parts necessary to finish installation of the processing equipment at the West Coast photo lab was received on Thursday. All is going well.

5. A meeting at Headquarters on 23 September 1969 served to establish a procedure for shipping take-ups from RCA to MWC. Represented at the meeting were OSA/Project Air, OSP/Logistics, OSP Security, OSP HEXAGON Staff, MWC, P.E. and RCA. Open items include: (1) method for returning shipping containers to RCA; (2) security arrangements for P.E. representative at MWC to accompany shipment from airport MWC ramp to MWC clean room; (3) details concerning DD 250's and DD 1149's. Open items are being worked and should be completed in a week or so.

6. Negotiations were held at P.E. on 22, 23 and 24 September covering the remainder of the changes including Plan B and Omnibus. Approximately \$3,000,000 was approved by the Government for changes compared to

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change proposals in excess of \$12,000,000 submitted by the contractor. Also included in the negotiation was an expanded field services contract covering a level of effort in the amount of approximately \$4,000,000. On the basis of the negotiations and in consideration of items within the Omnibus proposal, which was not specifically considered in detail, an offer was made to the contractor for target costs slightly in excess of \$190,000,000. Mr. Maguire indicated that he could not resolve the contract himself at a figure less than approximately \$195,000,000 or some other arrangement in the incentive fee schedule. Various breakdowns of the incentive fee were considered, none of which met with Mr. Maguire's satisfaction. At that point, the negotiations were terminated and were resumed in Washington on 26 September.

B. Engineering Model

The TCA and Supply have been mated with the SEA/MS and installed in Ready Room A.

C. Development Model

The development model has slipped three days this week and is now +1 against start of Chamber B tests and +15 against delivery to Lockheed.

D. Flight Article #1

Pre-environmental testing of Optical Bar A in Chamber D indicates the bar was slightly below spec at 70° F. Acoustic and three-axis vibration have been completed on Optical Bar A, and it is now in Chamber D for post-environmental testing. The 93° test in Chamber D has been completed.

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III. AdministrativeMeetings Requiring Participation by Headquarters Personnel

<u>Date</u>	<u>Subject</u>	<u>Attendees</u>
<u>PERKIN-ELMER</u>		
30 Sept	H Program Briefing	Patterson, <input type="text"/>
30 Sept	V/h, f(V/L) Compatibility Review	<input type="text"/>
2 Oct	Engineering Model Discussions	<input type="text"/>
2 Oct	Photo-Electro-Mechanical Correlation	Kohler, Burks, <input type="text"/>

SBAC

8 Oct	RV/SS IFWG	<input type="text"/>
8-9 Oct	Naka Committee Review at SBAC	<input type="text"/>
9 Oct	Ops IFWG	<input type="text"/>
10 Oct	Schedule IFWG	<input type="text"/>

AC ELECTRONICS

2 Oct	SSTC Quarterly Review	<input type="text"/>
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HEADQUARTERS

1 Oct	H Qual Test Program meeting	<input type="text"/>
1 Oct	H Schedule Briefing	Staff

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<u>Date</u>	<u>Subject</u>	<u>Attendees</u>
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HEADQUARTERS (continued)

1 Oct	Fold Flat and Mount Status Briefing	Staff
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2-3 Oct	Long Range Planning	Patterson, [redacted] [redacted]
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[redacted]
PRS/OSP

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cy 12 - OSP/PRS (file)
cy 13 - [redacted]
cy 14 - [redacted]

DD/S&T/OSP/PRS/JCL:mcc/X5725 (26 September 1969)

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