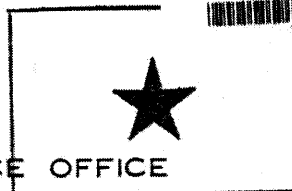


~~TOP SECRET~~



(S) NATIONAL RECONNAISSANCE OFFICE
WASHINGTON, D.C.



HANDLE VIA
BYEMAN
CONTROL SYSTEM
HEXAGON
CORONA
GAMBIT

01 03

OX CART
UPWARD

OFFICE OF THE DIRECTOR

July 6, 1967

MEMORANDUM FOR DEPUTY SECRETARY OF DEFENSE

SUBJECT: National Reconnaissance Program (NRP) Issues and
Pending Decisions

This paper is intended to briefly summarize major problem areas and outstanding issues in the NRP. The principal areas of interest or concern are as follows:

1. Search Systems: Initiation of development of the HEXAGON system to replace the current CORONA system was authorized in September 1966. Work on the camera was initiated first since this represented the longest lead time item and would pace the rest of the program. Originally this system had been strongly advocated by the CIA and had been made the subject of a specific USIB requirement laid on the NRO (during Dr. McMillan's tenure). This USIB requirement in itself was unusual in that it was not really an intelligence collection requirement but a statement of system parameters. This type of "requirement" prevents the NRO from optimizing details of system design to meet real collection needs and we have been working with the USIB and its Committee on Overhead Reconnaissance (COMOR) to achieve a better understanding of this point.

In the spring of this year, Mr. Helms asked us to hold up initiation of other contracts on HEXAGON pending a review by his staff of the cost effectiveness and requirements for the HEXAGON system. This review was completed and the hold up request was withdrawn. Last month, I visited Perkin-Elmer, the camera contractor, and determined that their activities were now organized and manned to

HEXAGON
CORONA
GAMBIT

01 03

OX CART
UPWARD

HANDLE VIA
BYEMAN
CONTROL SYSTEM

HANDLE VIA
BYEMAN-TALENT-KEYHOLE
CONTROL SYSTEMS JOINTLY

~~TOP SECRET~~

EXCLUDED FROM AUTOMATIC DECLASSIFICATION
DOD DIRECTIVE 5200.10 DOES NOT APPLY

CONTROL NO **BYE52484-67**
COPY 3 OF COPIES
PAGE 1 OF 6 PAGES

~~TOP SECRET~~

HANDLE VIA
BYEMAN-TALENT-KEYHOLE
CONTROL SYSTEMS JOINTLY

HANDLE VIA
BYEMAN
CONTROL SYSTEM

HEXAGON
CORONA
GAMBIT

0153

OXCART
UPWARD

the point where other elements of the system needed to go ahead. A paper calling for ExCom approval of source selections for the other elements of the system will be circulated shortly.

Another issue in the HEXAGON program is whether to include in the program a very large, heavy and costly terrain mapping camera to meet a validated USIB requirement for highly accurate large scale maps (1:50,000). In line with a practice we have been following, we will indicate to the USIB the cost differentials resulting from meeting those more stringent requirements before proceeding with development.

Because the program schedule is now aimed at a first launch in 1970 rather than 1969, careful attention will have to be paid to providing sufficient overlap of CORONA vehicles. At the present time, we contemplate an overlap of only four CORONA vehicles during a six month period. We will probably have to make a decision during FY68 to procure some additional vehicles for the overlap period in order to insure the availability of search systems in the event HEXAGON development is delayed.

2. Pointing Systems: The last flight of the GAMBIT system took place in June 1967 completing an overlap period of almost a year since the introduction of GAMBIT-3 system (since GAMBIT will no longer be flown, the suffix "3" will shortly be dropped from the advanced GAMBIT system). Six flights of the GAMBIT-3, of which five were successful, were conducted during FY67. In general, system performance was excellent except for the

[REDACTED]

