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9 October 1964

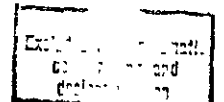
MEMORANDUM FOR: Chief, Special Projects Staff

SUBJECT: Weekly Status Report No. 3  
on Project FULCRUM1. Camera System

a. ITEK - Messrs. Crowley and [ ] discussed technical progress with FULCRUM personnel at ITEK on 9 October. Task flow charts for the optical bar camera system design (Task 1.2), optical design and fabrication (Task 3), and the camera system analysis (Task 5) were presented with detailed timing data to be added shortly. The revised work statement was reviewed with minor changes to the "deliverables" list resulting. Each of the itemized milestones within each of the six tasks was discussed. ITEK quoted a 16-month development time for a new 120° S/I camera, and it was concluded that this decision could be put off until Phase II begins. [ ] is investigating cutter sealer and clock aspects to supply to ITEK.

Most critical in these discussions were the long lead items for Phase II launchings. With a 1 September 1966 due date for the completion of the qualification test of the entire camera system and the concurrent delivery of the first flight camera system (thus allowing only two months for integration with the SC and RV), the following milestones are of significance:

- (1) 15 Nov 64 -- Go-ahead on new optical facilities  
Go-ahead on new assembly and  
test facilities

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**SUBJECT: Weekly Status Report No. 3 on Project FULCRUM**

- (2) 1 Dec 64 -- Order glass (10 unit for about \$250,000) [See Attachment 1]
- (3) 15 Dec 64 -- Go-ahead on new environmental laboratory  
Go-ahead on lab equipment  
(chambers, shakers, etc.)
- (4) 1 Jan 65 -- Order 30" drapers for optical fabrication

It should be noted that under this highly compressed scheduling the following times from start to completion are used:

- (1) Ordering glass - 4 months
- (2) Fabrication and test of optical elements - 3 months
- (3) Assemble and test optical system - 2 months
- (4) Qualification of camera system - 3 months
- (5) Optical facilities construction - 7 months

b. P.E. - A shift of funds within the total FULCRUM budget was authorized by Mr. McCone to allocate about \$400,000 to P.E. at the expense of the Phase I work on primarily the SC and RV competition winners. At the next scheduled meeting at P.E. on 19 October, the final optical configuration will be selected for further Phase I study. P.E. submitted some technical questions which are in the process of being answered.

c. STL - The revised work statement and cost estimate reflecting the intermittent film transport

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redirection have not been received. Facilities will be visited by SPS personnel on 16 October.

2. Spacecraft

Questions submitted by STL are in the process of being answered. The response date to the 6-weeks funded study remains 22 October.

3. Recovery Systems

Written responses to the GE and AVCO questions were transmitted on 7 October. Their response date is 2 November.

4. Systems Engineering

The work statement submitted by STL was revised to reflect a broader mission during Phase I. Launch complex and booster specs are due 16 November. STL facilities will be visited by SPS personnel on 16 October.

5. Interface Aspects

The initial qualification of the Phase II SC/RV/ Camera combination is currently being discussed.

Distribution:

- Cy 1 - Orig. - Addressee
- 2 - Crowley
- 3 -  (File)
- 4 - SPS Chrono
- 5 - Routing (McMahon, Dirks, Scott)
- 6 - Chrono -3-
- 768 - DDS&T Registry

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Attachment 1

<u>Element</u>	<u>Final Diameter</u>	<u>Manufacturer</u>	<u>Unit Cost</u>	<u>Cost of 10 Units</u>	<u>Delivery Date of 10 Units (from order date)</u>
1. Primary	26"	Corning	\$ 12,645	\$126,450	16 weeks
2. Folding	26" (?)	Brush	10,500	105,000	8-9 weeks
3. Corrector (BK-7 Aspheric) (1" thick)	20" (?)	Schott-Genossen	713	7,130	18-24 weeks
		Ohara	490	4,900	20 weeks
4. Field Flattener Sets	10"	?	3,000	30,000	?
<u>Maximum Values</u>				\$268,580	6 months

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