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September 27, 1966

MEMORANDUM FOR GENERAL EVANS

SUBJECT: MOL Mission Planning and Generalized Target Model

In response to your memo of August 10, this report summarizes the current status and planned activity of efforts concerned with the MOL operational mission definition, development, and implementation. An integral part of that effort is the generation of a MOL Generalized Target Model, and its status and future activity is also reported herein. Recommendations are included for further action on both subjects. The status of astronaut training plans will be submitted separately by Captain Goolsby.

Operational Mission Planning

Organization and Plan

A summary of an agreement between General Berg and General Martin accomplished on July 11, 1966 is attached. This agreement defines the respective organizational roles and responsibilities of the MOL Systems Office and SAFSP and provides an activation schedule for MOL mission operation planning and implementation. Although we are free to have access to copies of the agreement, we have been advised that it is a "West Coast internal document" and as such it is not appropriate to furnish copies for our use. We had not been aware of the existence of this agreement up to this time.

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The planned organization for MOL operations as defined in the agreement and as interpreted seems adequate from our East Coast standpoint except in the area of integration of targeting tasks not now performed by the DNRO. This includes [redacted] astronomical observation and scientific and other observations of "other than denied" areas. The exclusion of these possible MOL functions appears to be only an oversight in the preparation of the agreement. Since these tasks are all concerned with national intelligence requirements, they should also be validated by the USIB (COMOR) and implemented by tasking the MOL operational organization as defined in the agreement. However, additional clarification as to who is responsible for generating intelligence requirements procedures for submission to COMOR, and the role of the Satellite Operations Center (SAFSS-4) may be necessary.

Operational Planning Activity

As per the July 11 agreement, Lt Henry of Colonel Morgan's office (SL-7) has been assigned to [redacted] and it is anticipated that Captain Ackerson will also be assigned shortly. The implications, and reporting arrangements, associated with these assignments are not known. Lt Henry has been concerned with resolving the differences between the target models used by the MOL Systems Office/Aerospace and SAFSS-4 during the recent manned/unmanned comparison studies. This effort was requested by General Berg and has resulted in a plan to again task DIA (from MOL Systems Office through SAFSS) for an updated MOL target model. Lt Colonel Gerald Chapman, Defense Intelligence Agency, Special Activities Office (DIAXX) is aware of this plan and would look to MOL East Coast for guidance in assumptions and criteria pertaining to system capability and use. The target model would be submitted to COMOR by DIA to seek total intelligence community acceptance as a truly representative MOL photographic collection requirement. This procedure appears satisfactory but will require considerable monitoring by all concerned to assure an imaginative approach by DIA and to eliminate biasing influences.

Colonel Morgan plans to develop a MOL operational capability model which will exploit the capability of the MOL [redacted] photographic system to reveal pre-development weapon system activity. Where present satellite photography primarily results only in intelligence concerning testing, production, and deployment of weapon systems, the capability model will give examples of basic and applied research revealed by the high resolution photography leading to earlier and more complete knowledge of weapon system performance. Contractor participation is

anticipated for this effort but no schedule has yet been defined. Such a model when given to using agencies should stimulate the generation of useful technical intelligence requirements previously not considered applicable to overhead reconnaissance systems.

Other operational planning activity includes visits by Colonel Morgan's people to the Satellite Operations Center (Pentagon) and to the STC for indoctrination into present satellite operations. A study of the communication facilities necessary for MOL operations is presently being conducted by communication people from SAFSS. No further work is planned on the West Coast to refine the "6000" target deck used in the comparison study or to develop a new one.

MOL Generalized Target Model

Several efforts concerning generation of a MOL Generalized Target Model have been and are being conducted. These will be discussed individually as to status and future activity. As a result of all of these efforts, the people and agencies contacted have gained an appreciation of the unique features of the MOL reconnaissance system which dictate new methods and formats in specifying intelligence requirements.

DIA Target Models

Two target models have been received from DIA to date as a result of the DNRO request of July 1965. The first consisted of a listing of 2986 objectives selected from the current (at that time) Priority Reconnaissance Objective and Future Strategic Target lists and requiring overhead photography of [redacted] resolution. The second model consisted of 361 objectives representing a refinement of the first model primarily by limiting the resolution to [redacted] and by listing only one target in a multi-target complex such as an ICBM site. Both models were used subsequently in the comparison study analysis by combining them with current KH-7 target decks. Neither model contained requirement information peculiar to MOL capabilities such as multiple stereo, black and white/color combination, multiple coverage during a 30-day period, rapid readout, visual observation, active target selection, etc. As discussed in the previous section on mission planning, a revised MOL target model will be requested of DIA. We shall provide inputs as necessary and will closely monitor the model development and its subsequent review by the COMOR.

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SAC Target Model

As a result of the task we levied on SAC earlier this year, SAC has submitted three target listings representing their intelligence requirements collectable by means of satellite reconnaissance:

1. 4500 pre-hostility (cold-war) targets, constituting the SAC Priority Reconnaissance Objective List, 233 of which have been submitted to DIA for nomination to COMOR. Six descriptive examples of specific target categories with justification for high resolution photography [redacted] in each are included. Individual description and justification for photographic coverage (not resolution) is contained on the 233 COMOR list.