HEXAGON
CORONA
GAMBIT

0153

OXCART
UPWARD

HANDLE VIA
BYEMAN
CONTROL SYSTEM

HANDLE VIA
BYEMAN-TALENT-KEYHOLE
CONTROL SYSTEMS JOINTLY

~~TOP SECRET~~

EXCLUDED FROM AUTOMATIC DEGRADING
DOB DIRECTIVE 5200.10 DOES NOT APPLY

CONTROL NO. **BYE52484-67**

COPY _____ OF _____ COPIES
PAGE **2** OF **6** PAGES

~~TOP SECRET~~

HANDLE VIA
BYEMAN-TALENT-KEYHOLE
CONTROL SYSTEMS JOINTLY

HANDLE VIA
BYEMAN
CONTROL SYSTEM

HEXAGON
CORONA
GAMBIT

0153

OX CART
UPWARD

0153

3. SIGINT: Current NRP activity in SIGINT consists of operation of a 0153 collection satellites (POPPY,

0153

Last November, Mr. Helms wrote to Mr. Vance and requested that, as a matter of the greatest national urgency, increased effort be placed upon collection of SIGINT related to the Soviet Anti-Ballistic Missile/Anti-Earth Satellite (ABM/AES) activities. Dr. Hornig has reiterated that this is a major White House concern. A special committee, headed by Mr. Harry Davis, my technical assistant, and including NRO Staff, CIA, SAFSP and NSA participation, was formed to consider major new systems. In the meantime, we recommended certain immediate actions on system procurements and operational activities which could be effected during FY67. Based on the Davis Committee report,

0153

A detailed recommendation on this system will be

HEXAGON
CORONA
GAMBIT

0153

OX CART
UPWARD

HANDLE VIA
BYEMAN
CONTROL SYSTEM

HANDLE VIA
BYEMAN-TALENT-KEYHOLE
CONTROL SYSTEMS JOINTLY

~~TOP SECRET~~

EXCLUDED FROM AUTOMATIC DEGRADING
DOD DIRECTIVE 5200.10 DOES NOT APPLY

CONTROL NO. **BYE52484-67**
COPY _____ OF _____ COPIES
PAGE 3 OF 6 PAGES

~~TOP SECRET~~

HANDLE VIA
BYEMAN-TALENT-KEYHOLE
CONTROL SYSTEMS JOINTLY

HANDLE VIA
BYEMAN
CONTROL SYSTEM

HEXAGON
CORONA
GAMBIT

0153

OX CART
UPWARD

submitted to ExCom in the next few weeks. The SIGINT program is undergoing very rapid technical progress and expansion in capability. However, practically all programs are beset by cost overruns.

4. OX CART Program: As a result of a BOB/DOD/CIA study last year, a decision was made by the President to phase-out the OXCART program during FY 1968. Initial phase-out of OXCART aircraft was to have been initiated in July 1967 with the mothballing of two aircraft culminating a complete phase-out by December 1967. The OXCART contingency plans, SKYLARK (Cuban operations in the event of hostile action against U-2s) and BLACK SHIELD (deployment of three aircraft to Kadena for operations in S. E. Asia and China), were to have been taken over by Air Force SR-71s. However, in May of this year the President directed the BLACK SHIELD deployment but without authorizing overflights of China. As a result the CIA OXCART program office submitted to me two options for modifications of the phase-out plan. The first would have delayed all phase-out until December 1967 and the second would have delayed phase-out throughout FY 1968 with a decision to continue beyond that left open. I recommended the first option to Mr. Vance. After consultation with Mr. Helms and Mr. Schultze of BOB, he directed the modification of the original phase-out plan only to the extent of retaining one of the two aircraft scheduled to be mothballed in July 1967. One problem with the SR-71 takeover of OXCART responsibilities is the delay in achievement of satisfactory ECM capabilities. We now have expedited the ECM program to achieve three operationally suitable SR-71 aircraft in September.

The approved cover story for the BLACK SHIELD deployment to Kadena is that the aircraft are "experimental test bed versions of the YF-12A/SR-71 deployed to Kadena for field tests." As was anticipated, after two weeks of operation from Kadena the aircraft were noticed by

HEXAGON
CORONA
GAMBIT

0153

OX CART
UPWARD

HANDLE VIA
BYEMAN
CONTROL SYSTEM

HANDLE VIA
BYEMAN-TALENT-KEYHOLE
CONTROL SYSTEMS JOINTLY

~~TOP SECRET~~

EXCLUDED FROM AUTOMATIC REGRADING
DOD DIRECTIVE 5200.10 DOES NOT APPLY

CONTROL NO **BYE52484-67**
COPY _____ OF _____ COPIES
PAGE **4** OF **6** PAGES

~~TOP SECRET~~

HANDLE VIA
BYEMAN-TALENT-KEYHOLE
CONTROL SYSTEMS JOINTLY

HANDLE VIA
BYEMAN
CONTROL SYSTEM
HEXAGON
CORONA
GAMBIT

0153

OX CART
UPWARD

the Okinawan press. The prepared cover story was given to them with a "no comment" reply to all the additional questions which naturally ensued. Mr. Vance has expressed concern over the possible allegations of lack of credibility which may be attached to this operation and cover story. He has asked Mr. Katzenbach to query our Ambassador to Japan, Mr. Johnson, on the advisability of openly announcing that these aircraft are engaged in reconnaissance over North Vietnam. While this in itself would not be a surprising announcement in view of all our other reconnaissance activities over Vietnam, the CIA involvement in this program does pose special problems, and I am certain that their reaction to such an approach would be one of concern.

