



January 9, 1967

MEMORANDUM TO SAF-SLP (Colonel Randall)

SUBJECT: Action Items from Last MOL Program Review

I suggest the following text for your memorandum for record on the past meeting;

1. MOL Participation in NASA's Orbital Workshop

A review of the actions taken to date together with a description of the NASA program and the three MOL-sponsored experiments was presented. A proposal has been received from Douglas to prepare the three experiments (Integrated Maintenance Equipment, Suit-Donning and Sleep Station Evaluation, and Evaluation of Alternate Restraints) for a sum of \$3.2 million. The SPO estimate is \$2.8 plus \$1.15 for use for integration, space suits, and contract changes. A number of NASA program changes which might affect Air Force participation were discussed. The most significant were that MOL will be billed for integration costs, and that because of the inclusion of the mapping and survey system DOD policy precludes the use of a MOL astronaut on the Orbital Workshop. After extensive discussions of various options, ranging from continued participation, through scope reduction, to complete Air Force withdrawal, it was decided that:

a. The MOL Systems Office will reexamine the validity and usefulness of including an active molecular sieve, particularly in light of the absence of a MOL astronaut. Pending a final decision on the V-018 experiment, the Systems Office will proceed on a letter contract basis with Douglas for the entire package while negotiating the experiments contract.

b. The Vice Director, MOL will explore with NASA the possibility of having them assume the experiment integration costs, making that, or at least a firm fixed integration cost agreement, a condition of MOL's continued participation.

ACTION: General Evans/Colonel Edwards.

SUSPENSE DATE: Next MOL Program Review.

2. Tracking Mission Thermal Distortion

A review of the tracking mission distortion problems due to earth reflected energy absorption was presented. Various designs of mechanisms to minimize thermal distortions were discussed. Most concepts, although

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mechanically highly complicated, were insufficient to reduce the distortions to acceptable levels so as to keep the system at a [REDACTED] performance level without degradation in time. A GE proposed combination of louvres and a pitch mask when used with Cer-Vit material for the mirror appears to provide satisfactory performance. It was decided to institute a design incorporating a pitch mask and institute action required to insure that Cer-Vit is suitable backup for fused silica. This engineering solution will be reexamined in February pending the generation of more data from GE, EK, DAC, and review of Cer-Vit progress.

ACTION: Colonel Heran.

SUSPENSE DATE: Next Program Review.

MICHAEL I. YARYMOVYCH
Technical Director
MOL Program

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DELIVERY TO MGEN EVANS BY 0830 EST/10 JAN 66.
SUBJECT: GUIDANCE/DECISIONS FROM MOL MONTHLY MANAGEMENT MEETING, 5 JAN 67. THE PURPOSE OF THIS MESSAGE IS TO DOCUMENT MY UNDERSTANDING OF THE DECISIONS MADE OR GUIDANCE GIVEN TO THE SPO AS A RESULT OF SUBJECT MEETING. UNLESS INFORMED TO THE CONTRARY, I WILL ASSUME THAT WE ARE IN MUTUAL AGREEMENT WITH THE UNDERSTANDING AS OUTLINED BELOW:

A. I AM AUTHORIZED TO PROCEED AGAINST THE FY 67 FUNDING LEVEL OF 228.4 NM PLUS 58.0 CARRYOVER FUNDS FOR A TOTAL OF 286.4NM. FOR FY 1968, I MAY PROCEED ON A PLANNED EXPENDITURE RATE OF 587.0; HOWEVER, A DECISION WILL BE MADE DURING THE JUNE/JULY TIME PERIOD AS TO WHETHER OR NOT IT WILL BE REQUIRED TO LEVEL OFF THE CONTRACTOR EFFORT AT THE 510.0M LEVEL OR SOME HIGHER AMOUNT TO BE DETERMINED.

B. THE NEED WAS RECOGNIZED FOR MINIMIZING EARLY FISCAL YEAR FUNDING REQUIREMENTS THROUGH THE USE OF SPECIAL CLAUSES IN OUR MAJOR CONTRACTS, BOTH BLACK AND WHITE, WHICH WILL ALLOW THE SPO TO PLACE ON CONTRACT ONLY THOSE FUNDS NECESSARY TO COVER THE CONTRACTORS'S EXPENDITURES AND EARNED FEE. IT WAS NOTED THAT THE AFSC PROCUREMENT COMMITTEE HAS BEEN REQUESTED TO REVIEW AND CONCUR IN THE USE OF A SPECIAL CLAUSE CONCERNING SUBCONTRACTS OR WHITE CONTRACTS. [REDACTED] IS TO DIRECT INCLUSION OF AN APPROVED CLAUSE IN THE BLACK CONTRACTS TO PERMIT NOT FUNDING PRIME CONTRACTOR TERMINATION LIABILITY. HOWEVER, SHOULD EITHER

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OF THESE EFFORTS NOT BE FRUITFUL, YOU WILL INTERCEDE TO DIRECT THE NECESSARY ACTION TO ACHIEVE THIS OBJECTIVE.

C. OUR PLAN WAS APPROVED FOR DEFINITIZING THE ITEMS DEFERRED FROM THE BASIC CONTRACTS NEGOTIATIONS ON A TIMELY BASIS PRIOR TO THE END OF FY 1967.

