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



11 FEB 1969

MEMORANDUM FOR GEN STEWART

SUBJECT: MOL Monthly Management Report

Attached is the MOL Monthly Management Report for the period
26 December 1968 - 25 January 1969.

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Report

J. S. Bleymaier
J. S. BLEYMAIER
Major General, USAF
Deputy Director, MOL

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MOL Monthly Management Report
26 December 1968 - 25 January 1969

I. Program Management

A. Upgrade Activity - Negotiations with General Electric Corporation were adjourned on 17 January to allow the GE team sufficient time to study the latest Air Force offer. Negotiations are scheduled to resume on Tuesday, 4 February, and agreement is anticipated shortly thereafter. A major portion of the McDonnell Douglas-Eastern Division (MDAC-ED) proposal has been received, and a fact-finding team from the Systems Office has begun evaluation of the proposal. The remainder of the MDAC-ED proposal will be delivered to the Systems Office over the course of the next two months. The Western Division of McDonnell Douglas (MDAC-WD) is still expected to deliver its proposal by 18 February. Systems Office personnel anticipate issuance of unpriced supplemental agreements to the Martin Marietta Corporation and AC Electronics contracts by 14 February. Systems Office review of the Aerojet General proposal is proceeding on schedule, and completion of this review is still expected by 7 February. The delivery date of the United Technology Center proposal was slipped to 31 January by mutual agreement of the Systems Office and the Contractor. Delivery of the Eastman Kodak Corporation's proposal remains scheduled for 20 June.

B. Labor Dispute at McDonnell Douglas - The International Association of Machinists (IAM) went on strike against the Eastern Division of McDonnell Douglas (MDAC-ED) on 13 January 1969. Conduccion, Inc., which is the sub-contractor for production of the Gemini B Procedures Simulator, is also affected by the strike. McDonnell Douglas began negotiations with the union on 15 January under the guidance of federal mediators, and these negotiations are continuing. The contractor's assessment of the strike is that it will be of short duration and will have little impact on the MOL Program. The Systems Office has requested daily status reports from the contractor and will continue to monitor potential impacts.

C. Apollo Astronaut's Visit - Members of the MOL flight crew escorted Mr. Walt Cunningham, NASA Astronaut, on a tour of the MOL Laboratory Vehicle mockup on 9 January. The tour was followed by a meeting at the Systems Office during which Mr. Cunningham answered prepared questions concerning various aspects of manned space flight. The results of both of these activities are considered excellent, and the Systems Office is presently evaluating Mr. Cunningham's comments to determine necessary follow-on action.

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D. MOL Independent Safety Review Board - A charter for the MOL Independent Safety Review Board has been prepared and distributed to the Board members. Colonel A. G. Swan of the Air Force Weapons Laboratory has been selected to chair the Board. Col Swan visited the Systems Office on 15 January and was briefed on the previous activities of the MOL Systems Office's Gemini B Dual Gas System Test Review Committee. The briefing emphasized agreements which have been made with McDonnell Douglas-Eastern Division concerning changes in procedures and equipment, particularly in the areas of fire detection and materials control.

E. Cost Schedule Planning and Control System (CSPCS) - Systems Office personnel assisted Lt Col Driessnack and Lt Col McManamon, both of Hq AFSC, in an evaluation of McDonnell Douglas-Western Division's proposed solution of the CSPCS compliance deficiencies which were noted in a previous Performance Measurement Demonstration Report. McDonnell Douglas' approach to the solution of these deficiencies was found to be acceptable. A formal audit of compliance will be made in these areas during a redemonstration survey which will be conducted within the next three months.

F. Mission Simulator Conference - A conference on the operation of the MOL Mission Simulator at Vandenberg AFB was held on 8-9 January with the contractors involved, the Systems Office and 6595th Aerospace Test Wing (ATW) represented. The contractors presented briefings on their proposed support for our simulator facility. Discussions were also held on simulator operations and the support that will be required from the 6595th ATW. A follow-on meeting will be held in approximately three months.

G. Vandenberg AFB Construction Status - On 25 January, construction of Package 2 of the launch complex facilities was 83.3% complete. The Mobile Service Tower, which paces the completion of this package, is now 52.5% complete and continues to be scheduled for completion on 1 April 1969. The power plant, which is the only item in Packages 3 & 4 that remains uncompleted, is now scheduled for completion on 15 February. Package 1 of the MOL Support Facilities at VAFB is approximately 60% complete. Package 2 of the Support Facilities was advertised on 17 January by the Los Angeles District Office of the Corps of Engineers. Bids on this work are to be opened on 13 February.

H. Funds and Manpower Status - Of the \$454.5M FY69 funds released to the Systems Office, \$435.6M has been initiated.

Systems Office manpower status is as follows:

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	<u>Authorized*</u>	<u>Assigned*</u>
Officers	184	152
Airmen	12	10
Civilians	106	94
High Grades	(33)	(32)
Clerical	<u>(73)</u>	<u>(62)</u>
TOTAL	302	256

*Includes Houston Field Office

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II. Technical Status

A. MOL Alignment Requirements - Evaluation of the two proposed methods for fulfilling MOL alignment requirements continued throughout the month, and analysis of a third alternative was initiated. The General Electric and Systems Office analyses differ, particularly in the area of pointing accuracy, but both parties agree that the new flight alignment link should monitor between the star tracker base and the tracking mirror. The Systems Office will select one of the proposed methods upon completion of the study of each method's predicted accuracy.

