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



MEMORANDUM FOR GENERAL STEWART

DEC 12 1967

SUBJECT: MOL Monthly Management Report, 25 Oct-25 Nov 1967

Attached is the monthly report of significant events,
25 Oct-25 Nov 1967.

1 Atch
Report

J. S. Blymaier
J. S. BLYMAIER, Maj Gen, USAF
Deputy Director, MOL

WORKING PAPERS

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NRO APPROVED FOR
RELEASE 1 JULY 2015

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MONTHLY REPORT
OF SIGNIFICANT EVENTS
25 OCTOBER 1967 - 25 NOVEMBER 1967

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1. During the period of this report the MOL Program Baseline has been subject to schedule exercises in an attempt to arrive at a schedule in concert with the FY dollar constraints. At this time the problem has not been resolved.
2. No significant program milestones were accomplished during this period.
3. A General Electric unsolicited proposal on the Recovery Section of the Support Module was submitted for review. The proposal requested that GE be given the integration responsibility for the Recovery Section which includes the DRV's, film handling, structures, thermal control and electrical portions of the Support Module. GE would assemble, align, test and ship this section to VAFB. This proposal was reviewed by approximately 23 Aerospace and Air Force people representing the Program Office and all relevant technical disciplines. A briefing was prepared and presented on 27 November summarizing the findings of the review team. A memo summarizing these comments is also in preparation.
4. The efforts on the Phase IA activity on the Support Module are continuing. The contractors will present final results of design and test flow studies the 4th and 5th of December. System Engineering work for Phase IA will continue through December. A briefing on the recommended baseline design and flow is in preparation and is planned for completion in early December. Minimum essential efforts to be accomplished during the time period 1 January 1968 to 1 July 1968 by the contractors and Aerospace are being defined.
5. On 21 Nov Douglas hosted and the SPO conducted the Electrical Wire Stripping Symposium. Fourteen contractors presented information pertinent to Kapton wire. This included the Kapton manufacturer, seven stripper manufacturers, and four wire manufacturers. The reports from all sources indicated that Kapton was a superior insulation and that the Kapton wire could be used without significant difficulty. All of our associate contractors were present and received this information with emotions ranging from acceptance to skepticism. Test data was reviewed which proved Raychem wire insulation is unacceptable for use on MOL.
6. During the period 7-13 Nov, meetings were held with each Orbiting Vehicle associate contractor pertaining to SAFSL Exhibit 10010, Nonmetallic Material Control. The purpose of these meetings was to discuss our intent in implementing SAFSL 10010, to clarify any question of the individual contractor relative to his role in the nonmetallic program, and to assess associated costs for incremental implementation of SAFSL 10010.

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7. General Higgins reviewed with Colonels Coleman and Dietrich the black contracting procedures and authorities. The procedures which have been comprehensively documented satisfied General Higgins. A draft PCO letter was also reviewed relieving black prime contractors of some Government peculiar clauses for their white subcontracts. General Higgins questioned the authority to include the relief from the "Price Reduction for Defective Pricing Data" clause without Secretarial approval. Action has been initiated to acquire the necessary authority from SecAF, since such is not now included in the Delegation to General Higgins.

8. In discussions with Lt Col Taylor, AFPR at General Electric, the following information was exchanged:

a. To date, Col Taylor has not reapproved their property management nor their purchasing systems. Therefore, General Electric does not have either an approved property or purchasing system.

b. Their cost accounting system has not been reviewed since 1963. This is one of the areas that we could assist by pressing through the DCAA-Washington (Mr. Petty) to have a review made of their accounting system.

c. With respect to their QC system, a quality survey by CMD showed many deficiencies, and, therefore, will not be approved in the near future.

d. Their security system also needs to be reviewed and overhauled. The security people have discovered 150 documents not accounted for within the GE system.

e. The tri-service overhead negotiations are being accomplished about two years after the fact. In this area we should press for Air Force cognizance of the overhead negotiations. This would have to be done through Brig Gen Snavelly in DOD.

9. The first pour was made of CerVit on the production contract for 71 inch, plano and spherical flight pieces. Results are as yet unknown.

10. ULE (Ultra low expansion material): One 27 inch and two 24 inch pieces are being polished at Perkin-Elmer. These pieces are sized as Newtonian fold and Ross fold mirrors. Polishing is down to 1/2 wave. These pieces are scheduled for delivery to EK during the first week of January for coating.

