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INTERAGENCY SECURITY CLASSIFICATION APPEALS PANEL,  
E.O. 13526, SECTION 5.3(b)(3)

ISCAP APPEAL NO. 2002-0049, document no. 1  
DECLASSIFICATION DATE: March 1, 2016

DDS&T Historical Paper  
No. OSA-1  
Vol. I of XVI

# DIRECTORATE OF SCIENCE & TECHNOLOGY HISTORY

*(TITLE OF PAPER)*  
History of the Office of Special Activities  

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*(SUBTITLE)*  
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Chapters I, II, and III  

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*(PERIOD)*  
From Inception to 1969

## DO NOT DESTROY

Controlled by : DDS&T  
Date prepared : 1 April 1969  
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Robert O'Hern

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NOTE

This OSA History was delivered as a first draft to the Chairman of the DD/S&T Historical Board, [REDACTED] in April 1969. It has never been critically edited for errors of fact or form, and therefore should be considered in this light by any future readers.

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[REDACTED]  
Helen H. Kleyla

May 1974

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1954-1968CHRONOLOGY1954

- 1 Feb Mr. Richard M. Bissell, Jr., is named Special Assistant to the Director for Planning and Coordination (SA/PC/DCI) by the Director of Central Intelligence, Mr. Allen W. Dulles.
- 1 Jul SA/PC/DCI absorbs the Office of Intelligence Coordination (except the Intelligence Advisory Committee Secretariat) and the Assistant Director for Intelligence Coordination, Mr. James Q. Reber, joins the Planning and Coordination Staff as Mr. Bissell's Assistant.
- 4 Jul The Hoover Commission on Organization of the Executive Branch establishes a task force under General Mark Clark to investigate CIA and answer Congressional criticism of the Agency. A Special Study Group, chaired by General James H. Doolittle, is assigned to investigate CIA's covert activities.
- 30 Sep The Doolittle group reports on its investigation of CIA and expresses the belief that every known technique should be used, and new ones developed, to increase U.S. intelligence by high altitude photographic reconnaissance and other means.
- 9 Oct A Technological Capabilities Panel of the Office of Defense Mobilization's "Surprise Attack Committee" under Dr. James R. Killian is set up with Dr. Edwin H. Land, President of Polaroid, as Chairman.
- 5 Nov The Technological Capabilities Panel, Project 3, in a letter to the DCI, proposes a program of photo reconnaissance flights over the USSR and recommends that CIA, with Air Force assistance, undertake such a program.
- 19 Nov CIA and USAF agree to pursue the TCP's proposal jointly; a meeting is held in the office of Secretary of the Air Force Harold Talbott with the DCI and DDCI present.

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- 23 Nov Members of Intelligence Advisory Committee (IAC) (forerunner to USIB) sign an open memorandum in support of a program of photographic reconnaissance of the Soviet Bloc.
- 24 Nov A meeting is held at the White House with President Eisenhower to present the CL-282 photo reconnaissance proposal of the Land Panel; the President approves the proposal as presented subject to a final look after the materiel is procured and before launching operations; approval is given verbally, not in writing.
- 3 Dec Mr. R. M. Bissell, Jr., having been directed by the DCI to take charge of the photo reconnaissance project, meets with Mr. Herbert I. Miller, Chief, Nuclear Energy Division, OSI, to arrange for management of the project on the CIA side.
- 4 Dec A meeting is held in the Pentagon to launch the joint CIA/USAF reconnaissance project; go-ahead is given to Lockheed and to Pratt & Whitney to proceed with manufacture of the aircraft and jet engines by Mr. Trevor Gardner, Assistant to the Secretary of the Air Force for R&D.
- 6 Dec Cryptonym AQUATONE is assigned to the CL-282 project under Mr. Bissell's direction; a first headquarters of the project is set up as an adjunct to SA/PC/DCI in Administration (East) Building at 2430 E St., N. W.; Messrs. [redacted] Assistants to Mr. Bissell, and Miss Helen Hill, secretary, comprised the initial project staff.
- 27 Dec A letter from Mr. Trevor Gardner to the DCI promises that the Air Force will furnish jet engines for the CL-282 aircraft as part of its contribution to the joint project.
- 27 Dec Mr. Bissell meets with the Director of the Budget, Mr. Rowland R. Hughes, to obtain release from the CIA Contingency Reserve of \$35 million for Project AQUATONE.
- 29 Dec The Bureau of the Budget approves withdrawal of \$35 million from the Reserve for aircraft and equipment.

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- 2 Jan The DCI invokes provisions of Section 10(b), Public Law 110 with regard to certification of costs under the Lockheed contract for 20 aircraft.
- 3 Jan Letter contract with Lockheed is signed; negotiations carried out by Mr. Lawrence Houston for CIA and Mr. Robert Bias, Lockheed Vice President; signed by General C. P. Cabell (in alias) for CIA.
- 10 Jan AQUATONE Project Outline, drafted by Mr. Bissell, is signed by the DCI, Mr. Allen W. Dulles; sets forth in broad terms the plans for the management and operation of the project.
- 10 Jan Lockheed Aircraft Corporation presents the Work Statement for production of 20 aircraft, reconnaissance type (no model designation yet assigned).
- 14 Jan Summary of plans and specifications for photographic equipment to be carried by the AQUATONE aircraft is presented by Dr. James G. Baker, Professor of Physics, Harvard University, and member of the Land Technological Capabilities Panel.
- 14 Jan Lt. Gen. Don Putt, Deputy Chief of Staff for Development, USAF, endorses the proposed photographic equipment.
- 26 Jan First cover story for Project AQUATONE is promulgated by Project Staff and distributed to cleared staff and contractor personnel.
- 7 Feb The Director of the FBI, J. Edgar Hoover, is briefed on AQUATONE and CIA interest, particularly with regard to activities at the Lockheed Burbank plant; Los Angeles FBI office assigns espionage squad officers to monitor.
- 2 Mar Definitive contract is signed with Lockheed for 20 aircraft by Contracting Officer George F. Kucera in alias, for estimated price of \$22.5 million.
- 2 Mar Approval is obtained from the Deputy Director for Support (Col. Lawrence K. White) for AQUATONE to operate as a special project with personnel and operating costs segregated from regular accounts.

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- 7 Mar A CIA/USAF meeting to discuss AQUATONE organization considers, without reaching a decision, the use of the Strategic Air Command as the USAF entity to support the project. Mr. Bissell recommends against, but the Chief of Staff of the Air Force, Gen. Nathan Twining, is in favor.
- 17 Mar Director of Communications, CIA, Gen. Harold M. McClelland, submits support plan for project communications and names [redacted] of the Office of Communications as Project Communications Officer.
- 31 Mar Definitive contract is signed with Ramo-Wooldridge (forerunner to TRW) for 12 sets of Elint System I.
- 6 Apr Chairman Lewis Strauss of the Atomic Energy Commission is briefed on AQUATONE and agrees to the use as a test site of a dry lake bed area (Groom Lake) inside the Nevada Proving Ground.
- 13 Apr An inspection group of Lockheed and Project AQUATONE leaders choose a site on the west side of Groom Lake known as "Watertown" on which to build the test base.
- 23 Apr Discussions are initiated with Eastman Kodak Company officials looking toward a contract for processing AQUATONE film.
- 25 Apr Col. Robert B. J. Hopkins is nominated by the DD/S as Project AQUATONE Administrative Officer; he is relieved after two weeks at his own request due to poor health. Replaced by James A. Cunningham, Jr.
- 28 Apr First Table of Organization for AQUATONE provides for a Headquarters, a U.S. Field Test Site, and three foreign field bases, with 357 total personnel.
- 29 Apr Agreement is signed with USAF/OSI and the Office of Naval Intelligence that CIA will have primary responsibility for all security for the project.
- 1 May Project AQUATONE staff sets up headquarters in the small red brick building at 2210 E St., N. W., on the third floor.

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- 5 May Definitive contract is signed with Perkin-Elmer for 75 various type cameras to be carried by the AQUATONE aircraft; target price is \$5,085,000.
- 12 May [redacted] is assigned as Project AQUATONE Comptroller by Mr. Edward R. Saunders, CIA Comptroller, with the approval of Project Director Bissell, and is named Certifying Officer for project accounts.
- 2 Jun AEC agrees to arrange for housekeeping and maintenance services at the test site through their contract with Reynolds Electric and Equipment Company (REECO), reimbursable by CIA.
- 3 Jun Contract is initiated, on recommendation of the Land Panel, with Westinghouse Electric for an APQ-56 side-looking radar for the AQUATONE aircraft.
- 13 Jun Deputy Chief of Staff, Personnel, USAF, Lt. Gen. Emmett O'Donnell, agrees to the recruitment of USAF Reserve pilots from SAC for the AQUATONE program.
- 17 Jun Contract is initiated with Eastman Kodak Co. for an engineering study of film processing and data recording operations, and design and installation of equipment; cost estimate, \$250K(+).
- 27 Jun Secretary of the Air Force letter urges Gen. Twining and his Deputy Chiefs to reach agreement with CIA on AQUATONE management, and names Col. Osmond J. Ritland to head the Air Force group and serve as deputy to the senior project officer, Mr. Bissell.
- 29 Jun Contract is initiated with Eastman Kodak Co. for procurement of film and other supplies; a new thin base film is developed under this contract.
- 21 Jul Watertown Strip joins the HBJAYWALK communications network established for Project AQUATONE; cable address is KWCABLE.
- 25 Jul First U-2 aircraft is delivered to Watertown by USAF C-124 from Burbank; because of water on lake bed, landing is made on new runway before it is sealed and armored leaving deep wheel marks.

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- 27 Jul Lt. Gen. Lucian K. Truscott, Jr. (retiring Senior Representative, CIA, Germany) temporarily placed on Mr. Bissell's Planning and Coordination Staff, O/DCI.
- 1 Aug First taxi trials of first U-2 are held; plane, on high speed taxi run, inadvertently leaves the ground by 30 feet and flies 1200 feet. Transition to flight is so smooth pilot does not notice, and a hard landing results when pilot cuts power at low speed and tires blow on landing.
- 3-4 Aug "Organization and Delineation of Responsibilities" with regard to Project AQUATONE is signed by General Twining for the Air Force 3 August and by DCI Allen W. Dulles for CIA on 4 August 1955.
- 3 Aug Col. Russell A. Berg, USAF, is named to head the Air Force Project Group, acting in the name of the Chief of Staff, USAF, and SAC, to support AQUATONE in the training and operational phases.
- 4 Aug Col. Osmond J. Ritland, USAF, is confirmed as Deputy Project Director for AQUATONE by Chief of Staff, USAF, Gen. Twining; position and title are ratified in the USAF/CIA agreement.
- 5 Aug First flight of U-2 No. 1 for approximately 30 minutes is successfully and smoothly accomplished. Further low level tests are run on 6 August.
- 8 Aug U-2 No. 1 performs successfully at 35,000 feet; Mr. Bissell and Headquarters party are observers.
- 12 Aug Agreement with AEC for reimbursable housekeeping, new construction and maintenance, at Watertown Strip is signed by Mr. Bissell for CIA, and Col. Alfred D. Starbird for AEC.
- 19 Aug Executive Order 10633 authorizes the setting aside of the prohibited area required for the Project AQUATONE test site.
- 1 Sep U-2 No. 1 reaches 60,000 feet.

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- 2 Sep Letter from Headquarters, USAF, to AEC, copy to Flight Service, establishes Watertown Strip (Unclassified) as a USAF installation assigned for classified functions; prior approval of Headquarters, USAF, is required for its use.
- 7 Sep General Orders No. 1 of 1007th Air Intelligence Service Group, HEDCOM, designate Watertown Strip base complement as "Flight D, Project Squadron Provisional." (Later changed to Detachment D.) Also designated is Flight A (later Detachment A), the first group to train for overseas operations.
- 8 Sep U-2 No. 1 reaches initial design altitude for take-off weight -- 65,600 feet.
- 22 Sep First engine flame-out is experienced on the U-2; descending from 64,000 feet, engine flames out at 60,000 feet, and restarts promptly at 35,000 feet according to specifications.
- 1 Oct Contract is initiated with Eastman Kodak for the operation and maintenance of the film processing plant to handle U-2 mission film at Rochester.
- 1 Oct Col. Frederic E. McCoy, USAF, assumes command of Watertown Strip, at the same time having initial responsibility as Commander of Detachment A.
- 3 Oct Landline communications are established between Watertown Strip and Burbank, California.
- 3 Oct MATS inaugurates air shuttle from Burbank to Watertown for transporting contract employees and project staff to and from the test site, using an Air Force C-54 and cleared crew.
- 3 Oct Project Staff re-establishes Project Headquarters in Wings A and C of Quarters Eye, on Ohio Drive, West Potomac Park, Washington. Col. Osmond J. Ritland, Deputy Project Director, physically joins the staff at the new Project Headquarters.
- 17 Oct Contract is initiated with Baird Atomic, Inc., for production of an automatic celestial navigation

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- system; initial order for 8 increased to 24, including sextants, spare parts, rear view mirrors, and the overseas services of company techreps.
- 21 Oct Proposal for a central interpretation unit to handle film from AQUATONE missions is presented to the DCI for approval (Project HTAUTOMAT).
- 7 Nov First recruitment trip for USAF Reserve pilots from SAC is made by project team to Turner Air Force Base, Albany Georgia, netting four candidates.
- 11 Nov Mr. R. M. Bissell, Jr., suggests creation of a single operating organization to carry out all peacetime overflight activities, using civilian personnel in a clandestine manner; a joint task force outside the framework of the regular military services but with the Air Force owning a majority of the common stock.
- 11 Nov Agreement is reached between the DCI (Dulles) and the Secretary of the Air Force (Quarles) that CIA will continue to be responsible for AQUATONE budget and management through FY 1957 to avoid the disruption of a change of command just prior to the beginning of overseas operations.
- 17 Nov The MATS shuttle from Burbank to Watertown Strip crashes on the south slope of Mt. Charleston and all 14 aboard are killed, including the Project Security Officer, Mr. William H. Marr.
- 19 Nov Decision is made to use American pilots for AQUATONE overflights, keeping a few foreign pilots in reserve (those then available ); this decision has the approval of General Cabell, the DDCI. 50X1 and 6, E.O.13526
- 28 Nov Contract is initiated with the Lovelace Foundation, Albuquerque, N. M., for medical and clinical services at the Watertown test base, and for U-2 pilot physical and psychological examinations.

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- 1 Dec Ad Hoc Requirements Committee (ARC) is established by Project Director Bissell with the DDCI's approval and concurrence of USAF. Mr. James Q. Reber is named Chairman.
- 15 Dec SAC's 4070th Support Wing issues its Operational Plan for training, deployment, and operational support for AQUATONE detachments.
- 22 Dec Col. Landon B. McConnell, USAF, is assigned as Base Commander at Watertown Strip.

1956

- 1 Jan Decision becomes effective making Washington the permanent station of AQUATONE personnel on temporary duty at Watertown Strip, in order to try to equalize per diem rates for all categories of personnel.
- 10 Jan Mr. R. M. Bissell, Jr., visits London to seek permission from the British to operate with AQUATONE Detachment A out of a SAC base in England. Informal approaches are made to MI-6 and to the RAF and USAF commanders.
- 11 Jan Initial three contract pilots arrive at the test site and begin transition training to the U-2.
- 11 Jan USAF (through Mr. Trevor Gardner) requests CIA assistance in procuring U-2 aircraft for SAC, through AQUATONE procurement channels; approval is given by the DCI on 30 January 1956.
- 26 Jan General Counsel Lawrence R. Houston of CIA reviews legal aspects of CIA procurement on behalf of the Air Force of U-2 aircraft systems and renders the opinion to the DCI that, in the national interest, there is legal authority for CIA to enter into such an arrangement on a reimbursable basis.
- 1 Feb First full-dress meeting of the Ad Hoc Requirements Committee (ARC) for AQUATONE targets is held.
- 2 Feb Discussion of AQUATONE by DCI Dulles with British Foreign Secretary Selwyn Lloyd is held; Mr. Lloyd is favorably disposed but says Prime Minister Eden must approve.

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1956 (cont'd)

- 8 Feb Basic understanding between CIA and Air Force is reached in connection with procurement under the U-2 project; contained in Memorandum for Record TS-143314.
- 8 Feb Secretary of State John Foster Dulles is requested by the DCI to approach the British through their Ambassador in Washington, Sir Roger Makins, for a report on the British position with regard to cooperating in Project AQUATONE. The Secretary makes a verbal request to Makins rather than a written one drafted by CIA.
- 25 Feb Project Headquarters AQUATONE is again moved, this time to the 5th floor, Matomic Building, at 1717 H Street, N. W.
- 27 Feb AQUATONE Special Signal Center (serving the HBJAYWALK channel) is opened in new Project Headquarters with ZI communications channels open to Watertown Strip, Lockheed Burbank, Ramo-Wooldridge, Hycon, [redacted] Pratt & Whitney, and with overseas stations [redacted].  
[redacted] Commo Net cleared to receive AQUATONE (HBJAYWALK) traffic.
- 29 Feb Cover story for U-2 overseas mission is promulgated; it is reviewed and revised in March to include Air Weather Service recommendations.
- 1 Mar Project HTAUTOMAT (Photo Interpretation Center) is activated at the Steuart Building, 5th and K Sts., N.W., with a staff of 30.
- 1 Mar Contract is initiated with Eastman Kodak for equipment required to set up film processing centers at Eastman Rochester, and at PIC.
- 2 Mar British Ambassador Makins delivers indefinite response to request for U.K. cooperation; on same day Acting Secretary of State Herbert Hoover, Jr., sends Project-drafted request to British for definite answer, and meanwhile, fall-back plans are instituted looking toward basing in Germany.

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~~TOP SECRET~~1956 (cont'd)

- 5 Mar Director of Communications, General McClelland, recommends use of Army-Airways Communications System personnel to reinforce CIA commo technicians, in short supply, to service Project AQUATONE; Mr. Bissell agrees as a temporary measure but recommends that O/C recruit and train replacements.
- 6 Mar Col. Edward A. Perry, USAF/SAC, is assigned as Commanding Officer of Detachment B (WRSP II).
- 6 Mar  approval by the British for operations by Detachment A from Lakenheath RAF Base.
- 50X1, E.O.13526
- 29 Mar Detachment A is reconstituted under the name "Weather Reconnaissance Squadron, Provisional (1st)" by authority of Air Weather Service General Order No. 7.
- 30 Mar Deputy Project Director, Col. Osmond J. Ritland, USAF, returns to the Air Force and is replaced by Col. Jack A. Gibbs, USAF.
- 4 Apr Contract is initiated with General Precision Laboratories for Radan equipment for the U-2 and P2V programs.
- 12 Apr Cover for the contract U-2 pilots is achieved by arrangements with Lockheed for the ostensible hiring and salary payments to the pilots as "Flight Test Consultants."
- 24 Apr Unit Simulated Combat Mission tests by Detachment A are completed and the unit is declared operationally ready.
- 29 Apr Deployment of Detachment A to Lakenheath Air Base in England begins; it is completed 7 May 1956.
- 1 May Approval for Detachment B to operate from a Turkish base is obtained from Prime Minister Menderes by U.S. Chargé Foy Kohler, after an attempt to gain permission at the USAF/Turkish Air Force level is abandoned because the Prime Minister's approval is required in any event.

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~~TOP SECRET~~1956 (cont'd)

- 2 May Instructions are issued to Detachment Commander, WRSP I, concerning use of lethal device ("L Pill") by pilots.
- 5 May British frogman incident is surfaced by Soviet protest note; the ensuing furor causes Prime Minister Eden to cancel permission for Detachment A to operate from a base in the U.K.
- 7 May National Advisory Committee for Aeronautics (NACA) issues press release detailing program of high altitude research using Lockheed U-2, as part of the AQUATONE cover plan.
- 7 May Weather Reconnaissance Squadron, Provisional, II, (also known as Detachment B) is activated at Watertown Strip.
- 15 May First U-2 loss is suffered, No. 345, with Wilburn Rose, trainee pilot. Pogos fail to release after take-off and in second effort to release them, pilot fails to maintain adequate airspeed and altitude, and crashes near Watertown Strip.
- 15 May Contingency procedures in the event of pilot emergency are issued as Operations Policy Letter No. 6, giving permissible and impermissible information to be disclosed by a captured pilot and other emergency procedures to be followed.
- 16 May Prime Minister Eden writes to President Eisenhower requesting postponement of Detachment A operations from the U.K. because of his current embarrassment with the frogman incident vis-a-vis the USSR.
- 31 May Government Employees Health Association (GEHA) rules AQUATONE contract pilots ineligible for UBLIC insurance coverage.
- 11 Jun Detachment A is airlifted from Lakenheath to Wiesbaden AFB as an interim measure until a more permanent and suitable base at Giebelstadt is made ready; the airlift is completed 13 June.

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~~TOP SECRET~~1956 (cont'd)

- 22 Jun White House approval to proceed with operational flights is received via Col. Goodpaster, speaking for the President; no deep penetration of the USSR is to take place, however, until Chancellor Adenauer is briefed, and agrees to such flights from West Germany.
- 26 Jun General Albert Gruenther, head of NATO forces, is briefed on AQUATONE by Mr. Bissell and Gen. Cabell, particularly concerning a possible approach to the Norwegians for use of a base to operate against the USSR. Gruenther is not encouraging, but says the approach, if made, should be made at the highest level of the Norwegian Government.
- 26 Jun First U-2 overflight mission from Wiesbaden over Poland and return is flown by Carl Overstreet, using the A-2 camera, with good photographic results.
- 27 Jun Chancellor Konrad Adenauer and Foreign Minister Hans Globke are briefed on AQUATONE and approve operations from West Germany. Present: Gen. Cabell, Mr. Bissell, Mr. Tracy Barnes (COS, Frankfurt), and  Interpreter.
- 29 Jun Emergency procedures in the event of aircraft loss over hostile territory are issued to Detachment A.
- 4 Jul First U-2 overflight of Russia by Hervey Stockman with targets Moscow and Leningrad is flown with cloud cover being experienced over Moscow.
- 5 Jul Second U-2 overflight of Russia by Carmine Vito, covers Moscow with weather clear and photography excellent.
- 11 Jul General Reinhard Gehlen, Chief of West German Intelligence, is briefed on AQUATONE by Chief of Station, Frankfurt, Mr. Tracy Barnes.
- 11 Jul Ambassador Georgi N. Zaroubin presents protest note to Secretary of State charging a "twin-engine medium bomber of the United States Air Force" had

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~~TOP SECRET~~1956 (cont'd)

grossly violated Soviet air space on 4, 5, and 9 July with flights up to 200 miles into Soviet territory. Secretary of State, on the President's instruction, calls for grounding of all overflight operations immediately.

15 Jul

50X1 and 6, E.O.13526

Col. William Yancey (USAF/SAC), Training Unit Commander for U-2 pilot training, rules four [ ] [ ] unqualified to continue in U-2 program due partly to language difficulties.

16-21 Jul

Polish and Czech Governments deliver notes of protest to the State Department on overflights of their territory 4, 5, 9, and 10 July 1956.

1 Aug

FY 1956 requirement for AQUATONE of \$15.8 million is supplied from the Contingency Reserve after presentation of the budget to the CIA Comptroller and to the BOB for approval.

8 Aug

Col. Stanley W. Beerli, USAF/SAC, is assigned as Commanding Officer, Detachment C (WRSP III); his tour with CIA extends eventually to 10 August 1962.

13 Aug

Detachment B begins deployment to Incirlik AFB at Adana, Turkey.

31 Aug

Second U-2 loss is suffered, No. 354, with Frank G. Grace, trainee pilot. On night training flight, pilot loses night vision in initial climb, left wing drops and aircraft stalls into the ground.

11 Sep

First U-2 operational mission is flown by Detachment B covering Middle East targets.

17 Sep

Third U-2 loss is suffered, No. 346, with Howard Carey, Detachment A pilot. After take-off from Wiesbaden, the U-2 is seen by two American pilots in T-33's and four Canadian pilots in a flight of RCAF F-86's at 35,000 feet, after which the plane disintegrates with wreckage falling over a wide area; cause not definitely determined; sabotage investigated and ruled out.

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~~TOP SECRET~~1956 (cont'd)

- 17 Sep President Eisenhower is briefed on AQUATONE to date and is asked to approve further overflights; he postpones his decision.
- 30 Oct Decision at highest level is to deny the British any further intelligence from U-2 collections over the Middle East due to the trend of British/French action in the Suez area.
- 28 Nov Chief of Staff, USAF, Gen. Nathan Twining, turns down the AQUATONE request for base rights in the Far East.
- 5 Dec Gen. Twining agrees, with DCI and DDCI persuasion, to allow Detachment C to deploy to the Far East, but not to Yokota. Atsugi Naval Air Station is then sought, and CNO, Adm. Arleigh Burke, gives his blessing provided the Air Force agrees.
- 15 Dec DCI memorandum establishes procedures for scheduling certification of AQUATONE vouchers for covert procurement by the DCI, thus eliminating voucher audit by the General Accounting Office.
- 18 Dec Project BLACK KNIGHT (SAC RB-57D overflight program) runs its first and last mission, using three aircraft over Soviet Far East territory and provoking a protest which halts the program and also delays Detachment C's deployment still further.
- 19 Dec Fourth U-2 loss is suffered, No. 357, non-fatal to Robert Ericson, Detachment B trainee pilot. Excessive oxygen consumption leads pilot to make emergency descent during which airspeed exceeds limits, causing buffet and loss of control; pilot is blown out as plane disintegrates, descends without serious injury, and is picked up near Grant's Pass.
- 22 Dec First U-2 mission solely for Elint collection is flown from Adana, Turkey, along the Soviet Border carrying Elint System V.
- 31 Dec Project AQUATONE staff reaches the high point of 600 personnel.

