BYE-108323-71
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9 April 1971

MEMORANDUM FOR: Director of Special Projects

SUBJECT : Photo Reconnaissance Systems Report No. 87

I. CORONA

A. Accomplishments

1. Mission 1114 bucket "A" recovered film was processed and analyzed by NPIC and the PET Group resulted in an assignment of the "highest ever" MIP rating of 120.

2. Additional WCPO software support was required on 2 and 3 April to accommodate special target coverage on 4 April for Mission 1114.

3. Mr. Packard and his group were briefed on CORONA and HEXAGON and were conducted on a tour of Building 152 and 156 on 5 April.

B. Problems

No major problems.

C. Projected Status

1.	CR-14. (Mission 1114)	"B" bucket recovery scheduled Saturday, 10 April 1971.
2.	CR-15.	R-25 Backup.
3.	CR-16.	Block tests.
4.	CR-8.	HIVOS preps.

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II. HEXAGON

A. General

1. Copies of the "Preliminary HEXAGON Requirements in 1975 - 1980 Time Frame", prepared by MAB/D&AD, have been received and are being reviewed by the Project Office. Upon completion of this review and selection of a final approach for a competitive Block II, preliminary action (work statement, contractor selection, etc.) will be completed, awaiting NRO approval to proceed. Word was received from the NRO (Comptroller) to the effect that FY 1971 funds for HEXAGON Block II competition studies would not be approved until more information relative to the overall plan was received and reviewed. Action has been initiated to expedite the preparation of a suitable briefing.

2. Planning for the last development rehearsal and the dress rehearsal for the first flight is well underway. Simulated anomalies for both the vehicle and the SCF will be included in the development rehearsal. No vehicle anomalies are planned for the dress rehearsals. The question of deleting payload operations in the event of number one tape recorder failure remains an open item for the Operations IFWG to resolve.

3. The WCPO reviewed with the SPO a list of first flight hardware and policy constraints. The constraints included such items as:

a. Minimum rewind to be used in first three RV's, maximum rewind 55 ips to be used in fourth RV.

b. Heat shield to be recovered on the fourth RV.

c. No operational payload until after one (or two) engineering operations.

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d. No negative scan centers with mono "A" operations, etc. This list will be sent to the SOC by the SPO.

4. The latest version of MACFACT (MAC 0408) will be sent to SETS, Danbury and Headquarters on 9 April. This version incorporates SSC-requested modifications for use as an acceptance aid.

5. The percentage of computer utilization, by project, for March was:

CORONA	23.90
HEXAGON	42.94
MRI (RH)	10.62
OEL/ORD	1.08
ESL (RH)	1.44
System Maintenance	8.73
Other	11.27
Metered Hours	334.8 hrs.
Number of Jobs Processed	4,206

6. RCA experienced more film tracking and stacking problems this week. The Project Office has asked PE to get a written report on the problem including any film wedge aspects, since RCA has been notorious in the past for not

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documenting their problems. Kodak was trying to expedite 2 to 3 rolls of film to RCA by Friday so they would not run out of film. The other RCA film spooler is loaded and operating properly.

7. Kodak conducted some rewind tests early this week to determine any possible rewind effect on the wedged film. A 18,000 ft. length of film was rewound six times, and the change in wedge was measured. The Project Office has not been advised of the results as yet, but, in any event, these tests will be rerun since Kodak did not measure the film after any of the interim rewinds - only after the sixth. The Project Office had a roll of tapered film sent to EK from the West Coast so EK can do some additional rewind testing early next week in time for the status review meeting on 15 April 1971.

8. The flight load of film for SV-1 was subjected to an out-of-spec RH condition (45% to 48% vs 40% max.) for approximately 12 hours during supply loading. The SPO and Lockheed have not yet provided the proper environmental conditions in the supply loading room, and PE neglected to check the RH of the room during the loading operation even though this step was called out in the supply loading procedure. The Project Office has sent a message to the SPO on this matter and requested that appropriate action be expedited to correct the room's environment. A full report on this matter is being prepared by the WCPO. There does not appear to be a significant risk in flying this film, however.