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11. Test Chambers I_{EM} and II_{EM} in Bldg 601 are in operation. The quality of test solids in finishing is being determined and results to date reported by the contractor are satisfactory.
12. The Primary Mirror blank for FV-4 was received by EK on 2 November 67. It is presently in storage awaiting grinding as grinders become free.
13. Initial acceptance testing has begun on Chamber B at Bldg 101. This Chamber is to be used primarily to test the Thermal Model in a soft vacuum and additionally will be used to thermally test tracking mirrors.
14. The Structural Development Model #1 (SDM#1) assembly is moving along on schedule toward modal survey testing at the lens assembly level the end of December. After lens assembly level testing, the SDM will be installed in a Mission Module shell for acoustic testing at the MM level before shipping to DAC.
15. A meeting was held between SAFSL-7D and AFSCF during the month to discuss AFSCF plans to contract with SDC for development of the Real-Time Executive Computer Program for Powered Flight. To monitor this effort closely, the AFSCF plans to establish a management committee which will include SPO personnel.
16. Major B. R. Hodgson, Hq USAF (AFNICAD), visited the Operations Division to participate in working level discussions on SPO-identified requirements for Mission Operations Special Support (MOSS). Discussion centered on external agency support necessary to develop an effective mission collection requirements training program, and on external agency support in the preparation and production of special materials required for flight crew mission collection requirements training and on-orbit operations. Another working level discussion has been tentatively scheduled for the week of 4 December 1967, at which time AFNICAD will provide Operations Division personnel with a review of their own work in the area and will offer suggestions and recommendations. These discussions will be held at frequent intervals in the future in connection with the SPO effort to satisfy MOSS-related requirements.
17. A presentation was given in Washington on 15 November 1967 to report results of two mission operations studies requested by General Stewart. One study pertained to the selection of orbital parameters to allow continuous viewing of a target such as Tyura Tam. A method was presented by which continuous viewing of this installation is achievable within the capabilities of the MOL baseline system. The second study pertained to the practicality

[REDACTED]
[REDACTED] General Stewart concurred in the presentations as made.

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18. On 16 November 1967 a joint meeting was held with Chairmen of three Committees responsible for establishing national intelligence requirements to discuss the future development of the MOL target model. It was determined that these people, who are presently developing the national intelligence data base, are not prepared to support our current development requirements for the MOL target model. Subsequent discussions with personnel of the SOC, who have been tasked by General Stewart and General Berg to pursue the future development of the MOL target model, indicate the development effort will be pursued further with the FTD at Wright-Patterson AFB.

19. Representatives of the SPO attended the briefings of SAMSO's Multipurpose Reusable Spacecraft studies by Douglas Aircraft Missiles and Space Division and Martin-Marietta Corporation. These studies were to design reusable lifting-body type spacecraft that can do any or all of several missions: logistics, surveillance or satellite intercept. Both concepts utilized only Titan IIIM and Titan IIIM-156" boosters. Both were expensive, about \$4 billion total program, at \$75 million a launch. Addition of man would add about another billion to the total costs. There are two critical technology areas: (1) a satisfactory form of heat shield and (2) an all-weather landing capability. These and other shortcomings were discussed with representatives from General Hedrick's office.

20. The SPO Advanced Plans staff attended the final briefing of the Lockheed-Sperry study effort for SAMSO on [REDACTED]. Much of this study effort is applicable to an advanced [REDACTED] resolution payload system. SAMSO intended to do a follow-on effort but due to lack of funding and no firm "requirement" it will not be continued. We had hoped to see this study continued as one of critical advanced technology areas; however, due to financial and schedule restraints, additional efforts will be postponed at this time.

21. Demonstration of the Hycon IVS was witnessed by SPO personnel during week of 27 October 1967. The unit, similar to operational optical units in the field, was demonstrated successfully.

22. An ATS technical cost proposal is in preparation by GE. However, the effort is being delayed because Itek has not submitted the detail cost back-up data for a \$5.2M ROM to GE. Data was due 18 October, but is now scheduled for 1 December. An unofficial delta change from GE shows the total estimate has increased significantly.

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23. Power interrupt meetings were held with GE/DAC/Aerospace and SPO to discuss the method of implementing the return from a power interrupt. The previously directed method using automatic return was felt to be too severe a requirement and that the GE approach of safing the system is considered more realistic. As a result, GE/DAC prepared a joint presentation on safing the vehicle using the existing AMU for software. All participants agree that this approach is sound and should be implemented. EKC indicated that their systems need no safing for the one second interrupt. GE, EKC and DAC are documenting their company positions and the impact on their designs by this approach.

