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10 July 1967

MEMORANDUM FOR: Executive Officer, Special Activities

SUBJECT : PFIAB Submission from Deputy for Research and Development

REFERENCE : TS-194713 dated 5 July 1967

Attached herewith are Deputy for Research and Development contributions to the OSA submission for the annual report to the President's Foreign Intelligence Advisory Board 30 June 1967 as requested in reference DD/S&T memorandum.

[redacted]

Deputy for
Research and Development
Special Activities

D/R&D/OSA/[redacted] anw(10 July 67)
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Attachment I to
BYE-2489-67

PFIAB Submission for 30 June 1967

OXCART

1. On 29 December 1966 a decision was made by Higher Authority to terminate the OXCART program effective 31 December 1967. An orderly phase-down plan for termination was implemented in the Spring of 1967. This termination will be final and irrevocable because of long lead time spares procurement and engine over-haul cessation taking place now.

2. The A-12 aircraft achieved a full operational capability in late 1965 by repeatedly demonstrating acceptable inflight reliability. The fleet now consists of nine aircraft. Six are operational, one is a test bed, and one is a two place trainer. One test aircraft is being placed in storage in accordance with the OXCART phase-down. See Appendix A for the scheduled phase-down of aircraft.

3. On 15 May 1967 the OXCART detachment was ordered by Higher Authority to deploy to Kadena Air Base, Okinawa and conduct reconnaissance operations over North Vietnam. Deployment was executed successfully and the first operational mission was conducted on 31 May 1967. Three more missions were flown in the period through 30 June 1967. See Appendix B for a summary of the deployment and operational missions.

4. As of 30 June 1967, 2470 flights have been completed for a total of 4013 flight hours. 757 flights have been completed (339 during the past year) which have reached or exceeded speeds of Mach 3.0 for a total of 455 flight hours (249 during the past year) at or above Mach 3.0. The maximum speed achieved has been Mach 3.29. The maximum altitude achieved has been 90,000 feet. The longest single flight has been 7 hours 40 minutes. On another flight 3 hours 50 minutes were spent at or above Mach 3.0. The longest single sustained flight time at Mach 3.2 and above has been 1 hour 14 minutes. For the past two years, Mach 3 flights have been made repeatedly, routinely, and successfully on a daily basis.

5. There have been four accidents since the flight program began in April 1962. As of 30 June 1967 this reflects an accident reliability of 99.83%. All of these accidents were attributed to traditional problems inherent in any aircraft and did not involve the high Mach number or high altitude regime of flight. The escape system successfully ejected the pilot in each case. However, in the last accident the pilot was killed on impact with the ground because of a malfunction precluding man-seat separation after ejection from the aircraft.

6. The J-58 engine continues to perform well. Reliability experience based upon over 7442 engine flights indicates a reliability of 99% for that portion of flight after initial climb. This is representative of the critical portion of a mission after the penetration of denied territory. The OXCART support test program is being terminated now at Pratt & Whitney in accordance with phase-down instructions. This program involved product improvement and the correction of those problems surfaced in flight.

7. (a) There are currently five camera systems left in the operational inventory built by Perkin Elmer. One was lost in an aircraft crash and two have been stored in accordance with the OXCART phase-down. Two cameras built by Eastman Kodak are being placed in storage in accordance with OXCART phase-down. Generally, the Perkin Elmer cameras have a ground resolution of one foot while the Eastman Kodak cameras had a ground resolution of 1.5 feet. Acceptable and reliable performance has been demonstrated by both configurations. In addition, two camera systems manufactured by Hycon are in the flight validation phase, and a third is in repair. These are longer focal length cameras with a ground resolution of one foot.

(b) Ground support equipment and flight hardware for three APQ-93 Side Looking Radar systems have been placed in storage in accordance with the program phase-down. One aircraft was configured for flight test of the system.

(c) Two infra-red sensors have also been placed in storage for the same reason.

8. The A-12 aircraft radar cross-section has been reduced considerably. Though the aircraft can be detected by SOVBLOC radar, defensive countermeasures equipments have been developed, tested and installed to considerably reduce the risk to the aircraft in a hostile environment. Due to the phase-down no further new efforts to reduce radar cross-section are under consideration. Development of a second generation countermeasures equipment has been completed and is being tested. Results to date are very encouraging. Upon completion of testing it will be introduced to the operational fleet.

