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DEPARTMENT OF THE AIR FORCE  
WASHINGTON

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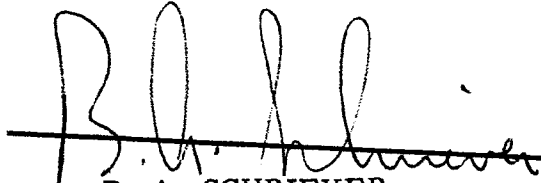
OFFICE OF THE SECRETARY

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 October 31, 1965 and is submitted in accordance with October 15, 1965 instructions from the Office of the Secretary.

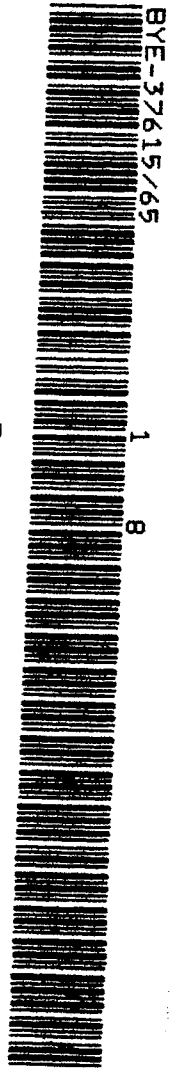
I request any suggestions or comments you might wish to make on this report or for other information you desire on the MOL Program.



B. A. SCHRIEVER  
General, USAF  
Director, MOL Program

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Status Report

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I. PROBLEMS

A. Manned/Unmanned Considerations

As reported in last month's report, the President's Science Advisory Committee (PSAC) has imposed the requirement that the optical sensor for MOL be capable of functioning in either a manned or unmanned mode. This requirement when coupled with the trade-offs and decision between the tracking vs pointing optics presents a very complicated matrix to be analyzed and evaluated within the schedule and resources of the MOL Program.

As a result of discussions on this subject with the Director, MOL at the Program Review Meeting on September 28 and 29 and with the MOL Policy Committee on October 14, a small integrated task group has been established to analyze on an objective basis all aspects of this problem. Results will be available approximately early December 1965. An interim report will be made to the Director, MOL at the next Program Review on November 15, 1965. The objective is to develop at the earliest possible time a presentation and report on the impact of current direction and a recommended course of action.

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B. Optical Considerations

In connection with the above, General Electric and Eastman Kodak, as associate contractors for the Mission Module and Mission Payload respectively, are defining a "baseline" system around the in-line configuration; i. e., gimballed mirror. Each is also studying aspects of the dump-truck configuration. Study results are to be completed in December 1965 with a firm decision by December 31. Douglas is defining the Laboratory Vehicle System for the in-line configuration only. If in December 1965, the dump-truck configuration appears more effective, overall schedule impact will result. Effort will be made to expedite analysis of alternate configurations to permit a decision earlier than December 31, 1965 if at all possible.

C. Flight Schedules and Alternate Mission Payloads

As a result of discussions with the MOL Policy Committee on October 14, 1965, the schedule objective, for planning purposes, is to fly the first manned MOL in late 1968. Efforts are continuing to align all program segments to this objective. Problems of booster and payload lead times compound the schedule problem. Initial study conclusions by the MOL System Office on

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an alternate experimental payload and mission module to accommodate this package should be available in November 1965. In the interim the contractors, Douglas and General Electric, are concerning themselves only with the primary mission objective.

## II. CHANGE PAST MONTH

A. Mr. Bob Linder, Bureau of Budget, was given a classified DORIAN briefing by SAFSL on the MOL Program on October 4, 1965.

B. The Director, MOL met with key top-level management of Douglas, General Electric, Eastman Kodak, Martin, McDonnell and Aerospace on October 13, 1965 at SSD where MOL management and organization structure was discussed with each of the major associate contractors.

C. The third meeting of the MOL Policy Committee was held at Headquarters USAF on October 14, 1965.

D. Mr. Foster, DDR&E, was given a classified DORIAN briefing by SAFSL on MOL Program objectives and status on October 15, 1965.

E. Contract negotiations for Definition Phase efforts on the MOL Mission Module were completed with General Electric on October 15, 1965.

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F. Contract negotiations for Definition Phase efforts on the MOL Laboratory Module were completed with Douglas on October 17, 1965.

G. The initial group of MOL Aerospace Research Pilots (astronauts) were briefed at SSD on October 16, 1965 on the sensitivity of the military aspects of the program and the handling of queries associated with public announcement on their selection.

H. Admiral W. F. Boone and members of the NASA staff were given a SECRET level briefing by SAFSL on the MOL Program on October 19, 1965.

I. DDR&E released \$3.5 million of FY 66 Titan III funds to initiate development of the seven segment solid motor and the modification of the Stage One engine to provide the 15:1 area ratio. Remaining FY 66 Titan III R&D funds are deferred by DDR&E subject to review of the final plan covering all performance improvements to Titan III required by MOL.

J. Dr. Loewe, Air Force Chief Scientist, was briefed on the MOL Program by SAFSL on October 22, 1965. The material presented to Dr. Loewe was restricted to a SECRET classification.

