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

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27 JAN 1969

MEMORANDUM FOR GEN STEWART

SUBJECT: MOL Monthly Management Report

Attached is the MOL Monthly Management Report for the period
26 November - 25 December 1968.

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Report

J. S. Blaymaier
J. S. BLAYMAIER
Major General, USAF
Deputy Director, MOL

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MOL Monthly Management Report
26 November - 25 December 1968

I. Program Management

A. Upgrade Activity - McDonnell Douglas-Eastern Division (MDAC-ED) has approved the supplemental agreement which was issued last month, and the Systems Office expects a proposal from MDAC-ED by 31 January 1969. The McDonnell Douglas-Western Division proposal is still expected on 18 February 1969. Negotiations with General Electric Corporation began on 9 December and were adjourned on 23 December to allow the GE team time to study the Air Force offer that was tendered on 21 December. Negotiations are scheduled to resume on 6 January. The issue of unpriced supplemental agreements to the Martin Marietta Corporation and AC Electronics contracts is now expected by 31 January 1969. The Aerojet General Corporation's proposal is being reviewed by Systems Office personnel and completion of this in-house review is expected by 7 February 1969. A proposal from the United Technology Center is now expected by 13 January 1969. The unpriced supplemental agreement to the Eastman Kodak contract was forwarded to the contractor for signature on 11 December and has subsequently been signed.

B. Gallentine Committee - Systems Office representatives met on 27 November 1968 with the Gallentine Committee, which is reviewing the Advanced Data System (ADS) design for General O'Neill. The purpose of the meeting was to validate a computer loading analysis which compared the MOL and Apollo Programs. The Systems Office personnel found that the analysis was reasonably accurate for the launch and reentry phases of operations. The analysis of the on-orbit phase was considered inaccurate, however, because of the analyzing contractor's lack of knowledge concerning this phase of the MOL Mission.

C. Flight Crew Activity - Mr. Walt Cunningham of the NASA Astronaut Office visited informally with the MOL flight crew on 11 December in Los Angeles. Mr. Cunningham presented a short film on intravehicular activity and answered questions from the flight crew concerning crew comfort, sleep cycles, restraint systems, etc. His visit was considered highly beneficial for the MOL flight crew, and other sessions of this type are planned for the future.

D. Recovery Planning Summary - Systems Office personnel have coordinated with personnel of the 6595th Aerospace Test Wing in preparing a MOL Recovery Planning Summary. A draft of the Summary has been completed, and its data content will be included in the pending revision to the Manned Recovery Requirements Document (MRRD).

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E. Space-Ground Technical Interchange - MOL Systems Office, associate contractor and Air Force Satellite Control Facility (AFSCF) representatives participated in a Space-Ground Technical Interchange Meeting on 17 December. The purpose of this meeting was to begin detailed work on the Space-Ground Interface Specification. Little progress can be made in this area, however, until the AFSCF commits its contractors to working the interfaces. The next meeting will be held in January if the AFSCF agrees to participation by its contractors at that time.

F. Air Weather Service Space Environmental Support Conference - The Air Weather Service (AWS) hosted a Conference on Space Environmental Support Requirements at Scott AFB, Illinois, in late November. The conference was called to present the AWS's capabilities for providing space environmental support and to give other agencies an opportunity to identify their specific requirements in this area. A Systems Office representative attended the conference and outlined the MOL capability for definition of space radiation and MOL requirements for related information from outside sources. The consensus of the conference was that the MOL requirements for AWS inputs were not sufficient to justify AWS's proposed Space Environmental Support (SES) program. Other organizations' requirements were considered sufficient to justify the preparation of a Requirements for Operational Capability Document for the SES program, and this document will be distributed by February 1969.

G. Gemini B Qualification Telemetry Operations - The Systems Office has requested the SAMSO Communications and Electronics Division to obtain a waiver to the Department of Defense policy which restricts telemetry operations to the 1435-1535 and 2200-2300 MHz bands after 1 January 1970. This waiver is required to allow operation of the Gemini B qualification telemetry system at 259.7 MHz at the McDonnell Douglas-Eastern Division facility in St. Louis and at the Air Force Western Test Range until late 1971.

H. MOL Independent Safety Review Board - A MOL Independent Safety Review Board is being established to review those test facilities involving man and to present the Deputy Director with an evaluation of the safety of each of these facilities. Qualified personnel from non-MOL organizations are being invited to serve as members of the Board.

I. Vandenberg AFB Construction Status - On 25 December, construction of Package 2 of the launch complex facilities was 80.3% complete. The Mobile Service Tower, which paces the completion of this package, is now 45% complete and continues to be scheduled for completion on 1 April 1969. The power plant, which is the only item in Packages 3 and 4 that remains uncompleted, is now scheduled for completion on 31 January 1969. Package 1 of the MOL Support Facilities at VAFB is approximately 58% complete. All design elements of Package 2 of the Support Facilities have been provided to the Corps of Engineers for preparation of the construction bid package which is expected to be advertised during the second week in January.

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J. Funds and Manpower Status - Of the \$454.5M FY 69 funds released to the Systems Office, \$434.6M has been initiated.

