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SPECIAL HANDLING

Mgt 3-1-2

18 JAN 1965

BRIEFING TO DDR&E - 16 JAN 65

1. A meeting was held on 16 Jan 65 for the purpose of briefing Dr. Brown on the SSD, SP response to the direction contained in his 4 Jan 65 memo pertaining to new MOL objectives. The briefing presented was based on a presentation given 14 January to Dr. McMillan, Gen Schriever and Gen Ferguson and on discussions conducted 14 and 15 January. Present for these discussions were Dr. Travis and Mr. Spoelhof.

2. Present at this briefing were:

Dr. Brown	Dr. Leonard
Dr. Fubini	Dr. Donovan
Dr. McMillan	Col Battle
Gen Evans	Col Schultz
Gen Bleymaier	Mr. Ross
Col Brady	Maj Floyd
	Lt Col Knolle

3. Introduction was presented by Gen Evans. This consisted of an outline of the tasks as contained in the direction given to the Air Force in the form of the various memos and TWX's. During the course of this introduction the question of astronomical telescopes came up. Dr. McMillan indicated that their development may go to ARPA to prevent an AF-NASA conflict. Dr. Brown wondered about the similarity of the optical aspects of the astronomical telescope and the photo reconnaissance <sup>camera</sup>. I was introduced by Gen Evans to present the SP plan of action in response to the direction.

4. My briefing consisted of seven charts. First I covered our plan for carrying out Task I and II. This plan is to direct EKC to study alternative approaches using large light weight optics; to consider a second source for studying light weight optics; to review the results of any "White" MOL studies in this area; and to establish requirements for large antennae based on black ELINT activities. Preliminary payload characteristics are to be available by early February and the study completed by 1 May for evaluation by 15 May 65. Next followed a description of the three general alternative approaches for the functional use of man with a photo payload. That is - (1) Man operated - fully assembled and checked out on the ground prior to launch; (2) Man aligned and operated - components checked on the ground, light weight optics cushioned for launch and aligned after reaching orbit; (3) Man assembled, aligned and operated - components checked on ground and system disassembled for launch. Optical system is assembled and aligned after reaching orbit. Next followed a detailed description of the present Dorian concept for a visual photographic payload together with weight summaries and parametric study results

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to show performance. The rendezvous concept was presented to show a means of using any of the three alternative approaches presented earlier.

5. There were numerous questions during the presentation by both Doctors Brown and Fubini. Dr. Brown wanted to know why a large prepacked system (60" aperture with [redacted] focal length) could not be put in the present integral launch concept and expanded on orbit. They both are obviously convinced that there is going to be a large weight saving and performance gain result from manned assembly and want to see the numbers come out that way. I indicated that this is the point we intend to study between now and 1 May; however, that at the moment it is not apparent that a large gain can be made with this approach. Dr. Fubini said that during the briefing he had tried to find technical fault with our story for the preassembled Dorian payload and that he could not. Because of this he seemed to admit that we could start approaching resolution values of interest without having to resort to on-orbit assembly.

6. I was followed by Dr. Leonard who first described the MOL under the old ground rules and the rendezvous concept presented to PSAC last October. He then went into the concept to meet the new direction which consists essentially of using the original MOL vehicle with rendezvous for the optical or other large mission module. Such an approach would provide maximum flexibility and growth potential. Tasks III and VI would be performed by the basic MOL vehicle and Tasks I and II would be accomplished by rendezvous with an appropriate mission module.

7. Doctors Brown and Fubini both commented to Dr. Leonard on the rendezvous approach. Dr. Brown said that you have not looked at the single launch approach and Dr. Fubini said you have only looked at rendezvous. Dr. Brown stated that the data presented by Dr. Leonard forces you into considering Saturn 1B. Dr. McMillan suggested to Doctors Brown and Fubini for their consideration the possibility of packaging the largest possible system for an integral launch and have the man demonstrate his abilities to assemble and align this instrument. There was no decision on this suggestion.

8. Col Brady followed Dr. Leonard and presented SSD's response to the tasks as outlined by Gen Evans. This was generally an outline of the administrative tasks such as Work Statements, RFP's, funding and schedule information. He proposed 60 day study efforts for three contractors at \$400,000 each for the MOL vehicle studies. Separate white studies on expandable structures and large optics were also presented. During Col Brady's discussion of the ground rules for the vehicle contractors, it came to light that both Doctors Brown and Fubini wanted the contractors to consider both the T-IIIC and Saturn approaches although this was contrary to the direction received by the Air Force. Dr. Fubini said that a contractor would not be chosen on his response to an RFP based only on T-IIIC. Doctors Brown and Fubini agreed, at Dr. McMillan's request, to a

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change in the proposed work statement which added the Saturn 1B for consideration with the T-IIIC. It was pointed out that the supporting documentation would still be the old set and that there would be a problem of making the necessary Saturn information available during the bid phase. It was agreed to get as much as possible. The total funding at this time was 21.7M with the larger costs being 6.M for Martin (T-IIIC) and 8.M for McDonnell (Gemini B). It was agreed that the revised work statements would be in Tuesday, 19 January and, I suppose, a decision as to go-ahead would be forthcoming at that time.

9. This concluded the general briefing. General Bleymaier remained for an executive session to discuss contractor selection.

10. I saw Dr. McMillan after the executive session and he indicated the following things to be done:

a. Consider a contract with ITEK in addition to Perkin-Elmer for the study of thin light weight mirrors.


b. He would like to get Jim Baker to look at this problem but he is doubtful that he would take on the task. We should consider the problem of getting Grey of Aerospace cleared so he could work on the problem.

c. He feels that there may be a case for on-orbit assembly of very long focal length systems that would exceed booster limitations. In any event he wants us to study the problem with all possible imagination during the next several months.

d. He wants <sup>us</sup> to re-evaluate the Kollsman proposal for on-orbit assembly of optical systems.

11. In summary, it was apparent that the PSAC position, wherein the increase in performance from [REDACTED] which we showed in October was not sufficient to warrant a manned system has now pushed the search for a breakthrough to obtain resolutions [REDACTED] by using manned assembly operations. The thinking seems to be that only resolution of this quality will justify a manned system.

12. As an additional note, a special briefing by Mr. Spoelhof was arranged for Gen Evans to bring him up to speed on the finer details of the program. Gen Evans seemed very impressed with the improvements that are provided by the man in addition to resolution. He felt that a closer look should be taken at these gains in an effort to come up with some effectiveness factor for manned vs unmanned operation.

  
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