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DEPARTMENT OF THE AIR FORCE
WASHINGTON

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OFFICE OF THE SECRETARY

7 - OCT 1965

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 September 30, 1965 and is submitted in accordance with the September 16, 1965 instructions from the Office of the Secretary.

Effective with this report, the monthly Status Report is being extended in scope to include BYEMAN classified events. This inclusion is made with the objective that the report might be of more meaningful assistance in keeping you informed of total program events. 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. The President's Science Advisory Committee (PSAC) has imposed the requirement that the optical sensor on 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 limited resources of the MOL Program. It is becoming increasingly clear as a consequence of the studies to date that a MOL vehicle that is designed for optimum manned operation is difficult to operate effectively in an unmanned mode also. At this time, it appears that new inventions, not presently state-of-the-art, are required to perform functions for which man is capable.

A decision must be made early in the program as to how the alternative unmanned capability will be developed. To provide the basis for this decision, the MOL Systems Office has been directed to undertake a two- to three-month analysis of the manned and unmanned versions in order to identify the critical aspects of the two approaches, including the impact on spacecraft and system design. In addition, immediate effort has been initiated on the

critical automatic subsystems required for the unmanned system such as V/H sensor, image trackers, improved navigation systems for open loop V/H determination, and optical and mechanical devices for partial or total compensation of variations of image motion across the format.

Program direction at the present time dictates a flight demonstration of the unmanned mode at the best feasible resolution within nine months after the first manned flight.

A report to the DNRO will be given about the middle of December on the results of this analysis together with a recommended course of action, and on the progress in developing critical automatic subsystems.

B. Schedules and Alternate Mission Payloads:

Related to the above is the importance which is associated with accomplishing a manned MOL mission in late CY 1968. This date was stated by the President in his August 25, 1965 MOL announcement. Optics are currently the pacing item and will undoubtedly preclude a manned optical reconnaissance mission prior to mid CY 1969. Hence, it is desirable to plan immediately for an alternate mission payload for a manned flight in late CY 1968.

MOL Systems Office has been asked to look at alternate payloads and their degree of compatibility with MOL vehicle design. This subject is being proposed as an agenda item to be discussed with the MOL Policy Committee on October 14, 1965.

II. CHANGE PAST MONTH

A. Secretary Zuckert approved on September 7, 1965 the recommendation that the MOL be deleted as a subject for the Designated Systems Management Group (DSMG) review.

B. A presentation was made to Dr. Flax, SAFRD, on September 10, 1965 covering justification of funds required for the MOL Contract Definition Phase activities. In conjunction with this briefing, a memorandum was prepared and forwarded to DDR&E requesting the approval and release of $62.0 million for the continuation of Pre-MOL activities and the initiation of the Contract Definition Phase.

C. On September 10, 1965 Mr. Gehring who is on the staff of Senator Clinton Anderson received a DORIAN classified briefing on the MOL Program.

D. Dr. Brown, DDR&E, was briefed on September 11, 1965 on the status, projected schedules, and funding requirements associated with Definition Phase activities.

E. On September 13, 1965 Mr. Kirk, DDR&E, and staff were given a "white" briefing on the MOL Program.

F. On September 14, 1965, Messrs. Thomas, Crabil, and Linder, Bureau of Budget (BOB), were given a DORIAN program briefing on MOL.

G. General Cabell, Special Consultant to NASA, was briefed at the DORIAN level on September 16 and September 22 by the SAFSL staff.

H. The Vice Director, MOL and Staff briefed the Assistant Secretary of Navy (R&D) and the Deputy Chief of Naval Operations (Development) on MOL Program status on September 17, 1965.

I. Lt General Deane, Arms Control Disarmament Agency (ACDA) received a DORIAN classified briefing on MOL on September 19, 1965.

J. DDR&E in a memorandum to the Secretary of the Air Force on September 20, 1965, approved the release of $62.0 million to fund for the continuation of Pre-MOL activities and the procurements required and associated with the Definition Phase.