K. Lieutenant General Glen Martin, Air Force Inspector General, was given a classified DORIAN briefing on MOL Program objectives and status by SAFSL on October 22, 1965.

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### III. CURRENT STATUS

#### A. Douglas/General Electric Contract Negotiations

Contract negotiations were completed with Douglas on October 17, 1965. A fixed price minimum level of effort contract was negotiated at \$10.35 million. The effective date of contract is October 18 with Definition Phase Data and Phase II proposal to be submitted on February 28, 1966. Phase IC will be accomplished to allow for a Phase II go-ahead on May 1, 1965. The Douglas contract is expected to be ready for distribution in early November.

"Black" contract negotiations were completed with General Electric on October 15, 1965. A fixed price minimum level of effort contract was negotiated for all tasks to be performed by GE at a price of \$4.922 million. The effective date of contract is October 18 with Definition Phase data and Phase II proposal to be submitted on February 28, 1966. The "white" portion of the total GE effort has been extracted and is being prepared as separate contract with effective date also of October 18. The "white" contract covers \$0.975 million of the total \$4.922 million price. It is expected that the "white" contract can be increased at a later date as additional experimentation tasks are defined during the Definition Phase. The GE "white" contract also is expected to be ready for distribution in early November.

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B. MOL Aerospace Research Pilots

The first group of MOL Aerospace Research Pilots have been selected and will be assigned to the program in the near future. All are expected to be on station at SSD in early December 1965. The initial eight selectees were briefed at SSD on October 16. Applications have been solicited from Air Force officers and from the Navy/Marine Corps for the second selection.

C. MOL Peculiar Launch Pad Modifications, CKAFS

Authorization and funds (\$0.5 million) to design and construct necessary alterations to Pad 40 of the Titan III ITL Complex at Cape Kennedy to accommodate the Pre-MOL Heat Shield Qualification (HSQ) launch have been granted. Advertising for bids will be made in the near future.

D. Ship Support for MOL Orbital Insertion

The MOL Program calls for an insertion ship on station south of Vandenberg for each launch. A National Range Division (NRD) study for the ship support for MOL orbital insertion shows that the T-AGM-19 class, T-2, being modified to support the Apollo Program, is the most attractive from the viewpoint of

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cost, technical support capability, and modification schedule. However, the availability of these ships to support both Apollo and MOL could be critical. Tight scheduling and close coordination of the test schedules of both programs will be required.

Informal discussions have been held with NASA personnel to determine if NASA would agree in principle to judicious cooperative scheduling of these ships to support both programs. To date these discussions have not been too encouraging. The Commander, NRD, has been asked formally by SAFSL to study the scheduling problem and notify the Program Office of his findings and recommendation on planned MOL Program use of these ships.

A meeting is planned at NASA on November 1, 1965 where representatives from NASA, NRD, and DOD will discuss this scheduling problem.

E. MOL/T-III Booster Requirements

Firm requirements have been established for a 30,000-pound minimum booster capability with a target payload of 32,000 pounds. Based on this requirement and the detailed analysis of various Titan III booster capabilities, the Titan III office has been instructed to proceed with final definition of the Titan III 7-segment

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120-inch SRM configuration. This configuration is to include the 15:1 ratio nozzle and other core improvements necessary to achieve target payload and crew safety and mission success criteria.

The Initial Launch Complex (ILC) at Vandenberg is to be designed and built for the MOL configuration. The design will include those features essential for eventual growth to the 156-inch SRM. Capability to handle other than MOL payloads will be included only so far as they do not interfere with the MOL priority.

F. Public Affairs Guidance for MOL

Mr. Arthur Sylvester, Assistant Secretary of Defense for Public Affairs, on October 29, 1965 issued a DOD policy letter on handling of MOL public statements. This guidance states that public statements with regards to MOL will not be volunteered. All national level press queries will be referred to ASD (PA) for response. Further all speeches and interviews on MOL will not be volunteered and all requests for speeches or interviews must be cleared with ASD (PA) prior to acceptance.

G. MOL Funding Procedures

Funding procedure documents on the handling of both "white" and "black" funds and other financial media on the MOL

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program are in preparation. The MOL "black" financial procedure document is in final preparation for signature by the Director, NRO and the Director, MOL. "White" funding procedures are drafted for coordination with the Director, Budget and Director, Aerospace Programs.

IV. FORECAST FOR FUTURE

- A. Douglas will submit to the Air Force for approval during November their major subcontractor structure. Major subsystems include: stabilization and control, power supply, environmental control, data management, communications, mission simulation and cryogenic storage systems.
- B. The Titan III Program Office will present their latest findings on the proposed MOL/T-III booster configuration to USAF and DDR&E during the week of November 8, 1965.
- C. Contract is to be let with David Clarke on the MOL pressure suit during early November.
- D. The next MOL Program Review Meeting is scheduled for November 15, 1965 at SSD.
- E. A MOL briefing at the SECRET level is scheduled for staff members of the Subcommittee on Military Operations, House Committee on Government Operations, by SAFSL on 17 November 1965.

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V. DUE DATE FOR NEXT STATUS REPORT

Next monthly MOL Program Status Report to be submitted

December 6, 1965.

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