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DEPARTMENT OF THE AIR FORCE
WASHINGTON

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OFFICE OF THE SECRETARY

SEP 7 1966

MEMORANDUM FOR THE SECRETARY OF THE AIR FORCE

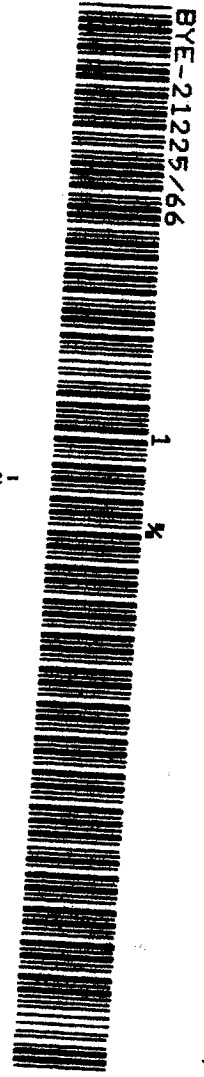
SUBJECT: Manned Orbiting Laboratory Monthly Status Report

The attached Status Report on the Manned Orbiting Laboratory (MOL) Program covers activities through August 31, 1966 and is submitted in accordance with the August 16, 1966 instructions from the Office of the Secretary.

Harry L. Evans

HARRY L. EVANS
Major General, USAF
Vice Director, MOL Program

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a/s



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I. PROBLEM

The MOL Associate Contractor negotiations are not progressing as fast as had been planned, due primarily to the contractors having to submit revisions to their proposals in July resulting from the changed program flight schedule approved late in May 1966. The specifications, work statements and contract terms and conditions have been nearly completed leaving the incentive structure and price negotiations as the major items to be completed.

The following are the anticipated dates for completion of negotiations with the MOL Associate Contractors:

Martin Company	September 19
McDonnell Aircraft	September 23
Douglas Aircraft	September 30
AC Electronic Division	September 30
General Electric	October 10
Aerojet	November 15
United Technology	December 31
Eastman Kodak Company (signed)	August 1

It is possible some of the above dates may slip as negotiations progress. In this event it will cause a commensurate delay in reporting negotiated contract prices which have been requested by the Secretary of the Air Force prior to approving full-scale Engineering Development approval. No delay is anticipated in the overall program, however, as the Secretary of the Air Force has authorized the Director, MOL to obligate funds to protect development lead time. This is reported in greater detail in Section IIB of this report.

II. CHANGE PAST MONTH

A. PSAC Briefing

On August 13 a briefing was given to Dr. Land's panel of the PSAC on the results of the study on manned-unmanned comparisons. Dr. Flax supervised the briefing, which was delivered principally by members of the Aerospace Corporation.

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Expressions of strong interest were received from the chairman and other panel members on three subjects:

1. The achievement of [REDACTED] ground resolution was characterized as an important national objective.
2. The panel thought that more attention should be given to the acquisition and tracking scopes to assure that the operators can perform the desired functions.
3. The panel was impressed with the prospect of being able to conduct 60-day missions in the automatic mode and urged that the system be designed for that duration.

The panel observed that the program was proceeding substantially as directed toward the dual mode of operation and expressed satisfaction that considerable progress had been made in concepts for the critical automatic photographic devices.

B. Implementation of Engineering Development Phase

In his memorandum to the Director, MOL Program of August 20, 1966 the Secretary of the Air Force authorized obligation of FY 66 and FY 67 MOL Program funds to protect development lead time consistent with meeting the schedules and primary objective for the first manned flight. Prior to authorizing full-scale development, it will be necessary to provide for review by the Secretary of the Air Force the total program cost and fiscal year funding requirements resulting from negotiations of Engineering Development Phase (EDP) contracts. In implementing this directive, MOL SPO has issued pre-contract cost letters to Douglas, General Electric, and McDonnell for the month of September limiting their effort to \$4.0 million, \$2.0 million and \$1.789 million, respectively. Eastman Kodak was recently awarded a contract for the EDP, and TIII-M booster contractors are already on long lead development contracts.

In order to provide contractual coverage to Douglas, General Electric and McDonnell for the above effort, amendments to Phase IC contracts will be negotiated to cover their interim efforts until Phase II contracts are approved.

It is anticipated that 80% of the total program cost will have been negotiated by late October with the remaining 20% expected to be reasonably firm at that time. The 20% of the total program cost consists of approximately \$137 million for the Aerojet and United Technology contracts and \$180 million of deferred contract items on the Eastman Kodak, McDonnell, Douglas and General Electric contracts.

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C. Congressional Activities

August activities relative to Congress involved the submission of papers and answers to Congressional queries justifying FY 1967 additional funding requirements. Several discussions and briefings were held with Congressmen and staff members. On August 26, 1966 SAF-SL was informed that a joint House-Senate conference had approved appropriation of \$50 million in addition to the \$150 million in the President's Budget. A box score of FY 1967 budget activities is shown below:

AF Request	\$ 230.M
President's Budget	150.M
Reclama	80.M
Additional Authorization (Armed Services Committees)	
House	80.M
Senate	0.M
Joint Conference	50.M
Additional Appropriations (Appropriations Committees)	
House	0.M
Senate	50.M
Joint Conference	50.M

D. EKC Contract

The Phase II contract with Eastman Kodak Company was signed and became effective on August 1, 1966. Total negotiated contract value is \$258,471,000 as compared to previous Systems Office estimate of \$225,271,000. During August two solid mirror test blanks were delivered from Corning Glass on schedule. Delivery of the first light-weight mirror blank has been delayed approximately three and one-half weeks due to fabrication difficulties. However, the problem has been resolved, and this slip will not affect the overall EKC schedule. Construction of the new facility is proceeding on schedule with expected completion of March 10, 1967.