9. All electronic counter-measures equipments scheduled for current use in the A-12 are on hand and operationally ready. These systems repeatedly have been flown and operated successfully in A-12 aircraft. This demonstrated capability in combination with the operational speed and altitude of the aircraft and the unique anti-radar plastic panels on the airframe, give the A-12 an acceptable level of invulnerability to unfriendly environments.

10. A detailed experience and reliability report covering the operational A-12 reconnaissance system through 30 June 1967 is attached.

Appendix A to
BYE-2489-67

OXCART Termination Phase-Down Schedule

In accordance with the decision to terminate the OXCART Program effective 31 December 1967 the following is the phase-down ("Moth-ball") schedule of aircraft. It is planned thus to provide an austere operational capability in S.E. Asia plus other contingencies through the current calendar year, spares provisioning reduction and engine overhaul cessation permitting.

TYPE AIRCRAFT	TO BE MOTH-BALLED NO LATER THAN
1 Test Acft	July 1967
1 Operational Acft	July 1967
1 Test Acft	Nov 1967
1 Trainer Acft	Nov 1967
1 Operational Acft	Nov 1967
4 Operational Acft	Jan 1968

Appendix B to
BYE-2489-67

BLACK SHIELD
DEPLOYMENT AND OPERATIONAL SUMMARY

A. DEPLOYMENT

1. 22 May 1967 ACFT NO 131 flew non-stop from [redacted] to Kadena AB, Okinawa in 6:10 hours. The flight required top-off and 3 aerial refuelings and attained 79,000 feet during cruise at Mach 2.9 for two legs and 3.1 for one leg.

2. 24 May 1967 ACFT NO 127 flew non-stop from [redacted] to Kadena AB, Okinawa in 6:00 hours. The flight was similar to that of ACFT NO 131 above except an altitude of 81,000 feet was reached during cruise.

3. 26 May 1967 ACFT NO 129 flew from [redacted] to Wake Island in 4:30 hours. Landing at Wake Island was precautionary due to a malfunctioning navigation system. The flight was made at Mach 2.9 at 76,000 feet altitude. The aircraft proceeded uneventfully to Kadena on 27 May 1967.

B. OPERATIONAL SORTIES

1. BSX-001, 31 May 1967. Mission was flown at Mach 3.1 and 80,000 feet for a duration of 3:45 hours. Type I camera was employed. The mission was successful.

2. BSX-003, 10 June 1967. Mission was flown at Mach 3.1 and 81,000 feet for a duration of 4:30 hours. Type I camera was employed. The mission was successful.

3. BX-6705, 20 June 1967. Mission was flown at Mach 3.1 and 82,000 feet for a duration of 5:30 hours. Type I camera was again used. The mission proved to be the most successful to date.

4. BX-6706, 30 June 1967. Mission was flown at Mach 3.1 and 81,000 feet for a duration of 5:00 hours. Type I camera was used and the mission was successful.

Attachment II to
BYE-2489-67

PFIAB SUBMISSION FOR 30 JUNE 1967

ISINGLASS

During the past year a decision was made not to pursue further investigation or development of the ISINGLASS system by CIA. (ISINGLASS is the hypersonic, Mach 20 boost-glide vehicle proposed by McDonnell Aircraft Corporation for reconnaissance purposes.) No effort or funding is being expended at present on it or any other new advanced aircraft system.

Attachment III to
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PFIAB Submission for 30 June 1967

IDEALIST

Official approval for a U-2R program was given on 15 September 1966 and a total of 12 aircraft are on order. The engineering design is continuing on schedule with approximately 1600 drawings having been released out of the current estimate of 1650 releases to first flight. The assembly of the first article is proceeding satisfactorily and the first flight should take place approximately 1 September 1967, as scheduled. The preliminary flight test plan has been prepared and submitted to Headquarters. The first two aircraft have been designated as flight test aircraft. To date, there has been no official decision regarding the manner in which the aircraft will be numerically split between the Agency and the Air Force.