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



SAFSL-4

22 MAY 1968

~~MEMORANDUM FOR GENERAL STEWART~~

SUBJECT: MOL Monthly Management Report, 25 March-25 April 1968

Attached is the monthly report of significant events,  
25 March - 25 April 1968.

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Report

*J. S. Blymaier*  
J. S. BLEYMAIER, Maj Gen, USAF  
Deputy Director, MOL

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MONTHLY REPORT  
OF SIGNIFICANT EVENTS  
25 MARCH - 25 APRIL 1968

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1. Project Upgrade Progress:

a. As part of Project Upgrade, an intensive effort was exerted to establish an integrated technical baseline. This baseline is reflected primarily in the System Performance and Design Requirements (SP/DR) document and in lower tier supporting plans, requirements documents and SAFSL Exhibits. A week long meeting of contractor program managers and the SPO was conducted at DAC, Huntington Beach, 22-26 April to achieve a mutually acceptable understanding of the requirements defined in the documents.

The exchange of view points and in depth discussions of varying interpretations of requirements was a worthwhile and necessary first step toward achieving our goal of technical integrity and mutual understanding. The follow-up review is scheduled for the week of 20 May to resolve areas still outstanding, and thereby achieve a major objective of Project Upgrade.

b. Five interface Technical Signoff Meetings (TSCMs) were held this month resulting in signoff of 12 basic documents and removal of numerous TBDs and TBAs from ICNs. The TSCMs have been geared to define and document interface agreements at a level consistent with contractor scoping of the interface program by 1 June.

2. On 1 April 1968, Mr. William Newman and Mr. Harold Rubin of the General Accounting Office and Mr. Arthur Hanby of DCAA received a series of presentations on the MOL Program at the DORIAN level. A short review of MOL program objectives, basic management structure, contractor structure, and the baseline vehicle configuration served to introduce more comprehensive discussions on specific elements of the program led by Maj Gen Bleymaier. Emphasis was placed on the procurement and business management aspects of the program, and on the controls and techniques used by all echelons of government management to obtain program visibility, to surface problems, and to resolve important issues. Mr. Alan Donovan of the Aerospace Corporation supported these discussions with a presentation on the role of Aerospace, placing particular emphasis on the Aerospace involvement as the GSE/TD contractor for MOL. Presentations by Douglas MSSD were conducted on the following day, at Huntington Beach, California. These discussions were oriented toward the detailed management techniques utilized by a typical MOL associate contractor in conducting his portion of the program. It was apparent that the visitors considered the two days of discussion extremely helpful. They offered complimentary comment to the effect that they had not been aware of how simple, yet how exceptionally effective, the Air Force's management techniques appeared to be in the conduct of MOL.

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3. On 25 April 1968, the Systems Office participated in a Joint NASA/DOD Manned Space Flight Subsystem Symposium in Washington D.C. The meeting was "in-house" in the respect that hardware contractors were not present. The majority of material presented was unclassified and oriented to the detail level of critical MOL subsystems. Mission aspects and mission requirements were neither involved nor discussed during the symposium.
4. Dr. D. S. Lewis, President of the McDonnell Douglas Corporation, in reply to a request by Maj Gen Bleymaier, has reviewed the tasks to be performed by McDonnell Astronautics and Douglas MSSD in MOL Launch and Flight Operations, and has concluded that this effort should be covered by a single contract. The Systems Office is now conducting discussions with appropriate McDonnell-Douglas representatives to this end.
5. During the month of April a number of technical conferences were held with the MOL Associate Contractors and the Aerospace Corporation to analyze, in depth, the recommendations of the Test Objectives Review Board (TORB). The technical requirements and associated cost and schedule impacts were evaluated by the appropriate segment contractors, and the results presented to the MOL SPO. Although the recommendations were not all deemed practical or feasible within the present funding allocations, a number are considered valid and will be duly implemented.
6. The Static Loads Structure (SLS) Camera Optics Assembly (COA) structure was ready for test on 2 April 1968. This structure is to be subjected to a load capability test at Douglas Aircraft Company. The test will begin about 9 May after instrumentation is installed at Douglas.
7. The Ross Corrector and upper optical assembly structure for Structural Development Model #2 was completed on 9 April 1968. This assembly fits on the forward part of the optical path and contains the Ross Corrector lenses.
8. Owens-Illinois successfully manufactured a 23" diameter Cer Vit Light-weight Blank using drilling and coring technique rather than the pressed process. They are presently proceeding on a 72" Tracking Mirror blank on which the drilling and coring technique will also be used.
9. Corning delivered a 72" welded ULE flat which is being ground and polished at EK. Structural tests have been completed and passed on this blank.
10. The Statement of Work was received from EK on 15 April for the deferred effort including the Mission Payload Segment (MPS) assembly and test at the Mission Module level at Rochester. Also included were all other items of program content which were defined as of the current 8 December 1967 Baseline.

