

~~SECRET~~

DEPARTMENT OF THE AIR FORCE
WASHINGTON 20330

Handle via BYEMAN
Control System

HIS-13-12-a



OFFICE OF THE SECRETARY

NOV 2 1968

MEMORANDUM FOR RECORD

SUBJECT: Program Review Council Meeting, 24 October 1968

The PRC was held in the MOL Systems Office conference room at 1330 hours. The principals in attendance were:

AIR FORCE

DDR&E

Dr. Alexander Flax
General James T. Stewart
General Joseph S. Bleymaier
General John L. Martin, Jr.
General Russell A. Berg
Dr. Michael Yarymovich
Mr. Sam Hubbard

I. Nevin Palley

AEROSPACE

Dr. B. P. Leonard
Mr. Walter Williams

PROGRAM STATUS:

Financial Status:

General Bleymaier reviewed the contractor's financial positions through the first quarter of FY 69 which reflected a negative \$1.8 M variance between government funding and contractor actuals. This figure included the pay back to the contractors of the program variance of \$27 M existing at the close of FY 68. It was pointed out that the year end FY 68 variance consisted entirely of non-cancellable commitments and no cash flow problems were involved. The projection of contractor funding estimates thru the end of FY 69 shows a contractor requirement of \$1330.2 M. If accurate, this would result in a negative variance of \$92.6 M with respect to available government funding at the close of the fiscal year. The size of this variance undoubtedly includes the contractor's

DORIAN
Handle via BYEMAN
Control System

Page 1 of 5 Pages
Copy 1 of 6 Copies
SAFSL BYE 68473-68

~~SECRET~~

168



H
1
BYE-68473/68

~~SECRET~~

Handle via BYEMAN
Control System

desire to establish both a more favorable position during the current fiscal year and also a favorable position on entering contract negotiations scheduled for later on this year. General Bleymaier assured the PRC that this variance would not come to pass and it would be very carefully controlled during the course of the fiscal year (the goal is an end-FY 69 variance generally comparable with end-FY 68). In summarizing contractor manpower status for FY 69, General Bleymaier reported a current total of 11,131 direct and indirect equivalent contractor manpower loading. The projected figure for the end of the fiscal year is 13,429. In this connection, General Bleymaier also pointed out that current labor contracts being negotiated with the Aerospace industries projected sizeable increases in labor costs for each of the next several years.

Schedules:

General Bleymaier briefly reviewed the current MOL baseline master schedule and compared that schedule with the January 1968 baseline. Principal milestones for the first quarter of FY 69 were discussed and they showed that the program was satisfactorily meeting baseline milestones during the quarter. Major milestones for the second quarter of FY 69 were described.

Contractual Status:

The contract negotiation schedules were reviewed. Negotiations will begin with General Electric on 15 October as the first item on the schedule. By late November, negotiations will be in progress with all of the Associate Contractors.

Construction Status:

The MOL facilities construction schedule was reviewed and all items appear to be making satisfactory progress at the launch base.

Support Ship Requirement:

General Bleymaier restated the MOL Program need for surface ship support to cover ascent abort contingencies.

DORIAN

Handle via BYEMAN
Control System

~~SECRET~~

Page 2 of 5 Pages
Copy 1 of 6 Copies
SAFSL BYE 68473-68

~~SECRET~~

Handle via BYEMAN
Control System

He pointed out that the USNS Longview and Sunnyvale were adequate for MOL needs and that MOL requirements should be considered in the formulation of plans for the future use of these two ships.

MOL/NASA Bioastronautics Interface:

General Bleymaier briefly reviewed MOL bioastronautics support to the NASA Apollo Program. He explained that two MOL Flight Surgeons are assigned to each manned Apollo mission as participants throughout all phases of pre-launch preparation and mission operations. Additionally, bioenvironmental engineers and pressure suit technicians have been actively participating with NASA and receive the benefit of both training and experience in manned space flight operations. General Bleymaier briefly commented on the joint development areas between MOL and Apollo. These include feeding system development, waste management system development, radiation monitoring, crew accommodations, EC/LS basic research and medical contingencies management.

MOL/ADS Status:

General Bleymaier reported that the MOL Automatic Data System requirements at the SCF were still undergoing continuing review. All MOL requirements have been identified and screened.