B. Mission Planning and Evaluation Software Design - The Air Weather Service (AWS) has completed an evaluation of the possible modes for transmission of meteorological data to the DORIAN Mission Planning and Evaluation (MP&E) software. The results of the AWS study indicate that an AF Global Weather Central (AFGWC) transmission of cloud-free probabilities for individual targets would provide the best input for the MP&E software in terms of accuracy, resolution, timelines and format. The Systems Office has directed TRW to design the MP&E software to accept AFGWC transmissions of this type.

C. Advanced Data System Configuration - The Systems Office, in concert with the Satellite Control Facility, is proceeding with the redefinition of the Advanced Data System although official approval and funding for this action have not yet been received. This action has been taken on the assumption that approval is forthcoming and with the knowledge that serious impact could result from further delays in finalizing the definition of this system.

D. AVE Computer Timing - A recent recomputation of the worst case timing estimates for functions performed by the Aerospace Vehicle Equipment (AVE) Computer indicates that demands on the computer could exceed its 100-millisecond basic timing cycle. Several methods of remedying this situation are being considered by a team composed of personnel from General Electric, McDonnell Douglas-Western Division, International Business Machines and the Systems Office. A recommended solution is expected from this team in mid-February.

E. Slide Viewing Subsystem - The first unit of the Slide Viewing Subsystem (SVS) for the Mission Development Simulator arrived at the General Electric facility following completion of the factory acceptance test at Itek Corporation. Itek personnel will retrofit the SVS at General Electric to correct several deficiencies which were noted during the acceptance test.

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F. Environmental Monitoring Unit CDR - The Critical Design Review (CDR) of the Environmental Monitor Unit (EMU) was held in early January as the last increment of the Mission Module Transporter CDR. The CDR was satisfactorily completed except for a lack of adequate data concerning integration of the EMU with the Mission Module (MM) and the MM Transporter. A special review has been scheduled for discussion of this subject with General Electric personnel.

G. Mission Module Transporter Loading Exercise - The Mission Module Transporter (MMT) was loaded on a C-133B aircraft at Willow Grove Air Station, Pennsylvania, on 14-15 January. The exercise took nearly 15 hours because of the difficulty encountered in loading the MMT under the close tolerances involved (2" to 3" clearance on either side). Although lengthy, the exercise demonstrated that the MMT can be loaded on the C-133B. The Military Airlift Command was extremely cooperative in providing the aircraft and loading crew for this exercise.

H. MOL Feeding System Review - During the week of 27-31 January, the Systems Office will conduct an in-depth review of the MOL Feeding System Assembly. The review will include evaluation of current MOL food over a four-day period by four MOL crew members and a presentation of the current plan for food packaging redefinition. Participants will include personnel from the USAF School of Aerospace Medicine, Natick Laboratories, and NASA in addition to the Systems Office participants.

I. Radiation Briefings - Briefings on bioastronautics were presented by the Systems Office on 22-23 January to MOL consultants on radiation and the chiefs of several Air Force technical support organizations that are associated with the MOL radiation protection program. A NASA representative also attended. The briefings included a detailed review of MOL radiation instrumentation and protection procedures and outlined the need for definitive radiobiological studies to facilitate the prediction of man's physiological response to radiation during space flights. Following the formal presentations, discussion and workshop sessions were conducted to review past efforts relative to the radiobiological aspects of manned space flight and to determine specific efforts that should be made in this area by both the MOL and NASA programs.

J. Matrix Fuel Cell - The Systems Office has continued to coordinate with personnel of the NASA Manned Spacecraft Center concerning the MOL matrix fuel cell which is being produced by Allis-Chalmers Corporation. In mid-January, Systems Office representatives met with their NASA counterparts to discuss commonality of the MOL and Apollo Applications Program fuel cell systems and areas where minor changes to program requirements could achieve mutual benefits and cost savings. Additional meetings of this type are planned.

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K. Loads Cycle 4 Activity - The basic Load Cycle 4 effort has been completed, and the Systems Office and Martin Marietta Corporation are compiling data to establish the requirements for thrust termination conditions. This data will be transmitted to the associate contractors by 7 February for use in structural evaluation.

L. Umbilical Retraction System - The Systems Office has approved the drop-weight umbilical retraction system which was proposed by McDonnell Douglas-Western Division. This system will replace the retraction motor concept which was proposed during the Preliminary Design Review of the umbilical retraction system. Advantages of the drop-weight system are the avoidance of additional costs, a less complex and more reliable system, and elimination of possible interference between the plug carrier and the launch vehicle.

M. Backup Planning for Flight Vehicle 2 - The Systems Office has initiated a study of requirements for providing a backup capability for Flight Vehicle 2. The flight vehicle associate contractors have been authorized to conduct a small study to identify facility constraints, funding constraints, hardware availability, and requirements for long-lead time purchases. The Systems Office will integrate the contractors' reports and publish a FV 2 Backup Plan.

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