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- 18 Jan The DCI approves underwriting GEHA payment of death benefits to contract AQUATONE pilots with CIA funds; a reserve is set up under the code name JB MAYBUSH and \$1,000 per man per year in the form of premiums is paid in. (JB MAYBUSH closed 1 June 1964 when GEHA accepts pilots for coverage.)
- 2 Feb Agreement is reached with USAF for deployment of Detachment C to Japan; USAF is persuaded to act due to SAC's desire to get Detachment C out of Watertown Strip so that SAC's U-2 group can begin their training there.
- 22 Mar Air Research and Development Command, USAF, agrees to the transfer of residual U-2 test and training activities to Edwards Air Force Base (North), California.
- 27 Mar WRSP III (Detachment C) completes deployment to Atsugi Naval Air Station, Japan, with all personnel and equipment in place.
- 4 Apr Fifth U-2 loss is suffered: No. 341 with Robert Sieker, Lockheed test pilot; on test flight from Watertown, pilot believed to have suffered hypoxia due to malfunction of one or more systems, radio contact between base and aircraft lost, and aircraft crashed in the desert.
- 19 Apr Project Director Bissell recommends to DCI that he seek high level decision on project's future, whether to remain under civilian control or be transferred to the military, and whether to maintain standby capability or begin to phase project out of existence.
- 19 Apr Mr. Bissell advises the DCI that the surfacing of the Air Force U-2 capability will compel the liquidation of Project AQUATONE under its NACA/AWS cover.
- 3 May A meeting is held with the President on the future of AQUATONE, ending with Agency and Air Force participants putting different interpretations upon the President's intent, which had to be ironed out at a subsequent meeting on 29 May. At the 6 May meeting approval for further overflights of the USSR is given.

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~~TOP SECRET~~1957 (cont'd)

- 10 May Detachment G, residual Watertown group, is reconstituted as Weather Reconnaissance Squadron, Provisional, IV, with Lt. Col. Roland L. ("Si") Perkins, USAF, as Commanding Officer.
- 29 May A meeting of CIA and USAF principals is held to reach agreed interpretation of the President's intention with regard to the future of AQUATONE. The conclusion reached is that higher authority, for political reasons, wishes the project to remain under civilian direction.
- 3-7 Jun Project AQUATONE team visits Pakistan and obtains permission from President Mirza and Prime Minister Suhrawardy to stage Detachment B operations from Lahore.
- 10 Jun The SAC group training in USAF U-2's at Watertown Strip departs for its new base at Laughlin AFB, Del Rio, Texas, with assignment to the 4080th Strategic Reconnaissance Wing (Light), 4028th Squadron.
- 20 Jun First U-2 overflight by Detachment C is staged from Eielson AFB, Alaska, over Kamchatka Peninsula of the USSR.
- 20 Jun Detachment G (WRSP IV) completes move to Edwards Air Force Base (North) from Watertown Strip.
- 21 Jun Watertown Strip, having been evacuated by CIA and SAC U-2 units, is mothballed under a caretaker in preparation for a nuclear test series planned by AEC for the Nevada Proving Ground.
- 18 Jul Memorandum of Understanding on procurement for the Navy by Project AQUATONE Staff is signed by the DCI, following the same lines as for Air Force procurement.
- 19 Jul The DDCI, Gen. C. P. Cabell, meets with Air Force Generals Bergquist, LeMay, and Lewis to argue the case for civilian control of AQUATONE and succeeds in getting their acceptance on the basis of agreed interpretation of the President's and Secretary of State's intent that the project remain under CIA.

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~~TOP SECRET~~1957 (cont'd)

- 29 Jul DCI Dulles advises General Thomas D. White, Chief of Staff, USAF, that Project AQUATONE will maintain two detachments at reduced strength under continued CIA direction, in accordance with the wishes of the White House and State Department.
- 2 Aug The DDCI, Gen. Cabell, approves CNO Adm. Burke's recommendation for developing a carrier-based U-2 capability. A later Navy approach for USAF approval to carry this out is turned down by the Air Force.
- 4-28 Aug Nine overflight missions (Operation SOFT TOUCH), principally over the USSR, are carried out from Lahore Air Base, West Pakistan, by Detachment B.
- 16 Sep Second staging by Detachment C from Eielson AFB, Alaska is carried out with one successful mission over Klyuchi, USSR.
- 16 Sep VHF recorder developed as a COMINT collection package for the U-2 by Ramo Wooldridge (System III) is eliminated from the program by the Project Director as of less than marginal intelligence value.
- 24 Sep The Deputy Director for Support is asked to approve the decision to allow dependents of AQUATONE detachment personnel to accompany their sponsors overseas; approval is given.
- 11 Oct Electronic System IV, unattended airborne FERRET system, is first used over the Barents Sea with good results; all System IV equipment is transferred to the Air Force U-2 group in March 1962.
- 11-13 Oct Last two overflights performed by Detachment A from Giebelstadt are flown over the Barents Sea (System IV covering Soviet Navy Maneuvers), and over Murmansk (the A-2 camera).
- 15 Nov Detachment A operations are phased out, all personnel and equipment are returned to the ZI and the facility at Giebelstadt is turned back to the U.S. Air Force.
- 19 Nov An advanced reconnaissance system study (Project GUSTO), developed from radar camouflage studies

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(RAINBOW) is reported by Mr. Bissell to Deputy Secretary of Defense Quarles, who agrees that it be reported to the President's Board of Consultants on Foreign Intelligence Activities.

26 Nov Deputy Secretary of Defense Donald Quarles supports CIA efforts for a low reflectivity reconnaissance aircraft (GUSTO/OXCART) and expresses desire to participate in definitive design decision; the A-12/SR-71 aircraft resulted.

27 Nov British Prime Minister Macmillan and members of his cabinet are briefed on intelligence obtained from Detachment B's SOFT TOUCH operation from Pakistan.

1958

50X1, E.O.13526

7 Feb

[redacted] is requested to approach Air Vice Marshal MacDonald, Assistant Chief of the Air Staff for Intelligence, with a view to possibly training 3 to 5 British pilots for future operational use in the U-2.

21 Feb

Permission to operate from Peshawar, West Pakistan, is negotiated with President Mirza and Prime Minister Noon [redacted]

50X1, E.O.13526

and Robert W. King, Assistant to Mr. Bissell. Operation is called off due to Soviet protest of Detachment C mission over USSR 1 March 1958.

1 Mar

First (and last) overflight of the USSR from Japan by Detachment C, over Khabarovsk, Komsomolsk, and Ukraina, is tracked and protested in note delivered to Department of State by Ambassador Menshikov; all U-2 overflights ordered to cease indefinitely by highest authority.

28 Mar

Deployment of Detachment C to Cubi Point Naval Air Station, Philippines, begins; 30 missions flown over the islands of Indonesia, ending 11 June 1958 with return to Atsugi.

1 Apr

Mr. R. M. Bissell, Jr., is given additional duties in stimulating exploitation in CIA of advanced

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1958 (cont'd)

technology, and retitled "Special Assistant to the Director for Planning and Development (SA/PD); at the same time AQUATONE staff becomes the Development Projects Staff.

- 1 Apr A new cryptonym, CHALICE, is assigned to the U-2 project, and AQUATONE is cancelled.
- 1 Jun Col. William Burke, USAF, is named Deputy Project Director of CHALICE and Chief of the Development Projects Staff vice Col. Jack A. Gibbs, who returns to the Air Force.
- 16 Jun Project KEEPER is jointly agreed between the British (Air Ministry and MI-6) and CIA representatives. (Name changed to Project OLDSTER due to conflict discovered with a British cryptonym.)
- 26 Jun Contract is let with Granger Associates for an electronic countermeasures device for the P2V and the U-2 (Granger Model 504) which returns false angle information to airborne intercept radars. (This equipment is aboard U-2 #360 when it is shot down over Sverdlovsk.)
- 30 Jun Supply depot for U-2-peculiar equipment and supplies is shifted from [redacted] with [redacted] Maj. Robert Welch, USAF, continuing in charge.
- 50X1, E.O.13526
- 10 Jul Hycon subcontract with Perkin-Elmer for the first order of U-2 cameras is settled for \$4,106,000; dealings with Hycon thereafter are by direct contract with Project CHALICE.
- 14 Jul First of four typhoons over the South Pacific is tracked and photographed by Detachment C with A-1 camera; Winnie, Alice, Grace, and Ida are covered between July and September.
- 15 Jul U. S. Marines are ordered by President Eisenhower to Beirut to protect Lebanon's independence. (British intervene in Jordan with paratroopers on 17 July.)

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~~TOP SECRET~~1958 (cont'd)

- 23 Jul First Perkin-Elmer prime contract for U-2 cameras is settled for \$2.6+ million; 6 $\frac{1}{2}$ % of cost represents procurement for the Air Force.
- 31 Jul Advisory panel with Dr. Edwin H. Land as Chairman is organized by Mr. Bissell to advise on a successor reconnaissance aircraft to the U-2; holds its first meeting but no firm recommendations come out of it.
- 27 Aug Prime Minister Harold Macmillan approves British participation in Project CHALICE, provided missions are flown by civilian pilots without RAF markings and no operational flights are made without his specific permission. President Eisenhower approves British participation the same day, subject to the Secretary of State's concurrence.
- 29 Aug President Eisenhower is briefed on results of U-2 China Mainland coverage and agrees to the continuation of tactical missions over China.
- 2 Sep Bureau of the Budget questions the continuance of the U-2 project under CIA instead of its transfer to the Air Force and requests statement outlining past, present, and future plans for CHALICE; reply delivered to BOB 2 September 1958 satisfies this request.
- 11 Sep Prime Minister Adnan Menderes of Turkey is briefed on the plan to add British element to Detachment B at Adana and raises no objection.
- 15 Sep Detachment B staging party arrives at Bodo Air Force Base in Norway, performs one air sampling mission over Greenland, two Elint collections over the Kara Sea, and the Baltic Sea, and returns to Adana on 6 November 1958.
- 12 Nov Land Advisory Panel recommends investigation of Convair proposal for small aircraft to be launched from a B-58, and of Lockheed proposal for a supersonic unstaged design (the A-3).
- 10 Dec Critical Collections Problems Committee and USIB Elint Committee approve initiation of System VII for intercept and recording of missile telemetry signals during pre-burnout stage of missile launching.

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~~TOP SECRET~~1958 (cont'd)

- 12 Dec USAF/SAC initiates proposal to JCS for Chinese Nationalist participation in a U-2 overflight program.
- 16 Dec BOB/CIA agreement is signed for \$75 million DOD FY 1959-60 funds to be made available for the second phase of GUSTO (OXCART) if approval is received from higher authority. These funds are not to be a part of FY 1960 CIA budget and in no way affect the Agency Reserve, but CIA is to have effective control over use of the money just as though it were from the CIA Reserve.
- 31 Dec British pilot flies the first operational mission over Middle East targets. The British fly a total of 28 missions with Detachment B (4 weather missions over England, 2 photo reconnaissance missions over the USSR from Peshawar, and the balance over the Middle East.)

1959

- 1 Jan Mr. R. M. Bissell, Jr., is named Deputy Director for Plans, succeeding Mr. Frank Wisner.
- 16 Feb Development Projects Division is established as a division of DD/P, effective 16 February 1959, amalgamating all Agency air operations including special projects CHALICE and CORONA.
- 16 Feb Col. William Burke, USAF, is appointed Acting Chief of Development Projects Division, DPD/DDP. Mr. James Q. Reber is appointed Chief, Special Requirements Staff, and continues as Chairman of the Ad Hoc Requirements Committee (ARC).
- 1 Mar Conversion is begun to put Pratt & Whitney J-75 engines in the U-2 aircraft to add 2,500 feet altitude; conversion is to be done in small increments of three or four aircraft at a time.
- 6 Mar Consideration of development of a bombing capability for the U-2 is discontinued with the concurrence of the DCI.

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~~TOP SECRET~~1959 (cont'd)

- 22 Mar Mr. John Parangosky is assigned as Deputy Chief, Development Branch, DPD; formerly Executive Officer of Detachment B at Adana.
- 12-14 May Two missions are staged by Detachment C from Cubi Point, Philippines, covering Tibet and Southwest China in support of FE Division, DD/P, projects.
- 18 May CIA/USAF working level technical panel is formed, at the request of Gen. Thomas D. White, to provide expert advice looking toward design selection for GUSTO (renamed OXCART in development/operational phase).
- 22 May The DDCI, Gen. C. P. Cabell, approves the DD/P proposal for a combat air asset stockpiling program including the procurement of AD, P2V, B-26 and F-86 aircraft; Development Projects Division is made responsible.
- 25 May Establishment of Detachment 1 at Eglin Air Force Base, Florida, is approved by the DDCI; activated as 1045th Operations Evaluation and Training Group, Detachment 1, with Col. Theodore Erbe, USAF, in command; composed of personnel and assets transferred to Eglin from the European Air Operations Base at Wiesbaden (7405th Support Group).
- 29 May First shoot-down of a P2V aircraft occurs over China Mainland; flown by CAF pilot assigned to the 34th Squadron of CAF at Hsinchu Air Base, Taiwan.
- 9 Jun Joint collection mission by CIA and USAF is flown by CHALICE U-2 with System VII and SAC RB-47, successfully acquiring missile telemetry on Soviet ICBM launching, the first such intercept recorded by the U.S. Intelligence Community.
- 17 Jun The 1007th Air Intelligence Service Group (AISG), HEDCOM, is replaced as cover unit for DPD Air Force assignees by the 1149th Special Activities Squadron, HEDCOM.
- 23 Jun  replaces Mr. George F. Kucera as Chief, Contracts Branch, DPD.

Withheld under statutory authority of the  
Central Intelligence Agency Act of 1949 (50  
U.S.C., section 403g)

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~~TOP SECRET~~1959 (cont'd)

- 20 Jul President Eisenhower is briefed on GUSTO (later renamed OXCART) and approves continuation of studies if funds are available.
- 30 Jul The DCI approves establishment of a 45-man detachment at Kadena Air Force Base, Okinawa, under Air Force cover as the 1045th Operations Evaluation and Training Group, Detachment 2; mission, to serve as a central air operations support base [redacted]
- 50X1, E.O.13526 [redacted]
- 31 Jul Col. William Shelton, USAF, replaces Col. Stanley W. Beerli, USAF, as Commander of Detachment B at Adana.
- 20 Aug DOD/USAF/CIA selection board on GUSTO/OXCART approves the Lockheed design (A-12) as the follow-on system to the U-2.
- 21 Aug The cryptonym OXCART is assigned to the development phase of the A-12 advanced reconnaissance system.
- 29 Aug Detachment C stages from Atsugi to Ban Takhli, Thailand, flies 6 missions over Tibet, Northwest China, North Vietnam, and Laos, and returns to Atsugi 12 September 1959.
- 31 Aug Project GUSTO's termination is announced.
- 3 Sep Letter contract with Lockheed Aircraft Company is initiated for design and production of the A-12 aircraft.
- 24 Sep Non-fatal U-2 accident of No. 360. Returning to base at Atsugi from test flight with too little fuel, Detachment C pilot makes emergency landing in a potato field; he is not injured and aircraft is repairable.
- 18 Nov Ambassador to Norway, Miss Frances Willis, recommends briefing Norwegian Cabinet members on U-2 in order to circumvent the use of Col. Evang as a sole source of approval for U-2 operations from Norway; this recommendation is not carried out and Evang is again approached for use of Bodo in February 1960 looking toward April operations by Detachment B.

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~~TOP SECRET~~1959 (cont'd)

- 24 Nov Joint agreement is signed between Far East Division and Development Projects Division, delineating functions and responsibilities regarding Far East air operations of DD/P.
- 6 Dec First mission over Russia by Detachment B U-2 with British pilot is flown staging through Peshawar, and covers Kuybyshev and Kapustin Yar with excellent results.
- 23 Dec The DD/P approves the reopening and renovation of Watertown Strip for use as the OXCART test and training facility.

1960

- 14 Jan U. S. Ambassador to Tokyo, Douglas McArthur, is briefed on CHALICE by Mr. Bissell. The Ambassador does not at that time recommend withdrawal of Detachment C from Japan.
- 30 Jan Lockheed Aircraft Company is given firm go-ahead for the production of 12 OXCART aircraft.
- 5 Feb Second overflight of the USSR by U-2 with British pilot, staging from Peshawar, is carried out by Detachment B, covering Tyura Tam, Kazan, and Ukraine with excellent results.
- 19 Feb Presidential approval is given for one of three planned overflight missions of the USSR in order of priority, subject to take-off, route, and terminal weather; third choice is finally flown over Sary Shagan from Peshawar on 19 April 1960.
- 25 Mar P2V7 aircraft #7101 crashes into mountain in South Korea on ferry flight from Hsinchu to Kunsan; aircraft and full crew, 11 CAF officers and men assigned to STPOLLY overflight program, are lost.
- 5 Apr Non-fatal U-2 accident, No. 349. Detachment C pilot on mission flown from Ban Takli crashlanded in rice paddy short of base; pilot is not injured and aircraft is retrieved in sections, aided by natives with oxcarts, requiring a nine day trek.

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~~TOP SECRET~~1960 (cont'd)

- 25 Apr Presidential approval is given for one out of three planned missions before midnight 1 May 1960: (1) TIME STEP; (2) GRAND SLAM; and (3) SUN SPOT. Long-range weather forecast is against (1), so planning goes ahead for (2).
- 1 May Operation GRAND SLAM, postponed due to weather from 27 April to 1 May 1960, takes off from Peshawar at 0159Z; Soviet tracking begins at the border and continues without interruption until last reported position of aircraft at 0629Z.
- 1 May Sixth U-2 loss is suffered, No. 360, non-fatal to pilot, Francis Gary Powers, Detachment B. Aircraft is downed near Sverdlovsk, USSR, by surface-to-air missile action, pilot ejects as aircraft disintegrates and lands uninjured.
- 2 May Press release by C/O of Detachment B announces a U-2 missing as drafted and cabled from Headquarters; it is not published in the press until 3 May with an Istanbul dateline.
- 4 May Gen. Ayub Khan, President of Pakistan, is briefed on U-2 loss because the flight departed from Peshawar; briefing is given by [REDACTED] Mr. Frank Wisner. 50X1, E.O.13526
- 5 May FBIS picks up Soviet broadcast on Radio Moscow of announcement by Khrushchev of shooting down of American plane which had crossed the Soviet frontier "from Turkey, Iran or Pakistan."
- 7 May Soviet radio broadcast says Russians have captured the spy pilot alive and are interrogating him; this fact is revealed in a speech by Khrushchev at the 5th Session of the Supreme Soviet's Fifth Convocation.
- 7 May Detachment B is directed by Headquarters, Washington, to remove British cadre from Turkey by black flight to London, for Air Ministry debriefing and further disposition.

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~~TOP SECRET~~1960 (cont'd)

- 9 May Congressional leaders are briefed by DCI Dulles on the U-2 May Day incident.
- 10 May Director of Personnel, CIA, certifies to the Comptroller, CIA, that Francis G. Powers qualifies under the terms of P.L. 490, 77th Congress for status as a Missing Person and the benefits related thereto.
- 11 May President Eisenhower holds a press conference and, on his own unilateral initiative, admits to pre-knowledge and agreement to the U-2 overflights of the USSR.
- 15 May Cryptonym IDEALIST is assigned to the U-2 program in lieu of CHALICE which has been exposed.
- 23 May General Chiang Ching-kuo on behalf of his father, Generalissimo Chiang Kai-shek, suggests the U-2 aircraft based in Japan be moved to Taiwan and assures complete cooperation of the GRC.
- 25 May President Eisenhower addresses the nation on the collapse of the Summit Meeting scheduled to be held in Paris May 16, but which Khrushchev refuses to attend.
- 31 May The DCI testifies regarding the U-2 May Day incident before the Senate Foreign Relations Committee in closed session with testimony classified Secret.
- 1 Jun Col. Stanley W. Beerli, USAF, is assigned as Acting Chief, DPD, vice Col. William Burke, who returns to the Air Force.
- 8 Jun Ambassador McArthur recommends that Detachment C U-2's be withdrawn from Japan immediately; the State Department favors phased withdrawal on a schedule put forward by CIA.
- 14 Jun Senator John F. Kennedy, in a speech on the collapse of the Summit due to the U-2 affair, issues his challenge to Republicans and Democrats to engage in a "Great Debate" on the issues before the United States.

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~~TOP SECRET~~1960 (cont'd)

- 23 Jun The DDCI approves expenditure from Agency funds of \$50,000 in defense of Frank Powers, through cover mechanism; only \$30,000 is advanced to the lawyers and only \$23,094.31 of that is expended.
- 27 Jun The CI Staff and Office of Security submit initial assessment of damage from the U-2 incident.
- 1 Jul Soviets shoot down USAF RB-47 over the Barents Sea.
- 7 Jul Indictment of Frank Powers is published by the USSR and trial set for 17 August 1960.
- 8 Jul Japanese Foreign Office formally requests the removal of U-2 aircraft from Japan due to public pressure on the government.
- 9 Jul Detachment C U-2 aircraft are removed from Atsugi by C-124 airlift and returned to the U.S.
- 11 Jul Development Projects Division's Air Support Branch establishes a separate unit (JMCLEAR) to support Western Hemisphere Division's Cuban counterrevolutionary invasion project.
- 18 Aug Francis Gary Powers, U-2 pilot, is sentenced by Soviet judges to ten years' loss of liberty, the first three years to be spent in prison.
- 19 Aug The last of Detachment C staff departs from Atsugi and the facility is turned back to the Navy.
- 26 Aug Proposal in principle for a Taiwan-based U-2 detachment is approved by the State Department and by President Eisenhower.
- 13 Sep Generalissimo Chiang Kai-shek approves the proposal for a joint US/GRC U-2 project as outlined by the Chief of Station, Taipei, Dr. Ray Cline.
- 27 Sep Mr. Oliver Powers, father of Frank, reads a letter to Khrushchev on the NBC Morning Show, asking for his son's release.

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~~TOP SECRET~~1960 (cont'd)

- 27 Sep New security guidance is issued in light of the U-2 trial revelations in order to prevent further damage to the project.
- 11 Oct Continued British participation in the U-2 program is approved by the U.K. Foreign Ministry (although Project Headquarters felt the Prime Minister should approve). A new codeword for British participation is assigned -- JACKSON in lieu of OLDSTER.
- 14 Oct Organization and delineation of responsibilities for Project OXCART are formalized. Direction and control is to be exercised jointly by the DCI and the Chief of Staff, USAF, subject to guidance from higher authority and coordination with other departments as appropriate.
- 24 Oct The cryptonym TACKLE is assigned to the joint US/GRC U-2 project.
- 26 Oct First operational mission by Detachment G is flown over Cuba (one of five missions) from staging base at Laughlin AFB, Del Rio, Texas.
- 4 Nov President Eisenhower approves joint US/GRC U-2 project. General Goodpaster informs CIA of the approval on 8 November 1960.
- 9-28 Nov Air sampling missions are flown by Detachment G from Hawaii  
50X1, E.O.13526
- 10 Nov Phase-out of Detachment B to a small holding unit at Adana is begun. Efforts to unground the U-2 for further flights from Turkey, although approved by the Special Group in August 1961, do not receive Turkish approval.
- 18 Nov President-elect Kennedy is briefed on CIA operations by DCI Dulles and Mr. R. M. Bissell, Jr., at Palm Beach, Florida.
- 22 Nov GRC officials (President Chiang, General Chiang Ching-kuo, Maj. Gen. S. K. Hu, Lt. Gen. Ch'en Chia-shang, and Maj. Gen. I Fu-en) are given

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~~TOP SECRET~~1960 (cont'd)

- a TALENT briefing by Cdr Robert Neasham of PIC, to impress on them the value of sophisticated film processing, as well as the capabilities of the U-2.
- 29 Nov NBC "White Paper" - "The U-2 Affair" -- aired for one hour on TV.
- 7 Dec Export license issued for shipment of two U-2 aircraft to the GRC by Lockheed through arrangements with State Department and Commissioner of Customs.
- 14 Dec Detachment H (U-2) is established on Taiwan at Tao Yuan Air Base jointly with the GRC's CAF.

1961

- 1 Jan Logistics support for CIA U-2 operations and SAC U-2 operations are consolidated under a single Weapons System Support Center at Warner Robins Depot, Georgia, in order to separate U-2 and A-12 materiel operations, and to effect economies.
- 3 Jan President Eisenhower severs relations with Cuba.
- 3 Jan First U-2 coverage of North Vietnam by Detachment G staging out of Cubi Point Naval Air Station, Philippines, is carried out.
- 7 Jan State Department White Paper on U.S. aid to Laos forms the basis for a joint CIA/DOD program to build up a Laos Air Force, from a nucleus of B-26 aircraft stored in the Far East.
- 25 Jan Joint agreement reached between U.S. and GRC, couched in sterile terms, unsigned, and one copy held by COS Taipei, one by CAF.
- 31 Jan Military Aide to the President, Brig. Gen. Chester V. Clifton, USA, briefed on IDEALIST and other reconnaissance programs at request of Gen. Goodpaster by Mr. William J. Cotter, Chief, DPD Security.

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~~TOP SECRET~~1961 (cont'd)

- Gen. Clifton is advised by Goodpaster that Mr. Bissell will be his contact on overflight programs, but that Mr. McGeorge Bundy will coordinate all IDEALIST flights for the White House.
- 1 Feb U-2 modification to allow for in-flight refueling is initiated in order to add to aircraft's range.
- 10 Feb Vice President Lyndon B. Johnson is briefed by Mr. William Cotter of DPD Security on IDEALIST and the satellite program, but not on OXCART; the Vice President's military aide, Col. Howard Burris, USAF, is also briefed at the same level.
- 13 Feb DPD/Contracts and USAF/Air Materiel Command sign memorandum of understanding on consolidation of materiel support for CIA and SAC U-2's at Warner Robins Depot, Georgia.
- 18 Feb USAF/CIA agreement on OXCART management is signed by DCI Allen W. Dulles for CIA, having been signed on 15 February by General Thomas D. White, Chief of Staff, USAF.
- 19 Feb Operations Coordinating Board is dissolved by President Kennedy and the Special Group for coordinating covert activities is reactivated under Mr. McGeorge Bundy (who receives CIA briefing along with NSC members on 14 February); Thursday meetings of the Special Group are initiated 23 February 1961.
- 21 Feb First instructions are issued for handling documents in the BYEMAN Control System.
- 19 Mar Seventh U-2 loss is suffered (first under TACKLE), No. 351, with CAF pilot, Maj. Chih. On night transition landing practice, pilot allows wing to drop and aircraft is flown into the ground and demolished by fire, and pilot is fatally injured.
- 5-30 Apr Detachment G flies 15 missions covering the Cuban counterrevolutionary activities.
- 12 Apr President Kennedy pledges non-intervention in Cuba.