5. TAGBOARD Drones: This Mach 3, 90,000 ft altitude drone program is largely supported by the DOD in the ExCom. The CIA has always been lukewarm toward drone programs; Mr. Vance on the other hand has always been a strong adherent of doing reconnaissance of denied areas unmanned if at all possible. In the FY 1968 budget review, the BOB recommended that this program be slipped in schedule and reduced in funding or cancelled outright. Mr. Vance made this an issue for the President, who decided in favor of continuing the program. Although there were two reasonably successful flights of this drone under the original concept of launching from an OXCART, an accident resulting in the loss of a launch aircraft resulted in a re-evaluation of the program and a decision to convert to launch from a B-52 with rocket assist of the drone to altitude. The first launch from B-52 is to occur in August. The problem area at present is in qualifying the booster rocket.

6. NASA Lunar Mapping and Earth-Sensing Program: In 1963 a DOD/CIA/NASA agreement made available to NASA the GAMBIT camera (on a BYEMAN classified basis) for purposes of validating the safety of manned lunar landing sites in the event that SURVEYOR and LUNAR.

HEXAGON
CORONA
GAMBIT

0153

OX CART
UPWARD

HANDLE VIA
BYEMAN-TALENT-KEYHOLE
CONTROL SYSTEMS JOINTLY

~~TOP SECRET~~

EXCLUDED FROM AUTOMATIC DECLASSIFICATION
DOD DIRECTIVE 5200.10 DOES NOT APPLY

CONTROL NO. BYE52484-67

COPY _____ OF _____ COPIES
PAGE 5 OF 6 PAGES

HANDLE VIA
BYEMAN
CONTROL SYSTEM

~~TOP SECRET~~

HANDLE VIA
BYEMAN-TALENT-KEYHOLE
CONTROL SYSTEMS JOINTLY

HANDLE VIA
BYEMAN
CONTROL SYSTEM

HEXAGON
CORONA
GAMBIT

OX CART
UPWARD

ORBITER photography were not obtained or proved inadequate. According to the agreement, lunar photography could be sanitized by eliminating camera scale factors but earth photography, if required for checkout, would remain in the TALENT-KEYHOLE system. The project has the NRO code name UPWARD and is known as the Lunar Mapping and Survey System (LM&SS) in NASA.

It now appears that the LM&SS is not needed to validate lunar landing sites, in view of the success of SURVEYOR and LUNAR ORBITER; however, in the meantime, a great deal of pressure has been built up on other programs such as APOLLO Applications, Earth Resource Surveys, Earth-Sensing, and the like. The APOLLO program office wants to retain the LM&SS, ostensibly to do lunar mapping for scientific purposes; on the other hand, at lower working levels, APOLLO Applications Program planners are frequently reported to refer to the LM&SS for earth-sensing. The latest recommendations of the NSAM 156 Ad Hoc Committee limit current NASA earth-sensing programs to 60 feet resolution on compared to the two feet of the GAMBIT camera.

Dr. Hornig has expressed concern over plans for flying the LM&SS in earth orbit, and has expressed doubt that an acceptable cover story can be devised in view of the intense publicity on the APOLLO program activities. We, too, have serious doubts about security and the wisdom of proceeding with the LM&SS. Dr. Hornig has asked NASA to re-evaluate whether the system is really needed. We are awaiting their reply.

7. The attached memorandum, sent recently to Mr. Vance, summarizes the current NRP budget problems. Many of the problems or potential problems relate directly to the upcoming decisions and issues discussed above.

Alexander H. Flax
Alexander H. Flax

HEXAGON
CORONA
GAMBIT

Attachment

OX CART
UPWARD

HANDLE VIA
BYEMAN
CONTROL SYSTEM

HANDLE VIA
BYEMAN-TALENT-KEYHOLE
CONTROL SYSTEMS JOINTLY

~~TOP SECRET~~

EXCLUDED FROM AUTOMATIC DECLASSIFICATION
DOD DIRECTIVE 5200.10 DOES NOT APPLY

CONTROL NO BYE52484-67
COPY _____ OF _____ COPIES
PAGE 6 OF 6 PAGES



BYEMAN
CONTROL SYSTEM

OX CART IDEALIST **TOP SECRET** b1 b3 HEXAGON CORONA b1 b3

(S) NATIONAL RECONNAISSANCE OFFICE

WASHINGTON, D.C.

