

BYE-8108-70
Copy 10 of 14
20 February 1970

MEMORANDUM FOR: Director of Special Projects

SUBJECT : Photo Reconnaissance Systems Report No. 28

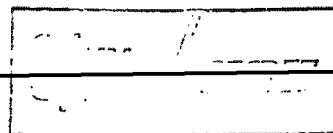
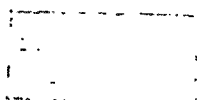
I. CORONA

A. Accomplishments

1. The PIM Meeting, convened 17-18 February at the A/P, resulted in excellent information exchange among CORONA program participants.
2. The 18 February meeting reviewed the problem of system incompatibility with UTB payloads and concluded that deletion of UTB from the CORONA Program was the best course of action.
3. The initial audit of CR-10 on 19 February indicates that the system will be ready for launch on 4 March.
4. AWA's 1, 2, 3, 4 and 6 were negotiated with the A/P on 13 February, for a total of \$797,838 including \$55,750 fee. A total of 28,985 man-hours of labor were added to the contract.

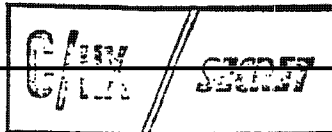
B. Problems

1. Tracking problems arising from the use of UTB film resulted in the cancellation of the CR-11 flight, scheduled for 18 February. CR-11 is being refitted for use with STB and is rescheduled for the next flight, currently scheduled for 6 May.
2. P/L tracking problems with UTB, similar to those observed in CR-11, have occurred during cycling of CR-12 and CR-13. These units will also be refitted with STB, with no impact on the current schedules.



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C. Projected Status

1. CR-10. Flight preps.
2. CR-11. Special tests/conversion to STB.
3. CR-12. Conversion to STB.
4. CR-13. Environmental preps.
5. QR-2. Subsystem testing.
6. CR-14. Receiving and inspection.

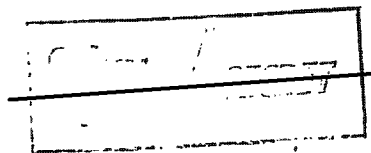
II. HEXAGON

A. General

1. Three of the four SDV-III RV/TU's have arrived at SVIC. DM-1 take-up passed R&I, but the DM-2 take-up "B" side builder roller is not operating properly. Attempts are being made to isolate the problem to either the AVE or AGE.
2. All the P.E. Aerospace-supplied cables for SSTC #3 have arrived (approximately one month late). The SVIC cables won't be complete until 20 February, and the SVIC-supplied multiplexer won't be available until 2 March, so SSTC #3, which arrived on 5 January, will not be fully checked out until 12 March.
3. The start of the forward section buildup is now scheduled to begin no later than 1 March. The SSC-supplied 4-RV Test Station is scheduled to arrive on 2 March, and the delay will cause an approximate one week slip in testing.
4. Even though the attitude reference module is still not through qual, SDV-II testing is scheduled to begin on 20 February, which is approximately one week late.

BYE-8108-70

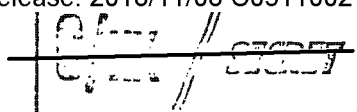
Page Two



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**SUBJECT: Photo Reconnaissance Systems Report No. 28**

5. At the 12 February 1970 meeting of the Operations Interface Working Group, the Chairman stated that the SPD has decided that GAMBIT and HEXAGON will share the same work area in the STC. When it was mentioned that this would create a problem when intelligence requirements called for both systems to be simultaneously active, the Chairman stated that SPD had already decided that HEXAGON and GAMBIT would never be deployed at the same time. This position runs contrary to precedence and places a serious restriction on the utilization of the two complementary collection systems. The Director of Reconnaissance, CIA, and the Chairman, COMIREX should be made aware of the SPD decision while there is still time to do something about it if they don't agree.

6. The Operations IFWG Chairman also reported that HEXAGON would be given priority in the STC only for its first flight. After that, priority reverts back to GAMBIT. This is not news, but it is still hard to believe. OSP tends to look upon the STC as a support center for Government agencies requiring tracking, telemetry and command control services for all satellite payloads. The STC is really a GAMBIT operations center, and sponsors of alien payloads must adapt to GAMBIT STC equipment, procedures and software policies no matter what the compromise.

7. The posting of the test program requirements status information in the Control Room is progressing satisfactorily. The dynamic nature of the test activity this week, and of the test planning to support such activity, offers evidence of the difficulty in "tracking" the test program relative to the basic test requirements. It is estimated that the Control Room matrix will be completed and ready for use within two weeks.

8. As a result of the broken shaft in shock testing on the DM-4 (qual) take-up, the following action is being taken:

A. The design was reviewed and found to be adequate.

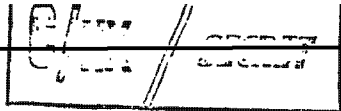
B. The test procedure and results were reviewed. The recorder saturated so that it is possible that the take-up saw higher levels than anticipated. However, this still should not have caused the damage. Also, there was no other damage to the unit. A take-up mass model is being shock tested today.



BYE-8104-70
Page Three

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C. The probable cause of the break is microcracks in the beryllium, caused by machining. All finished shafts are nickel plated so that it is not possible to verify this, other than by sectioning. Seventeen shafts have been fabricated and are ready for plating. These are being inspected today.

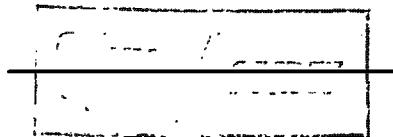
D. Pl-1 and DM-4 are proceeding with test and buildup respectively. If rework is required, one of the unplated shafts will be used so that proceeding will not cost any additional time. The present plan is that Pl-1 will be shipped before DM-4.