9. Lockheed/Aerospace have completed their analyses of the shroud separation pyro tests. The evaluated data indicates an increase of shock levels by a factor of two to four (6 to 12 db) beyond present ICD levels. The conservatism implicit in the analysis resulting from:

a. Variations in the test configuration.

b. Assumptions on linearity of structural clamping.

c. Instrumentation locations.

d. Statistical analyses.

is being reevaluated. No problems are anticipated because:

a. Box-level shock tests were on the high side of the tolerance level (6 db high).

b. No box failures occurred as a result of the SDV-III pyro test.

B. Model Status

1. Development Model (SDV-III)

The transporter is at VAFB to load SDV-III and return it to SVIC. High winds have prevented loading since 7 April. SVIC has to complete the Attitude Reference Module (ARM) alignment in the Vertical Integration Stand prior to SSC removal of any sensor components for correction of defects. It is expected that SSC work can commence on 28 April.

2. SV-1 (SN-003)

The installation of flight film was completed on 5 April. Final preparations are underway to ready the vehicle for shipment to VAFB. Horizontal tests are expected to commence on 9 April. Shipment to VAFB is expected on 28 April. With the G launch scheduled for 21 April, a 19-day G mission, a 2-day G solo operation, 5 days of H rehearsal, and final H launch preps, all in sequence, the SV-1 launch is scheduled for 19 May, although from a vehicle point of view only, it could be launched on 12 May.

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3. SV-2 (SN-002)

a. Forward Section

Film transport testing, including the wrap-and-cut exercise has been completed. The system is being readied for pneumatic and light leak testing. It should be ready for mate on 15 April. The SV-2 master schedule calls for commencement of SV mate on 22 April and completion on 25 April.

b. Midsection

R&I test has been completed and several sequences rerun to resolve the anomalies that occurred. The vehicle was turned over to SVIC on 8 April. During the R&I, the slit on the "B" side did not function. This problem disappeared when the cable to the platen was disconnected and checked for continuity. Operation of the slit in future operations will be carefully monitored. Film markings (start-of-ops marks and time word) were incorrect. Start of ops marks problems were traced to a bad 40 Hz box and a faulty time word-to-age clock. An R&I Data Review will be held Monday, 12 April.

4. SV-3 (SN-004)

Continued tracking problems resulted in the decision to replace the platen and film drive on the "A" side. The "B" side still exhibits an in-track smear which has not been diagnosed. PE is developing a plan to present to the Project Office which would employ "quick fix" 2A3 (metering capstan servo) boxes for the

70° acceptance testing. These boxes would then be replaced with the flight boxes for the 47° and 93° testing. The need for reverification at 70° will be evaluated after receipt and review of the worst case analysis of the modified boxes. If this plan proves to be acceptable, it extrapolates to a ship date of 5 May 1971.

5. SV-4 (SN-005)

The supply and TCA have been installed in the midsection, and the Forward Section Simulator is being attached.

III. Meetings Requiring Participation of Headquarters Personnel

Date	Subject	Attendees
LMSC		
13-14 Apr	EM Data Review	[redacted] Kohler,
14 Apr	Schedule IFWG	[redacted]
15 Apr	Operations IFWG	[redacted]
15 Apr	Thermal Subgroup	
SAMSO		
13-14 Apr	Targeting Software Discussions	[redacted]
13 Apr	Integrated Schedule Discussions	[redacted]

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Date	Subject	Attendees
WCPO		
15 Apr	SV-1 Constraints Discussions	
PE		
14 Apr	Spares Buyoff	
EK		
15 Apr	Film Stack Review	
RCA		
16 Apr	Takeup P5-1 Buyoff	

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Cy 13 - NEPO
Cy 14 - WCPO

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8 - C/SB/OSP	

ROUTING	DATE SENT

COURIER NO.	ANSWERED	NO REPLY

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