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HEX-10560-69
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17 October 1969

MEMORANDUM FOR: Director of Special Projects

SUBJECT: Photo Reconnaissance Systems Report No. 10

I. CORONA

A. Accomplishments

1. SAFSP held a Space Ground Link Equipment (SGLE) status meeting for interested personnel. Attendance included SCF personnel and their contractors. [redacted] represented the WCPO.

2. Itek proposed a computer technique to analyze resolution data prior to finalizing lens focus. CR-10 and subsequent systems will utilize this method. A study will be conducted to determine the advantages of optimizing camera focus with known smear values. This study will compare mission results and pre-flight smear data.

3. CR-9. The system is undergoing pre-flight vibration with levels slightly higher than normal acceptance.

B. Projected Status

1. CR-8. Return to Itek for refurbishment.

2. CR-9. Complete shake. November launch.

3. CR-10. HIVOS.

4. CR-11. System Tests.

5. CR-12. Acceptance Tests.

6. CR-13. Mods being accepted.

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II. HEXAGON

A. General

1. SDV-1 testing at SBAC is scheduled to begin on 20 October 1969. It is felt that this is an optimistic schedule and a more realistic start date is 23 October. Minor problems are being encountered in the checkout of the Electrical Simulator; however, the Simulator should be ready by the start of testing. In the event the Simulator is not ready, SBAC has formulated a test procedure which will allow testing to commence without the Electrical Simulator for the first three to five days of the test.

2. Review of the SSC Development Model Test Plan (Rev B) has been completed and Headquarters' comments will be forwarded to SSC next week. Review of the Qualification Test Program is continuing and completion is expected 24 October. SSC has requested that the Qualification Test Program (PM-1188X) be used as the Qualification Test Requirements in the revised Performance Specification. Consideration is being given to that idea but it is obvious that PM-1188X cannot be a direct substitution.

3. An informal review of SSC test planning activity indicates progress in the area of test planning for evaluation. A Ground Performance Evaluation Plan was published 20 March 1969. This plan established general criteria, organizational relationships, and data flow for test activity related to evaluating the SS performance at SSC. Subsequent effort has been devoted to deriving Ground Test Performance Evaluation Requirements. This document, being developed by the System Engineering group, is in final review, and will soon be published. The requirements document is the most comprehensive effort of its type noted at SSC. It will cover the photo optical as well as the electromechanical aspects. The document encompasses basic test requirements, instrumentation and measurement requirements, including accuracies, computer software requirements, SS operational constraints, AVE instrumentation verification, display requirements, and analysis considerations. Some of these requirements reflect the incorporation of experimental design and variance of parameter concepts. There are strong indications that the document will correct for many of the deficiencies in the Master and Development Model Test Plans. The document was not

completely reviewed; however, it displays the best system approach to planning for test and evaluation observed at SSC to date. A similar effort to establish a "Flight Test Performance Evaluation Requirements" document has been initiated.

4. As a result of the recent negotiations placing the final (and fiscal) responsibility of spares on the Contractor, P.E. is now going through a complete review of the program spares requirements. P.E. has requested a meeting on 23 October to discuss this with the Project Office. This review bears out what the Project Office has been suspecting; that is, that the spares lists which were submitted to us were not fully supported by a firm plan.

5. There is now a total of four groups on the HEXAGON Program building take-up test equipment. RCA is building test equipment for use at RCA and at McDonnell. Lockheed (Reipe) has built test equipment to run the Engineering Model #1 take-up and take-up simulators at P.E. One group at P.E. is building an electronics console to run the flight take-ups at SVIC as part of the forward section buildup. Aerotherm's group at P.E. is building yet another console to run the Engineering Model #2 take-up as part of the midsection assembly receiving inspection at SVIC. P.E. states that this is the cheapest and most timely way to proceed. All of the equipment has been committed, purchased, and/or delivered, so it is too late to have a significant impact on the procurement.

6. A meeting of the Orbit Operations Policy Subgroup (OOPS) was held at SAMSO on 16 October 1969. No new policy items of significance to the sensor system were generated. At SSPO insistence, the proviso for the capability to generate and load a command message every revolution on which there is an acquisition has been reinstated, albeit in watered-down condition. SPO would not make it a firm requirement, consenting only to state that such a capability was "desirable". SSPO representative noted that SSPO would assume that the use of the word "desire" was in the traditional military sense meaning that a commander's desire is the same as an order. It was further elicited that no decision to degrade the already weasel-worded policy would be made without giving SSPO a chance to debate. As difficulties arise in the development of the operational software, the requirement to generate and load every rev will come under increasingly vigorous attack.