9. A meeting was held at Headquarters on 18 February to review with the P.E. representatives (Messrs. Mazalka, Jones, Ross, and Dolan) to determine jointly the system improvement studies that should be undertaken during the remainder of this fiscal year. The regulator study was eliminated from consideration entirely, as a result of a detailed look by Project Office personnel into the technical advantages in an area which is essentially redundant in the present design. The modified film transport study, the firm proposal for which will be delivered sometime next week, will be delayed until next fiscal year because of the desire to look first at the "super looper" approach which effects much of the common film transport areas. The increased supply/take-up proposal will not be submitted in the near future; however, a summary of the technical aspects and an ROM will be submitted by TWX to determine if any portion of this improvement study should be considered this fiscal year. An 11% increase in film capacity results in "minor supply/take-up changes", according to P.E., but the Project Office will have to assess also the impact of these changes on the RV. The areas which will be undertaken this fiscal year are as follows:

A. Inflight Changeable Filter and Material Change Detector.

A two filter approach (utilizing a Wratten 12 filter and a clear filter) will be employed, vice the three filter approach previously considered in the preliminary design stage, this approach involving placing the 2E filter on the SO-242 film itself. The ROM cost for this effort is \$162,200 for four months, including the release of detailed mechanical drawings and preliminary electrical drawings.

BYE-8108-70
Page Four



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SUBJECT: Photo Reconnaissance Report No. 28

B. Supply Caging. A statement from P.E., with regard to the technical and contractual risks involved in using the NASA Qual philosophy on a HEXAGON flight supply assembly, will be transmitted early next week, and the Project Office will determine if it is more desirable, because of cost, to perform supply caging elimination tests on the third flight unit or utilize the P.E. Phase 1A proposal (\$81,729 for tests utilizing the engineering model supply) approach.

C. Brush Motors. \$70,000 will be expended for the assessment of the mechanical and electrical changes required for a brush motor approach, plus testing on the motor commutator material which would be utilized.

D. "Super Looper". \$135,000 will be expended on this effort in FY 1970, during which time a flyable breadboard unit will be proposed as a separate (and later) study effort.

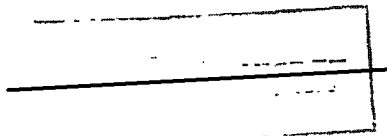
E. Improved Sequencer. Only the pauseless recycle and emergency shutdown tasks will be undertaken under this study area this fiscal year, for a cost of \$85,000. This is consistent with determining the "super looper" feasibility because of that area's impact on the other sequencer study areas.

The above efforts will be accomplished this fiscal year for \$500,000 total, with the understanding that manpower may be shifted within the tasks on the basis of Project Office monthly assessments. It is planned that this information be presented to Col. Buzard as soon as possible and that funding authorization from the DNRO be subsequently requested.

B. Development Model

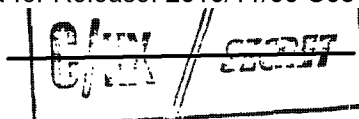
A new plan has been implemented in which the high/low temperature qual test in Chamber A will be run next. The supply has been removed to reload it with the 40% film stacks. Platen A has also been removed to repair the slit and shutter mechanism. The Project Office has recommended to P.E. that replacement of the metering capstan at the same time be considered.

BYE-8108-70
Page Five



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SUBJECT: Photo Reconnaissance Systems Report No. 28

C. Flight Article #1

1. Block II of the qual sequencer, delivered on 16 February, has failed between ship from RadInc and R&I at P.E. Block I is working. The Flight Model will be run with Block I.

2. The platens have not been through acceptance vibration. Platen A is scheduled to go into vibration on 20 February. Platen B will be pulled from the TCA, reworked and acceptance tested when Platen A has completed its testing. The platen motors on both platens are being changed from MTI to OTD motors, because of the epoxy problems.

3. A supply encoder problem exists such that one of the encoders on the supply is not useable. A replacement encoder will not be available until 5 March. As a result, the supply is pressing the TCA as the Flight 1 critical path.

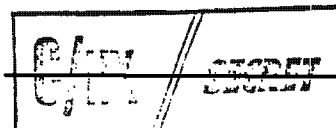
III. Administrative

Meetings Requiring Participation of Headquarters Personnel

<u>Date</u>	<u>Subject</u>	<u>Attendees</u>
<u>PERKIN-ELMER</u>		
24-25 Feb	Software Applications Program Meeting	[redacted] Brown, Burks, [redacted]
25 Feb (PM)	SSPO Managers' Meeting	Patterson, [redacted] [redacted]
26 Feb	Monthly Technical Review	Staff
<u>SAMSO</u>		
25 Feb	R-7 Meeting	[redacted]

BYE-8108-70
Page Six

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**SUBJECT: Photo Reconnaissance Systems Report No. 28**

<u>Date</u>	<u>Subject</u>	<u>Attendees</u>
<u>HEADQUARTERS</u>		
24 Feb	Naka Briefing on UTB Impact on "C" and "H"	Crowley, McMahon, Patterson, <input type="text"/>
24 Feb	V/h Sensor Briefing by Bolsey Associates	NASA, NRO, NPIC, ORD, Staff
25 Feb (AM)	SETS Status Review	Staff
<u>RCA</u>		
28 Feb	DM-4 Buy-off	<input type="text"/>
<u>TRAINING</u>		
24 Feb - 6 March	Introduction to Intelligence	<input type="text"/>

PMO/PRS/OSP

Distribution:

Cy 1 - D/OSP
Cy 2 - DD/OSP
Cy 3 - D/PRS/OSP
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Cy 5 - C/D&AD/OSP
Cy 6 - CB/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-8108-70
Page Seven

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