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BYE-108161-70
Copy 10 of 14
21 August 1970

MEMORANDUM FOR: Director of Special Projects

SUBJECT : Photo Reconnaissance Systems Report No. 54

I. CORONA

A. Accomplishments

1. Evaluation of the second half of Mission 1111 (CR-12) indicates that the average image quality is good and comparable to Mission 1111-1.

2. Facility move is essentially completed and no further reporting will be made.

3. CR-13 dual data signal conditioners (DDSC) improvement modifications are complete. DDSC improvement modifications for the remaining systems will be completed within ten days.

4. QR-2 has been removed from flight prep status and is currently in backup preps. Testing of the DISIC/FMU and timer modifications is in process.

5. Mission operations software is being checked for use on version 18 of the computer operating system. No problems have been encountered and none are anticipated.

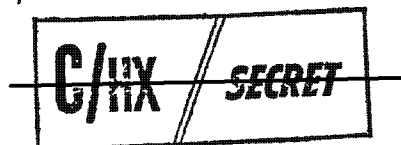
B. Problems

None.

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GROUP 1
Excluded from automatic
downgrading and
declassification

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SUBJECT: Photo Reconnaissance Systems Report No. 54

C. Future Activities

Mission 1111 PET Meeting is scheduled for the 25th and 26th of August at NPIC.

D. Projected Status

1. CR-13. Block preps.
2. QR-2. Backup preps.
3. CR-14. Pre-storage preps.
4. CR-15. DISIC tracking preps.
5. CR-16. Scan heads modifications being incorporated.
Due in 20 August 1970.
6. CR-8. Clean up and shipping preps at Itek. In test for correction of corona in one instrument.

II. HEXAGON

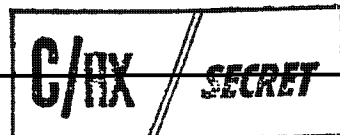
A. General

1. The FIDAP (sync flash analysis) Program was used to evaluate flight model data from the Westover microcomparator. The FIDAP Program achieved operational status at Westover and it is anticipated that future FIDAP runs will be done at Westover.

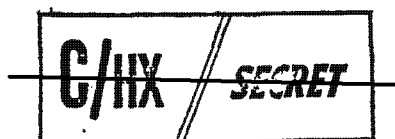
2. Discussions were held with SETS regarding "HOPE" (MACFACT-2) software methods. SETS plans to start data base management planning for "HOPE" the week of 28 August.

3. MACFACT runs were made in support of MACFACT discussions to be held at Westover on 21 August.

BYE-108161-70
Page Two



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SUBJECT: Photo Reconnaissance Systems Report No. 54

4. Messrs. Verjinski and Melville met with Jack Taylor from Calcomp Corp. A proprietary software agreement was signed in connection with the software package to be installed in the computer facility. A software seminar is to be conducted by Calcomp representative 8-9 September for interested programmers. Delivery date for the Calcomp plotter was established at 15 September.

5. Representatives from MRI (Messrs. Dick Balsum and Jim Misel) visited the computer facility to install two computer programs programs to be run in support of the Logistic support details were also discussed.

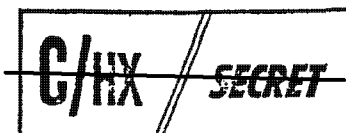
6. A briefing was held for WCPO personnel by L. Jacobs (LMSC) concerning the HTP software package to be installed at Headquarters by his programming group.

7. Installation of a two-way intercom system between both SSTC's and the computer facility was completed. In connection with the intercom installation, the outside door to the computer facility will be sealed during all hours.

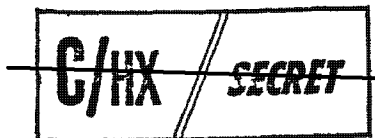
8. Failure analysis of the optical bar servo (1A1) box qual vibration failure was identified an unacceptable potting material that is being used in a number of electronic boxes. The material is being used to pot electrical filters purchased by RadInc from RFI. Perkin-Elmer has decided to retrofit the boxes with the suspect potting material. There are 10 O. B. servo (1A1) boxes, 9 platen recycle servo (2A1) boxes, 5 metering capstan servo (2A3) boxes, and 7 supply servo (6A2) boxes, a total of 48. There are boxes built which do not have the bad material for all of the above boxes. It would appear, however, that some of the boxes will have to be field retrofitted on S/N 003.