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~~TOP SECRET~~1961 (cont'd)

- 16 Apr Dr. Miro Cardona, Cuban exile leader in the U.S. announces invasion of Cuba by counterrevolutionaries.
- 17-19 Apr Attempted landings without expected air cover turns into fiasco at "Bay of Pigs" and counterrevolutionaries are massacred by Castro forces.
- 11 May Special Group of NSC approves indefinite continuation of STPOLLY (P2V) flights under the Special Group's continual and mission-by-mission scrutiny and evaluation.
- 23 May Detachment G begins its U-2 coverage of the Cuban missile build-up and accomplishes 28 overflights up through 7 October 1963.
- 28 Jun General Maxwell D. Taylor is appointed Chairman of the NSC Special Group (and Military Representative of the President).
- 30 Jun CI Staff of CIA recommends to DCI that proposed exchange of Col. Rudolf Abel for Francis Gary Powers not be negotiated due to Abel's being a potential source of information of great value.
- 16 Aug U-2 flights over Vietnam are initiated by Detachment G from Cubi Point, Philippines. Intermittent coverage of Vietnam is continued by CIA to 1968.
- 6 Sept Initial NRO agreement is signed by Gen. Cabell for CIA and Deputy Secretary of Defense Roswell Gilpatric for DOD.
- 14 Sep Eighth U-2 loss is suffered, No. 353, with Detachment G pilot, Buster Edens. Returning from an air sampling mission to Edwards AFB, the aircraft stalls and strikes the ground short of the runway; pilot ejects and is uninjured; aircraft burned beyond repair.
- 4 Oct President's Foreign Intelligence Advisory Board recommends Special Group re-evaluate proposal for photographic coverage of selected China Mainland targets; President Kennedy approves the Board's recommendation.

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~~TOP SECRET~~1961 (cont'd)

- 2 Nov Acting DCI Cabell, in a letter to Secretary of State Dean Rusk, recommends pursuit of a prisoner exchange of Abel for Powers using the channel set up through correspondence between Attorney James Donovan and Col. Abel's wife, who is apparently under Soviet control.
- 15 Nov Col. Robert J. Holbury, USAF, is assigned to duty as Chief of Base at Watertown Strip with status of Commanding Officer, Detachment 1, 1129th (USAF) Special Activities Squadron.
- 24 Nov Secretary of State Rusk recommends to Attorney General Robert Kennedy that efforts for Abel/Powers exchange be pursued through the James Donovan/Mrs. Helen Abel correspondence channel.
- 29 Nov Mr. John A. McCone becomes Director of Central Intelligence on retirement of Mr. Allen W. Dulles.
- 20 Dec BYEMAN Control Manual is issued to the Intelligence Community.

1962

- 5 Jan The Special Group of the NSC approves three TACKLE U-2 missions from Taiwan with the proviso that each mission must have specific approval prior to launch from the Special Group.
- 12 Jan First U-2 flight over China Mainland by CAF pilot covers the Shuang Ch'eng Tzu Missile Test Range.
- 20 Jan The PFIAB registers the concern of the President for the security of the sensitive reconnaissance projects being conducted by CIA; Mr. Bissell replies, citing the setting up of the BYEMAN control system for those sensitive projects.
- 10 Feb Exchange of Soviet spy, Col. Rudolf Abel, for U-2 pilot, Francis Gary Powers, is consummated at the center of the Glienecke Bridge connecting East and West Berlin, having been engineered on behalf of the U.S. Government by New York Attorney James Donovan.

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~~TOP SECRET~~1962 (cont'd)

- 17 Feb Resignation of Mr. R. M. Bissell, Jr., as DD/P is effective this date; he is replaced by Mr. Richard Helms.
- 19 Feb Office of Deputy Director (Research) is established.
- 5 Mar Mr. Bissell recommends to DCI that division of DPD projects and assets between DD/P and DD/R be as follows: special reconnaissance projects and R&D to support their operation to go to DD/R; air support to the Clandestine Services to stay in DD/P.
- 15 Apr Development Projects Division's special reconnaissance projects, including CORONA, are transferred to the DD/R.
- 26 Apr First flight of the A-12 (#121) is performed satisfactorily for a duration of 40 minutes.
- 30 Apr First official flight of the A-12, with Lockheed test pilot, Louis Chalk, takes off with gross weight of 72,000 pounds, climbs to 30,000 feet, and achieves top speed of 340 knots, with a flight duration of 59 minutes.
- 29 May Project OXCART is added to the BYEMAN/BYECOM systems for control of documentation and communications.
- 12 Jun First Ramo-Wooldridge contract for U-2 electronic systems is settled in the amount of \$20.4+ million; this includes costs incurred on behalf of the Air Force, the Office of Communications, and STPOLLY.
- 27 Jul CSN 1-494 establishes Special Operations Division, DD/P, which takes over the air support functions for the Clandestine Services previously carried out by Development Projects Division; [redacted] is named Chief of SOD.
- 30 Jul Office of Special Activities is established under the DD/R; Development Projects Division activities other than air support functions transferred to SOD are made the responsibility of the new Office of Special Activities.

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1962 (cont'd)

- 1 Aug Mr. James A. Cunningham, Jr., is named Acting Assistant Director for Special Activities, DD/R.
- 29 Aug Detachment G mission over Cuba confirms the existence of numerous SAM sites.
- 1 Sep OSA Contracts Staff [ ] at Headquarters and [ ] on the West Coast) are authorized by the Acting DCI, General Marshall Carter, to do covert procurement in furtherance of NRP objectives.
- 4 Sep Col. Jack C. Ledford, USAF, is named Assistant Director for Special Activities, DD/R, and Mr. James A. Cunningham, Jr., is named Deputy Assistant Director for Special Activities, DD/R.
- 4 Sep Special Security Center is established by Office of Security and OSA Security Staff is relieved of record-keeping and paper work involved with clearances which it had previously been responsible for, with the exception of those instigated by OSA.
- 9 Sep Ninth U-2 loss is suffered, No. 378, with CAF pilot, Lt. Col. Ch'en. Lost on operational mission over Nanchang, China, cause unknown.
- 30 Sep Reorganization of OSA is completed, reducing number of division and staff heads reporting directly to the front office (10) to a more manageable arrangement. Materiel is placed under Field Activities.
- 7 Oct Last CIA-operated U-2 mission is flown over Cuba by Detachment G.
- 8-9 Oct Although weather is good for coverage of Cuba, no U-2 aircraft are in commission and no flights are made.
- 10 Oct The Joint Chiefs of Staff and USIB meet on the Cuban situation.
- 10-12 Oct Weather is unfavorable for Cuban coverage. Detachment G supervises requalification of two SAC pilots in CIA's U-2C aircraft at Edwards AFB in preparation of future Cuban coverage by SAC.

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~~TOP SECRET~~1962 (cont'd)

- 12 Oct Recommendation by the JCS to turn Cuban coverage over to SAC is ordered carried out by Secretary of Defense McNamara and agreed by the White House.
- 14 Oct Overflight of Cuba by SAC pilot in a CIA U-2, flying a mission as plotted by OSA/Operations Intelligence Staff, brings back photography which proves the presence of a Soviet MRBM in Cuba.
- 15 Oct A special meeting of the NSC Special Group approves two U-2 missions for Cuba for 16 October.
- 16 Oct A meeting at 1300 in Secretary McNamara's office to consider stepping up coverage of Cuba results in authorization by McNamara of up to 6 missions of all types each day for the 17th and 18th of October.
- 17 Oct Management and operation of all FIRE FLY drones against Cuba under NRO supervision is assigned to DOD with CIA assistance in Elint, contracting, and security.
- 17 Oct The AQ-12 drone project management is assigned to the Director of Program B (CIA), Col. Jack Ledford, with Lt. Col. Henry Howard of the NRO Staff as Project Officer.
- 22 Oct President Kennedy makes public disclosure of the presence of offensive weapons in Cuba and invokes a quarantine on shipping to Cuba.
- 20 Nov The NRO Ad Hoc Cover Committee is established to coordinate contingency procedures for all NRO reconnaissance operations.
- 5 Dec First coverage of Tibet by Detachment G is carried out from Ban Takhli, Thailand. Six missions are flown between 5 December and 22 January 1963 covering Tibet, Kashmir, and the NEFA.
- 17 Dec The Special Group assumption for FY 1963-64 includes requirement for photo coverage of Mainland China and maintenance of two operational aircraft by Detachment H for the TACKLE U-2 program.

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~~TOP SECRET~~1962 (cont'd)

18 Dec OSA Activity Program 63-1 is approved for an Electronic Data Processing Branch in OSA Operations Division to do flight planning for OXCART and IDEALIST, and ephemeris plotting for satellite projects.

1963

15 Jan First A-12 flight is made using a J-58 engine.

Mar Prime Minister Nehru, having been briefed in January and March on Detachment G's Sino-Indian border coverage, informs the Indian Parliament of the Chinese border movements disclosed by U-2 photography (without attribution of source); however UPI publishes story surmising use of U-2 by U.S. from Okinawa, or Chinese from Taiwan.

24 May First A-12 loss is suffered. Pilot bails out and lands unhurt during routine training flight from Area 51 (formerly Watertown Strip), due to erroneous air speed indication.

20 Jul A-12 achieves Mach 3 in flight test at Area 51.

23 Jul General Marshall Carter, DDCI, approves the OSA staff study and recommendation for initiation of a development program for a carrier-based U-2.

3 Aug First flight of U-2G from deck of Aircraft Carrier USS KITTY HAWK is successfully accomplished by Lockheed test pilot, Bob Schumacher, retrieving at Burbank.

29 Aug Canadian Prime Minister Lester B. Pearson and Defense Minister Paul Hellyer are briefed on OXCART/KEDLOCK programs in order to obtain approval for any necessary overflights of Canadian air space by the A-12.

29 Sep First of four missions flown by Detachment G over India to cover Tibet, Kashmir, and the NEFA. with refueling at Charbatia approved by the Indians. Series of missions completed 10 November 1963.

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~~TOP SECRET~~1963 (cont'd)

- 1 Nov Tenth U-2 loss is suffered, No. 355, with CAF pilot, Maj. Yeh. Returning from coverage of SCTMTR, tracking stopped southeast of Nanchang; fate of pilot unknown.
- 30 Nov DCI McCone sees President Johnson and receives his reaffirmation of the Special Group's approval of TACKLE U-2 overflights; the Special Group reaffirms approval on 6 December 1963 and State Department approves on 9 January 1964.
- 30 Nov Special Group approves six missions to cover guerrilla build-up across the northeast Venezuelan border into British Guiana; Detachment G stages missions from Ramey AFB, Puerto Rico.
- 3-19 Dec Detachment G coverage of Venezuela/British Guiana guerrilla activities is carried out.

1964

- 1 Jan Supply depot for A-12-peculiar equipment and supplies is moved from [redacted] 50X1, E.O.13526 [redacted] and the Air Force Logistics Command at Wright-Patterson assumes full manpower and logistics control at the new depot for OXCART, TAGBOARD, and the SR-71.
- 3 Jan NRP Monthly Forecast of all reconnaissance overflights for approval by the Special Group is promulgated.
- 3 Feb The A-12 sustains flight at design conditions of Mach 3.2 at 83,000 feet for 10 minutes.
- 29 Feb President Johnson surfaces the existence of the A-11 (YF-12A) version of the OXCART aircraft to the press and public.
- 12 Mar OSA prepares a report on the vulnerability of satellites to the Soviet threat.
- 16 Mar First operational use is made of the BIRDWATCHER on U-2 mission over South China.

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~~TOP SECRET~~1964 (cont'd)

- 22 Mar Eleventh loss of U-2 is suffered, No. 356, with CAF pilot, Capt. Liang. Aircraft and pilot are lost off the south coast of Taiwan on a training mission.
- 24 Apr The Special Group approves an operation to obtain coverage of the French Nuclear Test Area, Tuamotu Archipelago.
- 30 Apr Detachment G activates a staging base at Charbatia, India; the staging team arrives at base 19 May 1964.
- 19-22 May Detachment G carries out coverage of the French nuclear test at Tuamotu Archipelago with Operation FISH HAWK, launched from the USS RANGER in the Pacific.
- 24 May Detachment G accomplishes one successful mission from Charbatia over Tibet and Lhasa; the mission U-2 aircraft is damaged on landing.
- 27 May Prime Minister Nehru dies; Detachment G operations from Charbatia are called off and the staging party returns to home base.
- 7 Jul Twelfth U-2 loss is suffered, No. 362 (U-2G) with CAF pilot, Lt. Col. Lee. Aircraft and pilot are lost on operational mission over East Coast of China across the Straits of Quemoy.
- 9 Jul Second A-12 loss is suffered, No. 133. Lockheed test pilot ejects safely as aircraft crashes on approach to runway at Area 51.
- 1 Sep Executive Committee, NRP, votes against procurement of new U-2 version and puts it off in favor of a temporary, piece-meal solution of modifications.
- 5 Nov A limited capability of the A-12 to cover Cuba, if required, is established, but decision is made not to expose this capability until the A-12 has reached its maximum operational capabilities.
- 16 Dec Detachment G begins 3-mission coverage of Tibet, Lhasa, and the NEFA from Charbatia, ending on 20 December 1964.

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~~TOP SECRET~~1965

- 10 Jan Thirteenth U-2 loss is suffered, No. 358 (U-2C) with CAF pilot, Maj. Chang. Aircraft and pilot are lost on infra-red camera mission over Pao Tou, probable cause believed to be a hit by surface-to-air missile.
- 3 Feb Col. Jack C. Ledford, Director of Program B under NRO, forecasts the life expectancy of the U-2 to be about two more years; no successor with the U-2's capability is expected to be available in the immediate future.
- 18 Mar DOD/CIA heads agree to take preparatory steps toward operating the A-12 over Communist China, flying out of Okinawa.
- 25 Apr Fourteenth loss of U-2 is suffered, No. 382 (U-2G), with Detachment G pilot, Buster Edens. Test flight of carrier-configured aircraft goes out of control, pilot bails out but chute does not open.
- 28 Apr Admiral William F. Raborn replaces John A. McCone as Director of Central Intelligence; Mr. Helms replaces Gen. Carter as DDCI.
- 21 Jun Recommendation for procurement of an improved version of the U-2 is made to the DNRO by Director, Program B (Col. Ledford), and Director, Program D (Col. Leo P. Geary).
- 27 Jul Title of Assistant Director, OSI, is changed to Director, OSA, along with similar changes in all DDS&T Offices.
- 15 Sep Office of Special Projects (OSP) is established and satellite activities previously under OSA's direction are transferred to OSP. OSA retains manned reconnaissance programs.
- 1 Oct Joint agreement between OSP and OSA on management concept and transfer of resources, responsibilities, and authorities regarding satellite activities is signed.

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~~TOP SECRET~~1965 (cont'd)

- 2 Oct Joint OSA/OSP agreement is signed giving OSP responsibility for development and modification of computer programs in support of satellite operations and for response to Satellite Operations Center requirements; OSA to supply programmers and computer operators for OSP input data.
- 6 Oct Headquarters Notice is issued announcing the establishment of OSP.
- 22 Oct Fifteenth loss of U-2 is suffered, No. 352 (U-2C), with CAF pilot, Col. John Wang. On a training mission from Taiwan, pilot and aircraft are lost in the sea off Taiwan, cause uncertain.
- 15 Nov Revised guidance for project pilots down in hostile territory is approved within CIA and cleared with the NSC Special Group on 16 December 1965.
- 20 Nov The A-12 aircraft reliability validation is completed for deployment to the Far East and certified by contractor engineers.
- 3 Dec The Special Group (303 Committee) approves all steps being taken toward OXCART Far East deployment short of actually moving the aircraft to Okinawa.
- 28 Dec Third A-12 loss is suffered, No. 124. Aircraft crashes following take-off due to faulty wiring connection in yaw and pitch gyros; pilot ejects safely.

1966

- 17 Feb Sixteenth U-2 loss is suffered, No. 372, (U-2F), with CAF pilot, Maj. Wu. Training mission crashes after overshooting runway on landing following flame-out and emergency landing; pilot is killed, plane demolished.
- 25 Feb Seventeenth U-2 loss is suffered (non-fatal to pilot), No. 342 (U-2F), with Mr. Hall of Detachment G. Structural failure to aircraft occurs following practice refueling with KC-135, aircraft disintegrates, pilot bails out safely.

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~~TOP SECRET~~1966 (cont'd)

- 16 May DDS&T recommends to DNRO that U-2R as described in Lockheed 27 December 1965 proposal be procured. No action is taken until August 1966.
- 17 Jun Chinese pilot training program in the U-2 is re-located at Detachment G Headquarters at Edwards North Base, being withdrawn from the Air Force training program at Davis-Monthan AFB, Tucson, Arizona.
- 21 Jun Eighteenth U-2 loss is suffered, No. 384 (U-2C), with CAF pilot, Maj. Yu. On training flight from Taiwan, aircraft goes out of control, pilot bails out too low and chute fails to open. Both aircraft and pilot fall into the sea off Naha, Okinawa.
- 30 Jun Mr. Richard Helms is appointed DCI, vice Adm. Raborn.
- 21 Jul Revised BYEMAN Control System Manual is issued.
- 1 Aug NRP Executive Committee approves a first U-2R procurement of 8 aircraft with the understanding that additional procurement will be considered in conjunction with the 1968 budget.
- 1 Aug OSA staff changes occur: Col. Paul N. Bacalis, USAF, is named Director, OSA, vice Brig. Gen. Jack C. Ledford, who returns to the Air Force; Mr. John Parangosky is appointed Deputy Director, OSA, vice Mr. J. A. Cunningham, Jr., reassigned to O/DDS&T; and [redacted] is appointed Deputy for Technology of OSA, vice Mr. Parangosky.
- 12 Aug Divergent views on deployment of OXCART to the Far East to cover North Vietnam and South China are presented for Presidential decision and Mr. Johnson decides against deployment for the time being.
- 15 Sep The 303 Committee votes not to commit OXCART aircraft to Cuban coverage as it might disturb the existing calm prevailing in that area of foreign affairs.
- 26 Sep Mr. Carl E. Duckett is appointed Acting DDS&T vice Dr. A. D. Wheelon, resigning to return to industry.

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1966 (cont'd)

- 15 Oct [redacted] is named Chief, Contracts  
Division, OSA, vice [redacted]  
reassigned to the West Coast office.
- 23 Nov The NRP Executive Committee approves procurement  
of 4 additional U-2R's with total of 12 deliveries to  
be stretched out in order to maintain a follow-on  
procurement order for the next year.
- 12 Dec At a meeting to consider the Fischer-Bennington-  
Parangosky Report on OXCART/SR-71 comparison,  
Messrs. Vance (DOD), Schultze (BOB), and Hornig  
(White House) vote to cancel OXCART; Mr. Helms  
(CIA) votes to share the eventual fleet of A-12  
and SR-71 aircraft between SAC and CIA.
- 20 Dec DCI letter to Mr. Schultze, BOB, states the view  
that CIA should remain in the reconnaissance business.
- 22 Dec The British JACKSON unit, in a meeting at OSA office,  
favors continuance of British participation with the  
Middle East and Africa being named as likely areas  
where the British could obtain approval for opera-  
tions.
- 28 Dec President Johnson accepts the recommendations of  
Messrs. Vance, Hornig and Schultze and directs  
the termination of OXCART by 1 January 1968. (A  
six-month extension of OXCART occurs due to the  
SR-71 system not being prepared to take over on  
time.)
- 31 Dec The OSA T/O ceiling shows 761 authorized, largely  
for OXCART; only 130 are engaged in U-2 activities.

1967

- 5 Jan Fourth A-12 loss is suffered, No. 125, with contract  
pilot Walter L. Ray. Pilot ejects when aircraft  
crashes near Leith, Nevada, but failure of separa-  
tion from ejection seat causes his death on impact.  
News release describes aircraft as SR-71 operating  
out of Edwards AFB with Lockheed test pilot.

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~~TOP SECRET~~1967 (cont'd)

- 17 Mar Revised TACKLE agreement for operation of joint US/GRC U-2 project is signed by Lt. Gen. Yang Shao-lien, COS, CAF, [REDACTED].
- 20 Apr Mr. C. E. Duckett is confirmed as DDS&T.
- 16 May Presidential approval is received for immediate deployment of OXCART BLACK SHIELD contingent to obtain photo coverage of North Vietnam.
- 17-19 May Airlift to Kadena, Okinawa, of BLACK SHIELD contingent is accomplished. First A-12 is ferried over on 22 May, second on 24 May, third on 26 May. Total of 260 personnel are deployed.
- 31 May First BLACK SHIELD mission is flown over North Vietnam and the DMZ. Seventy of 190 known SAM sites in North Vietnam are photographed and nine out of 27 COMIREX top priority targets are covered.
- 30 Jul All property of IDEALIST is removed from Charbatia, India, and the operation there is closed out.
- 8 Sep Nineteenth U-2 loss is suffered, No. 373, with CAF pilot, Capt. Huang. On operational mission over Mainland China, aircraft is shot down in vicinity of Shanghai by surface-to-air missile; fate of pilot unknown but presumed dead.
- 30 Oct Post-flight inspection of A-12 aircraft reveals that a piece of metal penetrated the lower wing surface--possibly part of the debris from a missile detonation, since 8 missiles were reported launched during the aircraft's mission.
- 6 Nov Discovery of cracked wing in a SAC U-2 at Bien Hoa causes grounding of all U-2's effective 6 November 1967 and subsequent ultrasonic inspection at Lockheed to check metal fatigue. (Mr. C. L. "Kelly" Johnson had estimated the wing life of the U-2 at about 5,000 hours.)

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~~TOP SECRET~~1968

- 21 Jan OSA moves from the 6-B corridor of Langley to the Tyler Building at Westgate, Tyson's Corner.
- 16 Mar Last U-2 overflight of China Mainland is flown by CAF pilot; flights later restricted to peripheral offshore missions.
- 18 Apr DCI Helms expresses the view to the NRP Executive Committee that the OXCART capability should be maintained at Area 51 under CIA management.
- 29 Apr SAC's SR-71 deployment to Kadena without incident is reported to the NRP Executive Committee.
- 29 Apr DCI Helms recommends retention of Area 51 for exotic testing, such as the MIG-21.
- 8 May Last mission flown by an A-12 aircraft from Kadena covers North Korea.
- 16 May Secretary of Defense reaffirms the necessity to terminate the OXCART program on budgetary grounds.
- 21 May President Johnson reconfirms the cancellation of the OXCART program.
- 4 Jun Fifth A-12 loss is suffered, No. 129, with contract pilot Jack W. Weeks. Lost on overwater test flight after engine change; last known position 520 n.m. east of the Philippines.
- 26 Jun Intelligence Star for Valor is awarded to OXCART pilots Collins, Layton, Murray, Sullivan, and Vojvodich, and posthumously to Jack W. Weeks, accepted by his widow, in a presentation held at Area 51.
- 12 Jul Col. Donald H. Ross, USAF, is designated Director of Special Activities, DDS&T, vice Brig. Gen. Paul N. Bacalis, who returns to the Air Force SR-71 program.
- 13 Nov The NRP Executive Committee votes a 50-50 split of U-2R's between CIA and SAC and maintenance of 6 active U-2's by each with the U-2/C-G versions to be used as replacements for losses. A grant of \$1 million FY 1970 funds for OSA's [redacted] [redacted] is approved and \$500K for a QRC program.

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CHAPTER I. BACKGROUND

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## CHAPTER I. BACKGROUND

### Surprise Attack

During the year 1954, as for some years previous to that time, the urgent problem of defense against surprise attack by the Soviet Union continued to occupy the attention of all those in Washington who bore the responsibility for the nation's security. High level commissions, whose memberships represented the best minds in the country, continually met in Washington to study every facet of cold war strategy and advise the President. There was no lack of brainpower available for this task, but there was one shortage which was recognized by all concerned and which came to be known as the "Intelligence Gap".

The existence of the Iron Curtain and the growing hostility of the Soviet Union toward the West had made it increasingly difficult to mount classic intelligence collection operations against the U. S. S. R. How, then, was the United States to obtain the vital intelligence on major military, political and economic activities within the Soviet Union which it must have to maintain its own national security? In the summer of 1954 the U. S. Intelligence Community had come around to the view that the only prospect of gaining this vital intelligence was through systematic aerial reconnaissance over the U. S. S. R.

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The Special Study Group of the Hoover Commission set up under the chairmanship of General James H. Doolittle to investigate CIA's covert activities, in its report of 30 September 1954 expressed the belief that every known technique should be used, and new ones developed, to increase our intelligence by high altitude photographic reconnaissance and other means, and that no price would be too high to pay for the knowledge to be derived therefrom.

Land Panel Proposal

On 5 November 1954, Dr. Edwin H. Land, Chairman of the "Project 3" Technological Capabilities Panel,<sup>1/</sup> wrote to Mr. Allen W. Dulles, Director of Central Intelligence, proposing a program of photo reconnaissance flights over the U.S.S.R., and recommending that CIA, with Air Force assistance, undertake to carry out such a program. The Land Panel's proposal (Annex 1), entitled "A Unique Opportunity for Comprehensive Intelligence", recognized the risk of provocation toward war that such an intensive program of overflights might run, as well as the dangers involved should one of our military arms engage in such activities, especially in view of the tense political situation existing vis-a-vis the Soviet Union.

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<sup>1/</sup> This Panel was a sub-group under the Office of Defense Mobilization's "Surprise Attack Committee".

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"On the other hand," the proposal continued, "because it is vital that certain knowledge about industrial growth, strategic targets, and guided missile sites be obtained at once, we recommend that CIA, as a civilian organization, undertake (with the Air Force assistance) a covert program of selected flights. Fortunately a jet-powered glider has been carefully studied by Lockheed Aircraft Corporation for overflight purposes. This manufacturer proposes to take full responsibility for the design, mock-up, building, secret testing and field maintenance of this extraordinary and unorthodox vehicle, making it feasible for a CIA task force to undertake this vital activity... The Lockheed super glider will fly at 70,000 feet, well out of reach of present Russian interception and high enough to have a good chance of avoiding detection. The plane itself is so light (15,000 pounds), so obviously unarmed and devoid of military usefulness, that it would minimize affront to the Russians even if through some remote mischance it were detected and identified." <sup>1/</sup>

Appended to the Panel's proposal were photographs that demonstrated the great information content of pictures taken from extreme

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<sup>1/</sup> Annex 1, page 2. of Attachment 1.

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altitude. The proposal affirmed that a single mission of the Lockheed vehicle with cameras employing the most recently developed optical designs could photograph in revealing detail a strip of the Soviet Union 200 miles wide by 2,500 miles long, clearly identifying roads, railroads, power lines, industrial plants, airfields, parked aircraft, missile sites, etc., and detailing concentrated areas down to objects as small as a man.