2. 436 warning surveillance (crisis) targets distributed in seven geographical areas. Eight examples are cited for target categories for which resolutions of [redacted] are desired.

3. 8175 National Strategic Reconnaissance (general war) targets with no specific justification called out for high resolution photography.

None of these lists can be incorporated into a MOL Generalized Target Model without reviewing each objective individually for a specific high-resolution requirement. As in the DIA models, these listings contain no requirement information peculiar to the MOL System unique capabilities. Due to limited DORIAN clearances within the SAC Headquarters, it is doubtful whether requirements more fully utilizing the MOL System flexibility and unique capabilities could be obtained by further tasking. At this juncture, it seems more useful to enter discussions, possibly by "cut-out" procedures, and consider SAC collection requirements on an individual basis.

AFNIN Participation

To date no target lists or general intelligence requirement data has been received from AFNIN as a result of our discussions with them. However, Lt Colonel Goodfellow has recently been assigned this project by Colonel Koller on a near full-time basis. He has proven very cooperative, seems to understand the problem, and is well versed in the intelligence community environment. Lt Colonel Goodfellow is presently on TDY visiting intelligence using agencies and will attempt to develop their requirements in a manner suitable for specification in a MOL Generalized Target Model. Lt Colonel Goodfellow is working as a "cut-out" in this respect. We will continue to work actively with AFNIN in this manner.

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Other Target Model Activity

A report entitled "A Global Target Model for Mission Simulation and Analysis," dated May 1966, has been obtained from the SAC Astronautic Technology and Applications Office. The total global land mass was analyzed as to "power potential" (and hence interest to the United States) by country/areas, first quantitatively by population/area weighting and then qualitatively by economic, geographic, and political factors. By this method a model listing some 12,500 target areas distributed according to "power potential" was developed which is relatively insensitive to time. Although it provides no input for specific target lists, the techniques and concepts used in its development may prove useful.

Lt Colonel Egbert Clark of the Army Assistant C/S Intelligence Office was briefed on the MOL Generalized Target Model concept and requirement and was asked to provide tactical and battlefield surveillance requirements. A document defining Combat Commanders' Information Needs was obtained from him which specifies priority, location accuracy, timeliness of detection and reporting, as well as detailed information required of various target categories for all echelons of combat commanders in field armies. In general, these requirements could not be satisfied photographically by the MOL System without direct readout to the battlefield.

No inputs to the MOL Generalized Target Model have yet been obtained from NASA (Dr. Newell) on scientific intelligence requirements or from AF Systems Command (MSFO) on economic targets.

Recommendations

In order to monitor and advance the efforts concerned with MOL operational mission planning and the development of a useful MOL Generalized Target Model, it is recommended that:

1. A member of our Mission Planning or Test Operations Division be appointed as an active member of the Operations Working Group (see attachment 1).

2. Responsibilities of the Mission Planning Division be clarified with respect to contact with the DIA for matters dealing with system capabilities definition and use in the DIA efforts in the generation of a new MOL Target Model, and its review by the COMOR. Assistance in guidance of DIA would be requested of Colonel Morgan and Colonel Duncan as appropriate.

3. The Mission Planning Division be authorized to investigate the organization and implications of, procedures necessary for generation, validation, and collection of intelligence requirements in the areas of astronomical observation, [redacted] and scientific and economic observation other than in denied areas.

LEWIS S. NORMAN, JR.
Colonel, USAF
Mission Planning Division

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a/s

Col Haas/SAF-SLM/55674/27Sep66/ams

Copies to: SAF-SLM File
SAF-SL
SCG Read
Captain Goolsby

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Summary of July 11, 1966 Agreement Between SAFSL-1 and SAFSP

Purpose: To define an orderly sequence of events which will provide for the definition, development and implementation of a MOL Operations capability.

Authority: Deputy Director of MOL is responsible for the overall mission operations and planning for and exercise of on-orbit control that is responsive to DNRO tasks. An interface with SAFSP has been established to help determine and develop mission planning, support tools (computers), communications, liaison with the intelligence community, and command/control software. This support will continue until the MOL counterpart is capable (as determined by the Deputy Director, MOL).

Concept:

1. Define, develop and implement a MOL operations capability with particular attention to commonality for manned and unmanned missions and considering all failure modes.

2. Provide support for all user requirement categories with emphasis on man's capabilities.

3. Recognize the unique intelligence feedback capability of MOL, and provide the facilities and procedures necessary to fully utilize it.

Implementation:

1. The responsible office is SAFSL-7 with [redacted] assisting.

2. An Operations Working Group chaired by SAFSL-7 will be established consisting of interested agencies and groups which will review detailed requirements and criteria for MOL operations capability.

3. The planned schedule is attached.

4. Administrative procedures will be established.

Responsibilities: (Aerospace support will be arranged to be consistent with the division of responsibilities below)

1. SAFSL-7 shall:

a. Assign Air Force/Aerospace personnel for indoctrination by [redacted] Aerospace. These people may be utilized in the performance of [redacted] tasks in direct support of MOL.