Systems Office manpower status is as follows:

	<u>Authorized*</u>	<u>Assigned*</u>
Officers	184	151
Airmen	12	10
Civilians	106	94
High Grades	(33)	(31)
Clerical	(73)	(63)
TOTAL	<u>302</u>	<u>255</u>

*Includes Houston Field Office

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II. Technical Status

A. Launch Pad Hazardous Vapor Detection System (HVDS) - Martin Marietta Corporation (MMC) has submitted a study which concludes that commercially available toxic vapor detection equipment is not capable of providing automatic control of the MOL launch pad air conditioning system. Data received from the Air Force Rocket Propulsion Laboratory, Edwards AFB, and the 6570th Aerospace Medical Research Laboratory, Wright-Patterson AFB, support the MMC conclusions. The Systems Office has directed MMC to remove the fixed toxic vapor detectors and automatic controls from the system design. Portable toxic vapor detectors and detailed procedures for their use will be utilized at the launch pad to protect personnel and equipment from exposure to toxic vapors.

B. Acquisition Tracking System (ATS) Servo Performance - The Systems Office has approved the method proposed by General Electric and McDonnell Douglas-Western Division to fulfill the structural stiffness requirements for proper ATS servo performance. This decision was based on the results of detailed analysis performed by the Systems Office and the two associate contractors involved. The necessary structural changes will add approximately 50 pounds to the weight of the Laboratory Module.

C. MOL Alignment Requirements - The Systems Office and the associate contractors have agreed that MOL alignment requirements should be met by an airborne system. Two methods of fulfilling alignment requirements through the use of Aerospace Vehicle Equipment (AVE) are presently under consideration. The Systems Office will select one of these methods upon completion of a study of the predicted accuracy of each.

D. Depleted Uranium - McDonnell Douglas-Western Division (MDAC-WD) has notified the Systems Office that lead will be an acceptable mass substitute for the LOX tanks on Flight Vehicle-2. Accordingly, lead (instead of the previously considered depleted uranium) will be used for the simulation of these tanks.

E. Laboratory Module Film Viewer - McDonnell Douglas-Western Division (MDAC-WD) is making necessary design changes in bay 4 of the Laboratory Module to accommodate the Eastman Kodak film viewer. The previous design of bay 4 was not suitable for installation of the viewer because of space limitations and inadequate structural support.

F. Advanced Data System Control & Display Subsystem - Representatives of the Philco-Ford Western Development Laboratories recently presented briefings and demonstrations of the Advanced Data System (ADS) Control & Display Subsystem to Systems Office personnel. Philco-Ford is progressing well in the development of the Control & Display Subsystem and will deliver an operational 4-channel system in February 1969.

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G. Mission Planning Software Preliminary Design Review - The Preliminary Design Review (PDR) for the Mission Planning Software was held on 20-22 November with representatives of the associate contractors, the Systems Office, and the intelligence community in attendance. Vehicle vibrational damping times after Attitude Control & Translation System (ACTS) enable and payload related checks (such as boresighting and focus sensing exercises) were identified as items which require further definition. The Systems Office and the associate contractors are studying these areas and anticipate having them adequately defined by mid-January.

H. MOL Wire Review Committee - The MOL Wire Review Committee has completed its survey of the wiring standards and quality control practices of selected non-MOL contractors and Government agencies. The second phase of the committee's work entails a similar survey of the MOL associate contractors and a comparison of their wiring practices and standards with those of the non-MOL contractors that were visited by the committee. This phase was initiated with a visit to the Martin Marietta Corporation facilities on 10-11 December 1968.

I. Acoustic Testing - McDonnell Douglas-Western Division (MDAC-WD) has decided to refurbish their Santa Monica acoustic test facility during the spring and summer of 1969 to accommodate large scale vehicles, e.g., the MOL Laboratory Module, DC-10 Sections, and SPARTAN air frames. This is a corporate decision to enhance MDAC-WD's capability to compete for new programs. The MOL Program will benefit from this decision to the extent that the Laboratory Module acoustic testing and unmanned vehicle nose fairing tests can be accomplished in the expanded facility. The facility will be refurbished at no direct cost to the MOL Program.

J. Mission Simulator Development - Systems Office representatives visited classified facilities of the 9th Strategic Reconnaissance Wing, Beale AFB, California on 10 December. The primary purpose of the visit was to study the SR-71 simulator technology, operation of the simulator, and the simulator support concept. The use of photographic stimulus materials to simulate an optical view of vehicle ground track was of special interest. This visit was arranged to broaden the experience of Systems Office personnel assigned to the development of the MOL mission simulator.

K. Portable Communications System and Portable Ventilation System - First Article Configuration Inspections (FACI's) of the Portable Communications System (PCS) and the Portable Ventilation System (PVS) were completed at the Hamilton Standard facility on 5 December 1968. The Contract End Item (CEI) Part II Specifications were approved for both systems. Minor discrepancies that were noted during the FACI's will be cleared by 15 January 1969.

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L. Medical Contingencies - Bioastronautical personnel assigned to the Systems Office have completed a review of concepts and operational planning related to medical contingencies in prolonged manned spaceflight. The first draft of an in-flight contingency paper has been prepared, and final publication will be made within 60 days.

M. Non-Metallic Materials - Systems Office and McDonnell Douglas-Western Division (MDAC-WD) personnel visited the Air Force Materials Laboratory (AFML), Non-Metallics Division, Wright-Patterson AFB, to become familiar with the operation of the AFML and to determine the extent and nature of assistance that can be obtained from this organization. The AFML Non-Metallics Division agreed to place the Systems Office and MDAC-WD on the distribution list for their reports; AFML personnel also agreed to provide any technical advice that the Systems Office may require and to assist MOL in acquiring materials that are not commercially available.

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