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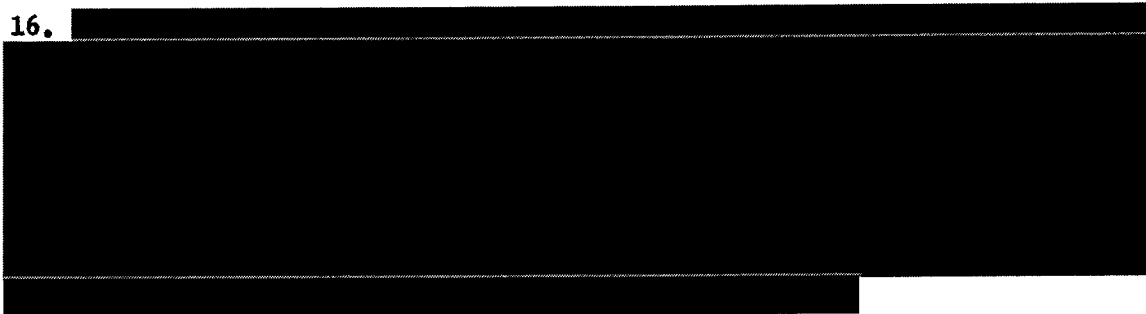
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11. A Laboratory Module Unpressurized Section (short section) with handling and transportation AGE was accepted by the Air Force on 28 March 1968. A CCN has been issued to DAC to retrofit it for Blast Shield Accommodation prior to shipping it to McDonnell on 3 June 1968.
12. The test sequence has been completed on all three Image Velocity Sensors (IVS) in the GE test program. GE met with each of the vendors during the month of April to show them preliminary test results and to receive comments from all on the test methods. GE has been requested to brief the PRC on the status of the IVS progress.
13. GE is currently evaluating proposals received from Honeywell and Bell for procurement of the Low G Accelerometer. GE is expected to make a source selection 10 May 1968 with a briefing to the Program Office about one week later.
14. GE has indicated that a report documenting their requirement for removal of the DAC exterior structural MM door at the launch site will be available during early May 1968. This is to facilitate maintenance access to AVE components. GE has agreed to provide the MOL SPO with an overall impact of this requirement on associate contractors. The SPO anticipates that there will be significant impacts on all FV contractors if the GE requirement is justified.
15. The Systems Office has reviewed alignment requirements for the Mission Module. With the present alignment techniques that GE is advocating, some major changes will have to be made in the EK facilities. To preclude this, GE is being requested to re-investigate the possibility of using an alignment fixture that would fasten on the top of the Mission Module. This would conserve space as well as delete the necessity for seismic isolation and very tight temperature controls.
16. 

17. A Gemini B Technical Management Meeting was held at McDonnell Astronautics Co. on 5 April 1968. An overall review was conducted to evaluate the status of the following: (1) Action Items, (2) Interface documentation, (3) Weights, (4) Electrical Power, (5) Reliability and

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(6) Equipment Qualification. Reports were then presented from the following technical working groups: (1) Mechanical Systems, (2) Avionics and (3) Dual Gas Design Review. Based on these reports the SPO personnel made the following decisions: (1) Based on MAC's Aero Tech Note #64 the main parachute system has an acceptable (1.5) margin of safety. (2) The Dual Gas Design review is considered complete pending the completion of all action items. (3) SPO restated that ECS component orbital storage should be conducted to the 33 day requirement rather than the 14 day deviation requested by MAC.

18. The Mission Enhancement effort to provide a detailed response to Gen Stewart's questions concerning [REDACTED]

[REDACTED] for April 1967. The data was available on 26 April. This data will be forwarded to GE/Philadelphia for subsequent computer analysis which considers further vehicle/physical constraints. GE data availability is estimated for 6 May; response to Gen Stewart by 8 May.

19. The detailed requirements specification for the Mission Planning and Mission Correlation Data (MCD) software packages were submitted by TRW to the SPO for approval on 15 April. These documents are currently under review with a SPO/contractor review scheduled for 13 May.

20. A meeting with the SCF, Test Operations, Aerospace, and TRW was held to discuss the incompatibilities between Advanced Data System (ADS) design and TRW's Ascent and Reentry Software. The SCF plans to issue a Technical Directive to Lockheed/Mallonics to resolve these incompatibilities. General agreement was reached in all areas except the manner in which the switchover from the primary to the secondary CDC 3800 is to be handled. Test Operations agreed to establish the MOL position on 3800 switchover by 3 May.

21. DD Form 1391, Military Construction Line Item Data, pertaining to VAFB facilities necessary to adequately support a recovery force to effect crew, spacecraft, and data retrieval in the event of a pad or ascent abort, has been disapproved. This FY 70 requirement was submitted by the AFWTR and carried a MOL program element number. It has been determined that the required facilities should be provided by the host at VAFB and, as such, the DD Form 1391 should reflect a SAC element number. The AFWTR has been apprised of this matter with a further request to take whatever action is necessary with SAC so that recovery facilities are provided and available by need dates.