In Dr. Land's letter to Mr. Dulles submitting the proposal he made clear the Panel's belief that this activity was appropriate for CIA (always with Air Force assistance) and was "the kind of action and technique that is right for the contemporary version of CIA; a modern and scientific way for an Agency that is always supposed to be looking to do its looking. Quite strongly, we feel that you must always assert your first right to pioneer in scientific techniques for collecting intelligence—and choosing such partners to assist you as may be needed. This present opportunity for aerial photography seems to us a fine place to start." <sup>1/</sup>

The Panel's recommendation was for immediate action, through CIA covert means, to procure the aircraft and equipment and set up

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a task force. The opportunity for safe overflight was estimated as only a few years since the Russians were expected to develop radars and interceptors or guided missiles which would reach to the 70,000 foot region.

Lockheed Profile

The aircraft proposal by Lockheed, which was the basis for the Land Panel recommendation, envisaged a modification of the F-104 (Lockheed Starfighter) with long, glider-like wings, powered by a single jet engine. (The Pratt & Whitney J57/P37 was later chosen as the power plant and was provided through an existing USAF contract.) The drawing board concept of this aircraft, designated by Lockheed as the CL-282, originated with Mr. Clarence L. (Kelly) Johnson, chief design engineer and head of Lockheed's Advanced Development Projects group. (CL-282 profile is Annex 2.) It was submitted to the Air Force early in 1954 along with several other design proposals, some of which were accepted; however the CL-282 was shelved by the Air Force at that time.

Later in 1954, when the Land Panel was searching for a technical capability for collecting intelligence on the U.S.S.R., the CL-282 proposal was reviewed with Mr. Johnson and the Panel concluded

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that such a program was feasible and should be pursued by the U. S. Government. In presenting their recommendation to the CIA the Panel noted that no proposal or program that they had investigated appeared to hold as much promise for acquiring as much vital intelligence information at so little risk and at so little cost. They believed that the proposed aircraft could go where it was needed to go efficiently and safely, and that no amount of fragmentary and indirect intelligence could be pieced together to be equivalent to the positive photographic evidence obtainable by this reconnaissance system.

#### Optics Research

For some years prior to the Land Panel's establishment, optical systems and photographic techniques had been the subject of intensive study by specialists in the armed services as well as those in civilian organizations engaged in research and development and fabrication of photographic systems. Dr. Land, President of the Polaroid Corporation, and Dr. James G. Baker, Professor of Physics at Harvard University, both as members of civilian organizations thus engaged and as members of the United States Air Force Scientific Advisory Board, had continuously reviewed all the advances made, the possible course of future developments, and the application of these to photo reconnaissance overflights.

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Dr. Baker pointed out in a paper summarizing the types of photographic equipment to be built (see Annex 3) that camera configuration "A" would be made up from standard equipment already available, in accordance with the desire of all concerned to make use of cameras with proven reliability, as well as to make sure of having some equipment ready to meet the program's deadline. The other configurations, "B" and "C", were being specifically designed for the vehicle and missions contemplated and would not duplicate other developments. Dr. Baker emphasized that these new developments would be welcome and readily taken over by the Air Force. In some cases they were years ahead of present research and development, but on the other hand these systems were the outgrowth of many years of experience gathered from Air Force sponsorship of basic research and development programs and were therefore implicitly Air Force products. This was particularly true with regard to achievements in the electronic computing of optical systems by a joint research effort between the Air Force and the Perkin-Elmer Corporation of Norwalk, Connecticut. The development of the "C" configuration, for instance, would have taken years using the old German methods, or months using desk calculators. With the IBM CPC computer, however,

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Dr. Baker and his co-workers were able to do their computations in about 16 days.

When the Land Panel proposal was submitted to CIA, the design results obtained by Dr. Baker were considered by him to be adequate for providing satisfactory pictures, but seeking the ultimate in quality, he continued his research and computations as the program developed.

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ANNEX 1

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November 5, 1954

Mr. Allen W. Dulles  
Central Intelligence Agency  
Washington 25, D. C.

Dear Mr. Dulles:

Here is the brief report from our panel telling why we think overflight is urgent and presently feasible. I am not sure that we have made it clear that we feel there are many reasons why this activity is appropriate for CIA, always with Air Force assistance. We told you that this seems to us the kind of action and technique that is right for the contemporary version of CIA; a modern and scientific way for an Agency that is always supposed to be looking, to do its looking. Quite strongly, we feel that you must always assert your first right to pioneer in scientific techniques for collecting intelligence--and choosing such partners to assist you as may be needed. This present opportunity for aerial photography seems to us a fine place to start.

With best wishes,

/s/ Edwin H. Land

Edwin H. Land, Chairman

For: Project 3, Technological  
Capabilities Panel  
Office of Defense Mobilization  
Executive Office of the President

Project Members:

E. H. Land  
James G. Baker  
Joseph W. Kennedy  
Edward M. Purcell  
John W. Tukey

1 Attachment  
Report

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Attachment 1

5 November 1954

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT: A Unique Opportunity for Comprehensive Intelligence

For many years it has been clear that aerial photographs of Russia would provide direct knowledge of her growth, of new centers of activity in obscure regions, and of military targets that would be important if ever we were forced into war. During a period in which Russia has free access to the geography of all our bases and major nuclear facilities, as well as to our entire military and civilian economy, we have been blocked from the corresponding knowledge about Russia. We have been forced to imagine what her program is, and it could well be argued that peace is always in danger when one great power is essentially ignorant of the major economic, military, and political activities within the interior zone of another great power. This ignorance leads to somewhat frantic preparations for both offensive and defensive action, and may lead to a state of unbearable national tension. Unfortunately, it is the U.S., the more mature, more civilized, and more responsible country that must bear the burden of not knowing what is happening in Russia. We cannot fulfill our responsibility for maintaining the peace if we are left in ignorance of Russian activity.

While aerial photography could be the most powerful single tool for acquiring information, it has until now been dangerous to fly over Russia. Up till now, the planes might rather readily be detected, less readily attacked, and possibly even destroyed. Thus no statesman could have run the risk of provocation toward war that an intensive program of overflights might produce. The Air Force has, for a long time, studied a program of overflight as a natural aspect of its Reconnaissance mission and has, in recent months, considered several proposals for airplanes designed for this purpose. While it is important that such research and development continue in the Air Force, for the present it seems rather dangerous for one of our military arms to engage directly in extensive overflight.

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On the other hand, because it is vital that certain knowledge about industrial growth, strategic targets, and guided missile sites be obtained at once, we recommend that CIA, as a civilian organization, undertake (with the Air Force assistance) a covert program of selected flights. Fortunately a jet-powered glider has been carefully studied by Lockheed Aircraft Corporation for overflight purposes. This manufacturer proposes to take full responsibility for the design, mock-up, building, secret testing and field maintenance of this extraordinary and unorthodox vehicle, making it feasible for a CIA task force to undertake this vital activity. Such a task force requires highly specialized and able guidance in procurement and operation (by Air Force officers for aircraft, by scientists for photographic and electronic equipment). The Lockheed super glider will fly at 70,000 feet, well out of reach of present Russian interception and high enough to have a good chance of avoiding detection. The plane itself is so light (15,000 lbs.), so obviously unarmed and devoid of military usefulness, that it would minimize affront to the Russians even if through some remote mischance it were detected and identified.

Since the proposed mission of this plane is first of all photographic, and only secondarily electronic, a word should be said about the information expected from the photographs, as well as about the effects of the cloud cover over Russia. Photographs are appended that demonstrate the large information content of pictures taken from these great altitudes. A single mission in clear weather can photograph in revealing detail a strip of Russia 200 miles wide by 2,500 miles long. Cloud cover will reduce completeness, of course, but clouds are not a serious obstacle because one can afford to wait for good weather; alternate routes over clear areas can be selected in flight; and finally, the number of intelligence targets accessible during a single mission is so large that even a partial sampling would yield an extraordinary amount of intelligence.

The opportunity for safe overflight may last only a few years, because the Russians will develop radars and interceptors or guided missile defenses for the 70,000 foot region. We therefore recommend immediate action through special channels in CIA in procuring the Lockheed glider and in establishing the CIA task force. No

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proposal or program that we have seen in intelligence planning can so quickly bring so much vital information at so little risk and at so little cost. We believe that these planes can go where we need to have them go efficiently and safely, and that no amount of fragmentary, and indirect intelligence can be pieced together to be equivalent to such positive information as can thus be provided.

It is recommended that

(a) The Central Intelligence Agency establish an initial task force to complete any necessary feasibility studies in a few weeks, and that, assuming successful completion of the studies, the following further actions be taken.

(b) A permanent task force, including Air Force supporting elements, be set up under suitable cover to provide guidance on procurement, to consolidate requirements and plan missions in view of priority and feasibility, to maintain the operation on a continuing basis, and to carry out the dissemination of the resulting information in a manner consistent with its special security requirements.

(c) The procurement of a coordinated system from Lockheed, consisting of CL-282 aircraft with photographic and electronic equipment, be authorized.

(d) Such high altitude overflights be authorized in principle.

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A UNIQUE OPPORTUNITY FOR COMPREHENSIVE INTELLIGENCE -- A SUMMARY  
OPPORTUNITY

Collection of large amounts of information at a minimum of risk through prompt development of a special, high altitude airplane. Assurance of thousands of photographs that will yield critical analysis of vast Soviet complexes. Protection of mission by decisive altitude advantage over Soviet interception. This protection good for only a few years, thus assured only through very prompt action.

OBJECTIVES

Providing adequate locations and analyses of Russian targets including those newly discovered.

More accurate assessment of Soviet Order of Battle and of early warning indicators, thus improving our defenses against surprise attack.

Appraising Soviet guided missile development (through photos of test range, etc.).

Improving estimates of Soviet ability to deliver nuclear weapons and of their capacity to produce them.

Disclosing new developments which might otherwise lead to technological surprise.

Appraising Soviet industrial and economic progress.

ORGANIZATION

Secret task force under Central Intelligence Agency with strong Air Force staff assistance to equip and carry out entire mission up to point where flow of useful new intelligence is established. Task force to include top experts selected from Government agencies, armed services, universities and industry to provide for most effective application of science and technology toward fulfillment of this objective.

VEHICLE

Special "powered glider" CL-282 aircraft proposed by Lockheed. ALTITUDE - 70,000 feet. SPEED - 500 kt. RANGE - 3,000 n.mi. GROSS WEIGHT - 15,000 lbs. TAKE-OFF DISTANCE - 1,200 feet. CREW - lone pilot in heated, pressurized suit. AVAILABILITY - four aircraft for field use in 17 months assured by Lockheed.

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Standard Trimetrogon for charting entire overflow strip. Focal lengths from 12 - 48 inches to be used in multiple mounts for main work load. Special long focal length spotting camera for detailing concentrated areas down to objects as small as a man. Clear identification of Roads, Railroads, Power Lines, Industrial Plants, Airfields, Parked Aircraft, Missile Sites and the like within a strip 200 miles wide by 2,500 miles long per flight.

ELECTRONICS

Electronics intercept and communications intercept data to be recorded on special automatic recorders preset for selected frequencies. More extensive electronic data available by optional use of additional electronic gear in place of photographic gear.

SCHEDULE

New intelligence to start flowing within twenty months.

COST

\$22,000,000 to initial flow of significant intelligence. (Includes procurement of design, development and test of six CL-282 aircraft, training and operation of special task force and initial logistic support.)

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ANNEX 2

Because of the folio size of Annex 2,  
Lockheed Aircraft Corporation's  
specifications for the U-2, it is  
included with the Appendices at the  
back of this history.

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ANNEX 3

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14 January 1955

PHOTOEQUIPMENT

The following is a brief summary of equipment and planning. The Hycom perspective and lay-out drawings of January 13 should be referred to for more complete details.

For reasons discussed below we have planned for a total of 20 separate payloads made up from 8 kinds of payloads. The tentative designation and the distribution are as follows:

A-1a	A-1b	A-2a	A-2b	A-3a	A-3b	B	C
2	2	2	2	2	2	4	4

After considerable study and numerous revisions we have found that minimum weight and maximum logistical simplicity are obtainable if each payload has its own bottom with its own windows for the camera bay. Thus, we must have made up 20 separate bottoms of which there are 8 kinds.\* The bottoms are to be designated with the same notation used above, such as A-1a, etc. Although it is possible to have but a single kind of bottom servicing all kinds of payloads, the plane would be carrying quite a lot of dead weight for the simpler missions, there would be much increased danger of window breakage and loss of pressurization, and finally, there would result a much increased cost in manufacture of the numerous windows and possible delays in procurement.

The "A" designation comprises payloads made up from standard equipment in accordance with everyone's desire to make use of cameras with proved reliability. "B" refers to the intermediate reconnaissance camera combining intermediate focal length with maximum coverage. "C" refers to the long focal length spotting camera to be used for limited coverage at maximum resolving power.

The quantities given above are derived from a concept of outfitting 3 widely separated and independent bases with adequate equipment to provide for the missions of pioneer search and mapping, intermediate reconnaissance and spotting of critical areas. Furthermore, at all times we must strive

\* A 9th kind is probably needed.  
See below.

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to obtain the maximum information return per mission, picking a few days with exceptionally clear air, and making use of these vigorously when they occur. For that reason each base ought to have at least two or at most four aircraft, having available the 5 payloads (A-1a, A-2a, A-3a, B and C, or the equivalent). Maintenance should be accomplished during the numerous photographically unfavorable days of which there will be many suitable for check flights. Any one of the first four payloads covers a wide area, so that as many as four planes can be sent in simultaneously to photograph as many as 2 million square miles in 6 hours at altitude. Even "C" can be used right away for going after known critical targets, or for covering a small target area in great detail, or for following along rivers, roads or rail lines for associated industrial complexes. The various payloads are interchangeable among the 2 to 4 aircraft as needed, the change-over time amounting at most to several hours.

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A-1a. Camera Bay #1 contains a rockable K-38 with 24-inch lens cone, making use of a modified A8-B magazine with 2000' of thin base film. Bay #2 contains both a split vertical pair of 12-inch cameras, and a single vertical 6-inch K-17. Bay #3 contains the side oblique 6-inch K-17's completing the Tri-Met installation.

A-1b. The same, except that the rockable K-38 has a 36-inch cone.

A-2a. Camera Bay #1 contains the rockable K-38 with 24-inch lens cone again, but the mount now is changed to go with another rockable K-38 with 24-inch lens cone in Bay #2. The forward K-38 is for the right-looking obliques, and the center K-38 for the left-looking obliques. Bay #3 now contains the split vertical 12-inch pair. Bay #4 contains a small charting camera to be described below.

A-2b. The same, except that the two K-38's are equipped with 36-inch lens cones.

A-3a. Camera Bays #1 and 2 still contain the rockable K-38's. Bay #3 now has a fixed vertical K-38. Bay #4 has the charting camera.

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A-3b. The same, except that the 3 K-38's are equipped with 36-inch cones.

B. This is an entirely new camera where intermediate focal length and extreme coverage are combined. The optical system is light for what it accomplishes. The maximum film load of 9000' per spool, or 18000' altogether, accounts for more than 60% of the weight of the payload, including windows. Hence, the maximum information return per pound has been realized. By the same token, the payload can only be made lighter by decreasing the film supply, but for extreme altitude missions, or later retake missions of smaller areas, a reduced film supply will be satisfactory. Some further attention might be given to use of still thinner film, say of 2 mil base thickness, to take away another 75 lbs. B makes use of a 36-inch lens. Space is provided for substitution later of a 48-inch lens, if found desirable. The format is essentially 18x18, but is covered by two 9x18's photographed simultaneously. The 18x18 permits slower cycling and twice the stereo base line. The use of 9-inch film is better all around, particularly with thin base film. The two spools are contra-winding to maintain the c.g. accurately without further mechanical parts.

The transverse coverage in B is provided by means of a rockable 45-degree mirror that assumes any one of 7 transverse positions in turn and then resets. The windows are small and discrete at these 7 positions. Because of weight restrictions we have discarded the heavy double dove prism, and instead must put up with having the field rotate on the 18x18 format, and with a reversed image. Both can be overcome in later laboratory printing without loss of information. B is accompanied by the charting camera with its total coverage. Further study of programming technique will probably reduce the film weight.

C. This is also an entirely new camera. The problem has been to get the longest possible focal length in round numbers into the camera compartment given us, the maximum format size, and the maximum number of pictures. The result has been a 200-inch lens of f/16 speed covering an 18x18 format, and film spools accommodating up to 4000 pictures. From altitude each picture will cover approximately one square mile and show a resolution at least as good as one foot on the ground, which corresponds to about 3 seconds

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of arc. We are gunning for 1 second, however. The camera has a side-sweeping quartz mirror giving access to transverse coverage from horizon to horizon. The pilot is to select the interesting areas through a periscope having two degrees of freedom. Thus, he can look ahead and sweep from side to side to pick out suitable targets up to a minute ahead of time. When he centers the area on his cross-wires and pushes a button, he programs the camera to take the picture when the area crosses the transverse line. Thus, the pilot can stay comfortably ahead of picture time by an arbitrary number of seconds, and not worry about more than simple "shooting."

C can be programmed to take a number of pictures in a burst, or continuously. One might simply fly along a river and take high resolution pictures of both river banks for hundreds of miles. The same holds true for roads and rail lines. The pilot simply can keep the river on his cross-wires, more or less, when he flies.

C is also accompanied by the charting camera that will help determine later just where the large pictures were taken.

Reference to the summaries of equipments given in the Hycon report indicates the magnitude of the camera and optical work to be accomplished. Although A is always comprised of standard equipment, we plan to make many modifications to lighten the systems, improve reliability, increase film capacity, image quality\* and to perfect hundreds of windows and filters. The large windows for C must be exceptionally precise, allowing no optical deviations greater than a fraction of a second of arc, and slightly wedged to eliminate image twinning due to pressurization. The other windows are fairly easily made to optical standards but there are several hundred of them. The shutter problem must be given considerable attention owing to the large numbers of exposures. A full mission may bring back as many as 6,000 pictures or a 4-plane sortie may bring back as many as 20,000 pictures in six hours. Even one plane in six hours

\* Lenses and filters will be matched and calibrated. Lenses will be set at f/8, adjusted and figured for optimum performance. Magazine platens will be curved as needed.

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can bring back the equivalent of our present annual take in peripheral photography all in 6 hours, not to mention location. Hence, the equipment must be 100% reliable.

Considerable attention will be given to vibration elimination and to control of the low frequency oscillations. We plan to develop a triggering device that makes exposures during selected moments of minimum angular rate of the airplane. The larger cameras are in isolated mounts more or less on a c.g. principle, and have IMC. C will contain quartz mirrors in invar mount to stabilize focus thermally. Very close attention must be given to thermostating the cameras, providing proper environmental conditions for the film, and keeping windows clean and free of moisture. The periscope design and linkages with the camera must be done with extreme care, and provision must be made to allow the pilot to see essential instruments while using his periscope. In addition there will be a good deal of ground equipment needed, including maintenance facilities, spare parts, film storage, some processing units etc. Also, we plan to have test devices made up for checking the vibration and resolution performance of the various installations. It will be necessary to construct collimators for focusing cameras in the field. Hycon plans to train tech representatives for field service and to equip GFE vans with everything needed. When all this is accomplished, we shall have a most extraordinary means for gathering information, and in particular for obtaining the most information per hour at altitude. It will take only a few missions on perfect days to return more information than we have ever managed to collect photographically from earlier efforts, range excepted, and this information will all be up-to-date. Weather observations should begin even right away in order to determine what the frequency distribution seasonally is of "perfect" days where there is minimum haze. It should be emphasized that minimizing atmospheric haze by selection of observing times is much more important than further increase in quality of optics, and that a few perfect hours in the air are more important than dozens of days where haze is present. In the overall planning, expert weather analysis and weather information gathering should be given as much attention as the aircraft and camera effort, or the data reduction effort.

Charting Camera. This is a small panoramic system making use of 1000' of 70 mm film. Each picture is a sweep from

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horizon to horizon transverse to the line of flight. The successive pictures have 60% overlap. The film supply will provide continuous coverage for up to 4000 miles. The pictures will be useful for recording navigational and weather conditions, as well as helping tremendously in the plotting of the thousands of larger scale pictures. The charting camera will be indispensable with C for locating the critical areas photographed somewhat at random by the pilot in flight. This is a brand new development. The camera will be very useful later to the Air Force in low altitude coverage, being small and light, and providing complete coverage. For this latter reason, attention ought to be given to fast cycling rate, or at least designing the camera in such a way that fast cycling can later be incorporated.

Part of the optical development will include laboratory copying systems for projection printing and preparation of master negatives from which contact printing can be done. Two systems in this country operated full time can accommodate all of the work in the field, and hence should be located in the main processing center.

We believe that we have as good a team as can be found in the country for carrying through this large photographic program on a crash basis. Already by this date we have completed the basic plans and are ready to start detailing of many parts. The design of the optics for C is well along, 11 days of electronic computing already having been put in, with about 5 more to go. Materials will shortly be ordered for windows and mirrors. More effort will soon be required in the problem of the thin film base and special emulsions, and particularly on the elimination of vibration from the pictures. Now that the basic plans are in hand, we know what the task is for isolation of the inertial mass, damping, and exposure control, and can go into this problem in the greatest detail. We are targeting for 60 lines/mm on the special lenses, including the 36-inch f/8 modified standard lens, and at least for 25 lines at f/8 with the standard lenses. This is to be compared with an average of 10 lines/mm in the usual course of events in previous practice. Furthermore, we shall know why we cannot do better, from vibration analysis, contrast studies, and film properties.

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We should like to emphasize that the developments referred to above are very desirable ones for the Air Force and can be taken over readily. These developments in some cases are years ahead of the present R & D program. Conversely, the above systems are the outgrowth of many years of experience gathered from Air Force sponsorship of basic R & D programs, and are therefore implicitly Air Force products. This is particularly true of the electronic computing of optical systems, where for several years the Air Force has backed fundamental research with the Perkin-Elmer Corporation. The development of the complicated optical system in C would have taken years in Germany by the older methods, and many months here by design methods using desk calculators, but now is about to be accomplished in 16 full working days with our IBM computers (the CPC), which in a year or two might be reduced to only a few hours. Already, the design results obtained would provide quite satisfactory pictures, but we seek extreme quality.

Recent work indicates that the use of high contrast emulsions with finer grain will help overcome resolution and contrast losses caused by haze. We fully expect to use the new technique in B and C, where the optical systems are designed to have almost no vignetting. For B where wide angle coverage is involved, we can only increase gamma slightly above previous practice, and hence can employ ordinary exposure control. For C with its narrow angle coverage, we can use quite high gammas, but must have a photoelectrically operated shutter. Such a shutter is planned as part of the program.

On scheduling it seems easily possible to meet the aircraft scheduling with the A configurations. We expect also that the first B and C units will be ready before the end of the year in time for field use with the first several airplanes as needed and for tests. The A units are given priority, however, in order to be 100% sure that we have reliable payloads at hand.

Weight Restrictions:

We have followed a policy in planning that it is easier to take out a camera to reduce weight than it is to add one later for a more effective use of the mission at somewhat reduced altitude. Therefore, it is not surprising that our

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present weight figures add up to something more than the 550 lbs. allowed for the reduced altitude maximum weight, and substantially more than the 450 lbs. for extreme altitude. Furthermore, since so much planning has gone into fitting the space allowed us with logistically acceptable and practicable configurations, we have not really had the time to begin cutting weight. For one thing our film capacities are at maximum values in footage and weight, and later missions over territory already covered will, in general, use less film. For example, one B mission per year may be all that is required over a given flight line, and other uses of B in the interval will be for much smaller film supplies.

Before long we shall have much more carefully prepared weight figures on the various configurations, with additional columns to show weight figures for partially stripped configurations, and reduced film supply. Thereafter, judgment in the field will be all that is required to meet altitude performance where weight is a factor. For example, in A-1a the K-38 can be eliminated in about ten minutes of working time, and the resulting payload comes down to less than 400 lbs. In an extreme case, only the charting camera might be taken along, reducing the payload to 40 lbs. or so.

We have agreed to and will certainly follow the 450-lb. limit placed on the payload for maximum altitude, and will therefore list the partially stripped configurations that will meet this requirement. Similarly, we expect to give maximum attention to meeting the 550-lb limit for full payload. Perhaps we have given a wrong impression of our good intentions in meeting weight requirements by describing mostly the maximum payloads, but it is the latter that has occupied our attention because of systems planning. It is hoped that this description will clarify matters.

For most mapping runs, it is recommended that we use the thicker base film on the new low shrinkage base manufactured by Eastman, instead of trying to do mapping with thin base film. The 600' spools with standard film thickness are already adequate to cover the entire mission, and the extra weight will not be serious for the advantages gained.

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We might have planned for a lighter A-1 configuration if we used only one 6-inch K-17 with 1000' thin film magazine, in a rockable mount for the equivalent of a Tri-Met installation. However, we might lose precision in so doing, and certainly lose simultaneity on which mapping precision depends, and would have to use the thin base film. We feel we have made the better choice in spite of the weight problem.

As a final comment, we probably should get a ninth kind of bottom for C, consisting of a single horizontal large window for maximum spotting precision for near vertical photography. Missions sent out to obtain technical intelligence over very restricted areas ought to obtain the very best optical results, and the split window in our C system above is not at all desirable. We have used the split pair of windows to provide maximum resolution for the longest range side looks, and the vertical results through the V will still be very good. However, if we are really looking for details in terms of inches on ground objects such as missiles, aircraft, etc., we should have the single horizontal window that allows a plus or minus ten degree transverse sweep with full aperture and perfect optics. The decision as to getting the ninth bottom ought to be made soon as a request from the planning group, since already the aircraft people feel hardpressed by our requirements.

Prepared by Dr. James G. Baker

Addendum:

Maximum payload return	
A-1a	5,250 pictures
A-1b	" "
A-2a	6,000 "
A-2b	" "
A-3a	4,750 "
A-3b	" "
B	7,000 " (all 18x18)
C	5,000 " (all 18x18)

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CHAPTER II. INITIAL APPROVAL

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## CHAPTER II. INITIAL APPROVAL

### USAF/CIA Approval

In the two weeks following the Land Panel's submission of its proposal to CIA, discussions took place between the Agency and the Air Force as to the feasibility of undertaking the recommended program. On 19 November 1954, a luncheon meeting was held in the office of Secretary of the Air Force Harold E. Talbott. Those present included Mr. Dulles and General Cabell for CIA; Secretary Talbott, Mr. Trevor Gardner, Assistant to the Secretary for Research and Development, Mr. Fred Ayers, Jr., Assistant to the Secretary for Intelligence, and Lieutenant General Donald L. Putt, Deputy Chief of Staff, Development, for the Air Force; and Mr. C. L. (Kelly) Johnson of the Lockheed Aircraft Corporation.