9. The RadInc Proposal for a modified servo system has been received at Perkin-Elmer. The other design improvement studies currently being pursued at Perkin-Elmer (i. e., Mechanical Super Looper,

BYE-108161-70
Page Three



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SUBJECT: Photo Reconnaissance Systems Report No. 54

Slack Box, Improved Emergency Shutdown) will affect the RadInc Proposal in that the approach to the supply and take-up servos and the sequencer is invalidated. A contract to RadInc for this study, if funded, will reflect these changes. The initial phase of the proposal is to define whether the advertised parts count reduction is a result of changing the servo concept or simply due to combining box function and power supplies. Perkin-Elmer will submit a proposal for the entire P-13 concept which incorporates the Radinc Proposal by 21 September.

10. The review of the QA Manual has been completed except for receipt of the DCASR comments which are expected next week. Significant deficiencies include lack of consideration for computer software and sensor hardware compatibility controls. Reliability responsibilities are insufficiently stressed also.

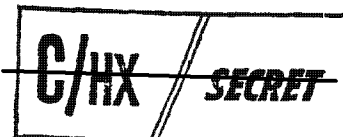
11. The AVE qualification program status is being reviewed and updated to provide the latest status (Headquarters position) prior to the FACI of S/N 003 which is now scheduled for 9 and 10 September. Inadequate SSC response to action items assigned at Qualification Certification meetings has delayed preliminary certification of the optical bar and the pneumatics. Qualification Certification meetings for the compartment electronic boxes have not yet been scheduled by SSC.

12. AC's quote for the SSTC spares is expected by P.E. next week. It will probably be about \$450 to 500K. We have approved \$250K so far on these spares to allow long lead procurement. Delivery is expected to be completed in November.

13. Availability of complete drawings and specifications for the 4RV Test Station has delayed consideration of spares procurement for that station. It is now estimated that the necessary drawings and specifications will be available by 27 August.

14. EK has agreed to design and fabricate the necessary removable gauge blocks required to make core pressure measurement on the flight stacks. It is expected and hoped that the flight units will be

BYE-108161-70
Page Four



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~~C/HX~~ // ~~SECRET~~

SUBJECT: Photo Reconnaissance Systems Report No. 54

available approximately 1 October. The current schedule indicates that the four flight rolls will be delivered 26 October, which will allow adequate time for the incorporation for the measurement of this technique.

By EK agreeing to undertake this task, we are not having to submit to P.E.'s \$35,000 proposal to do this.

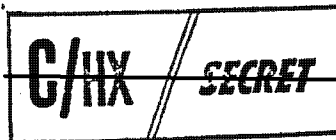
15. At the Monthly Managers' Meeting, [] pointed out that the time lines for SV-1 to launch had now changed from 17 December to 23 December based on receipt of the SV-1 midsection by 15 September. The date of 17 December can be recovered if SBA system testing and Sensor Subsystem Chamber "A-2" testing is omitted. Slippages in the SDV-III schedule caused by various failures of the Sensor Subsystem have now brought the schedule for this system to have equal criticality with SV-1 for meeting the December launch. The effect of this is to further reduce the probability of a December launch capability for HEXAGON.

16. Because of the slippages that have been occurring in the schedules being followed by the associate contractors, delivery of end items has now become inconsistent with actual need dates. It appears that considerable overtime and extra shift effort will be worked in an attempt by contractors to hold these schedules unless the Government established a revised master schedule. Such a revised master schedule should take into consideration the probable delays in first vehicle launch and also the use of CORONA vehicles for saving some cost and for early backup vehicles for HEXAGON. Perkin-Elmer has been directed to follow a delivery schedule which is no longer consistent with either the need dates of McDonnell-Douglas or Lockheed but which is considered to be consistent with the expected launch schedule based on the present status of the program. Resolution of the schedule must be made before a follow-on contract can be negotiated and should be made as quickly as possible to obtain as much cost reduction in FY 1971 as possible.

BYE-108161-70
Page Five

~~C/HX~~ // ~~SECRET~~

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SUBJECT: Photo Reconnaissance Systems Report No. 54

17. Mr. Maguire stated that the 41 man days of OTD labor authorized on the follow-on effort for August/September is inadequate to do the necessary work in support of subcontract and manufacturing labor. It was pointed out that the Project Office had requested a revision of their labor requirements based upon a change in the delivery date of the first follow-on vehicle from October to December and that P.E. had not provided the reduction that this change would make. In the absence of that information, an arbitrary figure was established by the Project Office. P.E. was informed that any change in this figure would only be made after they provided the proper justification for additional manpower.