D. WE WILL CONTINUE TO PARTICIPATE WITH NASA'S S-IVB SPENT STAGE PROGRAM; HOWEVER, THE SPO WILL RE-JUSTIFY THE MOL MOLECULAR SIEVE EXPERIMENT. YOUR OFFICE WILL DISCUSS WITH NASA THE POSSIBILITY OF NASA ABSORBING THE INTEGRATION COST ASSOCIATED WITH MOL EXPERIMENTS OR TO GET A FIXED PRICE COMMITMENT FOR THE EFFORT IF THESE ARE TO BE MOL FUNDED. NO MOL ASTRONAUTS WILL PARTICIPATE IN THE S-IVB PROGRAM.

E. RELATIVE TO THE DATA READ-DOWN SYSTEM AND THE DATA RECOVERY VEHICLE, THE SPO WILL CONTINUE WITH BOTH SYSTEMS IN THE BASELINE PROGRAM UNTIL 1 APRIL. WHILE CBS IS UNDER CONTRACTUAL COVERAGE UNTIL 1 APRIL, THE DOUGLAS STUDY EFFORT TERMINATED IN LATE DEC. 1966. IN ORDER TO INSURE THE NECESSARY DESIGN INTEGRATION WORK IS EXECUTED, CONTRACTUAL COVERAGE FOR THIS EFFORT WITH DOUGLAS IS TO BE IMPLEMENTED. THE COSTS ASSOCIATED WITH THIS EFFORT AND THE IMPACT OF DELAYING IT UNTIL THE DECISION DATE OF 1 APRIL WILL BE ASSESSED BY THE SPO AND WILL BE FORWARDED TO YOU FOR YOUR INFORMATION.

F. WE WILL CONTINUE THE DESIGN APPROACH FOR THE THERMAL DOOR AS BRIEFED. THIS ITEM WILL BE REVIEWED AT THE NEXT MONTHLY MANAGEMENT MEETING.

G. CONCERNING THE ACOUSTIC AND VIBRATION TESTING, WE WERE AUTHORIZED TO PROTECT THE LONG LEAD-TIME ITEMS FOR A LOW LEVEL ACOUSTIC TEST FACILITY AT EK AT AN RCM COST OF \$200,000. IT IS UNDERSTOOD THAT THIS WORK WOULD BE CARRIED OUT IN SUCH A MANNER AS NOT TO PRECLUDE THE OPTION OF A HIGHER LEVEL ACOUSTIC CAPABILITY FOLLOWING FURTHER REVIEW. THE PLAN FOR LOW LEVEL ACOUSTIC ACCEPTANCE TESTING OF THE MISSION MODULE AND VIBRATION TESTING OF THE LAB MODULE WAS AGREED UPON. ADDITIONALLY, WE WERE TO PROVIDE CONTRACTOR COSTS OF INCORPORATING A LAB MODULE QUALIFICATION PROGRAM BASED BOTH ON QUAL LEVEL TESTING AND FLIGHT LEVEL TESTING. THE PLAN FOR LOW LEVEL LABORATORY VEHICLE SYSTEM VIBRATION ACCEPTANCE TESTING BY USING RANDOM EXCITATION AT SELECTED POINTS AND UTILIZING AN ELASTIC RESTRAINT SUPPORT (BUNGEE) WAS ALSO APPROVED.

H. THE SUPPORT MODULE WAS APPROVED AS BRIEFED.

I. THE SPO IS TO PROVIDE A PROCUREMENT PLAN WITH FY FUNDING LEVEL THAT WOULD COVER THE CONTINGENCIES OF FAILURE OF FLIGHT 1 OR THE CONTINGENCY THAT DUE TO FAILURE OF ONE OF THE MANNED FLIGHTS, THE DESIRABILITY OF MAKING FLIGHTS 6 OR 7 MANNED FLIGHTS. THE MANNED FLIGHT 6 OR 7 WOULD BE ACCOMPLISHED BY PARALLEL VEHICLE PROCUREMENT, LEAVING THE PRESENT FLIGHT 6 OR 7 ARTICLE FOR LATER USE.

THIS IS TO BE ACCOMPLISHED BY BUYING THE NECESSARY HARDWARE AS PART OF THE FOLLOW-ON PROGRAM.

J. APPROVAL WAS GRANTED TO PROCEED WITH THE ACQUISITION AND TRACKING SYSTEM AS BRIEFED. GE HAS NEGOTIATED WITH ITEK FOR A CONTRACT COST OF 7.5M. IT IS ESTIMATED THAT THE GE INTEGRATION COSTS WILL BE APPROXIMATELY 6.0M AND THE DOUGLAS INTEGRATION COST IS ESTIMATED ALSO AT 6.0M FOR A TOTAL OF 19.5M. 30.0M FOR GE AND 6.0M FOR DOUGLAS HAD BEEN SET ASIDE FOR THIS TASK.

K. AUTHORITY WAS GRANTED TO PROCEED ON THE SIMULATION PROGRAM AS PRESENTED. HOWEVER, DR. FLAX EXPRESSED AN INTEREST IN BRINGING AN AIRCRAFT SIMULATION INTO THE PROGRAM. WE ARE INVESTIGATING THE FEASIBILITY AND WILL ADVISE YOU.

L. SECRETARY BROWN WAS FORWARDING TO THE SECDEF OUR REQUEST FOR A DX RATING.

M. ACTION FOR EXPEDITING THE MOL "AUTHORITY TO PROCEED" IS BEING TAKEN BY YOUR OFFICE.

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