TECHNICAL STATUS:

Weight and Power Summary:

Dr. Howard of the Aerospace Corporation reviewed the orbiting vehicle weight history and summary. The weight review concluded that the program was tracking very well within its weight allocations. Projected weight changes (both plus and minus) will not significantly change the present total. At the present time, a payload margin of approximately 1500 lbs exists with respect to booster capabilities at 90° inclinations. The general impression is that the actual launch weight may come in slightly under the present total of approximately 29,500 lbs.

DORIAN

Page 3 of 5 Pages
Copy 1 of 6 Copies
SAFSL BYE 68473-68

Handle via BYEMAN
Control System

~~SECRET~~

~~SECRET~~

Handle via BYEMAN
Control System

The orbiting vehicle peak and average power review disclosed that power requirements are well within system capabilities.

Special Material Requirements:

Mr. McGhee of Aerospace Corporation presented a review of the status of tracking mirror materials. He compared progress and thermal characteristics between fused silica, Cer-vit, and ULE. It was concluded that both Cer-vit and ULE are acceptable from all viewpoints as tracking mirror materials. It was recommended by the Systems Office that ULE be selected as the primary material. This was approved. The plan to be implemented will authorize EKC to procure six 72" ULE tracking mirror blanks with a target coefficient of expansion of $.03 \times 10^{-6}/^{\circ}\text{C}$. This will assure ULE Tracking Mirrors for Flight 3 and ULE for the Primary Mirrors for Flight 5 and subsequent. The Cer-vit contract will be redirected within present funds to provide three solid masters as reference surfaces for the test chambers and three lightweight 72" machined blanks with a low coefficient goal. The schedule acquisition interval from the placing of an order for a mirror blank to flight date was reaffirmed to be approximately 44 months. This remains the longest reorder lead time of any MOL system component.

Loads Status:

Mr. Herndon of Aerospace Corporation reviewed the MOL structural loads analysis program. He described the approach being used in MOL to do structural loads analysis both dynamically and statically. He described the failure of the COA under an asymmetrical loading and the proposed "doubler" fix. Present activity in the load analysis program was described in detail including data flow between contractors.

Comments on Contamination:

Mr. Barry Moss of Aerospace Corporation reported status on MOL contamination studies. A considerable amount of work is being conducted on this subject. The major effort, at this time, is being directed at defining the environment, sources

DORIAN

Page 4 of 5 Pages
Copy 1 of 6 Copies
SAFSL BYE 68473-68

Handle via BYEMAN
Control System

~~SECRET~~

~~SECRET~~

Handle via BYEMAN
Control System

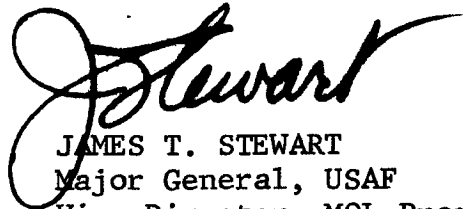
of contamination, and the effects of these sources. At this point it has not been demonstrated that MOL has a contamination problem with regard to the camera or the size of the problem, if any, for other items such as the horizon sensors, star trackers, etc. There is sufficient interest and concern in this area to cause the Systems Office to pursue this question vigorously. A number of tests and analytical efforts are in progress to obtain a better understanding of the situation.

Miscellaneous:

General Bleymaier briefly reported on information available from Apollo 7 that is pertinent to MOL. Items discussed included excessive cabin fan noise, loss of AC Buss, water condensation in the cabin, overheating of biomedical sensors, and window and sextant contamination. These Apollo 7 discrepancies had only been identified with no analytical or diagnostic information available at the time of the meeting.

The fuel cell competition was briefly discussed. It was noted that Pratt and Whitney, Allis Chalmers, and General Electric submitted proposals (the latter was not compatible by a year or more with MOL needs). The DAC evaluation is underway toward a mid-November decision.

Charts used in this presentation are on file with the Program and Policies Division (SAFSLP).



JAMES T. STEWART
Major General, USAF
Vice Director, MOL Program

DORIAN

Handle via BYEMAN
Control System

~~SECRET~~

Page 5 of 5 Pages
Copy 1 of 6 Copies
SAFSL BYE 68473-68