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MEMORANDUM FOR: Action Staff
Directorate of Science and Technology

SUBJECT: Annual Report for the President's Foreign Intelligence Advisory Board

REFERENCE: DD/S&T-0156-66 dated 12 July 1966

In response to the request of the DD/S&T attached are two copies of the annual reports of all programs for which the Office of Special Activities has responsibility.

/s/

PAUL N. BACALIS
Colonel, USAF
Director of Special Activities

Attachments:
Tab A, B, C

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SAS/OSA [redacted] (1 August 1966)
Distribution:
#1 - Action Staff, DD/S&T
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USAF review(s) completed.

NRO review(s) completed.

GROUP 1
Excluded from automatic downgrading and declassification

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TAB 1

OXCART

1. Development Summary:

a. The A-12 aircraft (OXCART) achieved a fully operational capability in late 1965 by repeatedly demonstrating acceptable inflight reliability. The fleet of ten now consists of seven (7) operational aircraft, two (2) in the Lockheed/Agency on-going test program and one (1) two-place trainer.

b. Since the inception of the flight program in April 1962, there have been only three accidents reflecting an accident reliability rate of 99.85%. In all these accidents the escape system successfully ejected the pilot. None of the accidents occurred in the high Mach or altitude regime of flight but were attributed to the traditional problems inherent in any aircraft.

c. The J-58 engine on the OXCART continues to perform well. Experience based on almost 4000 engine hours indicates a reliability of 99% for that portion of the flight after initial climb. This represents the critical portion of the mission including the penetration of denied territory. A continuing development program is active at Pratt and Whitney for product improvement and

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the correction of those problems surfaced in flight. Flight testing of the 34,000 pound thrust (34K) engine was begun in April. Initial flight testing was completed in May and the final design of production hardware for related components has been fully defined.

d. Two of the three types of cameras are now operationally ready. There are eight Type I (Perkin Elmer) cameras in the inventory [redacted] 25X1

25X1 [redacted] Two Type II (Eastman Kodak) cameras [redacted] 25X1

25X1 [redacted] are also in the inventory. Three of the Type IV (Hycon Co.) [redacted] 25X1

25X1 [redacted] are in the flight development phase.

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f. Successful flight testing of the Inertial Navigation System (INS) World-wide Capability has been completed

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and is now installed in the operational OXCART aircraft.

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2. Operational Summary and Progress:

a. The following is the operational data on the OXCART aircraft as of 30 June 1966.

Maximum Speed	Mach 3.29
Maximum Altitude	90,000 feet
Maximum Endurance (Single Flt)	6 hrs. 20 min.
Range (Unrefueled)	2,500 Nautical Miles
Maximum Single Flight Time Above Mach 3.0	3 hrs. 50 min.
Maximum Sustained Time at Mach 3.2	1 hr. 14 min.
Total A-12 Flights	1985
Total A-12 Hours	3011
Total J-58 Engine Flights	1378
Total J-58 Hours	3950
Operationally Ready Pilots	7

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b. A limited emergency capability (SKYLARD) has been maintained for the aerial reconnaissance of Cuba by the OXCART aircraft. This capability is based on the assumption of two weeks advance notice.

25X1 c. A plan has been prepared [redacted] to handle the deployment of three OXCART aircraft to Kadena Air Base, Okinawa. An operational plan (BLACK SHIELD) has also been completed to cover OXCART reconnaissance operations in the Far East operating from Kadena Air

25X1 Base, Okinawa. The [redacted] and BLACK SHIELD plans were designed as part of a Quick Reaction Concept (QRC) based on the requirement to attain and maintain a posture to be able to complete deployment to Kadena and conduct the first operational mission within three weeks of a "go-ahead" decision. Kadena Air Base is now operationally ready to support BLACK SHIELD.

c. In anticipation of BLACK SHIELD operations, several Mission Plan Exercises (MPX), Command Post Exercises (CPX) and Forward Base Exercises (FBX) were conducted throughout the year. One Operational Readiness Inspection Test (ORIT) was conducted in December of 1965 and another ORIT is scheduled for August of 1966.

d. The necessary coordination with SAC, PACAF, FAA, Air Rescue Service, etc., has been essentially completed in preparation for BLACK SHIELD deployment. 25X1 25X1

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e. One OXCART aircraft, with the necessary support personnel and equipment, was deployed to McCoy AFB, Fla., in August 1965. Purpose of the deployment [redacted] was to conduct a series of tests to determine vehicle performance in areas of high humidity. Three missions were flown, all with highly satisfactory results. In addition, this operation demonstrated to a degree the deployment capability of the OXCART aircraft.

f. An increase in traffic handling problems for aircraft flying the super high altitude (above 60,000 feet) prompted a series of meetings with FAA, USAF and Project Headquarters personnel. A satisfactory coded altitude reporting procedure was developed as a result of these meetings and this procedure will be implemented in July 1966.

g. The forward detachments [redacted] and Kadena) for the OXCART program have been exercised and are in operational status. The OXCART detachment at [redacted] has been placed in standby status.

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TAB 2

IDEALIST

1. Development Summary

a. Throughout the year, a continuing program of product improvement has been conducted on the airframe, engine, [redacted] 25X1 equipment on the U-2 aircraft.

b. Dropable fuel tanks for the U-2 were successfully tested by the Lockheed Aircraft Corporation in October 1965.

c. Preliminary design engineering is under way for an improved version of the U-2 aircraft designated the U-2R. The U-2R is similar in appearance but a larger and higher altitude vehicle than the present U-2 and offers substantially increased mission flexibility through greater capacity and interchangeability of payload sensors. Depending upon choice of mission configuration, the U-2R can fly about 4,000 feet higher than the present U-2 without compromise in range, or about 3,000 feet higher with a 1,400 nautical mile increase in range. Lockheed estimates the first U-2R flight test about one year after a program go-ahead. Approval for a U-2R program has not been received to date.

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TAB 3

ISINGLASS

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1. The ISINGLASS system has been under active investigation by this office for the past 24 months.

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The system is an advanced boost-glide vehicle, launched from a B-52 or equivalent aircraft.

Vehicle Characteristics

Range:

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Altitude (over target)

Speed (over target):

Current in-house studies show that the vulnerability of the system to countermeasures is very low, using a reasonable extrapolation of the Soviet capability. Technical intelligence quality photography would be obtained with this system, with very short access times for the data and with a high probability of mission success. The aerodynamic character of the vehicle allows considerable flexibility in planning

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of ground tracks. The system is designed as a back-up to currently projected photographic satellites,

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the access time of specific targets, within or without the Soviet Union, is critical. A program has been submitted to the Director, National Reconnaissance Office, for a technical substantiation program, as a predecessor to a full scale development program. Engine component development is now under way, at a modest level, under USAF and NASA support.

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