Agreement was reached at the meeting that the CL-282 proposal was practical and desirable and should be contracted for (along with the modified Canberra recommended by General Nathan F. Twining, Chief of Staff of the Air Force). It was further agreed that the project should be a joint Air Force/CIA effort and that regardless of the source of the funds to support it, CIA unvouchered channels should be employed for passing the funds. (Sec Annex 4).

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A separate meeting was held with General Twining and Major General John A. Samford, Director of Intelligence, USAF, attended by Mr. Dulles and General Cabell for CIA. This meeting also resulted in agreement that the project was essential and that it should be undertaken jointly by CIA and the Air Force. (See Annex 5). General Cabell agreed to prepare a memorandum for the President, outlining the project for his consideration and requesting his approval to proceed with it. The final version of the memorandum for the President was cleared for the Air Force by General Samford, Lieutenant General Frank F. Everest, Deputy Chief of Staff for Operations, and General Thomas D. White, Vice Chief of Staff, and was signed by the Director of Central Intelligence, Mr. Dulles. The text of this memorandum is at Annex 6.

Mr. Dulles, on 23 November 1954, also obtained from the Intelligence Advisory Committee (IAC) a memorandum for the President in support of the proposed reconnaissance program (Annex 7). The members of the IAC expressed the belief that a substantially improved capability for filling the "Intelligence Gap" on the Soviet Bloc could be achieved through the use of aerial reconnaissance and photography.

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White House Approval

An appointment was made for 24 November and the members of the group waiting upon the President to present the reconnaissance proposal were: the Secretary and Chief of Staff of the Air Force, and the Director and Deputy Director of CIA. Also present were Secretary of State John Foster Dulles, Secretary of Defense Charles E. Wilson, and the President's Aide, Brigadier General Andrew J. Goodpaster. General Goodpaster, during the course of the project, came to be the principal White House liaison officer and acted in many instances as the transmitter and interpreter of Presidential decisions concerning the project during the Eisenhower Administration.

The only document relating to the meeting at the White House which was placed in the CIA files at the time was a hand-written memorandum for the record, penned by General Cabell, which simply stated that the project was approved subject to the reservation of the Secretary of Defense that a final look should be taken before the operation was actually launched, but after the materiel etc. were procured and readied (Annex 8). The memorandum submitted to the President contained the following specific recommendations: that the President would

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"a. Approve the existence of a national requirement for the above reconnaissance overflights.

"b. By approval of this document, direct the Secretary of the Air Force and the Director of Central Intelligence to establish as a matter of urgency, a collaborative project for the procurement and testing of the necessary aircraft and equipment, and for the procurement and training of the necessary crews (such crews to be non-U.S. nationals to the extent practicable). The Director of Central Intelligence is also hereby authorized to obligate in Fiscal Year 1955 an amount not to exceed \$35 million from the Reserve Fund for aircraft procurement, and it is expected as the project develops, additional authority will be sought by him for funds for maintenance, training, operations, etc.

"c. By approval of this document, direct the Secretary of the Air Force and the Director of Central Intelligence, subject to appropriate policy guidance as directed, to conduct at the earliest possible date, the reconnaissance overflights, and to do so in such a way as to reduce the risk of involvement of the U.S. to the minimum practicable." 1/

Although these recommendations received the verbal approval of the President at the meeting of 24 November, his signature does not appear on any project documentation showing either the initial approval in principle, or subsequent approvals for expenditures of funds or for specific overflight missions.

1/ Annex 6, page 3.

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ANNEX 4

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/HAND-WRITTEN MEMORANDUM FOR RECORD BY THE  
DEPUTY DIRECTOR OF CENTRAL INTELLIGENCE/

19 Nov 54

## Memorandum for Record:

Following attended luncheon given by Secretary  
of Air Force, Talbot:

Mr. Trevor Gardner, Asst. to Sec. AF  
Lt. Donald Putt, AF /should be Lt. Gen./  
Dr. Land  
Mr. Clarence Kelly Johnson, Lockheed A/C Co.  
Mr. Fred Ayers, Asst. to Sec. AF  
" Allen Dulles, DCI  
Lt. Gen. C. P. Cabell, DDCI

It was agreed that the special item of materiel  
described by Lockheed was practical and desirable &  
would be sought in addition to the materiel item  
suggested by Gen. Twining at the earlier meeting  
with him.

It was agreed that the Project should be a  
joint Air Force-CIA one but that regardless of the  
source of the funds, whether A.F. or CIA, CIA  
unvouchered channels would be needed to pass the  
funds.

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19 Nov 54

## Memorandum for Record:

Following attended luncheon given  
by Secretary of Air Force, Talbot:

~~Mr. Twinning~~ a.f. cpc

Mr. Trevor Gardner, asst. to Sec. A.F.

Lt. Donald Putt a.f.

Dr. Land

Mr. Clarence Kelly Johnson, Lockheed a/c Co.

Mr. Fred Myers, asst. to Sec. A.F.

" Allen Dulles D.C.I.

Lt. Gen. C.P. Cabell D.D.C.I.

It was agreed that the special  
item of material described by  
Lockheed was practical & desirable  
& would be sought in addition  
to the material item suggested by  
Gen. Twinning at the earlier meeting  
with him.

It was agreed that the Project should  
be a joint Air Force - CIA one but  
that regardless of the source of the funds,  
whether A.F. or CIA, CIA unvouchered channels  
would be needed to pass the funds.

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ANNEX 5

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HAND-WRITTEN MEMORANDUM FOR RECORD BY THE  
DEPUTY DIRECTOR OF CENTRAL INTELLIGENCE

Nov 54

Memorandum for Record:

Following met with Gen. Twining in his office:

Mr. Allen Dulles, DCI  
Lt. Gen. C. P. Cabell, DDCI  
Maj. Gen. John Samford, AF

Project was discussed and all agreed that it was essential and should be pursued jointly by the Air Force & CIA.

I was to prepare a draft memo for consideration by higher authority. I did so and later showed copy to Samford, who in turn discussed it with Gen. Thomas D. White & Lt. Gen. Frank Everest. Corrections were suggested by them which were incorporated in final draft submitted to higher authority.

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Nov 54

## Memorandum for Record:

Following met with Gen Twining  
in his office:

Mr. Allen Dulles, DCI

Lt. Gen C.P. Cabell, DDCI

Maj. Gen John Sampford, AF.

Project was discussed and all  
agreed that it was essential and  
should be pursued jointly  
by the Air Force + CIA.

I was to prepare a draft  
memo. for consideration by  
higher authority. I did so and  
later showed copy to Sampford.  
who in turn discussed it with  
Gen. Thomas D. White + Lt. Gen.  
Frank Everett. Corrections were  
suggested by them which were  
incorporated in final draft  
submitted to higher authority.

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ANNEX 6

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CENTRAL INTELLIGENCE AGENCY  
Washington, D. C.  
Office of the Director

24 November 1954

## MEMORANDUM

SUBJECT: Reconnaissance

You are familiar with the large gaps in our Intelligence coverage of the Soviet Union which prevent us from obtaining adequate knowledge of Soviet intentions and, in important respects, of Soviet capabilities; and in particular, with respect to their capabilities and intentions to launch nuclear attacks on the United States. You are familiar, too, with the current and growing difficulties in the way of filling those gaps by the more classic means.

In my considered judgment, as well as that of the other members of the Intelligence Community, there is not the prospect of gaining this vital Intelligence without the conduct of systematic and repeated air reconnaissance over the Soviet Union itself. (Even this does not assure adequacy, but will certainly provide a much closer approach to adequacy.) The members of the Doolittle Committee in their report, expressed their belief that every known technique should be used and new ones developed to increase our Intelligence by high altitude photographic reconnaissance and other means, and that no price would be too high to pay for the knowledge to be derived therefrom. Thus, there is a definite and urgent National requirement for photographic and electronic reconnaissance overflights of the Soviet Bloc.

While we have been considering the problem for a long time (you may recall a discussion I had with you some months ago concerning overflights), Dr. James R. Killian, Jr., and members of Project 3, Technological Capabilities Panel, Office of Defense Mobilization, (E. H. Land, James G. Baker, Joseph W. Kennedy, Edward M. Purcell and John W. Tukey) have independently arrived

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at essentially the same conclusion. I have also discussed it with Secretary Talbott and with General Twining. We are all agreed that the requirement is an urgent one and that with suitable direction and support, it is feasible of accomplishment with minimum risk.

An existing Air Force aircraft type (the Canberra) is considered capable of modification to give it a ceiling of around 65,000 feet. At such an altitude now, the expectation that it would be detected is very low indeed, and the possibility that it would be intercepted and shot down is practically nil. The possibility of forced landing in enemy territory exists, but the chances of that are low. The repercussions of its falling into enemy hands can be mitigated if the aircraft should be manned by non-official U.S. personnel. To the extent practicable, we would try to man the aircraft with Poles or other non-U.S. nationals. The aircraft itself, if not completely destroyed, would bear no markings that would clearly identify its origin. (The Canberra itself is nearly identical with its British prototype.)

As a follow-on to the Canberra, we would simultaneously proceed with the procurement of specially designed reconnaissance aircraft with more advanced performance characteristics, that would take it to around 70,000 feet.

In addition to this high altitude day reconnaissance, we would resort to very low altitude reconnaissance at night with appropriate aircraft. Whereas the night reconnaissance would not provide a substitute for the high altitude day photography, nevertheless it would give an opportunity for supplementary reconnaissance, exploiting such technical developments as infrared photography and certain electronics techniques.

Of course, not even the 70,000 foot opportunity will be of indefinite duration. Our problem will be one of keeping ahead and creating new opportunities as the old disappear.

We are all agreed also that, in order to attain a status of readiness to launch these flights as early as

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desired, and then to conduct them, extraordinary procedures would have to be adopted for aircraft, crew and equipment procurement, testing, training, and for operations. This would require the greatest possible collaboration between the Air Force and the Central Intelligence Agency.

I recommend that you:

a. Approve the existence of a National requirement for the above reconnaissance overflights.

b. By approval of this document, direct the Secretary of the Air Force and the Director of Central Intelligence to establish as a matter of urgency, a collaborative project for the procurement and testing of the necessary aircraft and equipment, and for the procurement and training of the necessary crews (such crews to be non-U.S. nationals to the extent practicable). The Director of Central Intelligence is also hereby authorized to obligate in Fiscal Year 1955 an amount not to exceed \$35 million from the Reserve Fund for aircraft procurement, and it is expected as the project develops additional authority will be sought by him for funds for maintenance, training, operations, etc.

c. By approval of this document, direct the Secretary of the Air Force and the Director of Central Intelligence, subject to appropriate policy guidance as directed, to conduct at the earliest possible date, the reconnaissance overflights, and to do so in such a way as to reduce the risk of involvement of the U.S. to the minimum practicable.

(Signed)

ALLEN W. DULLES  
Director

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ANNEX 7

23 November 1954

## MEMORANDUM

SUBJECT: Intelligence

In our opinion there are serious gaps in our Intelligence covering the Soviet Bloc areas, particularly in relation to our ability to determine the capabilities of the Soviet Union to launch nuclear attacks against the U. S. and to detect indications of their intentions to do so. We believe that we could have a substantially improved capability of filling these gaps through the use of aerial reconnaissance and photography, and that today these methods are the most practicable additional means to this end.

*Allen W. Dulles*  
ALLEN W. DULLES  
Director of Central  
Intelligence

*W. Mark Armstrong, Jr.*  
W. MARK ARMSTRONG, JR.  
Spec. Asst. for Intelligence  
Department of State

*Arthur G. Trudeau*  
ARTHUR G. TRUDEAU  
Major General, USA  
Asst. Chief of Staff, G-2  
Department of the Army

*John A. Sanford*  
JOHN A. SANFORD  
Major General, USAF  
Director of Intelligence  
Department of the Air Force

*Carl F. Espe*  
CARL F. ESPE  
Rear Admiral, USN  
Director of Naval Intelligence

*Edwin T. Layton*  
EDWIN T. LAYTON  
Rear Admiral, USN  
Dep. Director for Intelligence  
The Joint Staff, JCS

*Harry S. Traynor*  
HARRY S. TRAYNOR  
Atomic Energy Commission  
Representative to the IAC

RALPH R. ROACH  
Acting Asst. to the Director  
Federal Bureau of Investigation

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ANNEX 8

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/HAND-WRITTEN MEMORANDUM FOR RECORD BY THE  
DEPUTY DIRECTOR OF CENTRAL INTELLIGENCE/

24 Nov. 54

Memo. for the Record:

The Intelligence project was discussed in the President's office this date. Attending were:

The President  
" Secretary of State  
" " " Defense  
" " " the Air Force  
Mr. Allen Dulles, DCI  
Gen. Nathan Twining, AF  
Lt. Gen. Donald Putt, AF  
" " C. P. Cabell, DDCI  
Brig." Goodpaster, Aide to the Pres.

The project was approved subject to the reservation of the Secretary of Defense that a final look should be taken before the operation is actually launched, but after the materiel etc. are procured and readied.

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14 Nov. 54

Memo. for the Record:

The Intelligence project was discussed in the President's office this date. Attending were:

The President

" Secretary of State

" " " Defense

" " " the Air Force

Mr. Allen Dulles, DCI

Gen. Nathan Twining, A.F.

Lt. Gen. Donald Pate, A.F.

" " C.P. Caswell, DDCI

Brig " Goodposter, Aide to the Pres.

The project was approved subject to the reservation of the Secretary of Defense that a final look should be taken before the operation is actually launched, but after the material etc. are processed and ready.

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CHAPTER III. ORGANIZATION AND  
PROJECT MANAGEMENT STAFF

~~TOP SECRET~~CHAPTER III. ORGANIZATION AND PROJECT  
MANAGEMENT STAFFThe Project Director

Shortly after the President's approval of the project was obtained, three additional CIA officers were brought into the knowledgeable circle by General Cabell to assist in planning: Mr. Herbert I. Miller, Chief of the Nuclear Energy Division of the Office of Scientific Intelligence; Mr. Edward Saunders, Comptroller of CIA; and Col. George O. McCafferty, Chief of the Air Maritime Division, DDP/CIA. At that point, before any substantive action had been taken towards organizing a joint task force with the Air Force, General Cabell had to be away on Agency business in South America. During his absence, the Director, prompted by the need to move ahead on the project with all speed, called in Mr. Richard M. Bissell, Jr., Special Assistant to the Director for Planning and Coordination, and asked him to take charge of the project. (See Annex 9 for biographic summary on Mr. Bissell). After laying great stress on the security aspects, Mr. Dulles gave Mr. Bissell some documents to read, including the Land Panel recommendation, a copy of the Director's Memorandum for the President, and some hand-written notes by General Cabell.

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Having received his directive, Mr. Bissell's first action was to meet on 3 December 1954, with Mr. Herbert Miller who, it developed, had until that time been under the impression, as a result of conversations with General Cabell, that he was to manage the project. At the meeting the two men quickly patched up a temporary working agreement between them, in General Cabell's absence. (Mr. Miller, once the project staff was set up, became the Executive Officer and served as an expeditor in all the engineering and development aspects of the project for a number of years.)

The following day, 4 December 1954, Mr. Bissell represented the Agency at a meeting in the Pentagon called to launch the project by Mr. Trevor Gardner. As the moving spirit on the Air Force side, Mr. Gardner during the meeting took the initiative to telephone Lockheed and Pratt & Whitney and tell them that the project had been approved and that they should go ahead with plans for producing the air frames and engines. No mention was made as to availability of funds. The discussion during the meeting concerned itself principally with the technological aspects rather than the management and financing of the project. Convinced that the first thing needed to get the project off the ground was money, Mr. Bissell went back to the Director with

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the recommendation that he arrange to draw funds from the Agency Reserve and that he authorize Mr. Bissell to go back to the Air Force planning group and say that the Agency would pay the major part of the project costs. This was done, and as a result the Agency project staff held the purse strings at the beginning and was able to call the shots during the initial organization period.

In early December 1954, a Project Headquarters was set up as an adjunct to Mr. Bissell's office in his capacity as Special Assistant to the Director (first in the old Administration Building at 2430 E Street, Northwest, and shortly thereafter in larger quarters on the second floor of old South Building). The cryptonym AQUATONE was procured for the project and daily staff meetings were instituted with an ever-widening membership in attendance as the tempo of activities began to build up. From the beginning these meetings were attended by Colonel Osmond J. Ritland of General Putt's office and he played a very valuable role in the early stages as the Air Force representative. (He was slated to become the first Deputy Project Director, but before his appointment to that position was made official, a written agreement with the Air Force on areas of responsibility within the project had to be negotiated—which took the better part of six months.)

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~~TOP SECRET~~Project Outline

The internal Agency charter for Project AQUATONE went through approximately twelve drafts during the first month of planning before it was presented to the Director and approved by him on 10 January 1955. The refining process carried out by Mr. Bissell was well worth the effort since the comprehensive six-page document, which had been expected to remain valid for about three months, was in fact never altered for the seven years of its duration. The text of the Project Outline is at Annex 10.

The approval of the President had been based on an authorization to the Director of Central Intelligence to obligate in Fiscal Year 1955 an amount not to exceed \$35 million from the Reserve for aircraft procurement. The Project Outline estimated the cost of the airframes, photographic and electronic equipment and some field maintenance equipment at \$31.5 million with a margin of error of \$2 million, safely within the \$35 million limit. These estimates assumed that the Air Force would furnish technical assistance and supervision, all government furnished equipment (GFE), including especially forty jet engines, and transportation of materiel and personnel to the test site. Pilot recruitment and training costs were estimated

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at \$600,000. If the Air Force would underwrite the flight training, this charge to the Agency would be reduced to \$100,000 for the initial period.

The estimates in the Project Outline contained no allowance for the testing program since it was expected to fall entirely within Fiscal Year 1956, nor any allowances for acquisition or preparation of bases, operational costs, or costs for processing the photographic and electronic products to be obtained from overflights.

The Project Outline designated Mr. Bissell as the officer in charge of the project and as Approving Officer, subject to the guidance of the Director and Deputy Director. He was authorized to obligate funds in amounts up to \$100,000; any items in excess of that amount would be approved by the Director. The Comptroller was authorized to expend funds in the manner and to the extent approved by the Approving Officer within the limitations as to quantity and procedures set forth in the Project Outline. All contractual documents were to have the approval of the General Counsel.

Mr. Bissell, as Approving Officer, was authorized to arrange for the collection of intelligence requirements and for mission planning in cooperation with the Air Force as appropriate. (In later days, the simple system envisaged by Mr. Bissell for establishment

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of requirement priorities grew into a bureaucratic committee with representation from every intelligence agency of the government.)

The last responsibility placed upon Mr. Bissell by the initial charter was that of maintaining the closest possible security control over all phases of AQUATONE—one of the most difficult tasks, and yet almost unbelievably successful for quite a number of years.

Project Staff and Headquarters

The project's operating organization evolved slowly from January to April 1955, with the majority of the individuals working on AQUATONE remaining on the rolls of their own Agency components. On 2 March 1955 Mr. Bissell discussed with the Deputy Director for Support, Colonel Lawrence K. White, his plans for the project's organizational structure, funding and staffing, and they agreed that personnel and operating costs should be charged to separate accounts and that both should be segregated from those of other regular components (the "special project" concept). Col. White promised to name an administrative officer for the project who would initially help part time on current administrative matters and the development of an organizational plan, and later be assigned full time to the project. Such an officer was sorely needed since most of the problems being faced were either wholly or partly administrative ones.

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During the last week of April 1955, Colonel Robert B. J. Hopkins was named by the DD/S as Administrative Officer. Col. Hopkins had just returned to duty from a recuperative leave following an illness, and he stayed with the project only long enough to find that it was a "pressure" job and after approximately two weeks he asked to be relieved. The DD/S then nominated Mr. James A. Cunningham, Jr., who proved a hardier candidate and, in fact, held up under pressure for more than ten years.

Space was badly needed and about the first of May 1955 the project staff moved to separate quarters on the top floor of 2210 E Street, Northwest (where Mr. Arthur C. Lundahl had already set up a nucleus of a photo interpretation staff). Through the summer of 1955 additional staff entered on duty and by October more space was needed. At that time the headquarters office was composed of Administration, Personnel, Finance, Logistics, Contracts, and Operations (including Intelligence, Weather and Photo-Interpretation). Security and Communications staff assigned to work on the project were still working out of their own offices. On 3 October 1955 the headquarters was moved to Quarters Eye, Wings A and C, on Ohio Drive, and Colonel Ritland joined the staff and began to take a more active part as Deputy Project Director.

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In December 1955, with a view to providing the kind of quarters which would be required for the operational phase (i. e., an entirely restricted area in a fire-resistant building with adequate facilities for an operations center and a communications center, and with a minimum of 9600 square feet), it was arranged to lease the fifth floor of the Matomic Building at 1717 H Street Northwest. On 25 February 1956 the project staff moved into these offices which remained "Project Headquarters" through all the operations and organizational changes until the eventual move to the Headquarters Building at Langley in the spring of 1962.

#### Air Force/CIA Agreement

Concurrent with the effort at Project Headquarters which was going forward from the beginning of 1955 toward procuring the aircraft and equipment, recruiting personnel and planning for the testing and operational phases, Mr. Bissell also began what he later described as "a rather remarkably civilized and amiable battle"\* with the Air Force to hammer out a charter for the joint USAF/CIA project participation.

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\* From the notes on Mr. Bissell's "Dining In" speech of 12 Oct 1965.

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The first major encounter was with General Twining on 7 March 1955. In preparation for this meeting Mr. Bissell had on 25 February prepared a briefing paper summarizing project developments to date and recommending that attention be given to the requirements for Air Force support in the operational phase for which advance preparations should be undertaken with some urgency. Research and planning must be completed in the fields of aeromedicine, intelligence requirements and mission planning, meteorology and logistics. Pilots must be recruited, trained and tested, and Air Force personnel who were to hold important positions during the operational phase must be selected and an organizational structure completed.

The briefing paper, which was passed to General Twining in advance of the meeting, finished by recommending that

"...a single officer be designated who will have responsibility for all of the activities of the Air Force in support of and as a participant in the project. Clothed with this authority and responsibility, the officer would be better placed to arrange in the most secure manner possible for access to the varied resources of the Air Force upon which it is hoped to draw. He should be authorized to join with the CIA Project Officer in developing organizational plans for approval by appropriate authorities in the CIA and the Air Force and he should be in a position to secure the assignment to the project at an early date of other Air Force personnel as required." 1/

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1/ TS-103263, 25 February 1955. Briefing Paper by R. M. Bissell, Jr.

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In further preparation for the meeting, Mr. Bissell prepared a background paper for the Director and General Cabell. He first warned them that General Twining would probably indicate his feeling that the responsibility for Air Force support of AQUATONE should be turned over to one of the operational commands, specifically to the Strategic Air Command (SAC). Mr. Bissell then recommended that the Director take the following general line with the Chiefs of Staff:

"a. It is, of course, none of CIA's business how the Air Force organizes its activities but the character of the project imposes certain requirements which have a bearing on organization.

"b. This project has been conceived as a clandestine, intelligence-gathering operation in which missions will be flown only by non-military, and if possible non-American, pilots, and the initial policy decision to proceed was made on this basis. In order to conform to this concept it would seem desirable to avoid arrangements of such a character that the project could be described as a military operation conducted by the offensive air arm of the regular military establishment.

"c. There is a vital necessity for security. This requirement would seem to have two implications for organization. First, knowledge of the project must be limited to the narrowest possible circle of those who need to know, a category which should include only those individuals who are actually working on some aspect of it and a very few top policymakers... Second, it is desirable for the project to be so organized that it is given the best possible cover...

"d. Not only should the project have as little military aura as possible and be rigorously secure, it must also be subject to close and continuous policy control by the senior

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policymakers of this Government. . . Such control is going to be very much easier to maintain if the project headquarters is in Washington.

"e. Primarily to maintain security but also to ensure close control, it is probably not going to be possible to use established command channels in either the CIA or the Air Force. . . Accordingly, whatever focus of responsibility within the Air Force, it will probably continue to be necessary to use special channels. . .

"f. To summarize: The character of the project would seem to require that the officer immediately in charge of Air Force participation be stationed in Washington, that he have authority to deal directly with the CIA and with other components of the Air Force on project business, that if he is in an operational command his connection with it be played down so as to avoid identification of the project with it, and that there be a direct channel from the Washington project headquarters to overseas units. . .

"It is most important to emphasize that the cooperation we have been and are receiving from the Air Force simply could not have been more complete or more effective. . . In making this point, I suggest that you mention Colonel Ritland by name. If you feel it is appropriate, you might contrive to suggest that he would be in our eyes an admirable project officer." 1/

No substantial agreement came out of the first meeting with General Twining and one month later Mr. Bissell fired his second shot, a memorandum addressed to the Deputy Chief of Staff for Operations, which was handed informally to Generals Everest and Putt for discussion purposes. Its opening paragraph began:

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1/ TS-103274, 3 March 1955. Memo for DCI from R. M. Bissell, Jr.

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"It is understood to be the view of the Air Staff that Air Force support for Project AQUATONE in its operational phase should be the responsibility of the Strategic Air Command. Assistance and support in research, development and procurement will, however, continue to be the responsibility of the Deputy Chief of Staff, Development." 1/

Accepting this premise, Mr. Bissell went on to explain that, based on the original concept of the project—that it would be a clandestine intelligence-gathering operation to be conducted in such a way as to minimize the risk of detection and of plausible attribution to the U.S. Government—the CIA had made certain assumptions with regard to the character of project operations. These included numbers of aircraft, equipment and operating bases, and specific functions to be performed by the Agency, such as the recruiting and administration of civilian pilots, furnishing maintenance personnel for primary mission aircraft and equipment, project security control, project communications and the collection and coordination of requirements and intelligence. Certain suggestions and recommendations were made as to the most effective and most secure manner (from the Agency viewpoint) for channeling Air Force support.

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1/ TS-103292/A, 25 March 1955. Memo for DCS/Operations, USAF, from R. M. Bissell, Jr. (Annex 11).

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Differences of opinion among the Air Force generals were such that they would neither accept the Agency's proposals as presented nor put forward an agreed counterproposal of their own. At a meeting of the project staff on 8 June 1955, Colonel George McCafferty reported to Mr. Bissell that Generals Twining, White and Everest were engaged in a controversy over what role the Air Force should play in the project and that the office of the Deputy Chief of Staff, Personnel, had been instructed to take no further action on the project's personnel requirements pending a settlement of the issue.