III. Model Status

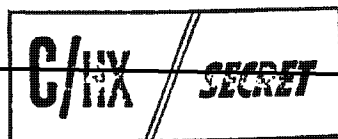
A. Development Model - SDV-III

1. The vehicle is now in the horizontal position in front of the A2 chamber. Testing has slipped four days since the last report due to problems with the supply reload. The SS horizontal baseline test is now scheduled to begin on 22 August followed by EMC. The test certification board met on 18 August to review the post acoustic data and plan for the future. As a result of the board meeting, the SVIC is proceeding with all preparations to run the A2 chamber test prior to acoustic.

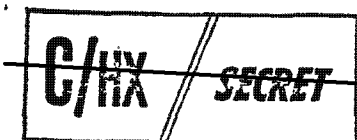
2. The problem associated with the supply load was twofold; one, a cable was inadvertently pulled which resulted in pins being pulled out of a connector; two, several pneumatics connectors apparently became loose during the acoustic test (or subsequent SV handling) and were leaking. The pins have been repaired and the Wiggins connector tightened and epoxied. WCPO suggests the Wiggins connector on future models be safely wired (similar to the ones in the TCA compartment).

BYE-108161-70

Page Six



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SUBJECT: Photo Reconnaissance Systems Report No. 54

B. SV-1 (S/N 003)

Midsection

An in-air run on Camera "A" only, was conducted on Thursday to verify that the broken platen skew angle box wire was the cause of the excessive smear. Following this run, the chamber will be pumped down and the 70° tests continued. Following the 70° tests, the 47°, and the 93° tests will be run. We are now predicting a ship date of 7 or 8 September barring any further problems.

Forward Section

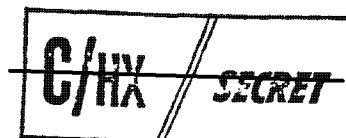
The SV-1 forward section cable installation has been completed and the forward section raised onto the SVFS dolly. One of the flight model RV's has completed structural modification and the take-up has been reinstalled. The R&I on this TU began on 20 August. A roller on one of the articulators was discovered to have a moderate nick in it and will be replaced.

C. SV-2 (S/N 002)

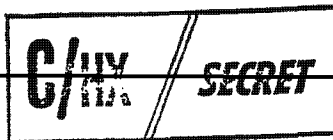
LSFS failures on both cameras have delayed TCA assembly. Perkin-Elmer feels that they have corrected the problems and are going ahead with platen test and installation into the TCA. The model has slipped nine days as a result of the above. Ready Room "A" tests are now scheduled to start on 28 August with a planned shipment on 20 October.

IV. Meetings Requiring Participation of Headquarters Personnel

<u>Date</u>	<u>Subject</u>	<u>Attendees</u>
<u>NPIC</u>		
25-26 Aug	CORONA PET	Burks, Kohler, <input type="text"/>
		BYE-108161-70
		Page Seven



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**SUBJECT: Photo Reconnaissance Systems Report No. 54**

<u>Date</u>	<u>Subject</u>	<u>Attendees</u>
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P.E.

23-29 Aug	Monitor S/N 003 Chamber "A" Acceptance Tests	Various
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24 Aug	FACI - SSTC	Burks, <input type="text"/>
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RCA

26 Aug	P-3-1 and -2 Buyoff	<input type="text"/>
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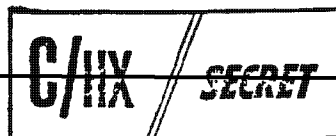
B/

TPA/PRS/OSP

Distribution:

Cy 1 - D/OSP
Cy 2 - DD/OSP
Cy 3 - D/PRS/OSP
Cy 4 - EO/OSP
Cy 5 - C/D&AD/OSP
Cy 6 - CS/OSP
Cy 7 - C/PAD/OSP
Cy 8 - C/SB/OSP
Cy 9 - C/SS/OSP
Cy 10 - RB/OSP
Cy 11 - PRS/File
Cy 12 - PRS/Chrono
Cy 13 - Mr.
Cy 14 - Mr.

BYE-108161-70
Page Eight



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