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DEPARTMENT OF THE AIR FORCE  
WASHINGTON 20330

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OFFICE OF THE SECRETARY

8 June 1969

General Bleymaier:

The purpose of this note is to give you an idea of the future plans for the DORIAN camera system -- as I understand them -- as guidance for what should be terminated and what should be continued in the present MOL Program.

Starting a couple of years back, LMSC accomplished some studies for SAFSP on the possibility of combining the DORIAN camera system (including the Mission Module structure) and the HEXAGON spacecraft. Both T-IIID and T-IIIM launched versions were studied (main differences being in number of RV's and orbital lifetime). Most LMSC effort was focused on the T-IIID launched version, and some design changes were made in both the HEXAGON spacecraft and launch facility to preserve the option of possibly carrying the DORIAN camera at some future date. The MOL Systems Office (Skantze) periodically has provided SAFSP/LMSC info and data on the camera.

The LMSC studies of the T-IIID launched version assumed a "GFE" complete Mission Module, camera assembly, film supply, computer, camera controls, etc. LMSC proposed to mount the HEXAGON Satellite Control Section on the aft end of the MOL Mission Module; build a new short section ahead of the Mission Module to house the camera, film supply, computer, etc., and carry four Mark V RV's in tandem on the front end. Using the T-IIID, an approximate 60 day lifetime appears possible.

The cost estimates for the LMSC portion seemed very low to me. (They were "validated" by SAFSP and their Aerospace people); however, great dependence was placed on the suitability of production of HEXAGON components from an on-going HEXAGON Program. Very few camera/spacecraft integration problems were assumed, although certain areas (dynamics, thermal, etc.) were analyzed in some depth. However, even if the LMSC cost estimates

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are low by a factor of 2 or 3, that approach appears to be considerably cheaper than either the manned MOL or the previously planned unmanned version of MOL (the former FV's 6 & 7).

When MOL termination was considered a couple of months back, it was agreed that at the least, an option for a future VHR system should be preserved . . . . . More recently, the specific question posed to the Land PSAC Panel concerned the feasibility of going unmanned at the outset with the DORIAN camera in a HEXAGON on HEXAGON-like spacecraft. (They, of course, "voted" affirmative).

When it was decided to terminate MOL and continue only the "automatic" camera system effort, some DDR&E people and the Land Panel advocated an immediate "marriage" with the HEXAGON spacecraft. I objected to this on the basis that the LMSC studies were "shallow" (there was no direct GE and EK participation), glossed over integration problems too lightly, and were grossly under-estimated cost-wise. I suggested instead that a limited, covert spacecraft competition be held in FY 70, that only limited progress be made on the camera system in FY 70, and that a new system be started in late FY 70 or early FY 71. That was adopted as the general approach (it was also the lowest in FY 70 costs).

The plan for FY 70 generally is as follows: Using the DORIAN camera/Mission Module generally as is (only removing crew-related items and developing the unmanned controls previously planned), a performance spec and RFP for a T-IIID-launched unmanned system is to be developed in the next two months. Then, a funded covert spacecraft competition will be held between LMSC and Mc-Donnell-Douglas (presumably, the latter would propose the use of maximum components developed for MOL; LMSC's proposal would be based on the HEXAGON system). A winner is to be selected in the second half of FY 70 and the spacecraft development -- assuming the expected performance, reliability, etc., appears to be worth the cost -- started shortly thereafter. The first launch would take place in CY 1973.

I understand that about [REDACTED] will be included in the NRP budget for all camera system and camera system-related

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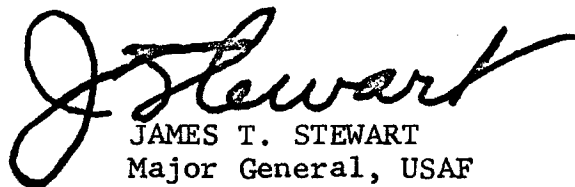
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efforts (including subcontractors) in FY 70. Up to [REDACTED] more probably will also be included for the funded spacecraft competitions and for a possible late FY-70 start of spacecraft development ..... MOL termination costs beyond the Obligation Authority available to MOL on June 10 will be budgeted elsewhere.

The new project will be a part of the NRP and managed by SAFSP as soon as practicable. Since SAFSS/SAFSP apparently are somewhat swamped at this time, I may be directed to head up a team of MOL (Skantze's office, plus others), SAFSS, and SAFSP people in the interim to prepare the plan and RFP for the new spacecraft. I assume SAFSP will take over the DORIAN contracts early in FY 70 and responsibility for the entire program by early Fall ..... In the interim, we will have to reorient and replan the EK and GE efforts as best we can (deferring any new developments unique to the unmanned system until it is more precisely defined).

I hope the preceding is helpful in determining what should be continued, changed, or terminated immediately ..... Larry Skantze is cleared on HEXAGON and is generally familiar with the LMSC studies and should be helpful in that regard.

It is important fund-wise that MOL activities be turned off or down ASAP. I will come to LA as soon as possible and help you sort out the pieces.



JAMES T. STEWART  
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Vice Director, MOL Program

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