Mr. Bissell then sought the assistance of Mr. Trevor Gardner in trying to reach an agreement. A letter signed by the Secretary of the Air Force on 27 June 1955 addressed to General Twining urged that the Chief of Staff and his Deputies reach an agreement with the CIA as quickly as possible. The formula laid down by the Secretary contemplated that the operational phase of Project OILSTONE (the Air Force cryptonym for AQUATONE) would be carried out by a joint task force of the CIA and the Air Force, that Colonel Ritland be assigned to head the Air Force portion of the task force and that he serve also as deputy to the senior project officer designated by the DCI for all operational activities.

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In an effort to hasten an Air Force decision, Mr. Bissell drafted a memorandum outlining specific organizational arrangements based on the Secretary's formula, and sent copies to Mr. Gardner and Generals Everest and Putt as preparation for another meeting the first week of July (text of this paper at Annex 12). There was still no agreement and at the same time the attitude of General Curtis LeMay, Commander of SAC, was causing some concern since he had made it clear at a meeting with Mr. Bissell that as soon as CIA had paid for the U-2\* he planned to take it over, and he didn't expect that date to be too far in the future.

On 9 July 1955, the Director of Central Intelligence attended a conference at Air Defense Command Headquarters in Colorado where the U-2 project was the number one agenda item. In order to prepare the Director for the task of getting from the Air Force the decisions so urgently needed to move the project forward, Mr. Bissell wrote still another briefing paper for the Director (see Annex 13) outlining the proposals advanced to date and strongly recommending that the task force responsible for the project have a clear responsibility for both operational planning and actual conduct of operations and have a

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\* The Air Force designation for the Lockheed CL-282.

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clear and direct line of command from headquarters to the field detachments. Within that premise, he saw three feasible alternatives: a CIA-controlled task force drawing upon Air Force personnel and support; an Air-Force-controlled task force drawing upon CIA for support; or a jointly-controlled and jointly-staffed task force drawing on both agencies for support.

The face-to-face meeting of Mr. Dulles and the top Air Force officials concerned brought results finally, and a joint agreement entitled "Organization and Delineation of Responsibilities -- Project OILSTONE" was approved and signed by General Twining for the Air Force on 3 August 1955 and by Mr. Dulles for the CIA on 4 August 1955 (Annex 14). The agreement gave the responsibility for general direction and control of the project to the DCI, and the Chief of Staff, USAF, to be exercised jointly. The Agency-appointed Project Director and the Air-Force -appointed Deputy Project Director would be responsible for conduct of the project through all of its phases, subject to guidance from higher authority. The Air Force Project Group (headed by Colonel Russell A. Berg) was to act in the name of the Chief of Staff of the Air Force, and SAC was to perform a supporting (not a controlling) role in the training and operational phases.

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Commenting on how this agreement worked in practice,

Mr. Bissell some years later said:

"In the negotiations with the Air Force... a concept emerged which really worked well for five years. The U-2 project was quite explicitly set up as a joint Air Force/CIA project... Throughout the U-2 phase the Air Force wasn't just in on this as a supporting element... but held, if you want to be precise, 49% of the common stock. Quite aside from interdepartmental clearance obligations of the normal sort, I had to clear every major policy decision with two bosses. It was done, and it did work, and it worked extremely smoothly and well. Whether it ever could again is something I won't comment on because I don't know." 1/

#### Personnel

The first Table of Organization for Project AQUATONE, approved by the Deputy Director, Support, at the end of April 1955, provided staff for a Headquarters office, a U.S. field test site, and three foreign field bases (92 Agency staff, 109 Air Force officers and enlisted men, and 156 contract, including techreps, guards and primary aircraft pilots, totalling 357. (See Annex 15).

Within a month the T/O was revised in light of changed requirements: (a) Support aircraft crews deleted (to be furnished as an Air Force contribution); (b) small increase in the administrative support

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1/ From the notes on Mr. Bissell's "Dining In" speech of 12 October 1965.

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area (particularly clerical); (c) addition of a Communications Reserve Cadre to permit retention of personnel while training on project equipment prior to their assignment to the field; (d) substitution of staff security investigators in place of contract civilian guards for the four bases; and (e) addition of a supply depot.

A sterile version of the T/O was given to the Director of Personnel so that he might produce Agency candidates to fill the vacancies and provide support in keeping personnel records. The highest priority was assigned to the project's requirements and every effort was made to staff it with the best candidates; however, for the first year it was easier to get approval for additions to the T/O than to get the actual bodies on board.

Because of the large numbers of communications engineers and technicians and security investigators which the T/O called for, the Offices of Communications and Security set up their own recruiting and training programs in order to meet the requirements for personnel without depleting their own staffs. An early decision was reached that dependents would not be allowed at either the ZI or foreign bases and therefore single men were chosen wherever possible and good usage was made of Air Force enlisted men in clerical

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slots. The "no dependents" rule continued in effect until the end of 1957.

Military Personnel

In February 1955 Colonel Ritland urged the opening of a direct line to the Air Force Deputy Chief of Staff, Personnel (DCS/P) in order to get the best candidates available and to expedite the paper work required to transfer them to the project. The CIA Military Personnel Division (headed by Colonel Jack Dahl) set up procedures for handling the nominees separately from regular military assignees to other duty in the Agency. Requirements were placed with the DCS/P liaison officer in the Pentagon who furnished candidate files to Colonel Dahl for review by project senior officers. In June 1955 word was passed to the Project Director that the DCS/P (Gen. John S. Mills) was concerned over the size and phasing of project military personnel requirements. The Air Force reluctance to release so many good men from critical categories was largely overcome with the signing of the joint agreement in August 1955, but the early delays had effects which were felt sharply at the time the first two detachments were being trained, equipped, and deployed.

Air Force personnel assigned to the project were attached initially to the 1007th Air Intelligence Service Group, Headquarters

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Command, and their records were handled by a special unit of MPD. The selectees were approached through a form letter indicating their proposed assignment to the Agency, serving overseas (without dependents) in a sensitive activity. Personal History Statements were requested, on receipt of which a Security Office investigation was made and preliminary approval for administrative processing given. The candidate was then ordered to Washington and completed the entry-on-duty processing, including physical and psychological examination, security briefing and voluntary participation in a polygraphic interview. (Refusal to be polygraphed did not automatically exclude an individual from the project.) After final security clearance the individual entered on duty and was briefed on his assignment.

In the first few months of this procedure, there was a moderately high rate of wash-outs of military personnel for various reasons when subjected to Agency tests. Very little could be done to make this type of examination more palatable to senior Air Force officers although efforts were made to explain the necessity for it and to minimize the reaction to it. It was patently difficult for career Air Force officers to accustom themselves to civilian command with

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stringent security control over all their activities and movements, and it was fortunate that only a moderate number of problem cases came through the screening to give trouble later.

A shortage of supply personnel was a recurring problem, beginning with the setting up of the depot. 50X1, E.O.13526 and the assembling of supplies for Detachment A early in 1956, continuing through the training and deployment of Detachment B. In the face of this shortage, the SAC support group, headed by Col. Herbert Shingler, carried the burden of getting Detachment A logistically ready to deploy. There were also shortages in the aeromedical staff and personnel from the test site had to be borrowed to staff Detachment A at the time of deployment.

In Col. Ritland's report to the Project Director on 30 March 1956, he said:

"Because of the over-all expansion and the lack of sufficient personnel, we have drawn on our Air Force commands to assume definite project responsibilities. It is apparent that although work is proceeding rapidly, much of the build-up is being accomplished with personnel outside of the project and not directly under the control of the Project Director. This is not an entirely satisfactory situation and should be closely watched as the scope of the project expands." 1/

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1/ TS-143306, 30 March 1956. Comments by Col. Ritland at the time of his departure from the project.

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The furnishing of contract techreps to maintain and service project equipment at the test site and overseas bases was handled through the medium of separate service contracts with each of the suppliers. It was impressed upon the companies that the personnel for overseas should be drawn from the ranks of their current employees, rather than from new recruits, in order to expedite security clearance and training.

Each company had its own policy regarding pay scales and other employee benefits. Lockheed developed a plan whereby a certain part of the overseas pay was held back and upon completion of an 18-month contract the withheld portion plus a bonus would amount to \$5,000, an incentive to finish the contract. If the employee elected not to finish his term or was fired for cause, his transportation home would be taken out of the amount withheld and no bonus would be paid.

Besides Lockheed, which furnished a five-man crew for each U-2, service contracts or other arrangements were made with Perkin-Elmer and Hycon for photo equipment, Ramo-Wooldridge for electronics, Firewel for pilot equipment, Baird Atomics for

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the sextant, Westinghouse for side-looking radar, and Pratt & Whitney for engines. Other service contracts were signed later for subsequently developed equipment.

The techreps assigned to overseas duty were documented as Department of the Air Force Civilians, accredited to the Air Weather Service. While assigned with the detachments overseas, they enjoyed whatever benefits, privileges and other entitlements were available to other detachment personnel. The ZI test site and each foreign field base presented different situations with regard to billeting, messing, per diem, working conditions, recreation, etc., and a constant effort had to be made by administrative and personnel officers to equalize the treatment of all personnel, and take care of major complaints.

The Project Director described the cohesion achieved within these mixed task forces as follows:

"We had to put into the field detachments which were roughly one-third CIA civilian personnel, one-third Air Force uniformed personnel, one-third contractor personnel. These people had to preserve the tightest kind of security; they were expected to achieve a standard of maintenance that three successive SAC colonels fresh to the project admitted were above any they had seen achieved in a 100% military operation. To do these things, they had to be a disciplined and hard-working organization. We had to cope with the fact that all three pay systems were different, all sorts of standard arrangements for fringe benefits (including most

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notably R&R leave) were totally different. We averaged the regulations up until each of the three components was getting all the privileges it was used to under its union contract, plus all the privileges that both of the other union contracts afforded. This was, needless to say, an expensive operation for the U.S. Government, but I'm here to say it really did work. I think it worked as measured by maintenance standards achieved and maintained, and obviously, I think, by accomplishment. But I think it worked in terms of human relationships and morale." 1/

#### Full Complement Achieved

The project Table of Organization gradually increased in all categories to a total of 444 at the end of 1955. With the staffing of Detachment A through the winter and spring of 1956 and the selection of cadres for two more detachments, the end of March 1956 found the T/O at 546. By October 1956, with both Detachments A and B in the field and Detachment C awaiting deployment, a high water mark of approximately 600 personnel was set for the U-2 program. By that time, however, the operational pace had slowed down due to the political stand-down of overflights of the Soviet Union, and consideration had to be given to a reduction in force.

On 5 October 1956, Colonel Jack A. Gibbs (then Deputy Project Director), advised Mr. Bissell as follows:

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1/ From notes of Mr. Bissell's "Dining In" Speech of 12 October 1965.

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"If operations do not increase and involve deep penetrations of the USSR next spring, I believe we should review our Headquarters personnel roster with a view to initiating a reduction in force. I believe the front office in Project Headquarters has sufficient manning for the present work load. Delineation of responsibilities generally is good throughout the staff. Occasionally we find Administration usurping some of Operations' prerogatives, and at times the front office has issued similar action instructions to several different individuals, but these are isolated cases and happen in any organization that is busy and moving fast." 1/

PCS and TDY Basis for Field Assignment

Beginning in 1955, the permanent cadre of the test site, located in a remote part of the Atomic Proving Ground in Nevada, were assigned on permanent change of station orders (PCS) to Los Angeles, where their families were settled, and on temporary duty orders (TDY) to the test site. Other personnel assigned to the test site for training before going overseas were PCS Washington and TDY at the test site. In an effort to equalize per diem rates among all categories of personnel, in January 1956 the following policy was affirmed: Any employee, civilian or military, reporting to the test site on or after 1 January 1956 would receive per diem at the rate of \$12 a day for the first 30 days and \$10 a day thereafter. (The same per diem was approved for

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1/ TS-143451/1, 5 October 1956. Review of Ritland Report by Col. Jack A. Gibbs.

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Edwards Air Force Base when the test site was reestablished there in July 1957). This policy was questioned by Mr. Robert Macy of the Bureau of the Budget during a visit to Watertown in February 1956, since individuals were only paying \$4.25 room and board at the base; after an explanation of the philosophy behind the policy, Mr. Macy said he would not bring the matter up in his report.

When Detachment A deployed to England, it was on a PCS basis (without dependents or household effects) and it was anticipated that a full tour in England would ensue. A hurried move to Germany was necessitated by unforeseen events and a later move to another German base took place, all within a year; the unit returned to the ZI after 18 months overseas. This experience led to the decision that detachments should be deployed TDY rather than PCS in view of inability to predict length of stay at a given base. General Cabell approved this change of policy in August 1956 when Detachment B deployed TDY to Adana, Turkey, without dependents or household effects. In March 1957, Detachment C deployed to Japan on the same basis.

On 24 September 1957, the Project Director wrote to the Deputy Director, Support, to advise him of a desired change in policy:

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"With the prospect of continuing Project AQUATONE operations overseas at least through calendar year 1958, plans have been made to have the dependents of project personnel join them at overseas locations. As you know, our concept to date has been centered about the maintenance of a high degree of mobility for personnel and equipment. Events of the past eighteen months have shown that the political impact of having an AQUATONE unit within the borders of a friendly country is less than we had anticipated, and consequently, we are shifting to a concept of a fixed base with a forward staging capability. In a fixed base operation, we are being consistent with cover to include dependents for unit personnel. Among those affected by this change will be the contract pilots, many of whom are married and whose dependents will join them overseas." 1/

With the approval of the DD/S, this policy was established and a crash program was instituted to prepare dependent housing. This was accomplished at Adana by rental and renovation of local economy houses and by use of trailers shipped from the U.S.; at Atsugi by remodeling of existing Agency billets and construction of more units through a local builder. This program cost several hundred thousand dollars in each case, which could not be recouped by the Agency when the two detachments were returned to the ZI.

When Detachment H was set up in Taiwan for joint operations with the Chinese Nationalists at the end of 1960, personnel were deployed on a TDY basis without dependents or household effects.

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1/ SAPC-19339, 24 September 1957. Memo to DD/S from Project Director.

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Cutbacks and Later Increases

At the time of the amalgamation of Agency air operations under one division (Development Projects Division, DDP), one of the purposes was a saving of personnel. From the high mark of 600 at the end of 1956, the T/O fell to 412 at the beginning of 1958, and to 371 in March 1959 when the amalgamation went into effect. Further reductions were made through 1959 and the T/O stood at 362 at the end of that year. Four months later the May Day incident caused a cessation of overflight operations, the reduction of Detachment B, and the return to the ZI and reduction of Detachment C; however, other air activities were building up, including the U-2 successor program, the satellite activity, clandestine air operations in various areas of the world (notably the Far East), and the staffing of cadres for the detachments at Eglin and Kadena, and the new detachment on Taiwan. Annex 16 shows the T/O strength by activity as of October 1960.

In November 1960 the Deputy Director for Plans (Mr. Bissell) notified the Chief, Development Project Division (Col. William Burke), that he intended to take advantage of the reduction of Detachment B to achieve a reduction in the authorized strength of the division, thus reflecting the gradual shift of resources away from the U-2 into new

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programs, as evidenced by the sizeable build-up at Watertown (renamed "Area 51") for the OXCART program. At that time the T/O had increased to 656, but a cut of 60 slots was made at the end of 1960 as a result of a continuing over-all personnel review within the DD/P complex.

The staff remained fairly static until February 1962 when Mr. Bissell left the Agency and a six-month period of reorganization ensued. The end result was the transfer of DPD's special projects staff to the newly formed Deputy Director for Research, while the air support functions remained within the DD/P. The allocation of the DPD authorized strength at the time of the turnover was:

	Air Support (now SOD)	DPD (now OSA)
Headquarters	46	130
U. S. Field	99	184
Foreign Field	117	34
	<u>262</u>	<u>348</u>

Annex 17 contains the announcement of the establishment of the Office of the Deputy Director for Research on 16 February 1962 (HN 1-9), the terms of reference of that office and the establishment under it of the Office of Special Activities (OSA), (HN 1-23 dated 30 July 1962), and the change of name of the Directorate from Research to Science and Technology (HN 1-36, dated 5 August 1963).

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The position of Acting Director, OSA, remained vacant for several months and was finally filled as one of the recommendations of the Inspector General's survey of the spring of 1962. The first incumbent was Colonel (later Brigadier General) Jack C. Ledford, who served from September 1962 to August 1966. (By DD/S&T General Order No. 37 dated 27 July 1965, the title of the Acting Director for Special Activities was changed to the Director of Special Activities.)

Two increments of personnel were approved for OSA during the latter part of 1962, almost entirely for the OXCART program, bringing the T/O back up over 500. In 1963 an additional 217 slots were requested, 121 of which were approved, making the total strength 629 instead of the 725 considered absolutely essential by June 1964. Only 22 of these additional positions were exclusively for U-2 activities, which were then completely overshadowed by the successor program in terms of budget and personnel. Further increases in preparation for the deployment of the OXCART aircraft were made in 1964 and 1965.

In May 1965, satellite operations were separated from the other activities within OSA under the Special Projects Staff (SPS) and

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effective 15 September 1965 the Office of Special Projects was established within the DD/S&T to carry on these operations. A total of twelve positions was transferred from the OSA Table of Organization to help staff this new office.

In July 1966, a reorganization plan for OSA within the T/O ceiling of 761 was proposed by Gen. Ledford (see Annex 18 for the basic concept and organizational chart of this reorganization). Certain upgradings of slots (including the three top military designees in OSA) were not approved by the Director of Personnel as requested in that reorganizational proposal. At the end of 1966, only about 130 of the total 761 personnel authorized to OSA were exclusively engaged in U-2 activities, including Headquarters and the Edwards and Taiwan detachments.

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ANNEX 9

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RICHARD MERVIN BISSELL, JR.

DOB: 18 September 1909 POB: Hartford, Conn.

Married: Ann Cornelia Bushnell Children: Richard Mervin  
 6 July 1940 Ann Harriet  
 Winthrop Bushnell  
 William George  
 Thomas Eric

Education: Yale University, B.A. Economics, 1932  
 London School of Economics  
 Yale University, Ph.D., 1939

CIA Experience: Served as an intermittent Consultant to the Office of National Estimates, 1952-54; Special Assistant in the Office of the Director of Central Intelligence, 1954-59; Deputy Director (Plans), 1959-61.

Non-Agency Experience: Instructor and Assistant Professor, Yale University, 1934-42; served as Chief Economic Analyst, Bureau of Foreign & Domestic Commerce, Dept. of Commerce, 1941-42; Assoc. Professor and Professor of Economics, Massachusetts Institute of Technology, 1942-48; Assistant to the Deputy Director, other executive positions, War Shipping Administration, 1942-45; Economic Adviser, Deputy Director Office of War Mobilization and Reconversion, 1945-46; President's Committee on Foreign Aid, Executive Secretary, 1947-48; Deputy Administrator, Acting Director, Economic Cooperation Administration and Mutual Security Agency, 1948-52; Consultant concurrently with Ford Foundation, Mutual Security Agency and ONE/CIA, 1952-54. Also Consultant to Fortune Magazine, 1937-39, 1943-46; Economic Adviser to the Connecticut Public Utilities Commission, 1936-41; Staff Member of Committee on Employment, Social Science Research Council, 1939-41; Consultant to Cosmopolitan Shipping Co., 1946; U.S. Steel Corp. of Delaware, 1948; Scudder, Stevens & Clark, 1947-48; Coordinator of Exports, 1947; Brightwater Paper Co., 1947-48; Asiatic Petroleum Co., 1948; Gray and Rogers, 1948; President, Institute for Defense Analyses, 1961-64; Director of Marketing and Economics, United Aircraft Corporation, 1964 to present.

Author of: "The Rate of Interest," "The Theory of Capital Under Static and Dynamic Conditions," "Price and Wage Policies" and the "Theory of Employment," "Price, Costs and Investment," "The Anatomy of Public Spending," "The Impact of Rearmament on the Free World Economy," "European Recovery and the Problems Ahead," "Foreign Aid: What Sort? How Much? How Long?"; Contributor and Editor of "Report of President's Committee on Foreign Aid."

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ANNEX 10

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7 January 1955

PROJECT OUTLINEPROPOSAL

In collaboration with the Air Force, to undertake the procurement of (a) 20 high altitude aircraft, (b) photo-reconnaissance equipment, and (c) electronic-reconnaissance equipment, and to prepare for and conduct extensive overflights of the Soviet Bloc in order to provide photographic and, secondarily, electronic intelligence. (Project AQUATONE)

SITUATION

The Lockheed Aircraft Corporation has proposed a very-high-altitude, jet-powered aircraft (designated CL-282). The Corporation is willing to take full responsibility for the design, mock-up, building, secret testing, and field maintenance of this unorthodox vehicle. It therefore appears entirely feasible for a CIA task force to undertake a covert overflight program based upon the CL-282, which will fly at 70,000 feet, well out of reach of present Russian interception and high enough to have a good chance of avoiding detection.

Photographic equipment can be developed which will enable extraordinary intelligence content to be obtained with pictures taken from great altitudes. A single mission in clear weather can photograph a strip of Russia 200 miles wide and 2200 miles long. A spotting camera will take pictures in which the individuals in a city street can be counted from 70,000 feet. Cloud cover will reduce completeness but is not a serious obstacle because missions can be scheduled for good weather and alternate routes for clear weather can be selected in flight.

Analogously, it is believed that automatic electronic intercept equipment (ELINT gear) can be developed which will provide from each overflight essential intelligence data as to locations, characteristics, capabilities, ranges and purposes of Soviet radar, homing identification and missile guidance systems. The possibility that otherwise inaccessible internal U.S.S.R. ultra-high-frequency links might be intercepted and recorded for communications intelligence analysis will also be explored.

The opportunity for safe overflight with the best equipment that can be built at this time will last only a year or

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so because the Soviets will develop radar and interceptors or guided missiles effective for the 70,000-foot region. The CL-282 can be developed and produced extraordinarily rapidly because it is based on a fighter aircraft already in production and uses an engine already tested. Moreover, experience with this aircraft will contribute significantly to the ability of the United States to maintain a lead in the development of still higher altitude aircraft and thus to maintain a safe overflight capability. Therefore, time is of the essence if the existing opportunity is to be exploited and to be extended by continuing development.

#### OBJECTIVES

Although undertaken primarily to collect photographic and electronic intelligence, this operation will serve a variety of purposes of interest to various parts of the United States Government. The CL-282 will have major utility as a high altitude test platform. The research to be undertaken will include the testing of engine performance, pressurization, and the functioning of auxiliary equipment of all kinds as well as of electronic and photographic equipment at high altitudes. It will also include a study of the capabilities of personnel to perform missions requiring sustained flight at high altitudes and of the utility of equipment furnished to permit personnel to function more effectively. The aircraft will probably be useful also for high altitude air sampling. In the field of intelligence, the operation should contribute significantly to the attainment of the following objectives:

- a. Improve estimates of Soviet ability to deliver nuclear weapons and their capacity to produce them.
- b. Appraise Soviet guided missile development through photographs of testing ranges, etc.
- c. Assess the Soviet order of battle as an early warning indicator.
- d. Provide adequate locations and analyses of Russian targets.
- e. Disclose new developments which might otherwise lead to technological surprise.

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f. Appraise Soviet industrial and economic progress.

COST

The cost of procurement of materiel by this Agency under the program here proposed is expected to total approximately \$31,500,000, virtually all of which will have to be obligated in FY 1955. It can be broken down as follows:

20 Airframes, together with maintenance and testing equipment for the testing of the first one to be delivered	\$22,500,000
6 complete sets of photographic equipment, each set consisting of 3 configurations	5,500,000
12 sets of electronic search equipment to be used on photographic missions, together with 3 sets of automatic FERRET equipment	3,000,000
Additional field maintenance equipment	500,000
TOTAL	\$31,500,000

The margin of error in these figures probably does not exceed \$2,000,000 and it is believed highly unlikely that the total materiel costs could amount to more than \$35,000,000. The estimates assume that the Air Force will furnish as a contribution to the project and without cost to the Agency (a) technical assistance and supervision, (b) all equipment regularly furnished as government furnished equipment, including especially 40 engines, and (c) transportation of materiel and personnel to test sites.

In addition to the above, certain non-materiel costs will be incurred in the course of preparation for the mounting of the operation. These will be primarily (a) administrative costs, including especially the cost of developing photo-intelligence and electronic-intelligence requirements, and of mission planning; (b) the cost of pilot recruitment and training, and (c) some part or all of the cost of testing initial items of equipment in the United States. It is expected that

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administrative costs can be largely absorbed in existing budgets. Pilot recruitment and training costs might reach a total of \$600,000, of which the major part would represent the cost of flight training which is provided by the Air Force and for which the Air Force is normally reimbursed. If the Air Force is prepared to absorb this item, the cost to the Agency of recruitment and training should not exceed \$100,000, of which the major part will fall in FY 1955. The cost of the testing program has not yet been estimated. It will fall entirely in FY 1956.

The above figures contain no allowance for (a) any major costs that may be incurred in the acquisition or preparation of operational bases, (b) the cost of actually mounting the operation, including pay and subsistence of personnel, transportation of personnel and materiel to and between operational bases, and field maintenance, and (c) the cost of processing photographic film and electronic tape.

#### ORGANIZATION

In view of the clandestine character of the proposed operation, its nature, and the varied results expected to flow from it, it is proposed that this undertaking be organized as a joint CIA/Air Force project in which the CIA will undertake procurement as indicated above, with the assistance of the Air Force in all phases, and will conduct overflights as a clandestine operation. Within the CIA, the Special Assistant to the Director for Planning and Coordination, (SA/PC/DCI) will be in charge of the project, with Mr. Herbert Miller as Executive Officer. He will be supported by other officers temporarily assigned on a part-time or full-time basis as appropriate. Sub-projects will be organized forthwith as components of AQUATONE covering the performance of all the following functions:

1. Airframe procurement (Project OARFISH)
2. Procurement of photo-reconnaissance equipment (Project OCTROI)
3. Development and procurement of electronic equipment (Project AZAROLE)
4. Assembly and formulation of photo-intelligence requirements (Project EQUINE)
5. Assembly and formulation of electronic-intelligence requirements (Project LYRISN)
6. Pilot recruitment and training (Project ZESTFUL)

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At a later stage, other component projects will be organized as required.