K. On September 21, 1965 Mr. W. F. Boone, on Senator Teague's staff, was given a DORIAN program briefing on MOL.

L. Navy personnel presented to the Vice Director, MOL and staff on 22 September 1965 their requirements for conducting the Ocean Surveillance mission utilizing MOL or other space vehicles. The objective of the presentation was to justify the release of MOL funds (approximately $2.0 million) for continuation of concept formulation and in-house Navy support. Additional justification will be presented in December 1965 prior to further release of funds for Phase I Contract Definition, which is tentatively scheduled to commence in January 1966.

M. An Air Staff Board of general officers responsible for developing and recommending selection criteria and for performing the selection of the first increment of MOL astronauts met at Headquarters USAF on September 21, September 22, September 24, and September 28, 1965.

N. The Director, MOL held his first Program Review meeting at SSD on September 28-29. These meetings are planned on a frequent basis, at least once a month, to review with the Director, MOL the status of program activities and the identification of problems which could affect program costs, schedules or performance.

O. The Secretary of the Air Force has scheduled the third meeting of the MOL Policy Committee for October 14, 1965. Members have been notified.

P. Request for Proposals/Work Statements were issued to Douglas, General Electric, and Eastman Kodak during the month. The work packages cover the associate contractors' assigned area of responsibilities and their specific tasks for conduct of the MOL Definition Phase. Program events are scheduled to have negotiations completed and to be on contract with each of the associates in early October 1965.

III. CURRENT STATUS

A. Laboratory Module

The RFP/Work Statement on the Laboratory Module was released to Douglas on September 1, 1965. The contractor responded in late September with his proposal and a fixed price estimate for the Contract Definition Phase. Formal negotiations were commenced on September 30 and are continuing. An effective contract date in early October is planned. It is anticipated that Phase I definition will take approximately seven months to complete followed immediately thereafter with the initiation of Phase II acquisition in May of next year.

Douglas plans to compete each of the major subsystems for which they are responsible; such as stabilization and control, power supply, environmental control, data management, communications,

mission simulation, cryogenic storage system, etc. The subcontractor structure should be submitted to the Air Force for their approval within six weeks.

B. Mission Module

The RFP/Work Statement on the Mission Module was discussed with General Electric on September 20 and formally released to the contractor on September 24. The contractor responded with his Definition Phase proposal and negotiations commenced on September 28. It is hoped that negotiations will proceed sufficiently well as to allow an early October effective contract date. This contract as presently structured will be administered as a totally "black" effort. This could present a difficulty under the strict security provisions involved in providing the required exchange of interface date between GE and the other vehicle contractors.

C. Mission Payload

Eastman Kodak responded with his fixed price proposal and negotiations were concluded with the contractor in late September, allowing for an effective contract date of October 1 for his Phase I effort. This will be administered as a totally "black" effort.

D. Titan IIIC/Gemini B

Contracts with Martin and McDonnell for Titan IIIC/Gemini B definition were negotiated with each of the associates

in May 1965 and work continues in each of these areas. Final submittal and approval of recommendation on the uprated Titan IIIC/ MOL design configuration is due December 1, 1965. Compatibility studies concluded to date support the 7-segment 120-inch solid rocket motors and the 15 to 1 nozzle expansion ratio for the first stage liquid engine as the "baseline" booster configuration for the MOL program.

E. MOL System Specification

The MOL System Specification is presently written to include only "white" information. This document is being revised to include a "black" addenda to show total program scope.

F. MOL Astronauts Selection

The activity leading to the selection of the first increment of crew members to be assigned to the MOL program is nearing completion. It is anticipated that the list of selectees, including six Air Force and two Navy officers, will be submitted to the Secretary of the Air Force for approval at the MOL Policy Committee Meeting on October 14, 1965.

IV. FORECAST FOR FUTURE

A. All major associate contractors to complete negotiations and be on contract for the Definition Phase in early October 1965.

B. The third MOL Policy Committee scheduled for October14, 1965.

C. List of MOL astronaut selectees to be submitted to the Secretary of the Air Force for approval on October 14, 1965.

D. Tentative date for the next Program Review Meeting at SSD scheduled for week of October 18.

E. Director, MOL will meet with top management of Douglas, General Electric, Martin and McDonnell at SSD during mid-October to discuss MOL program objectives and Air Force/Industry management relationships.

V. DUE DATE OF NEXT STATUS REPORT

Next monthly MOL Program Status Report to be submitted November 5, 1965.