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7. The SPO chairman of OOPS asked if SSPO could give a payload familiarization course for selected STC and Field Test Force Director personnel. SSPO representative answered affirmatively. Mr. [redacted] (West Coast Project Office) will be given the task of sponsoring this course using P.E. personnel.

8. Acceptance test procedures for TUTS #2 incorporating both requirements of compatibility and self test have been completed. The self test is to start at the vendor on 21 October and run through 23 October. Because no takeup is available during this period, the required compatibility test of the TUTS is impossible. Acceptance testing of DM #1 takeup per the acceptance test procedures, which are approximately 90 per cent complete, will start 27 October and run through 15 November. The current SSC work statement with the vendor states that it is the buyer's responsibility to make available a TU for acceptance test purposes of the TUTS. The Project Office is reviewing several courses of action open for completing TUTS acceptance testing, including: (1) ship the TUTS to MWC at the completion of the test portion of the Acceptance Test Procedures (ATP) and completing compatibility testing with Engineering Model #3 at MWC; or, (2) holding the TUTS at the vendor for compatibility testing with Development Model #1. The latter possible course of action would, to a large part, satisfy a potentially big problem, thus putting the establishment of a baseline to correlate acceptance test data of three separate pieces of equipment as follows: (1) MTS of each takeup at the vendor; (2) TUTS at MWC; (3) 4 RV test station at SBAC.

9. Eastman-Kodak management met on 17 October and agreed to fund the necessary facility changeovers to allow film production in equilibrium with RH as low as 30 per cent. The changeover is expected to take from six to eight months.

B. Engineering Model

The Ready Room "A" tests of the Engineering Model have been extended by the type of problems which were to be expected. Examples are: looper re-cycle, platen re-cycle, shutter operation, film exit vestibule seal separation, and film folds. These problems have been eliminated as they arose, and the present plan is to complete the high V/h runs and remove the model from the Ready Room today. Because of the continual slippage, P.E. is considering modifications to the Chamber A test plan.

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C. Development Model

The Development Model is in a day-for-day slip and has been since Monday. The film drive servo oscillates, and there is a problem with the supply servo. P.E. has not yet implemented the five day schedule improvement program, and, pending this implementation, we are now estimating +5 days as of 16 October on the delivery date.

D. Flight Model #1

P.E. reports that late delivery of the platens, looper, O.B. and film drive can be compensated for by the time the Chamber A tests are scheduled by modification of the system assembly flow. Options have been identified to compensate for further slippage prior to system testing by reorganizing the system test sequence.

III. Administrative

A. Meetings Requiring Participation by Headquarters Personnel

Date	Subject	Attendees
PERKIN-ELMER		
21 Oct (P.M.)	SSPO Managers Meeting	Patterson, [redacted]
22 Oct	Monthly Technical Meeting	Staff
22 Oct	SS Flight Test Objectives for Flight Model #1	Webb
23 Oct	Spares Provisioning Discussions	[redacted]
29 Oct	4 RV Test Station and TU Sim. Final Design Review	Burke

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Date	Subject	Attendees
RCA		
21 Oct	Management Review	[redacted]
EASTMAN-KODAK		
28 Oct	Supply Core Pressure Meeting	[redacted]
WRIGHT-PATTERSON AIR FORCE BASE		
30 Oct	Film Test Program Review	[redacted]
ITEK		
23 Oct	Level of Effort and Visual Edge Match Contract Review	Kohler
DIA		
27 Oct	Color Taks Force Meeting	Kohler
HORIZONS (Cleveland)		
24 Oct	Horizons Contract Review	Kohler
NPIC		
28-29 Oct	Mission 1052 PET	Kohler, [redacted] Burks [redacted]
SAMSO		
30-31 Oct	EMC Control Board	[redacted]
LMSC		
21 Oct	HEXAGON R-DAY Countdown Working Group	[redacted]

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Date	Subject	Attendees
AP, 156, STC		
22 Oct	DeSilva Briefing	Burks, [redacted]
23 Oct	ICRS Briefing	Burks, [redacted]
29 Oct	General Cushman Briefing	[redacted]
HEADQUARTERS		
20 Oct	SETS Management Review	Patterson, [redacted]
21 Oct	SETS Program Review	Staff
21 Oct	SO-242 Conference	Kohler
23 Oct	On-Board Computer Briefing	[redacted]
23 Oct	CR-9 and up Payload Mods Summary	Patterson, [redacted]
23-24 Oct	SETS Software Review	Burks
29 Oct	Schedule Review	Staff

[redacted]
PMO/PRS/OSP

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DDS&T/OSP/PRS/[redacted]/X5725 (17 October 1969)
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