RECOMMENDATION

It is recommended

- a. That the project be approved as outlined above.
- b. That the Special Assistant to the Director for Planning and Coordination be designated as the official in charge of the project and as Approving Officer, subject to the guidance of the Deputy Director of Central Intelligence and the Director of Central Intelligence.
- c. That the procurement of the airframes, photo-reconnaissance equipment and electronic equipment up to the amounts indicated above be authorized, subject to the following provisions:
  - (1) Procurement and contractual arrangements will be those normally employed by the Agency, with such exemptions and restrictions designed to achieve maximum security as may be approved by the Approving Officer.
  - (2) All contractual and procurement documents, arrangements and commitments will be specifically approved in advance by the General Counsel.
  - (3) All commitments and documents which obligate funds in excess of \$100,000 will be approved by the Director of Central Intelligence.
  - (4) Appropriate documentation will be obtained from the Air Force and from competent technical advisers in support of procurement contracts and the specifications and descriptions of materiel to which they refer.
- d. That the recruitment and training of pilots and any other action necessary in preparation for the mounting of overflights be authorized, together with expenses incidental thereto initially up to the amount of \$100,000.
- e. That the Comptroller be authorized to expend funds in the manner and to the extent approved by the Approving Officer within the limitations as to quantity and procedure set forth above.

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f. That the Approving Officer be authorized to arrange for the necessary gathering and formulation of intelligence requirements and mission planning, in cooperation with the Air Force as appropriate.

g. That the Approving Officer be directed to maintain the closest possible security over all phases of AQUATONE.

(Signed)

R. M. BISSELL, JR.  
Special Assistant to the Director  
for Planning and Coordination

CONCUR:

/s/ C. P. CABELL  
Deputy Director of Central  
Intelligence

/s/ ROBERT AMORY  
Deputy Director (Intelligence)

/s/ RICHARD HELMS for  
Deputy Director (Plans)

/s/ LAWRENCE K. WHITE  
Deputy Director (Administration)

/s/ LAWRENCE R. HOUSTON  
General Counsel

APPROVED: 10 Jan 1955

/s/ A. W. DULLES  
Director of Central Intelligence

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ANNEX 11

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25 March 1955

MEMORANDUM FOR: Deputy Chief of Staff/Operations  
Hqs, U. S. Air Force

SUBJECT: Air Force Support of Project AQUATONE

1. Purpose of this memorandum: It is understood to be the view of the Air Staff that Air Force support for Project AQUATONE in its operational phase should be the responsibility of the Strategic Air Command. Assistance and support in research, development, and procurement will, however, continue to be the responsibility of the Deputy Chief of Staff/Development. The purpose of this memorandum is to set forth various kinds of support that will be required, to outline the organization which is proposed to handle the project within the CIA, and to indicate proposed relationships between the CIA and the Air Force.

2. Basic Concept of the Project: In all of its phases, including development, procurement and testing of material, training of personnel and actual conduct of overflight missions, AQUATONE has been conceived of as a clandestine intelligence-gathering operation to be conducted in such a way as to minimize the risk of detection and of plausible attribution to the U.S. Government. The initial policy decision to proceed with the project was made on this basis. In order to conform to this concept, missions will be flown only by civilian and if possible non-U.S. pilots. If U.S. pilots are used who have previously served with the armed forces, their separation from the armed forces must be fully documented in advance. Knowledge of the project will be limited to the narrowest possible circle of those who need to know. The circle would be widened dangerously if staff elements at several levels in a long chain of command had to be included. Largely for this reason, the project has been organized outside of established command channels in both the CIA and the Air Force. Activities which appear unusual and which it therefore becomes necessary to explain either to unwitting individuals within the Government or to others, will be associated with high altitude air sampling and the development of a high altitude test bed. In accordance with this basic concept, it will be important to

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minimize the appearance of military activity especially in the actual conduct of operations overseas.

3. Assumptions as to the Character of the Operations:

a. Operations will be conducted from two to four rear bases, at each of which there will have to be provision for: the maintenance of aircraft and of photographic and electronic equipment, the storage and handling of specialized supplies, the housing of personnel, and possibly other functions. Such bases may be needed in northern Europe, the eastern Mediterranean, Japan or Okinawa, the Philippine Islands, Alaska and Thule, although it is highly doubtful whether operations will ever be conducted out of more than three, or at the most four, bases simultaneously.

b. As a rule, actual missions will be flown from forward staging bases, or else reconnaissance aircraft will be towed by other aircraft and released close to the enemy's border. Provision will have to be made, therefore, for the operational use of suitable large transport aircraft and of other aircraft capable of towing the reconnaissance vehicle.

c. The rear bases will in all cases be USAF installations where it is to be hoped that the facilities and personnel required for this operation can be installed and maintained under Air Force cover without the necessity of special additional arrangements with the local governments.

d. It will be necessary to make secure approaches  to the governments of countries in which access will be required to staging bases or other non-USAF installations. In the case of each such country, a suitable cover story will have to be developed for use with partially witting officials and another for public use. Appropriate activities may have to be undertaken to lend substance to these cover stories.

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4. Assumptions as to Procurement:

a. The CIA is procuring airframes, photographic reconnaissance equipment, electronic search gear, specialized communications equipment, spares for the above, specialized field maintenance equipment, specialized ground handling equipment, and specialized supplies such as photographic film and electronic tape.

b. The USAF will procure GFE including especially engines, spare parts therefor and certain standard photographic reconnaissance equipment (to be modified for use in this project).

c. Responsibility for the procurement of non-specialized supplies, including fuel, standard ground handling equipment, and maintenance materiel will be divided between the Air Force and the CIA on the basis of convenience and security.

5. CIA Organization and Functions: Within the CIA a Project Organization has been established which will consist eventually of a Project Headquarters in Washington and three Special Detachments in the field, each located at a particular rear base. The Project Headquarters will exercise control over operations through a line of command that will run directly to the field detachments. The Headquarters will be responsible specifically for operational planning (with the assistance of the Air Force), for the clearance of policies and of operational plans with other departments and with higher authority to ensure conformity to national policy, and for the coordination of operations and the allocation and movement of personnel and materiel among the field detachments. The Project Headquarters will also be responsible, with the assistance of the Air Force, for continuing development, procurement and recruitment activities in connection with this Project. The Field Detachments will be responsible for the final determination of specific flight plans within the limits of a general plan of operations and subject to specific Headquarters instructions, for the actual conduct of missions, and for the maintenance of primary mission aircraft. Through this Project Organization the CIA will perform the following specific functions:

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a. Recruit and administer civilian pilots (both U.S. and foreign) for primary mission aircraft. Recruitment is already in process and arrangements have been made for the screening and testing of foreign recruits and for their basic training by the Air Training Command.

b. Secure and administer maintenance personnel for primary mission aircraft (including engines) and for photographic reconnaissance and electronic search equipment. These will be suppliers' employees furnished by them under contract. The CIA will also procure from suppliers specialized maintenance and ground handling equipment.

c. Maintain communications through CIA channels between the Headquarters and field detachments; develop and operate secure ground-to-air and limited air-to-ground operational communications (other than UHF/VHF facilities for use in the immediate neighborhood of bases); develop and operate a system employing the RANOL technique for tracking primary mission aircraft throughout their missions from a master station outside enemy territory.

d. Maintain security control over all aspects of the project including the investigation of all knowledgeable individuals, arranging for or monitoring security arrangements at suppliers' plants, at a test base to be established, and at overseas bases.

e. In conjunction with the Director of Intelligence, USAF, A-2, SAC, and other intelligence components as appropriate, assemble reconnaissance objectives, determine priorities between objectives, and assemble intelligence on enemy detection facilities and air defense order of battle. This task is already well advanced.

6. Required Air Force Support: The CIA will require extensive Air Force support to enable the project to be carried out in a professional manner and to ensure against any attempted duplication of skills and facilities presently available in the Air Force. The principal forms in which the support will be required will be the following:

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a. Continued administrative and technical assistance in development and procurement, together with substantial Air Force procured materiel (as listed in para 4b above). This support includes the benefit of the judgment of experienced Air Force specialists in R&D, materiel, and aeromedical sections.

b. The services of fifteen to twenty Air Force Officers who can be assigned to the Project Organization and help in the actual conduct of operations. This number should probably include five or six men who can serve as operational planners at headquarters and as operations officers overseas, three or four intelligence officers, three aeromedical officers, and four or five meteorologists.

c. Assistance of the Operational Planning Group, SAC, in developing operational plans. It is anticipated that much of the material required for reconnaissance target folders will be readily available at SAC Headquarters and that with the assistance of this material and of the SAC planners, only a small operational planning group will be required at CIA Project Headquarters.

d. Operational support aircraft, together with their air crews and provision for their maintenance. There will probably be a requirement for: two to three aircraft equipped to two primary mission aircraft and six to ten transport aircraft (C-124's and C-54's) to permit the rapid movement of personnel and materiel into and out of staging bases. The precise numbers will depend upon the operational concept finally developed. These aircraft should not have military insignia and their crews will be fully witting of the character of the missions being flown by primary mission aircraft. Accordingly, aircraft and crews should be assigned to field detachments on a continuing basis with a minimum of rotation to other assignments.

e. The use of facilities and Air Force bases abroad and cover at those bases.

f. A variety of supporting services during the operational phase, including transportation of

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personnel and materiel to and between bases, current intelligence, weather information, and probably some housekeeping.

7. Channels for Air Force Support: It is assumed (as stated in para 1, above) that these various kinds of support will be provided in the main through two channels, which will however be supplemented by several established contacts.

a. The CIA Project Organization will continue to look to the Office of the Deputy Chief of Staff/Development for support listed in para 6a, above; that is assistance in development and procurement, including Air Force procurement of engines, other GFE, personnel equipment, and other items as may be agreed. It is understood that this office will continue to coordinate supporting activities of the materiel and supply sections of the Air Staff and of the Surgeon General's office.

b. The Project Organization will look to a unit to be established or designated in the Strategic Air Command for support listed under paragraphs 6c, d, and e, above; that is, for operational support aircraft, facilities at USAF bases, and supporting services including current intelligence and weather. It is presumed that where such support should be provided by other commands, SAC will arrange for it as necessary, notably for transportation by MATS.

c. The CIA will look to SAC for the majority of the officers required as indicated under para 6b, above, but may as agreed secure certain specialists from other components, such as aeromedical officers from the Surgeon General. A number of officers have already been assigned to the project and will continue with it.

d. Existing channels between the CIA and AFOIN and to other intelligence components will continue to be used in the assembly of intelligence on enemy means of detection and defenses, and on reconnaissance objectives.

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e. Arrangements for the basic training of civilian pilots recruited by the CIA for this project will be made directly by the Air Maritime Division of CIA with the Air Training Command, USAF, in accordance with established procedure.

8. Physical and Administrative Arrangements for Liaison: To enable business to be transacted efficiently through these channels, the following arrangements are suggested:

a. It is assumed that the present Project Officer will continue to be the point of contact with the Office of the DCS/Development.

b. Presumably the Commanding General, SAC will form a unit in SAC Headquarters or designate an existing unit in SAC to be the point of contact with the CIA Project Organization and to arrange for support by SAC. Considerations of security will require that other than the members of this unit (which should itself be of minimum size) only an absolute minimum number of officers in SAC be knowledgeable of AQUATONE.

c. Since the Project Headquarters will be in Washington, it will be necessary for the supporting unit in SAC to maintain a liaison office in Washington. The Officer in Charge should have the largest feasible delegation of authority to enable him to deal with CIA and to make or obtain decisions with the least possible delay.

d. It would be highly desirable to have the Project Officer under the DCS/Development and the SAC liaison office physically housed together and it may turn out to be desirable to have them located at the Project Headquarters.

(Signed)

RICHARD M. BISSELL  
Officer-in-Charge  
Project AQUATONE

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ANNEX 12

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29 June 1955

MEMORANDUM FOR: Assistant Secretary of the Air Force  
for Research and Development  
Deputy Chief of Staff, Operations, USAF  
Deputy Chief of Staff, Development, USAF

1. Attached herewith is a memorandum on Project OILSTONE which outlines proposed organizational arrangements in accordance with the memorandum on this same subject directed to the Chief of Staff from the Secretary of the Air Force, dated 27 June 1955. The attached memorandum was prepared as a basis for discussion at the meeting shortly to be held with Mr. Gardner, who suggested that it might be useful if those who were to be present at the meeting had a chance to read this proposal in advance.

2. It is requested that this be handled on an "EYES ONLY" basis.

(Signed)

R. M. Bissell, Jr.

Att:  
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29 June 1955

SUBJECT: Project OILSTONE

Reference: Memorandum for the Chief of Staff, from the  
Secretary of the Air Force, dated 27 June  
1955

1. The referenced document contemplates that the operational phase of Project OILSTONE be carried out by a joint Task Force of the Central Intelligence Agency and the U.S. Air Force (hereinafter referred to as the Project Organization), that Colonel Ritland be assigned to head the Air Force portion of the Task Force, and that he serve also as Deputy to the Senior Project Officer (designated by the Director of Central Intelligence) for all operational activities. The purpose of this memorandum is to outline specific organizational arrangements in accordance with this concept.

2. The Project Organization will include CIA civilian employees and civilian contractors' employees as well as Air Force personnel. (It is now estimated that there will be, at peak strength, approximately 135 CIA employees, 115 contractors' employees, and perhaps 50 Air Force personnel.) Operational effectiveness requires that these several categories of employees be integrated into a single organization. On the other hand, in order to minimize both the dislocation of existing organizational structures and the size of the Project Organization, it should undertake to perform for itself no functions that can be efficiently performed by existing Air Force and CIA components. Present plans reflect this principle. Accordingly, the Project Organization will require considerable support from other components of CIA and the Air Force and channels for the provision of the required support are proposed in this outline.

3. In order to achieve the desired integration of Air Force personnel into the Project Organization with maximum security, they will be assigned for administrative and cover purposes to the 1007th Air Intelligence Service Group, Headquarters Command. Within this organization, however, they will constitute a special unit of which Colonel Ritland will be the commander. Overseas,

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their orders will show only that they are a part of the Headquarters Command, USAF, on assignment to the designated overseas base to conduct operations under a named project. Under this procedure Air Force personnel will be charged against the Central Intelligence Agency's already established and fully adequate military personnel ceiling rather than against the T/O or personnel ceiling of any Air Force Command. Moreover, salaries will be paid (or more precisely reimbursed) by the CIA as provided for in the Agency's operational budget.

4. As presently planned, the Project Organization will consist of a Headquarters in Washington, a test and training base in Nevada and three Detachments in the field presumably located at USAF bases. The organization will include: on the operations side, operational planners, one or two air weather officers in each Detachment, aero-medical personnel, pilots (all civilian), and communications and electronics technicians; on the support side, a supply officer and a few supply records specialists in each Detachment, photographic technicians, field maintenance crews and security personnel. This summary is indicative of the functions to be performed by the Project Organization itself. Colonel Ritland will be the Deputy Project Officer stationed at Headquarters. Each Field Detachment will have as its commander a Colonel (also assigned to the 1007th Air Intelligence Service Group).

5. The joint Project Organization will require support from the Air Force principally in three forms. First, it will require the use of a number of cargo aircraft to perform a multi-purpose air support task. No provision has been made in the T/O of the Project Organization either for crews or for the maintenance of these aircraft. It is estimated that at full strength, three KC-97-G's, two C-97's, three C-54's and two C-124's will be required continuously. Additional lift by C-124's and possibly C-97's and C-54's will be required in connection with initial deployment overseas. These aircraft will be required both for operational staging from regular overseas bases to advanced, temporary, staging bases and for the transportation of specialized equipment and personnel between the ZI and the several overseas Detachments. Since the crews will almost certainly become fully witting of the nature of the operation they are supporting, they should be assigned to the project on a continuing basis

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with an absolute minimum of rotation. Second, the Project Organization will obviously require the use of base facilities abroad and of housing for personnel and no provision has been made in the T/O for the performance of housekeeping functions or such logistical functions as the handling of non-specialized supplies, the storage of spares in depots overseas, etc. Third, the Air Force will probably continue to provide support to the project in the form of Government-furnished-equipment (including both aircraft components and ground handling and maintenance equipment) and, perhaps, Air Force procured fuel and non-specialized supplies, as may be subsequently agreed. In the case of certain of these items, the Air Force will presumably make the necessary logistical arrangements to deliver them to overseas bases.

6. Although it has been assumed (in accordance with the principle stated in paragraph 2 above) that these functions would not be performed by the Project Organization itself, this preliminary decision could be reversed. The organization could be made more nearly self-sufficient by enlarging its T/O to include air crews for support aircraft and housekeeping personnel. If the decision stands, however, planning for the provision of these three types of support by appropriate components of the Air Force should begin at once. Presumably these tasks could be assigned to an operational command or to theater commanders overseas or handled in other ways. Whatever the assignment of responsibilities, consideration should be given to the assignment by the supporting organization of a liaison officer to the Project Headquarters in Washington to participate in operational planning and to serve as the channel for transmitting support requirements and working out detailed arrangements for the furnishing of support.

7. By all means the most important contribution of the Air Force to this project will be the participation of its personnel. It is recognized that the requirement for some 30 officers of proven ability, many of them with special skills, is a burdensome one for the Air Force to meet. Up to the present time, requirements for personnel, which have been transmitted to the Deputy Chief of Staff, Personnel, have been based upon a provisional T/O for the Project Organization. Upon Colonel Ritland's assignment, manning levels will be reviewed with him so as to develop a jointly agreed basis for staffing. The present procedure for reviewing requirements for Air Force personnel

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could remain in effect or, if desired, primary responsibility for meeting requirements could be assigned to an operational command with the understanding that requirements which could more appropriately be filled from other components will be levied on the Office of the Deputy Chief of Staff, Personnel. A decision on the procedure to be employed in this manner is urgently required so that staffing of the joint Project Organization can go forward with minimum inconvenience to the personnel involved.

8. The Project Organization will continue to employ certain already established channels with certain Air Force components to secure types of support not covered by paragraph 5, above, as follows:

a. The Organization will maintain direct contact with the Office of the Deputy Chief of Staff, Materiel, and this will be the channel through which requirements for major and specialized materiel will be submitted. It will probably be desirable at a later date to establish procedures whereby Field Detachments can requisition non-specialized and locally available supplies through the overseas bases where they are stationed.

b. The Organization will use existing channels with the Office of the D/I, USAF, and with other intelligence components, for the assembly of intelligence on enemy means of detection and enemy defense and on reconnaissance objectives.

c. The Organization will look to General Flickinger, ARDC, for assistance on aeromedical matters and will work out with him appropriate arrangements for the procurement of personal equipment for primary mission air crews.

d. Arrangements for basic training of civilian pilots recruited by the CIA for this project will be made directly by the Air Maritime Division of CIA with the Air Training Command, USAF, in accordance with established procedures.

(Signed)

Richard M. Bissell, Jr.  
Special Assistant to Director

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ANNEX 13



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7 July 1955

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT: Organizational Concept for Project  
AQUATONE

1. The Secretary of the Air Force in a memorandum to the Chief of Staff, dated 27 June 1955, stated he had reached the conclusion, on the basis of conversations with you, "that the operational phase of this project should be carried on as a joint task force operating between the Air Force and CIA". As yet, however, there is not a complete meeting of minds on what would be the most appropriate organizational concept within the Secretary's formula. This subject will presumably be the main topic at the meeting to be held in Colorado Springs on 9 July. Clear-cut decisions are now urgently required, and it is to be hoped that they can be arrived at on that occasion.

2. Partially or wholly inconsistent proposals have been advanced and positions taken as follows:

a. The Deputy Chief of Staff, Operations, (in consultation, I believe, with the Deputy Chief of Staff, Development) has proposed that the general direction of the project be exercised by a jointly staffed headquarters which would, however, be under the control of the DCI, but that full operational responsibility be assigned to the Commander, Strategic Air Command. This plan would provide for three elements:

(1) A Project Headquarters under the full control of the DCI but jointly staffed and with an Air Force Officer as Deputy Project Officer;

(2) A small task force in the Air Force reporting to the Chief of Staff to maintain liaison with the Project Headquarters and to arrange for the provision of those types of support which could best be handled through Air Force Headquarters;

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(3) A special operating organization designated the XXXth Air Division which would be established by and be under the operational control of the Commander, SAC.

The XXXth Air Division would have its own headquarters (at a location to be recommended by the Commander, SAC) which would exercise direct command over the Field Detachments and the Test Base. It would be responsible for the execution of all operations subject to the general direction and control of the Project Headquarters.

b. Prior to the submission of this proposal, the CIA submitted on 29 June an outline of suggested organizational arrangements intended to be in accordance with the memorandum from the Secretary of the Air Force referred to above. The CIA outline provided for a single joint task force to plan and conduct operations. The task force would consist of a Project Headquarters in Washington exercising direct command over the Test Base and the three overseas Field Detachments. It would be a fully integrated organization jointly staffed by CIA and the Air Force and include contractor personnel. The Senior Project Officer would be designated by the Air Force and would be the military commander of all Air Force personnel assigned to the task force. This organization would draw upon appropriate elements of both CIA and the Air Force for support. Within the Air Force the major support responsibility could be assigned to SAC or any other operational command, although the task force would look to certain elements of the Air Staff for specialized types of support more appropriately furnished by them.

c. In the course of discussion of these and other proposals the Assistant Secretary of the Air Force for Research and Development has expressed the view that the Air Staff should retain primary responsibility for Air Force support of, and participation in, this project. Although he did not formulate a detailed proposal, he suggested (as envisaged in the CIA outline summarized in subparagraph b, above) that the project be carried out by a joint task force in which the Senior Project Officer would be an Air Force Officer who would also serve as military commander of the Air

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Force personnel assigned to the task force. This Air Force Officer would look to the Chief of Staff (or a designated Deputy Chief of Staff) for Air Force guidance in the conduct of the project. Support for the task force by various elements of the Air Force would be arranged through the appropriate Staff Offices and Directorates.

3. The proposal of the Deputy Chief of Staff, Operations, outlined in paragraph 2, a, above, raises sharply the question of what is meant by a "joint task force" and what the internal organization and lines of command within such a task force should be. Under the terms of that proposal, the Air Force and CIA would jointly staff the field detachments and a headquarters staff in Washington but there would be interposed between these elements another operational headquarters which would in fact exercise command authority over all personnel in the field and over all actual operations. In effect, therefore, there would not be one joint task force but two: a jointly staffed planning group in Washington under full control of the DCI and a jointly staffed operating organization (the XXXth Air Division) under full control of the Commander, SAC, the former giving general direction to the latter. The XXXth Air Division would be under the command of one headquarters at Omaha yet subject to the control in a degree most difficult to define of another headquarters in Washington. Such an arrangement would, I believe, involve duplication between the two headquarters, confusion as to their functions, a diffusion of responsibility, and friction between them. I strongly recommend that wherever it be located and however it be controlled and supported, the task force responsible for this Project have a clear responsibility for both operational planning and the actual conduct of operations, and that it be coherently organized with a clear and direct line of command running from its headquarters to its field detachments.

4. Within this basic principle, the following would appear to be the three feasible alternatives:

a. The task force could be wholly controlled by the CIA but draw upon the Air Force for personnel and support.

b. It could be a joint task force, jointly staffed and jointly controlled drawing upon elements of both CIA and the Air Force for support.

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c. It could be an Air Force task force drawing upon the CIA for support, especially for help in all those aspects of the Project which partake of the character of clandestine operations.

If alternative (c) is adopted, the task force could well be organized as an Air Division under the operational control of the Commander, SAC. The CIA could then assign personnel to this organization to perform such duties as the planning of suitable cover, the conduct of negotiations with the security services of other governments looking toward the acquisition of access to bases, and the monitoring of operations for conformity with clandestine practice. To insure effective support by CIA to such an Air Force unit and to enable the DCI to give it such policy guidance as might be appropriate, a very small staff unit would probably be necessary in the CIA. Likewise if alternative (a) were adopted a small special staff would be required in the Air Force to insure support to the CIA Project Organization and to monitor its activities as appropriate on behalf of the Air Staff.

5. If the decision is in favor of a joint task force, alternative (b), certain other decisions must be made as to (a) the manner in which the organization will be jointly controlled by the CIA and the Air Force and (b) the arrangement for its support, especially by the Air Force. With respect to the first of these problems it is generally agreed that one of the two senior officers of the task force should be designated by the DCI and the other by the Chief of Staff, or the Commander, SAC, or other appropriate authority in the Air Force. Although for internal operational matters one of these individuals must be the Senior Project Officer and the other must be his Deputy, the concept of joint control clearly requires that the Deputy have the right and the duty of keeping his principals informed of the progress of the Project, calling to their attention actual and prospective issues requiring policy determination, and seeking policy guidance from them. Thus, the individual would be for internal purposes the Deputy Director of the Project but would also represent the policy views of his Service. As to arrangements for support, it is clear that no joint task force can be given a blank check in the form of unlimited authority to call for personnel, services, and materiel from either CIA or the Air Force. What can be done is to arrive at agreed staffing levels and estimates of requirements for supporting services and materiel and

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then to place responsibility for providing support in accordance with these requirements either at one central point in each parent Service or at several points as may be appropriate. Within the Air Force a possible arrangement would be to place the major responsibility for support upon an operational command (presumably SAC) and to establish under the Chief of Staff a small unit to arrange for specialized support that could not appropriately be provided by the designated operational command. Such an arrangement will not, of course, solve in advance the problem of dealing with urgent, unforeseen requirements. But there is, I submit, no form of organization that will solve such problems in advance. When critical unforeseen needs arise, the task force (wherever it is constituted) will initially seek to have the need met through established support channels. If the need turns out to compete with other top-priority requirements, the conflict can only be resolved at a very high level. These facts of life are not much affected by the location of the task force or even by the assignment of support responsibility.

6. Recommendations: It is recommended that, as a matter of urgency, decisions be made as follows:

a. That the Project will be entrusted to an integrated task force with clear and direct internal lines of command (consistent with the requirement that all military personnel be under the military command of the senior Air Force Officer assigned to the task force).

b. That the task force be either controlled by the CIA, or jointly controlled by the CIA and the Air Force, or formed as an element of the Air Force.

c. That if it is not to be an element of the Air Force, Air Force support will be provided to the task force through designated channels.

d. That if it is to be a jointly controlled task force, the mechanism of control shall be that outlined in paragraph 5, above, or some other as may be agreed.

(Signed)

RICHARD M. BISSELL, JR.