OFFICE OF THE DIRECTOR

June 26, 1967

MEMORANDUM FOR THE DEPUTY SECRETARY OF DEFENSE

SUBJECT: FY-1968 Obligation and Expenditure Indications
for the NRP

In accordance with your request, an initial reassessment of NRP FY-1968 obligations and expenditures for the NRP has been made to determine the extent of possible obligation and expenditure reductions in elements of the program as well as any additional fund requirements which have been identified or are foreseen. The possibility of slipping major development programs, such as b1 b3 or HEXAGON, which are already under way (and in which substantial increase in program cost would result from program slip) has been considered only to the extent that technical considerations in the HEXAGON programs dictate changes in the schedule. In cases involving program options which have not yet been completely assessed, the cost figures cannot be regarded as firm. However, the figures used are best current estimates for each program.

Obligations:

In the aircraft programs, in relation to the program approved by the Ex Com for the FY-1968 President's Budget, we expect that the programs will now cost about b1 less than budgeted, primarily due to a reduction in cost of the OXCART program of about b1. My recent memorandum to you on the CIA OXCART program options indicated that the deployment coverage would cost about an additional b1. Therefore under option one, we would have about b1 available for other purposes. OXCART option one, to delay initial phaseout actions, would require about b1 additional. OXCART option two, to continue the program indefinitely, would instead require an additional b1 in FY-1968. Accordingly, if this option were chosen, we would require an increase in funding of the Aircraft programs of about b1 above the President's Budget.

OX CART IDEALIST b1 b3 HEXAGON CORONA b1 b3

BYEMAN
CONTROL SYSTEM

~~TOP SECRET~~
EXCLUDED FROM AUTOMATIC DECLASSIFICATION
DOD DIRECTIVE 5200.10 DOES NOT APPLY

CONTROL NO. BYE 52453-67
COPY 1 OF 1 COPIES
PAGE 1 OF 1 PAGES

~~TOP SECRET~~

OXCART IDEALIST b1 b3 HEXAGON CORONA b1 b3

HANDLE VIA
BYEMAN
CONTROL SYSTEM

In the Satellite programs, again in relation to the program approved by the Ex Com, the programs are now estimated at about b1 more than budgeted in FY-1968 primarily due to b1 b3 SIGINT and b1 b3 increases. However, we are about to recommend a decision to modify the Ex Com program in two respects:

1. To defer the first launch of the HEXAGON to April 1970, as compared with previous estimates of April and October 1969.
2. To extend the CORONA launches through December 1970, to provide a minimal overlap with HEXAGON.

These actions, which are based on our latest assessment of HEXAGON program progress, would reduce the FY-1968 fund requirements by about b1. Therefore, the Satellite program funding would net out at about b1 higher than the Ex Com approvals.

There is, however, no provision for an ABM/AES system in the preceding. Depending on the system chosen, the FY-1968 costs could vary from about b1 excluding processing equipment costs which will be discussed below.

Accordingly, with the ABM/AES considerations, the Satellite programs would require additional funding of b1 to b1. There are two possibilities of reducing this:

1. If the OXCART continuation program is not approved, about b1 from the Aircraft programs could be made available to the Satellite programs by appropriation transfer.

2. If the full-funding requirements for the TITAN III-D booster production quantities could be waived for FY-1968, FY-1968 Satellite programs funding could be reduced about b1.

If both possibilities applied, we could essentially fund the Aircraft and Satellite programs, including the lower cost ABM/AES, or be about b1 short on the higher cost ABM/AES system.

OXCART IDEALIST b1 b3 HEXAGON CORONA b1 b3

HANDLE VIA
BYEMAN
CONTROL SYSTEM~~TOP SECRET~~EXCLUDED FROM AUTOMATIC DECLASSIFICATION
DOD DIRECTIVE 5200.10 DOES NOT APPLYCONTROL NO BYE 52453-67
COPY _____ OF _____ COPIES
PAGE 2 OF _____ PAGES

~~TOP SECRET~~OXCART IDEALIST ~~0153~~ HEXAGON CORONA ~~0153~~HANDLE VIA
BYEMAN
CONTROL SYSTEM

ABM/AES processing equipment costs are excluded from the preceding. They are estimated at ~~01~~ in FY-1968. There is a question as to whether all or part of this should be chargeable to NSA or the NRP. If chargeable to the NRP, the over-all NRP additional fund requirement (assuming the appropriation-transfer and booster full-funding waiver) would be ~~01~~.

