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DEPARTMENT OF THE AIR FORCE
MANNED ORBITING LABORATORY, SYSTEMS PROGRAM OFFICE (OSAF)
AF UNIT POST OFFICE, LOS ANGELES, CALIFORNIA 90045



5 AUG 1968

MEMORANDUM FOR GENERAL STEWART

SUBJECT: MOL Monthly Management Report, 25 June - 25 July 1968

Attached is the monthly report of significant events, 25 June -
25 July 1968.

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Report

J. S. Byemaier
J. S. BYEMAIER, Maj Gen, USAF
Deputy Director, MOL

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MOL Monthly Progress Report
25 June - 25 July 1968

*camera optical
assembly barrel
/ appendages
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Technical Progress

1. The EKC factory progress consists of assembly of the second structural development model, the thermal model, the engineering model, the optical assembly test and the formula sample. The first structural development model which was previously subjected to a modal survey test is undergoing a structural inspection and reassembly prior to the start of other testing.

2. A significant advance in the production of CER-VIT mirror blanks was attained by Owens-Illinois when they produced a crack-free machined 72 inch dia X 10 inch thick flight weight blank. An inspection of this blank by SAFSL and SAFSP personnel on 23 July 68 left no question about the superiority of the machining fabrication process over the former process which utilized the press-cast method. The decision to use either CER-VIT or ULE materials for the tracking mirror will be contingent on the subjection of the machined CER-VIT blank to the same grinding and polishing cycle used on the welded ULE blank. Owens-Illinois is expected to ship the blank to EKC approximately 1 August.

3. Data Computation Subsystem Group. The engineering prototype computer and its associated peripheral equipment has been delivered to GE ahead of the schedule DIL date. The equipment is being installed and checked out by IBM personnel. An IBM resident software specialist will remain at GE to assist in the operation of the equipment. The briefing leading to the decision to provide an additional 8K of memory in the computer was given to DAC. Several alternate proposals were discussed but adding the additional memory still appears to be the best approach. A CAR is in process to implement this change.

4. A meeting was held with DAC on 8 July on the Subscale ACTS/Prop Thrustor Plume Impingement Test being conducted at AEDC. The test program is approximately 6 weeks behind schedule due to numerous delays caused by failures in the propellant fuel system. Tests completed thus far are the plume mapping test and the thermal and pressure panel tests. The final phase of the test program contamination tests, commenced 1 July and, assuming no further delays, should be completed by 23 August. The follow-on contamination tests to be conducted for GE are running into scheduling difficulties since the 8V chamber is scheduled to be closed on 27 September. A meeting will be held in early August to review the entire test program to determine if the GE tests can be combined with the DAC program or reduced in scope to meet the 27 September deadline.

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5. The wind tunnel tests of the nose shape of the Flights 6 and 7 backup configuration conducted at NASA Ames in the 2x2 tunnel by DAC were completed successfully. The data obtained, in general, verifies the analytical estimates made by DAC on static force and pressure. A force model and a pressure model were tested and all objectives were met. The data obtained will allow DAC to proceed with their designs and to obtain solutions to several design problems in a timely fashion.
6. Two tests of the liquid rocket engine demonstration engine SN 14 were completed. One test was a full duration peripheral and POGO evaluation test. The second was a peripheral adjustment test. Both tests were successful.
7. On 27 June Bioastronautics personnel attended a DAC-PDR at Garrett/Airesearch, Torrance Research Facility, on the MOL Catalytic Burner. This burner is being designed for the control of cabin atmosphere contaminants, notably methane, carbon monoxide and hydrocarbons. Engineering mockup test results of the prototype design showed performance efficiency well above specification design requirements. This design margin may permit important design tradeoffs between volume, weight, and power utilization in the final burner configuration.
8. The Critical Design Review for Package 2 of the MOL Support Facilities was held on 2 July 1968. Facilities in this package include the Propulsion Support Facility, the Pyrotechnic Test Cell and Storage Areas and the Gemini-B Test Cell. The completed design is scheduled for delivery by 1 August 1968.
9. Construction of the Mobile Service Tower was initiated early in July with the first delivery of prefabricated girders to the site.

Program Management

1. The integrated MOL Program Schedule Conference was held at McDonnell Douglas Astronautics Corporation in Huntington Beach 15 through 19 July 1968. The objective of the meeting was to adjust the MOL Program Schedule to the FY 69 reduced funding program. The contractors were also given specific guidance on various technical and schedule parameters which they were to incorporate into the program. Splinter groups were established to work specific detailed problems. On Friday, 19 July, an FY 69 "gross fit schedule" was tentatively agreed upon and a "hard point list", i.e., dates for the exchange of major hardware and software components, was prepared.