III. CURRENT STATUS

A. MOL Manpower

The Director, MOL, in a memorandum for the Secretary of the Air Force dated July 5, 1966, requested the Secretary's assistance in obtaining additional manpower spaces to support the MOL Program. The manpower package received Lt General Friedman's (AFODC) approval. However, Dr. Finn Larsen (OSD, DDR&E) returned the manpower package to AFODC for further information. In a related action, the Director, MOL on August 29, 1966, requested immediate action by Headquarters AFSC (SCO) to allocate 54 MOL SPO spaces from Systems Command resources. Also, the Director, MOL on August 29, 1966, requested in a letter to Headquarters AFSC (SCP) that the MOL SPO be brought to 95% manning within the next 60 to 90 days.

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B. MOL Funds Status

Obligation Authority issued during August 1966 to MOL activities totalled \$6.0 million. The total of funds released against the MOL line item since program approval in August 1965 is now approximately \$114.0 million. The FY 66 carry-over balance held by the Director, MOL Program, is approximately \$58 million as of August 31.

C. NASA Detailees to MOL

The request for NASA to identify potential applicants for 5 positions in the Systems Office has been modified to place emphasis on a single high-level individual. Discussions have been initiated between the Systems Office and the NASA contact to identify a GS-15 as Assistant to the Director of Engineering. This individual, when selected, will assist in assessing the need and NASA applicants for other positions in the Systems Office.

D. Manned/Unmanned Comparison Study

The Manned/Unmanned Comparison Study was forwarded to DDR&E over Secretary of the Air Force's signature on August 26, 1966.

E. Gemini HSQ

Current planning indicates a capability to launch the Gemini Heat Shield Qualification (HSQ) flight on November 9, 1966. Delay in launching the recent TIII-C Vehicle #12 with a Comsat payload necessitated the HSQ slippage from October 26 to November 9 for preparation of the HSQ Titan Vehicle #9. Any further slippage of the launch date will create a significant cost to MOL for NASA-provided services. At the present time there is no indication that the failure experienced during the last TIII-C flight will in any way reduce confidence for the HSQ mission. However, planning is continuing for a repeat HSQ launch should the November 1966 mission fail for any reason to qualify the design. The MOL Program Office has requested that Titan III-C R&D Vehicle #16 be maintained available for this purpose until after the forthcoming HSQ launch, when final determination of its possible use will be made.

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F. Air Force Experiments for NASA S-IVB Orbital Workshop

NASA has approved the development of the Airlock Module for the Orbital Workshop, previously named the S-IVB Workshop. During August, Air Force representatives met with NASA Manned Spacecraft Center personnel to discuss details of experiment integration. Work is continuing within the Air Force to obtain FY 1967 funding for the experiments. NASA plans a full review of the program at the next meeting of the Manned Space Flight Experiments Board on September 19.

G. Titan III-M/MOL Support of NASA Apollo Applications Program (AAP)

An initial set of questions relative to how TIII-M/MOL hardware might support the NASA AAP program was formally submitted by NASA to DDR&E on June 17, 1966. Answers to these questions were provided to NASA on July 12. Subsequently, on August 4 additional NASA technical questions were responded to. Currently, the MOL Systems Office is doing work to respond to further NASA questioning on rendezvous and mission duration extension possibilities.

H. Recovery Operations

Several plans to accomplish abort and end-of-mission recovery have been submitted that include ships, aircraft, and ships/aircraft mixes both with and without a down range aircraft staging base. With the data obtained from the Henderson Island Survey, these plans are being evaluated to determine the most suitable operational concept, and to define specifically if an island staging base is required. If the base is required, FY 68 military construction funds will be requested in order to complete construction prior to the first launch.

I. Ocean Surveillance Program

Subsequent to the Ocean Surveillance Program presentation to the MOL Policy Committee on July 13, 1966 the Navy has presented the proposed program to the DDR&E and has engaged directly in additional discussions with the DDR&E staff. To date, no approval for the Ocean Surveillance Program for MOL has been forthcoming.

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J. Electromagnetic Pointing System

A Technical Development Plan and briefing descriptive of the EPS have been prepared. Dr. Flax has forwarded a letter to the Director, NSA making this information available in order to obtain the views of his staff regarding the value of such a system for intelligence analysis. Dr. Flax also approved briefings to other members of the intelligence community to obtain their views concerning the utility of such a system in the collection of intelligence information.

K. Briefing to the Secretary of Defense

On September 1, the Secretary of the Air Force was shown a tentative briefing to Mr. McNamara on MOL objectives and the unmanned study. The Secretary expressed the view that most of Mr. McNamara's questions had been answered in the recent written report transmitted to DDR&E and directed that prints of the viewgraphs with accompanying text be prepared for submission to Mr. McNamara.

IV. FORECAST FOR FUTURE

Program Approval for Full-Scale Engineering Development

The Director, MOL Program will present to the Secretary of the Air Force by late October a review of the program cost resulting from completed negotiations of MOL associate contracts and estimates of costs for which negotiations are still in process or are deferred until late in FY 1967.

V. DUE DATE FOR NEXT PROGRESS REPORT

Next monthly MOL Progress Report to be submitted October 7, 1966.

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