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22. Correspondence was forwarded to the Air Training Command (ATC) requesting detailed technical data and to specify training requirements for the 6595th ATW and the Powered Flight Controllers. These requirements must be identified by ATC prior to 1 May 1968 so that they can be reflected in the MAC, DAC and MMC Statement of Work.
23. Sample Pressure Suit Assembly (PSA) suits B1 and B2 were received on 2 April 1968 by SAFSL-10. This brings the total to three sample suits that have been delivered by Hamilton Standard. Present planning is to furnish the previously received Sample Suit A to Douglas and Sample Suit B1 to McDonnell as required for their GFE Testing and for system development work. Sample Suit B2 will remain in SL-10 for the present for crew indoctrination, developmental simulations in Zero-G aircraft, and augmentation of developmental testing in contractor plants. The mobility achieved in these sample suits has been even better than in the prototype upon which suit selection was based. Other features, such as reproducibility and donning characteristics have been above expectations.
24. A draft Statement of Work (SOW) for the crew transfer van was completed and is now being reviewed by the SPO for comments and recommendations.
25. As previously reported, a MOL Feeding System Assembly (FSA) 30-day feeding test was recently completed in the altitude chambers at the USAF School of Aerospace Medicine/AMD, Brooks AFB, Texas. Test results showed minor weight loss in 3 of the 4 test subjects. This loss may be attributed to a loss in body water and not a tissue loss. Food acceptance by the subjects was excellent. Preliminary analysis of other test objectives indicate satisfactory performance. The next test will substitute improved food items and evaluate new packaging concepts which are being made to reduce weight and volume as well as improve preparation techniques. This second of four programmed chamber feeding trials is scheduled for August 1968. The remaining two feeding trials are scheduled for early and middle 1969.
26. New completion dates were established for Package 2 of the SLC-6 Launch Complex. The Mobile Service Tower (MST), Umbilical Tower (UT), pad and flame bucket are now scheduled for completion on 15 November 1968. This new date will permit erection of the MST in the forward position using the UT at a considerable cost reduction. The AGE Building, Air Conditioning Shelter, fan houses, and essential power are scheduled for completion on 1 July 1968. All other elements of Package 2 will be completed on 15 June 1968.
27. NASA is having AVCO do a user "integration" study to incorporate several users integration criteria into their development efforts on the isotope Brayton cycle electrical power conversion system. They have agreed to consider the MOL one-year duration concept as a candidate vehicle for this system. On request from NASA, the Advanced Planning Office provided them a package of Confidential data on certain MOL follow-on program concepts. AVCO will prepare a final report this summer presenting their plan to integrate the Brayton cycle into our mission.

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28. Advanced Planning representatives attended a SAMSO briefing in which TRW and General Electric discussed the results on their Satellite Control Satellite study. This system could provide real time continuous wide-band communications and 0.1 mile accuracy in tracking in the 1972-75 time period. After the briefing, representatives from G.E. gave a brief general discussion of how MOL might utilize this system and how they might incorporate MOL into the program. We are very interested in this SCS effort due to its application to increased mission capability for the follow-on program. The G.E. briefing was very preliminary but indicated they are considering MOL as a customer.

29. An informal discussion of NASA/MOL hardware for the Apollo Applications Program (AAP) was held with Mr. John Disher, Deputy for AAP. This discussion revealed no significant change in NASA's attitude on MOL hardware; i.e., little interest.

30. The duplication of effort between the Schedule Interface Log (SIL) and the Hardware Exchange List (HEL) has been eliminated. The total operation of the SIL has been assigned to the Directorate of Procurement and Production and the HEL has, in effect, been incorporated into the SIL.

31. The MOL CCB processed 27 ECPs; 11 were approved; 3 were disapproved and 13 were deferred for further evaluation. The major cost bearing ECPs approved by CCB action totalled approximately \$343,000 based upon non-negotiated contractor estimates.

32. The T-IIIM CCB processed 68 ECPs; 20 were approved; 2 were disapproved and 46 were deferred for further evaluation. The major cost bearing ECPs approved by CCB action totalled approximately \$1,430,000 based upon non-negotiated estimates. One ECP, AGC 60050, TCA Exit Closures, accounts for this cost.

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

Of the 430.0 million FY 68 funds released to the Systems Office, 423.8 million has been initiated.

34. MOL Manpower Status:

	<u>AUTHORIZED</u>	<u>ASSIGNED</u>
*OFFICERS	136	153
AIRMEN	9	8
CIVILIANS	102	97
HIGH GRADES	(34)	(31)
CLERICAL	(68)	(66)
	<u>247</u>	<u>258</u>

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\* MOL Flight Crew included. Six attached officers (4 Navy/Marine  
Flight Crew, 1 SAC and 1 MAC are not included).

T-IIIM military not shown.

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