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MEMORANDUM FOR RECORD

SUBJECT: Program Review Council Meeting

A Program Review Council Meeting was convened in the Pentagon on February 20 at 1400 hours. Principals in attendance were:

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| Dr. Flax | General Berg |
| General Ferguson | Mr. Kirk |
| General Stewart | Dr. Yarymovych |
| General Bleymaier | Dr. Leonard |
| General Martin | |

A resume of the major discussions, actions and decisions follows.

Deputy Director's Report

General Bleymaier reviewed program status and progress since the December 8 PRC meeting and the guidance resulting therefrom.

An open item from that meeting was the LMQTV low level acoustic testing requirement. Proper low level acoustic testing of the LMQTV will require a new facility and may present some problems with respect to schedule and hardware exchange requirements. Dr. Flax agreed that the current hardware flow and existing test plans may be so inflexible that they would emasculate any acoustic testing inserted into the present test cycle for the LMQTV. He asked if acoustic testing was necessary and what the effect would be of not performing low level acoustic tests in light of all the other testing which would be accomplished. The Systems Office/Aerospace is to respond to these questions and determine the impact and costs of low level acoustic testing on the Laboratory Module.

General Bleymaier then reviewed near term program milestones and discussed program and contractor financial progress. There is a high degree of confidence regarding our ability to keep program exposure within the manageable limit of something less than \$35M at FY 68 year end. Douglas is expected to end up with exposure of about \$8M, GE \$11M and the other associates with lesser amounts, but the total is expected to be well within the nominal limit set by Dr. Flax.

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It was also noted that the required contractors reductions to MOL applied manpower had been accomplished without requiring substantial lay-offs. Instead, the people had been absorbed into other company efforts.

Support Module (Dr. Leonard)

Currently EKC is on contract for a single platen film handling system which will accommodate 300# of film, sufficient for a 60 day mission with 6 DRV's on flights 6 and 7.

The phase IA study on extended duration unmanned missions was completed in January. The study considered Orbiting Vehicle and DRV design, ground system requirements and reliability. TB and UTB film, 6 and 8 DRV, 1 and 2 platen cameras were among the details examined. Among the conclusions drawn from the study are that overall unmanned vehicle reliability is ~ 70% for a 30 day mission; ~ 50% for a 60 day mission; and the 6 bucket configuration (standard Mark V RV), using UTB film, is sufficient for the 60 day mission.

Dr. Leonard noted that there was some disagreement between GE and Aerospace as to the power requirements for vehicle operational life on orbit. Dr. Leonard indicated that he thought the Aerospace power requirement estimate, which is lower than GE's, would prove to be more nearly correct. The Aerospace number is very close to the baseline capability.

Approximately \$51 million of SM costs are deferred (but included in future year estimates) at the present time. This total is divided primarily between McDonnell Douglas (HB) and GE. A significantly lesser amount is deferred from the EKC contract. The total is fairly evenly spread over FY 69/70/71. The extended duration capability (60 day) requires an additional \$13 million, with an increase of \$1.6 million to the currently planned FY 68 effort.

Dr. Flax remarked that it would be hard to justify the T-IIIM booster for a 30 day unmanned mission capability. In this mission configuration the booster would have an excess throw weight capability of ~8000#. He noted that we must go for the 60 day mission capability to support previous commitments. General Ferguson concurred. The decision is to proceed with the extended duration (60 day) unmanned capability for flights 6 and 7. The increase from \$51 to \$64 million of applicable deferrals is approved.

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Low Coefficient Materials (Col Knolle)

The common critical consideration for the tracking, primary, Ross and Newtonian fold, and solid master test, mirrors is the temperature gradient tolerance on orbit and during test. A second but equally critical consideration is the ability to cast and polish to an acceptable tolerance and figure the optical glass.

