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25 November 1979

MEMORANDUM FOR: Deputy Director (Plans)
THROUGH: Acting Chief, DDP-AD/P
SUBJECT: The Discoverer Series - COSMA - AEGIS

1. This memorandum contains no recommendations as such, but is intended to provide background information and my personal thinking for our meeting with you looking up to the COSMA Progress Review meeting on Monday.

2. The subject of the Monday meeting is, of course, what should be done now in the Discoverer program facing, as we are, the reported failures in the payload and recovery areas.

3. This problem, as we have proposed in the agenda, is broken down under the following topics:

FOR TECHNICAL SESSION:

- A. Review of last flights - Definition of problem areas (1:00)
- B. Design changes for 1980 prime program, both in vehicle and payload. (1:00)

FOR EXECUTIVE SESSION:

- A. Future Test Program (1:00)
- B. Future schedule of Discoverer Series
- C. Estimated Cost of 1979 COSMA (1:00)
- D. Discussion and, if possible, resolution of problems relating to contractor relationships in payload area. (1:00)

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4. The scheduling discussion divides logically into two questions -- the first being the launches that should be attempted during December and January, and the second, the schedule for the balance of 1960.

5. There are now eight (8) vehicles and six (6) canons left over from the 1959 program with an additional #5 "DB" canon which is useful for testing purposes only. In OCEANA status, there are planned, as you know, eight (8) vehicles and eight (8) canons, of which some have been built. On top of this, there are planned four (4) operational ARESH vehicles and canons. Thus, all told, there are two (2) canon vehicles, fourteen (14) OCEANA canons and vehicles, and the four (4) ARESH canons and vehicles. Assuming two (2) launches per month starting in February the 1960 program canons are fired by April 30 and the OCEANA ARESH/ARES canons carry through October 1960.

6. For cover purposes, there are on hand at present a telemetry payload and a so-called SB payload (see ~~XXXXXXXXXXXXXXXXXXXX~~). In addition, coming along in late January or early February are two (2) bio-med payloads designed to carry monkeys.

7. It seems to me that the following criteria should be adopted in solving the scheduling problem:

- (a) Prior to the resumption of canon shots, every effort should be made to perfect recovery, and this should be done through payloads carried by the two other 1959 vehicles.
- (b) Another canon should not be fired until the cause of malfunction is known and fixed.
- (c) All six 1959 canons should be fired during an acceptable canon from the standpoint of latitude exposed to sun angle (the minima here are suggested to be 35 degrees North latitude and a 15 degree sun angle in the first week of February, or a 60 degree latitude and a 15 degree sun angle by the middle of February).
- (d) There is a need for cover information from firings but this need is secondary to the requirement of perfected recovery.
- (e) OCEANA shots have priority over ARESH shots but provision should be made for ARESH during the 1960 canon schedule.

8. If these criteria or assumptions are valid, the future schedule should look as follows:

- (a) No canon shots in December and January, during which period the canon malfunction is, we hope, fixed.
- (b) Two firings should be made in December and January with

the explicit planning of instrumentation to protect recovery. Preliminary to these, the adequacy of the system should be reviewed including the inflight recovery and float recovery. (two tests only up the last float.) If possible, GND equipment should also be included to provide cover data.

- (c) Assuming successful recovery, no cover shots after February 1st. This will eliminate the No-Hits from the series.
- (d) The six (5) remaining 1979 covers should be fired in February, March, and April.
- (e) After May 1st, the following schedule:

May	- 2 COCCHA Prims
June	- 2 COCCHA Prims
July	- 1 COCCHA Prim and 1 ASCH
August	- 1 COCCHA Prim and 1 ASCH
September	- 1 COCCHA Prim and 1 ASCH
October	- 1 COCCHA Prim and 1 ASCH
Nov.	- 2 COCCHA Prims and 1 ASCH

- (f) If the time saved due to the launch year improvement, as GND thinks that it might, the improvement should accrue to the benefit of COCCHA Prim. Thus, if in July and August five (3) shots are possible, three (3) should be COCCHA and two (2) ASCH.

9. TESTING IN PARCOUR AREA:

Mr. Klefer will present his views on this subject. It should be remembered that during December and January, the tougher Polyester base film will be available from [redacted] and also from [redacted]. During those two months at least this film should be thoroughly tested as part of the program which should be agreed upon at least in gross outline at Hunsley's meeting.

10. Certainly the two month studies should provide the opportunity for a relatively unbiassed review of what has been done, what has gone wrong, and what should be done.

11. DELIVER CHANGES FOR 1980 - COCCHA/ASCH:

We have very little information as to the contractors' thinking

on the subject which will, of course, be presented at the meeting. We do know, however, that extra material is available with the new Agass and that a two-day operation is being considered. This will be fine if we have had a fair measure of success by May 1st. If we have not succeeded by then, a compromise of more film and more telemetry would seem more sensible.

12. REVIEWING COSTS OF COSTS:

I have asked Lockheed to come up with these figures at the meeting so that you will have an appreciation of the estimated cost through completion of the 1979 COMRA Review on the black side. As you know, our estimate was [redacted] with an extra [redacted] provided as the cost of the testing-film program growing out of the Shagard-Slater Committee recommendations.

13. CONTRACTOR RELATIONSHIPS:

Lockheed, Itak and Fairchild have been informed that Fairchild in place of Itak will perform the testing of the ANSIS program and that this question remains open with regard to COMRA Prime until after we receive Itak's proposals. The latter may or may not be ready by next Monday. Accordingly, depending on their readiness, you may or may not wish to get into a discussion of this controversial subject at the meeting.

[redacted]

Chief, Development Branch

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