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b. Identify and provide funds for the definition, development and implementation of the MOL operational software system.

c. Provide current MOL design requirements.

2. [redacted] shall:

a. Provide a detailed analysis of required manned and unmanned operational actions to determine modes, conditions, duration and frequency of targeting actions and resources required.

b. Define criteria for supplemental study and analysis for which it may be necessary to have contractor support.

c. Provide design criteria (Milestone 1) for the development of a MOL operations software system (e.g., orbit selection, targeting, cue logic, intelligence correlation, etc.).

d. Provide technical support for MOL operations software contract negotiations.

e. Assess planned capabilities of secure data handling systems employed by a common user, other satellite systems and MOL and determine their adequacy.

f. Provide Air Force/Aerospace membership to the Operations Working Group.

g. Provide computer support.

h. Provide administrative support for SL-7 people assigned to [redacted] as per 1a above.

SIGNED

Brig Gen Russell A. Berg
Brig Gen John L. Martin, Jr.
Colonel Thomas W. Morgan
Colonel Kenneth R. Duncan

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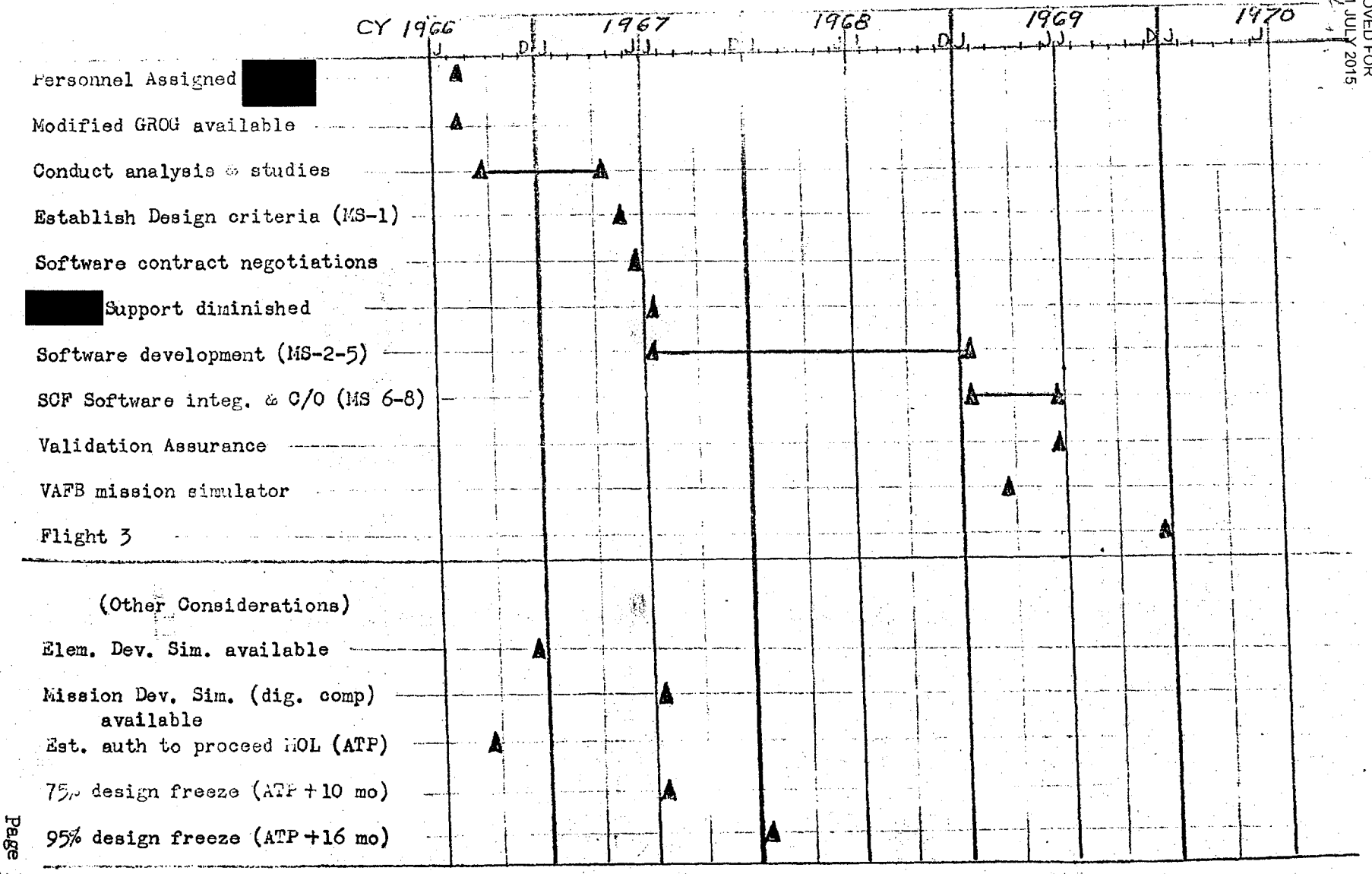
MOL OPERATIONS ACTIVATION SCHEDULE



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