It appears that the difficulties associated with casting acceptable Cer-Vit material to 12" thickness precludes its use for primary mirrors due to the requirement imposed by the TM ring, flexures and launch locks and COA end cap, all of which are being engineered for 12" thickness mirrors. Fused silica and ULE are superior choices from the standpoint of producibility.

It was recommended to Dr. Flax that rather than carry all three materials for both the primary and tracking mirrors, we proceed as follows: EKC be authorized to initiate procurement of ULE asphere blanks for the primary mirrors. We will retain the present fused silica approach as an alternate to ULE. For the tracking mirrors, we will continue with both ULE and Cer-Vit. A decision will be made not later than August 1968 as to which of the two materials to use. All flight folding mirrors will use ULE. Solid master test mirrors will include a minimum of three Cer-Vit mirrors.

Dr. Flax approved the plan recommended as regards mirror materials.

Colonel Knolle presented an evaluation plan for the optical system. This evaluation will be conducted primarily in-house with the participation of selected experts outside the DoD establishment. Dr. Flax concurred and recommended that Drs. Mynel and O'Brien be invited to participate.

Contract Negotiations (Gen Bleymaier)

General Bleymaier then summarized with a presentation of the schedule for completing negotiations. In response to a question from Dr. Flax, General Bleymaier confirmed that when these negotiations are completed they will include, in the definitized contract, everything that is known to be part of the baseline program. Further, the costs will not exceed the currently established \$2.84 billion phase II estimate, and may actually be contracted for something less.

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Congressional Activities (General Stewart)

General Stewart described the results of his briefings and meetings with Congressional members and committees. His opinion was that these had been useful and that the program enjoyed good key Congressional support.

Dr. Flax requested that General Stewart brief the Senate Space Committee before Dr. Foster appears before the congressional committee in March.

Discussion

Dr. Flax wants a non-Byeman classified paper on the MOL Safety Plan and Organizational Responsibilities within the next three weeks. General Stewart further recommended that there be a safety review this summer, and then an annual safety review each year. Dr. Flax is to be provided a 2-3 page safety resume for possible use by Dr. Foster during Congressional sessions.

(Program Office/Systems Office action)

Dr. Leonard pointed out that when the secondary platen was used, IR film requirements would take light from the IVS and might degrade the primary mission capability. Dr. Flax stated that the IVS has priority over IR applications in the MOL program. He then instructed General Berg to determine if there is a requirement for IR as part of the MOL mission.* Dr. Flax enlarged the scope of his discussion to the extent that he also agreed that [REDACTED] experiments not be considered in the baseline program.

The briefing charts used at this meeting are on file with the Program and Policies Division (SAFSLP).

The meeting adjourned at 1600 hours.

Action Item Summary

LMQTV Acoustic Testing - Systems Office/Aerospace are to present Dr. Flax with a detailed analysis of the costs and schedules required for a low level acoustic test facility. This analysis is to include an assessment of the probable effects of not conducting such tests.

Low Coefficient Materials - An evaluation team is to be established by the Systems Office to review actions and activities to date and the plan for the near term. Drs. Mynel and O'Brien will be invited to participate as members of the team.

* General Berg confirmed no requirement for IR. TWX [REDACTED] 1013) sent to SO February 20.

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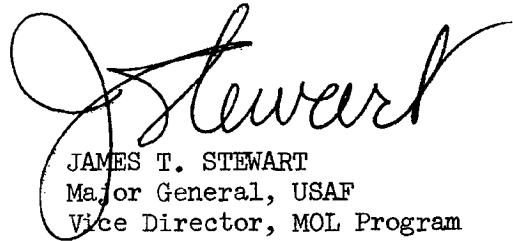
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Safety - Dr. Flax is to be provided a non-Byeman classified paper on the MOL Safety Plan and Organizational Responsibilities. As an adjunct to this paper, a 2-3 page safety resume is to be provided for Dr. Foster's use during his appearance before Congressional Committee.

Congressional - General Stewart is to brief the Senate Space Committee before March 15.



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

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