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MINUTES OF MEETING 65-4

AIR FORCE MOL POLICY COMMITTEE

Tuesday, November 30, 1965

Room 4E871, Pentagon

Attendance:

Committee:

Hon. Harold Brown, Secretary of the Air Force, Chairman
General John P. McConnell, Chief of Staff, USAF
Hon. Norman S. Paul, Under Secretary of the Air Force
General B. A. Schriever, Commander, AFSC
Hon. Alexander H. Flax, Asst. Secretary of the Air Force
(R&D)
Hon. Leonard Marks, Jr., Asst. Secretary of the Air Force
(FM)
Lt General James Ferguson, DCS/R&D

Secretariat:

Brigadier General Harry L. Evans, SAFSL, Executive Secretary

Proceedings:

1. The meeting was called to order at 1000 hours. General Evans noted to the Committee that the meeting had been called at the request of the Director, MOL Program to review manned and unmanned considerations relative to MOL which had been raised by the President's Science Advisory Committee. General Evans also recommended that urgent MOL budget problems be reviewed if time would permit. Minutes of previous meetings, and old business were not considered at this meeting. Secretary Brown affirmed that he and General McConnell would have to depart at 1100 hours.

2. Colonel Lew Allen, SAFSP, opened the presentations with a brief review of the key PSAC comments at issue. This he followed with a discussion of the major factors involved in the design of unmanned MOL configurations, the manned functions which must be automated, and alternative approaches as to how this could be done. He then compared the several approaches investigated, and discussed the status of design and development of some of the needed devices. He summarized as follows:

a. The basic DORIAN optics design is near optimum for dual use--manned or unmanned.

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- b. Automatic optical system alignment, and film handling with multiple recovery vehicles appears feasible.
- c. The V/h sensor is the critical element in the unmanned configuration.
- d. The V/h sensor performance is uncertain in both precision and reliability--no DORIAN system optical simulations have been performed with such a device.
- e. Partial across-the-format motion correction appears feasible.
- f. The navigation accuracies needed seem feasible, particularly with partial across-the-format motion correction.
- g. Average unmanned system resolution will be somewhat poorer than a manned system, due to loss of man's function of centering the target.

Colonel Allen also pointed out that:

- a. Contract Definition Phase activities are currently oriented to a manned-only baseline, with minimal automation. However, participating contractors had been shown this briefing and are aware of present circumstances.
- b. Manned/unmanned studies directed by the DNRO in late September, and other relevant analyses, are well under way and detailed results are expected in mid-December.
- c. Subsystems design and test has been initiated for devices to automate the manned configuration.

He concluded that the work in progress was considered to have adequately addressed the issues of concern to PSAC, and was sufficiently comprehensive to allow decisions to be made in mid- or late-December as to the configurations which should be pursued for MOL.

3. Colonel Allen was followed by Dr. L. P. Leonard, Aerospace Corporation, who gave a brief discussion on the impact of unmanned versions of MOL on basic MOL vehicle subsystems.

4. The major elements of Committee discussion were as follows:

- a. Secretary Brown, responding to Colonel Allen's resume of PSAC comments, stated that he had not promised PSAC that the unmanned version of MOL would have the same performance as the manned version. What he did promise was an unmanned system degraded as little as possible from manned performance.

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b. Secretary Brown stated that he was not prepared to accept the PSAC conclusion that the unmanned system could achieve [REDACTED] resolution, because there is simply not enough information available to support such a contention.

c. Secretary Brown stated that we have to accept the PSAC conclusions that an unmanned system would be needed due to physiological or political considerations which may render it inadvisable to undertake manned flight, and that cost effectiveness considerations for routine reconnaissance missions may favor unmanned flights. Secretary Brown continued that, while the argument for unmanned system cost effectiveness was acceptable for some routine missions, it was not clear that the argument extended to all missions. General Schriever supported Secretary Brown's contention, and introduced factors of reliability and mission duration as major cost effectiveness considerations. The Committee generally agreed with these points.

d. Secretary Brown asked if anyone had flight tested a map-matching device: He distinguished between contour matchers and scene matchers. General McConnell noted that the Air Force has been looking for a map-matching navigation system for some time, and has not found anything satisfactory yet. The Committee was not aware of any test flights of devices of the type under discussion.

e. Secretary Brown stated that he liked the idea of working toward better navigation devices because it represented continuous improvement.