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A Program Managers Meeting convened at Valley Forge on 25 July to confirm the FY 69 schedule. All associate contractors agreed that the schedule was realistic and could be supported within the FY 69 dollar constraints.

Detailed hardware and software exchange points have yet to be resolved. These dates will be worked out in a Schedule Interface Log (SIL) meeting tentatively planned for 13-16 August. This will allow time for the associates to complete the necessary detailed preparations necessary for a fruitful meeting.

The launch dates which resulted from the scheduling activities are as follows:

Flight 1	15 Dec 70
Flight 2	9 July 71
Flight 3	15 Dec 71
Flight 4	17 May 72
Flight 5	18 Oct 72
Flight 6	14 Mar 73
Flight 7	15 Aug 73

2. On 29 June, damage occurred to the Mission Module Forward Section (dynamic test structure) during shipment from DAC, Huntington Beach, to GE/Valley Forge. The structure will be returned to Huntington Beach for repair. Preliminary arrangements for the return have been initiated, however, final arrangements are being held in abeyance. Corrective actions are presently being reviewed by the SO representative at GE.

3. Mr. Nevin Palley of DDR&E accompanied by Mr. Howard Barfield and Col Battle visited the Systems Office on 22 July. Discussions were primarily concerned with MOL growth studies and advanced planning. Mr. Palley seemed very interested in developing a number of study activities in support of follow-on MOL.

4. The T-IIID decision to delete Computerized Aerospace Ground Equipment (CAGE) from their program creates an impact on MOL because of the loss of sharing in the area of Martin Marietta Corporation engineering support. MMC has recently submitted a proposal for \$706,791 to replace the shared labor cancelled by T-IIID. This proposal must now be considered for approval and subsequently negotiated.

5. Phase II negotiations with UTC have been conducted throughout this reporting period. The cost differential between the AF and UTC positions has decreased considerably from the initial value to approximately 4.6 million dollars. Negotiations are expected to continue until a satisfactory agreement is reached.

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6. A schedule has been established for placing TRW on contract for the Ascent and Reentry Ground Software. Fact finding has been completed. The remaining significant dates are:

Start Negotiations	19 Aug 1968
End Negotiations	30 Aug 1968
On Contract	1 Oct 1968

7. GE/Philadelphia is preparing the statement of changes and an ROM for adding [REDACTED] to the GE AVE software and simulator contracts. Test Operations representatives reviewed a preliminary version on 15 July in Philadelphia. Mr. E. Slanker and R. Noils visited the Systems Office on 22 July to discuss the final version as proposed by GE. Plans are to board the CAR and have contractor authority to proceed by 1 Aug 1968.

8. A MOL System Safety Review to be held in the Los Angeles area has been tentatively scheduled for October 1968. Present planning is to have contractor participation with attendance from the IG, NASA, and other concerned individuals. This review is intended to serve as a higher level audit of our safety program.

9. During the week of 19 July 1968, the Systems Office held discussions with SP-6 on a funded study task for EK to analyze improvements to Dorian optics for follow-on MOL missions. SP-6 will provide contractual management and MOL Advanced Plans will monitor technical effort. The effort will be completed with a final report submission in November 1968.

10. A complete review was made of the GE and DAC CDRLs on all MOL contracts and necessary revisions were made as required. The purpose was to bring all CDRLs under one structure as called for by AFSCM 310-1. The accomplishment of this administrative action has no contract impact but will put the CDRL in a "ready" position for any contractual changes generated by the completion of Project Upgrade.

11. The MOL CCB processed 54 ECPs; 23 were approved, 3 were disapproved and 28 were deferred for further evaluation. Contractor-estimated costs of the major cost-bearing ECPs approved by CCB action totalled \$1,978,000.

12. The T-IIIM CCB processed 59 ECPs; 28 were approved; one was disapproved and 30 were deferred for further evaluation. The contractor-estimated costs of the major cost-bearing ECPs approved by CCB action totalled \$104,000.

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13. Twenty-nine Contractual Action Requests (CAR's) were processed during this period; 23 were approved and 6 were deferred for further evaluation. The major cost-bearing CARs approved totalled approximately \$73,000 credit.

14. The financial statement for this reporting period is as follows:

Of the 120.0M FY 69 funds released to the Systems Office, 119.2M has been initiated.

15. MOL Manpower Status:

	<u>Authorized</u>	<u>Assigned</u>
*Officers	176	153
Airmen	9	7
Civilians	106	99
High Grades	(35)	(31)
Clerical	<u>(71)</u>	<u>(68)</u>
	291	259

*MOL flight crew included. Six attached officers (3 Navy, 1 Marine flight crew, 1 SAC and 1 MAC are not included).

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