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9 July 1963



MEMORANDUM FOR : Deputy Director of Central Intelligence
SUBJECT : Technical Management of CORONA Program

1. The satellite photo reconnaissance program which we know as CORONA was initiated under the auspices of the Reconnaissance Committee of the Foreign Intelligence Board. The program started at first as an interim to end after a year of operation when the Air Force SAMOS Program was to reach operation.

2. The program was placed under the Department of Defense's Advanced Research Projects Agency with the Air Force as executive agent. It was known overtly as DISCOVERER and began with engineering and biomedical payloads followed by covert camera payloads. The Air Force contracted openly for Thor boosters, Agena vehicles, and orbital control operations through Lockheed as prime contractor. The Central Intelligence Agency contracted covertly for cameras, recovery system adapted from the biomedical capsule, and for film and processing. The Central Intelligence Agency also controlled the target selection facet of mission planning and execution.

3. Within the Air Force the assigned tasks were vested in Space Systems Division in California. Within Central Intelligence Agency the tasks were executed by the staff of the Special Assistant for Planning and Development who reported directly to the Director of Central Intelligence. The specific individuals were Richard Bissell and Major General Osmund J. Ritland, who had been deputy to Mr. Bissell during U-2 development. At about monthly intervals a "suppliers meeting" was held to discuss status and problems encountered. Within this environment and due to the personal daily attention of Mr. Bissell, the Central Intelligence Agency emerged in the primary governmental role.

4. During 1959 nine DISCOVERER launches were attempted; five of which carried cameras, but none of these five produced useful photography. 1960 saw eleven launch attempts; eight with cameras, two of these produced useful photography.

5. During this period the technical substance of the Air Force SAMOS program changed from emphasis on readout systems to emphasis on recoverable systems. The management structure also was greatly modified with the placement of [REDACTED] in Inglewood, reporting directly to the Air Force Undersecretary and managing, at first, the E-6 segment of SAMOS, which was in some ways competitive with CORONA.

6. The CORONA camera had gone through three generations of technical improvement also and concurrent advances in both Thor and Agena permitted a convergent stereo camera configuration to be considered. This was recommended to the Secretary of the Air Force for adoption on a trial basis to provide exploitation experience prior to the then imminent E-5 and E-6 programs. By this time CORONA program funding had also changed from partly Air Force partly CIA to all Air Force moneys.

7. Prior to this time innovations in payloads had been decided upon by CIA, but with advice and consent from Air Force. The convergent stereo configuration was set at first at eight payloads, but remains today the basic MURAL payload.

8. The Air Force Undersecretary and Mr. Bissell, then Deputy Director for Plans, agreed on a change in management structure for this latest innovation. Lockheed, Itek, General Electric, and Eastman Kodak were all given associate contracts. Dr. Charyk also insisted that a separate task, system engineering and technical direction, be defined. Because of reluctance to involve [REDACTED] predecessor to [REDACTED] in this kind of activity, in the CORONA program this task was given Lockheed.

9. By this time also the Space Systems Division project officer for CORONA was placed under direct control of the Undersecretary of the Air Force, bypassing normal command channels. This officer, Colonel Battle, insisted that the SETD function be contracted and funded through Space Systems Division. A Configuration Control Board made up of Colonel Murphy, CIA operations officer at Palo Alto, [REDACTED], CIA assigned technician in Washington, and Captain Johnson of Colonel Battle's office in SSD, was set up to monitor the SETD actions of Lockheed. Captain Johnson heads this board to which [REDACTED] of NRO, has been added. Also during this time [REDACTED] was given authority over all satellite reconnaissance for Air Force.

10. In 1961 seventeen launch attempts were made, twelve of which contained CORONA payloads and seven produced useful photography. During 1962 twenty-one attempts were made, of which nineteen CORONA cameras were used and fifteen produced useful photography.

11. In the first six months of 1963 eight launch attempts were made in this program, five with CORONA MURAL payloads with three producing useful photography.

12. The last two successful missions exhibited recurrences of earlier supposedly solved problems.

13. On Mission 9054 one camera was afflicted with a static discharge problem which fogged the film. By chance the portions of fogged film coincided with cloud cover so the intelligence loss from that cause was not as great as in the past. Mission 9056 resulted in fogged film also more prevalent on one camera than the other, but this time a light leak is suspected. Both of these problems have occurred before and measures were taken to cure them. The static discharge problem of Mission 9054 is traceable to the waiving of certain tests of procedures in camera check-out which were instituted as a result of the static problem last year. The light leak on Mission 9056 may have come about through a similar relaxation of the careful attention needed to prevent such leaks which also have been encountered and cured much earlier; or through some material failure associated with a higher than normal temperature of the vehicle; or through some design defect associated with the special 240" focal length camera installation. This experiment failed completely.

14. For the past year the Air Force staff of Colonel Battle have done the "buy off" of payloads on behalf of the government. Up to then this function was performed by Office of Special Activities assigned officers. This cannot be taken as a condemnation of the current practice, however, except possibly in the case of Mission 9054.

15. Despite personal discussions of operational failures by both Mr. McCone and Dr. McMillan with top Lockheed officials, the record for 1963 so far is poor as against 1962 and 1961. The reasons are not all readily apparent. Many new faces have replaced the originals in Lockheed and Itek. Thor has grown to TAT. The Agena has progressed to Model D. ARGON and LANYARD have been added. These, plus other changes mentioned beforehand, have all come about with certain evolutionary pains.

16. In summary, it is my view that the CORONA program has fallen from a path of gradual improvement in reliability and excellence to one of regression. I think this can and should be reversed. My solution would be to pick technically competent, respected persons, one from CIA and one from Air Force to control the program substance as was done at the outset. One of these individuals will emerge in a prime role. Which one does is not crucial so long as the two can work together. This will be influenced by the solution of the DD/R - OSA question.

17. One of the key elements of this suggestion is the scheduled transfer of Colonel Battle from his present assignment to one in AFSC in September. His loss to the program will be hard, but it offers both an opportunity and a need for the Agency to re-establish its role in the CORONA program. If this move is taken properly the Air Force and contractors will be forced to think twice about the selection of key people on the program.

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cc: Dr. A.D. Wheelon