f. Secretary Brown noted that 70-inch primary/70-inch plano optical system with a [REDACTED] focal length appeared to be closer to the optimum for an unmanned configuration. In discussion it was developed that this situation was predominantly influenced by the available length of the mission module, and that other factors, such as image motion, strongly influence optimization. However, all factors considered, the current configuration was close to optimum for a dual use approach.

g. Secretary Brown noted that the presentation represented very good guidelines for the participating contractors. He also noted that if the participating contractors were able to add the devices under discussion to make the manned system automatic, then we have satisfied the PSAC.

h. General Schriever emphasized that we should continue all the analyses now under way during contract definition so that we would have a good basis to decide what to do--how to put together manned and unmanned systems, and how to automate a manned system.

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i. General Schriever stated that he had talked with Astronauts Cooper and Conrad, and noted they expressed reservations over a design approach for a manned vehicle which stressed the use of automatic modes.

j. Secretary Brown made the general observation that the presentations argued strongly for producing unmanned as well as manned MOL configurations, and then, according to the needs of specific missions, flying the configuration which offered the most advantages.

k. Secretary Brown observed that the provision for unmanned MOL operation in initial design needed to be planned for quite early, but that it would not prove itself until considerably later in the program.

4. As a few minutes remained before Secretary Brown's departure, General Evans summarized the funding situation, noting that the Program Office understood that fiscal year 1967 MOL funds were being reduced from \$374 million to \$150 million and that he was not aware of any action to address the situation. General McConnell noted, and Secretary Brown agreed, that the cut was severe. Secretary Brown stated that Dr. Foster and Dr. Flax were working on the funding problem from the standpoint of slipping the program on six and nine months bases, and recomputing FY 1967 funding requirements for each case. Secretary Brown noted that an answer was needed in two to three days, and that he intended to talk with Dr. Foster on the funding situation before the end of the week. Assistant Secretary Flax noted that Dr. Foster was in agreement that \$150 million was insufficient for FY 1967.

5. Secretary Brown and General McConnell departed at 1100 hours. Discussions continued on the funding problem. Assistant Secretary Flax stated that he doubted if money from elsewhere in the Air Force budget should be identified for reprogramming to MOL, as there was no assurance that they would be applied to MOL. Rather, they might be considered as additional budget cuts. Assistant Secretary Marks strongly indorsed Assistant Secretary Flax's discussion.

6. Under Secretary Paul departed at 1115 hours. Assistant Secretary Flax continued, noting that Dr. Hornig has indicated concern over a fund reduction, considering it important to pursue the high resolution optical reconnaissance objective as soon as feasible, and indicating he would be willing to assist us. Assistant Secretary Marks was of the opinion that there was little hope for a reinstatement of a major part of MOL funds for FY 1967. He did consider that we should press for new program guidance, and funds which can support it. Assistant Secretary Flax agreed, and stated, that in reference to Secretary Brown's remarks, a short memorandum to OSD should be prepared for his signature noting that a six-month slip in the program may be acceptable, but beyond that, we were in difficulty. A general discussion of possible program structures ensued. The Committee agreed that the object was to price all elements of the program down to where available funds would fit, and yet retain program balance.

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The Secretary of the Air Force Noted:

That the current approach to the analysis of manned and unmanned versions of the MOL satisfactorily addressed the issues of concern to PSAC.

ACTION: None indicated.

That the presentations delivered at this meeting represented very good guidelines for participating contractors.

ACTION: None indicated.

The Secretary of the Air Force Directed:

That an answer to the MOL Fiscal Year 1967 funding problems was required by 3 December 1965.

ACTION: Assistant Secretary Flax.

The meeting adjourned at 1135 hours.

Approved 12/16/65
J. Brown

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APPENDIX

MOL POLICY COMMITTEE

30 November 1965

Other Attendees:

Colonel L. S. Norman, Jr., MOL Program Office, Recorder

Dr. Michael I. Yarymovych, MOL Program Office

Colonel Richard C. Randall, MOL Program Office

Major Arthur D. Haas, MOL Program Office

B/General R. Berg, Deputy Director, MOL Program

Colonel William D. Brady, MOL Systems Office

B/General John Martin, Director, Special Projects

Colonel Lew Allen, SAFSP

Dr. L. P. Leonard, Aerospace Corporation

Dr. Allen Donovan, Aerospace Corporation

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