24. Preparation has been completed for technical fact-finding (Prenegotiation) 29 Nov - 1 Dec at GE on the following items:

- (a) Deletion of Acoustic Noise Testing
- (b) Deletion of 115 Vibration Qualification
- (c) Vibration Modal Survey
- (d) DRV Deletion
- (e) DRC Integration and Handling
- (f) Two Degree Gimbal Realignment
- (g) TM Material Change

With the exception of DRV deletion, technical agreement has been reached with GE on all items. DRV deletion will be agreed to at GE and documented in the minutes.

25. GE has cancelled the order placed with Bell Aerosystems for the low G accelerometer on the basis that it is no longer a system requirement. This decision seems to place more emphasis on pre-flight experimental data to be utilized to improve the Earth's gravity model.

26. A Preliminary Design Review of the Sliding Door was held at General Electric on 8 and 9 November. The review covered in depth all elements of the design. Minutes were prepared and signed off by representatives of the SPO, Aerospace and contractor outlining those areas wherein the design concept was questioned or additional supporting data was desired. The contractor has submitted an outline of the proposed schedule for providing the additional data and completing the actions of the PDR.

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27. Initial operation of the EDS in the revised single frame mode with software voting logic has slipped from 20 November to 18 December 1967.
28. The Itek MDS optics bench test is now tentatively scheduled for 25 December or later. Final design requirements for optics (stimulus subsystem) of MDS and MMSE are being held up pending completion of this bench test. Preliminary cost information from GE indicated that the cost of the ATS simulation has increased significantly and delivery of the MDS has tentatively slipped an additional 9 months to March 1969.
29. The POGO, with respect to the Titan IIIM Booster, still remains a problem that requires resolution. A joint decision (Titan-III SPO and MOL SPO) was made to have Martin proceed on a 15 week study effort to come up with a solution.
30. The Gemini B Division conducted design reviews of the Pad Abort Control System (PACS) and the blast shield at McDonnell Douglas Corporation 31 Oct - 2 Nov. The PACS review resulted in acceptance of the McDonnell approach with action items assigned to provide additional information in specific areas. Acceptance of the design approach for the blast shield was withheld pending completion of further investigation in critical areas. These investigations were assigned as action items with their completion and acceptance by the SPO being the criteria for acceptance of the blast shield design approach.
31. Zero "g" testing under pressurized and unpressurized conditions was conducted at Wright-Patterson AFB, Ohio on 13, 14, and 15 November 1967 with the objective of completing the development testing of the crew transfer task and determine the compatibility of the Gemini B spacecraft and crew transfer tunnel with current design Data Return Containers (DRC's) and Pressure Suit Assembly (PSA). The objective was generally satisfied, however, further testing is anticipated in conjunction with future crew training at which time final configuration PSA's and DRC's will be available.
32. Eleven Specification Control Group (SCG) meetings were held. Eight of the interfaces were approved with comments and three were disapproved.
33. First Article Configuration Inspection (FACI) Instructions have been sent to MOL SPO contractors. These instructions supplement Exhibit XIV of AFSCM 375-1 and are intended to establish guidelines for conducting FACIs for both the MOL SPO and the contractors.

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34. The MOL CCB dispositioned 86 ECPs; 32 were approved, 8 were disapproved and 46 were deferred for further evaluation. The major cost bearing ECPs approved by CCB action totalled approximately \$851,000 based upon non-negotiated contractor estimates. Twenty-one new MOL ECPs were received during this reporting period.

35. The T-IIIM CCB dispositioned 95 ECPs; 32 were approved; 12 were disapproved and 51 were deferred for further evaluation. The major cost bearing ECPs approved by CCB action totalled approximately \$1,446,000. Thirty-four new T-IIIM ECPs were received during this reporting period.

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

a. Of the \$228.4M FY 67 funds received, \$228.4M has been initiated.

b. Of the \$240.0M FY 68 funds received, \$237.8M has been initiated.

37. MOL Manpower Status:

	<u>AUTHORIZED</u>	<u>ASSIGNED</u>	<u>DIFFERENCE</u>
*Officers	125	138	+13
Airmen	9	6	- 3
Civilians	100	72	-28
Highgrades	(34)	(22)	(-12)
Clerical	(66)	(50)	(-16)
	<u>234</u>	<u>216</u>	<u>-18</u>

*MOL Flight Crew included. Six attached officers (4 Navy/Marine Flight Crew, 1 SAC and 1 MAC are not included. Titan-IIIM not shown
Figures above are corrected due to errors in last month's report.

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