Additional deferrals of portions of the potential reductions in FY-1968 are in applied research, advanced equipment, vulnerability and U-2R equipment programs for a total of ~~01~~. These deferrals, which should in any event be funded in FY-1969, can be considered as trade-offs against higher priority requirements.

Expenditures:

In view of the efforts to hold down FY-1967 over-all expenditures, we have deferred payments to the Agency to the extent of ~~01~~. This can be effected because we ordinarily "advance pay" to the Agency, although their expenditures are incurred somewhat later; (i.e. release of funds to the Agency for obligation constitutes a DOD expenditure). Accordingly, we will make these payments in July-August 1967. This action was not envisioned at the time of the formulation of the President's Budget; therefore, we now estimate that the FY-1968 expenditures will be a net ~~01~~ above the President's Budget expenditures figures. This considers that we are now projecting expenditures against the FY-1968 program itself which will be ~~01~~ lower than previously forecast, due primarily to longer lead times involved in procurement with resulting greater lag between obligations and expenditures. This forecast is against the adjusted programs within the President's Budget.

A tabulation is attached which presents the preceding considerations in aggregated form.

Alexander H. Flax
Alexander H. Flax

Attachments

1. FY 68 Obl Cur Prog
2. FY 68 Obl Pot Addl Prog Req
3. FY 68 Obl Pot Addl Reductions

HANDLE VIA
BYEMAN
CONTROL SYSTEM~~TOP SECRET~~
EXCLUDED FROM AUTOMATIC REGRADING
DOD DIRECTIVE 5100.10 DOES NOT APPLYCONTROL NO. BYE 52453-67
COPY 3 OF 3 COPIES
PAGE 3 OF 3 PAGES

~~TOP SECRET~~

HANDLE VIA
BYEMAN
CONTROL SYSTEM

OX CART IDEALIST **b1 b3** HEXAGON CORONA **b1 b3**

NRP FY-1968 OBLIGATIONS

CURRENT PROGRAMS

	<u>Requirement for Additional FY-1968 Funds</u>	<u>Reduction in FY-1968 Funds Required</u>
Approved SIGINT Programs (Incl b1 b3)	b1	
Approved Aircraft Programs -- Planned OXCART Phaseout		b1
Rescheduled HEXAGON and CORONA Programs		b1
	b1	b1
Net reduction in FY-1968 fund requirements		b1

OX CART IDEALIST **b1 b3** HEXAGON CORONA **b1 b3**

HANDLE VIA
BYEMAN
CONTROL SYSTEM

~~TOP SECRET~~

EXCLUDED FROM AUTOMATIC DECLASSIFICATION
DOD DIRECTIVE 5200.10 DOES NOT APPLY

CONTROL NO **BYE 52453-67**
COPY _____ OF _____ COPIES
PAGE 4 OF _____ PAGES
Atch 1

~~TOP SECRET~~

OX CART IDEALIST **b1 b3** HEXAGON CORONA **b1 b3**

HANDLE VIA
BYEMAN
CONTROL SYSTEM

NRP FY-1968 OBLIGATIONS

Potential Additional Program Requirements

New ABM/AES System

b1

NRO/NSA Processing Equipment for
ABM/AES System

b1

Additional SIGINT Program Changes
Recommended by Davis Committee

-- **b1** --

Extension of OXCART Phaseout

b1

TOTAL

b1

OX CART IDEALIST **b1 b3** HEXAGON CORONA **b1 b3**

HANDLE VIA
BYEMAN
CONTROL SYSTEM

~~TOP SECRET~~

EXCLUDED FROM AUTOMATIC DECLASSIFICATION
DOO DIRECTIVE 5200.10 DOES NOT APPLY

CONTROL NO. **BYE 52453-67**

COPY 5 OF 5 COPIES
PAGE 5 OF 5 PAGES

Atch 2

~~TOP SECRET~~

OX CART IDEALIST **5153** HEXAGON CORONA **5153**

HANDLE VIA
BYEMAN
CONTROL SYSTEM

NRP FY-1968 OBLIGATIONS

Potential Additional Reductions

Defer Vulnerability Tests

Reduce U-2R Equipment

Reduce **5153** SIGINT Program

Defer Applied Research/Advanced Development

TOTAL

OX CART IDEALIST **5153** HEXAGON CORONA **5153**

HANDLE VIA
BYEMAN
CONTROL SYSTEM

~~TOP SECRET~~
EXCLUDED FROM AUTOMATIC DECLASSIFICATION
DOD DIRECTIVE 5200.10 DOES NOT APPLY

CONTROL NO. **BYE 52453-67**
COPY _____ OF _____ COPIES
PAGE **6** OF _____ PAGES
Atch 3