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ANNEX 14

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2 August 1955

ORGANIZATION AND DELINEATION OF RESPONSIBILITIES

PROJECT OILSTONE

1. General direction and control of the Project shall be exercised jointly by the Director of Central Intelligence and the Chief of Staff, USAF, subject to guidance from higher authority and coordination with other departments of the Government as appropriate. They shall furnish policy guidance to lower echelons, ensure the conformity of operations under this project with national policy, and make recommendations to higher authority on matters transcending their own authority. Further, it shall be their joint responsibility to resolve differences that may arise at lower staff and operating levels.

2. The following are the organizational elements which shall be responsible for the conduct of the project:

a. There is in existence a Project Headquarters, headed by a CIA Project Director to which an Air Force Officer will be assigned to serve as Deputy Project Director. The Project Headquarters will establish operational units, stationed at bases overseas after the completion of training in the ZI. These operational units will be manned by USAF and CIA personnel in numbers, proportions and skills as agreed between the Project Director and the Air Force Project Officer.

b. All military personnel assigned for full-time duty to the project for duty under CIA direction on permanent status shall be carried on the rolls of a newly activated support squadron in accordance with current procedures. The Air Force Deputy to the CIA Project Director will command this administrative squadron.

c. There will be established an Air Force Project Staff headed by a Project Officer who will act in the name of the Chief of Staff, USAF. The Project Staff will include selected officers designated by certain of the Deputy Chiefs of Staff to act as points of contact within their several offices.

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(DX-TSC-3014)

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d. The Commander, SAC, will form a new subordinate headquarters to be manned by him from resources available to him through which he will participate in the project. He will also establish a support unit for each operational unit established by the Project Headquarters. Support units will be controlled by him through the commander of his subordinate headquarters and will perform support functions as required by the Project Headquarters and agreed by Commander, SAC, or the Chief of Staff, USAF.

3. The functions and responsibilities of these elements will be as follows:

a. The CIA Project Director and the Air Force Project Officer shall have primary responsibility for the development and execution of all activities concerning the project within their own organizations; the resolution of differences that may arise at lower echelons; and the reporting of progress and the making of recommendations to their respective chiefs.

b. The Project Headquarters will be responsible for any continued research and development, operational planning, and the direction and control of operations in the final phase of the project when overflights are being launched from bases overseas.

c. The Air Force Project Staff shall be responsible for implementing plans approved by the CIA Project Director and the Air Force Project Officer and arranging for Air Force support of Project activities which can appropriately be furnished through staff channels or by commands other than SAC.

d. Commander, SAC, will be assigned primary responsibility for providing and coordinating Air Force support of the project, including training, through the subordinate headquarters to be formed by him. Requirements for certain types of personnel and equipment not under his control will be stated to Headquarters, USAF (the Air Force Project Officer) and will be met from other resources.

4. Activities under this project fall into three phases. These overlap one another in time but may be distinguished on the basis of the kinds of activities involved in each. The following are the specific authorities and responsibilities of the several organizational elements in the successive phases of the project.

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a. The first phase, now well advanced, is that in which the major activities are research and development, procurement, the construction and activation of a test and training base, the testing of equipment, and operational planning. The Project Director shall have control of these activities including the planning and recruiting of personnel under his control. The Air Force will furnish necessary support which will be a matter for agreement between the Project Director and the Project Officer. Full and complete coordination of all Air Force elements during this phase is essential.

b. The second phase will be devoted to training, the shakedown of equipment, and deployment overseas. These activities will be carried on mainly at the test and training base. Commander, SAC, through his subordinate headquarters, will (1) direct and supervise the training of operational units, (2) provide and coordinate Air Force support of the project, and (3) arrange for the deployment of operational units overseas for the initiation of the final phase. In the light of these responsibilities Commander, SAC, will be kept fully informed of operational plans, through his subordinate headquarters. Phase II terminates with the decision that crews and equipment are operationally ready and in place at overseas bases. During Phase II the line of command on matters concerning the scale and character of training, Air Force support, and the mechanics of deployment shall be from the Chief of Staff, USAF, through the Commander, SAC, and his subordinate headquarters.

c. The third phase will be that of active operations from overseas bases. This phase follows the decision as to operational readiness. In this third phase, the final decision as to execution and timing of actual over-flight missions shall rest with the Project Director, subject to such guidance as he may receive from higher authority. The line of command shall be direct between operational units and the Project Director. Each operational unit will continue to be dependent upon its corresponding SAC support unit.

APPROVED FOR USAF:

N. F. Twining

Aug. 3, 1955

APPROVED FOR CIA:

A. W. Dulles

August 4, 1955

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ANNEX 15

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28 April 1955

MEMORANDUM FOR: Deputy Director (Support)

SUBJECT: Table of Organization - Project AQUATONE

1. The requirements for the Table of Organization for Project AQUATONE are submitted for your approval. The Office of the Special Assistant to the Director for Planning and Coordination is not listed although it is responsible for the project's operation.

2. It is expected that some of the people who will be used in Headquarters will be assigned to authorized slots; however, where short term use of individuals with particular skills may be necessary it is believed desirable to arrange for their services on a detail basis. U.S. Air Force personnel will be assigned to the 1007th Air Intelligence Group, in accordance with established procedures. This Table of Organization does not make provision for the following functions which will be performed by the U.S. Air Force: base housekeeping, aircraft transport, towing, and general maintenance.

3. At a later date it may be necessary to augment the Table of Organization with additional personnel such as communicators or other specialists. Communications station personnel located overseas may also assist in the project but those people directly responsible for the work involved can be used on a reimbursable basis. Additional U.S. Air Force personnel may be required to support the project on a detail basis to receive, identify, store, and issue supplies in a storage warehouse.

4. It may be possible at a later date to reduce the total number of slots requested by absorbing some of the project people located at Headquarters into the overseas organization.

(Signed)

RICHARD M. BISSELL, JR.  
Special Assistant to the Director  
for Planning and Coordination

Attachment:  
T/O

APPROVED:

(Lawrence K. White)  
Deputy Director (Support)

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TABLE OF ORGANIZATION - PROJECT AQUATONE

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SA/PC/DCI

PROJECT AQUATONE HEADQUARTERS	
CIA Employees	18
USAF Employees	7
	<u>25</u>

US FIELD - TEST BASE	FOREIGN FIELD-BASE A	FOREIGN FIELD-BASE B	FOREIGN FIELD-BASE C
CIA Employees 26	CIA Employees 16	CIA Employees 16	CIA Employees 16
	USAF 34	USAF 34	USAF 34
	Contract Empl. 52	Contract Empl. 52	Contract Empl. 52
<u>26</u>	<u>102</u>	<u>102</u>	<u>102</u>

TOTALS:	CIA Employees	92
	USAF	109
	Contract	156
		<u>357</u>

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28 April 1955

## TABLE OF ORGANIZATION - PROJECT AQUATONE

HEADQUARTERS

<u>Slot No.</u>	<u>Title</u>	<u>Grade or Rank</u>
-----------------	--------------	----------------------

OPERATIONS DIVISION

1	Operations Officer	Col. USAF
2	Asst. Operations Officer	Col. USAF
3	Asst. Operations Officer	GS-15
4	Weather Officer	Lt. Col. USAF
5	Flight Surgeon	Lt. Col. USAF
6	Intelligence Officer	Lt. Col. USAF
7	Photo-Navigator	Major USAF
8	Intelligence Officer	GS-13
9	Intelligence Officer	GS-12
10	Commo Specialist	GS-14
11	Electronic Engineer (Radio)	GS-13
12	Secretary	GS-7
13	Secretary	GS-7

ADMINISTRATIVE DIVISION

14	Administrative Officer	GS-15
15	Administrative Officer (Materiel)	Lt. Col. USAF
16	Administrative Officer (Materiel)	GS-14
17	Administrative Officer (Finance)	GS-14
18	Security Officer	GS-14
19	Security Officer	GS-13
20	Secretary	GS-7
21	Courier	GS-5

DEVELOPMENT AND PROCUREMENT DIVISION

22	Director of Development and Procurement (also Executive Officer)	GS-17
23	Contracting Officer	GS-13
24	Secretary	GS-7
25	Engineering Officer	GS-14

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~~TOP SECRET~~US FIELD - TEST BASE

26	Administrative Officer	GS-14
27	Asst. Administrative Officer	GS-13
28	Security Officer	GS-14
29	Asst. Security Officer	GS-13
30	Commo Technician (Radio)	GS-9
31	Commo Technician (Radio)	GS-9
32	Commo Technician (Crypto)	GS-8
33	Commo Technician (Crypto)(L.A.)	GS-8
34	Commo Technician (Crypto)	GS-7
35	Secretary	GS-5 or Sgt.
36	Secretary (Security)	GS-5
37-51	Investigators (15)	GS-7

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~~TOP SECRET~~FOREIGN FIELD - BASE A

52	Commanding Officer	Col. USAF
53	Deputy Commanding Officer	GS-14
54	Secretary	GS-7, or Sgt.

OPERATIONS SECTION

55	Operations Officer	Lt. Col. USAF
56	Photo-Navigator	Major USAF
57	Intelligence Officer	Major USAF
58	Flight Surgeon	Lt. Col. USAF
59	Weather Officer	Lt. Col./Maj. USAF
60	Personal Equipment Specialist	Sgt. USAF
61	Personal Equipment Specialist	Sgt. USAF
62	Clerk - Operations	USAF
63	Clerk - Operations	USAF
64	Clerk - Operations	USAF
65	Clerk - Intelligence	USAF
66-71	Pilots- Recon (6)	Contract Civilian
72	Commo Team Leader	GS-13
73	Commo Technician	GS-13
74-75	Commo Technicians (2)	GS-12
76-80	Commo Technicians (5)	GS-9

MAINTENANCE - SUPPORT SECTION

81	Support Officer	GS-13
82	Administrative Asst.	GS-11
83	Administrative Asst.	GS-9
84	Security Officer	GS-13
85	Asst. Security Officer	GS-11
86	Materiel Officer	Maj. USAF
87	Supply Technician	Master Sgt. USAF
88	Supply Technician	A/1st USAF
89	Clerk	USAF
90	Clerk	USAF
91	Clerk	USAF
92	Clerk	USAF
93-97	Photo Technicians (5)	Contract Civilian
98-99	Engine Technicians (2)	Contract Civilian
100-123	Aircraft Technicians (24)	Contract Civilian
124-138	Guards (15)	Contract Civilian

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NOTE: There is listed below an additional requirement for 15 USAF aircrewmembers. It is hoped that these people will be supplied by USAF as support and will not be chargeable to the project.

139-141	Pilots (3)	
142-144	Co-pilots (3)	USAF
145	Navigator	USAF
146-148	Flight Engineers (3)	USAF
149-151	Radiomen (3)	USAF
152-153	Aircrewmembers (2)	Sgt. USAF
		Sgt. USAF

FOREIGN FIELD - BASE B

154-255 Identical to Base A

FOREIGN FIELD - BASE C

256-357 Identical to Base A

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ANNEX 16

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TABLE OF ORGANIZATION  
On Board Versus Authorized Strength  
14 October 1960

<u>Unit</u>	<u>Authorized</u>	<u>On Board</u>	<u>Over</u>	<u>Under</u>
<u>Headquarters</u>	<u>159</u>	<u>153</u>		6
<u>U.S. Field:</u>				
Edwards	38 *	53 <u>1/</u>	15	
Base D (Area)	70	13 <u>2/</u>		57
Supply Depot	41	43	2	
Field Sup Compl	9	8		1
Base E (Eglin)	97	91		6
Subtotal:	<u>255</u>	<u>208</u>		47
<u>Foreign Field:</u>				
Base B	54 **	53 <u>3/</u>		1
Taiwan	21 ***			21
STPOLLY	21	20		1
Kadena	69	52 ****		17
Clark Field	5	4		1
Tokyo	3	3		
[REDACTED]	9	7 *****		2
Subtotal:	<u>182</u>	<u>139</u>		43
<u>Totals</u>	<u>596</u>	<u>500</u>		96

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- 1/ Does not include 5 contract pilots.  
 2/ Does not include 14 contract guards.  
 3/ Does not include 5 contract pilots & 16 contract guards.

- \* Additional 7 positions required according to most recent estimate.  
 \*\* Additional 1 position required according to most recent estimate.  
 \*\*\* Additional 6 positions required according to most recent estimate.  
 \*\*\*\* Includes 9 on duty but not fully cleared as yet and consequently carried on the Development Complement.  
 \*\*\*\*\* This figure not previously included on DPD strength in view of recent transfer of [REDACTED]

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ANNEX 17

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ORGANIZATION

HN 1-9  
16 February 1962

1. There is established effective 19 February 1962 the Office of Deputy Director for Research. Certain of the activities of the Development Projects Division, DD/P, will also be transferred to DD/R. In the interest of strengthening the Agency's technical and scientific capabilities by centralizing such effort in one division, other activities in Research and Development will be placed under DD/R as appropriate.

2. Effective 19 February 1962, Dr. Herbert Scoville, Jr., is appointed Deputy Director (Research).

3. Dr. Scoville will continue to act as Assistant Director for Scientific Intelligence.

(Signed)

JOHN A. McCONE  
Director of Central Intelligence~~SECRET~~Handle via BYEMAN  
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ORGANIZATION

HN 1-23  
30 July 1962

## DEPUTY DIRECTOR (RESEARCH)

1. The mission of the Deputy Director (Research) is to conduct in depth, research and development in the scientific and technical fields to support intelligence collection by advanced technical means, exclusive of those R&D activities to support agent operations. The Deputy Director (Research) will carry out those operations strictly in the scientific and technical fields which do not involve clandestine agent operations, or those functions of the Office of Communications as contained in HR 1-14g except ELINT activities. The Deputy Director (Research) will coordinate such operations carried out overseas with the Deputy Director (Plans) and through the Chief of Station concerned. There is established under the jurisdiction of the Deputy Director (Research) the Office of Research and Development (ORD).

2. The Deputy Director (Research) will have primary responsibility for Agency ELINT activities, including requirements, subject to policy guidance from the Agency SIGINT Officer. Clandestine agent operations and liaison with foreign governments will remain under the direct control of the Deputy Director (Plans). Accordingly, there is established immediately under the jurisdiction of the Deputy Director (Research) the Office of Elint (OEL) to which all such activities will be transferred.

3. The Office of Special Activities (OSA) is hereby established under the Deputy Director (Research). All functions and personnel of the Development Projects Division of the Deputy Director (Plans) are hereby transferred to OSA except those of the Air Support Branch and its supporting staff elements which remain the responsibility of the Deputy Director (Plans).

(Signed)

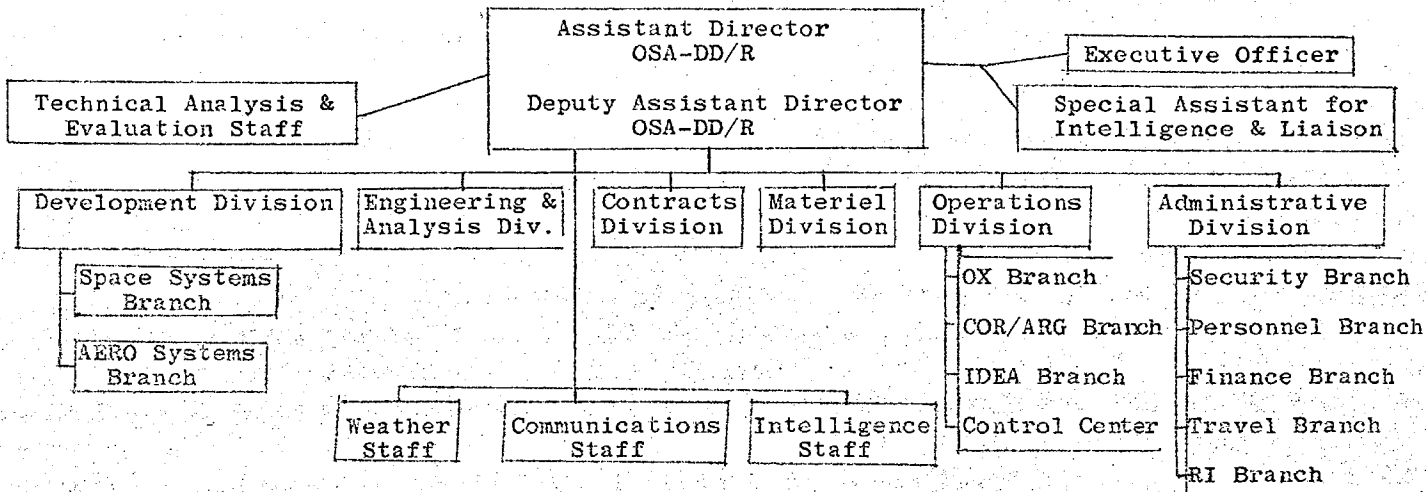
Marshall S. Carter  
Lieutenant General, USA  
Deputy Director

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OFFICE OF SPECIAL ACTIVITIES - DEPUTY DIRECTOR (RESEARCH)



Titles & Symbols

Asst. Director for Spec. Activities	- AD/OSA	Engineering & Analysis Div.	- EAD/OSA
Deputy Assistant Director	DAD/OSA	Contracts Division	CD/OSA
Executive Officer	EXO/OSA	Materiel Division	MD/OSA
Special Requirements Staff	SRS/OSA	Operations Division	OD OSA
Technical Analysis & Eval. Staff	TAES/OSA	Administrative Division	ADMIN/OSA
Special Assistant for Intelligence and Liaison	SAIL/OSA	Communications Staff	COMMO/OSA
Development Division	DD/OSA	Intelligence Staff	INTEL/OSA
		Weather Staff	WEA/OSA

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ANNEX 18

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ORGANIZATION

HN 1-36  
5 August 1963

Effective 5 August 1963, the following organizational changes are announced:

1. The Deputy Directorate for Research is renamed the Deputy Directorate for Science and Technology.
2. The Office of Scientific Intelligence is transferred from the Deputy Director for Intelligence to the Deputy Director for Science and Technology.
3. The Automatic Data Processing Staff is renamed the Office of Computer Services and is transferred from the Deputy Director for Support to the Deputy Director for Science and Technology.

(Signed)

MARSHALL S. CARTER  
Lieutenant General, USA  
Acting Director of Central Intelligence

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BYE 2548/66

13 July 1966

MEMORANDUM FOR: Director of Personnel

THROUGH: Deputy Director for Science and Technology

SUBJECT: Proposed Reorganization of Headquarters  
and Field Detachments of the Office of  
Special Activities

1. Submitted herewith are proposed changes to the OSA Staffing Complement. (Attachment A). The proposed Staffing Complement provides for a personnel ceiling of 761 approved by the DDS&T and a proposed reorganization also approved by the DDS&T.

2. The basic concept of the Headquarters organization remains that of a single manager type which has proven so successful in the past for both the development and operation of weapons systems. Such an organization with the authority and resources required for the type of mission within OSA has resulted in the development of the OXCART vehicle in approximately one-half the time required for the development of the B-58, and is similar to the single manager type organization used so successfully by Admiral Raborn in the development of the Polaris program, General Schriever in the Air Force ICBM program, and General Medaris in the development of the Redstone Missile.

3. The Headquarters' organization is designed around four principal Deputies. The Deputy for Research and Development remains for all practical purposes in its present form. The Comptroller is evolved from the present OSA Program Staff and collects together all business functions within OSA. The Deputy for Materiel has been broken out from the former Deputy for Field Activities because of the increasing importance and emphasis on Aircraft and Systems Maintenance Engineering. The Deputy for Field Activities has been renamed as the Deputy for Operations.

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4. The organizations in the field have undergone only minor changes in order to have all detachments organized in the same manner. In each detachment, the Deputy for Support is the senior Agency officer within the detachment and acts as the second in authority to the Commander, excluding actual air operations which always comes under the Deputy for Operations.

5. The requested increase in GS-14's and above can be accommodated within the DDS&T except for three GS-14's. To alleviate this problem the Ops Officer position, Plans Staff, Deputy for Operations; Transportation Officer position, Travel Branch, Comptroller, and Ops Officer position, Budget and Programs Division, Comptroller, can be listed as 13/14 positions. Attachment B is a statistical comparison of current and proposed GS grades. Two GS-15 positions in the Deputy for Research and Development, position No. 0339, IO - Physical Scientist, Aircraft Systems Division and position No. 0344, Sensor Systems Division, have been identified as SPS positions.

6. The Director of the Office is rated as a Major General and the Headquarters Deputies for Operations and Materiel are rated as Brigadier Generals. The Commander of Area 51 is rated as a Brigadier General. Such ratings are consistent with the responsibilities of these positions and more compatible with Agency counterparts within the organization. It is not intended that any of these positions, with the exception of the Director, would ever actually be filled with General Officers. For administrative purposes and prestige, however, it is felt that such ratings are justified.

7. Your approval is respectfully requested.

(signed)  
EDMUND D. DUCKETT  
for  
JACK C. LEDFORD  
Brigadier General, USAF  
Director of Special Activities

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Page 3

## Attachments:

Organization Chart - Headquarters - OSA  
Organization Chart - Field Units  
Attachment A  
Attachment B

## APPROVED:

\*

(Signed) PAUL H. HILDEBRAND  
for Deputy Director for Science and Technology

- \* Provided the establishment of Brig. Gen. positions is consistent with military practice and does not result in a charge against DD/S&T supergrade ceiling.

---

Director of Personnel

NOTE: Approved by D/PPB on 31 August 1966.

## Distribution:

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#8 - RB/OSA

DDS&T/D/SA/JCLedford:nl (12 July 1966)

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# HEADQUARTERS Office of Special Activities

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APPROVED:

ALBERT D. WHEELON  
Deputy Director  
for  
Science and Technology

DIRECTOR  
\* M/Gen Jack C. Ledford (B/G)  
DEPUTY DIRECTOR  
17 J. A. Cunningham, Jr. (17)  
EXECUTIVE OFFICER  
15 E. D. Duckett, Jr. (15)

REGISTRY  
12 R. J. Swain  
(11)

SECURITY  
15 William R. Kotapish  
(15)

Withheld under statutory authority of the  
Central Intelligence Agency Act of 1949 (50  
U.S.C., section 403g)

DEPUTY for  
RESEARCH & DEVELOPMENT  
17 J. Parangosky (16)  
Assistant Deputy for R&D  
(16)

COMPTROLLER  
16 (15)  
Assistant Comptroller  
15 (14)

DEPUTY for MATERIEL  
\* B/Gen (C/O)  
Assistant Deputy for Materiel  
15 (14)

DEPUTY for OPERATIONS  
\* B/Gen (Col)  
Assistant Deputy for Operations  
Col (L/C)

- ASST. for PROGRAMS  
15 (13)
- ASST. for TECHNOLOGY  
16 (15)
- ADVANCED PROJECTS DIV  
15 (15)
- AIRCRAFT SYSTEMS DIV  
15 (15)
- SENSOR SYSTEMS DIV  
15 (15)
- PROPULSION SYSTEMS DIV  
15 (15)

- INDUSTRIAL AUDIT DIV.  
15 (15)
- CONTRACTS MANAGEMENT  
DIVISION  
16 (16)
- BUDGET & PROGRAMS DIV  
15 (14)
- MANAGEMENT ANALYSIS  
& REPORTS DIV  
15 (14)
- FINANCIAL OPNS. DIV  
15 (15)
- PERSONNEL DIVISION  
15 (14)
- TRAVEL Branch  
14 (13)

- MAINTENANCE DIVISION  
Col (L/C)
- SUPPLY DIVISION  
Col (L/C)
- INSTALLATIONS DIVISION  
15 (14)
- AVIONICS DIVISION  
15 (14)

- CONTROL CENTER  
Maj (Maj)
- OPERATIONAL PLANS DIV  
Col (L/C)
- OX CART DIVISION  
Col (L/C)
- ADP DIVISION  
Col (L/C)
- INTELLIGENCE DIVISION  
15 (Lt Cmdr.)
- WEATHER DIVISION  
Col (L/C)
- COMMUNICATIONS DIV  
15 (15)
- IDEALIST DIVISION  
Col (C)

\* Recommendation to upgrade these three slots was not approved.

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Withheld under statutory authority of the  
Central Intelligence Agency Act of 1949 (50  
U.S.C., section 403g)

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DDS&T Historical Paper  
No. OSA-1  
Vol. II of XVI

# DIRECTORATE OF SCIENCE & TECHNOLOGY HISTORY

(TITLE OF PAPER)  
History of the Office of Special Activities  
Chapter IV  
  
(PERIOD)  
From Inception to 1969

## DO NOT DESTROY

DECLASSIFIED UNDER AUTHORITY OF THE  
INTERAGENCY SECURITY CLASSIFICATION APPEALS PANEL,  
E.O. 13526, SECTION 5.3(b)(3)  
ISCAP APPEAL NO. 2002-0049, document no. 2  
DECLASSIFICATION DATE: March 1, 2016

Controlled by : DDS&T  
Date prepared : 1 April 1969  
Written by : Helen Kleyla  
Robert O'Hern

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CHAPTER IV. BUDGETING AND  
PLANNING

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#### CHAPTER IV. BUDGETING AND PLANNING

##### Initial Funding: Use of Agency Reserve

There was no directive from higher authority spelling out funding sources and responsibilities, as between CIA and the Air Force, for carrying out the reconnaissance project. Acting on the verbal approval of the President that funds from the CIA Contingency Reserve could be used, the Director of Central Intelligence initiated negotiations for release of funds with the Bureau of the Budget.

On 27 December 1954, Mr. Bissell delivered to the Director of the Budget, Mr. Rowland R. Hughes, a letter from Mr. Dulles requesting release from the Reserve of \$35 million for the procurement of aircraft. Without alluding to the ultimate purpose of the project, Mr. Bissell explained the necessity to sign contracts promptly with suppliers and outlined the form of contract being negotiated and the part played by the Air Force in working out the arrangements. Mr. Hughes saw no problem but wished to consult with the Chief of the International Division, Mr. Robert M. Macy, who was principal liaison officer between the Bureau of the Budget and CIA. Mr. Macy had a further discussion with Mr. Bissell and Colonel White, and having satisfied himself of the appropriateness of the use of the Reserve for a type of procurement not hitherto undertaken by the CIA,

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he advised Mr. Hughes affirmatively in the matter and the funds were made available on 29 December 1954.

The initial \$35 million was almost fully committed to the procurement of airframes, photographic and electronic equipment, as spelled out in the Project Outline (Annex 10). By the end of June 1955, only six months later, commitments for Fiscal Year 1955 totaled more than \$32 million (\$800,000 of which represented construction, operation and maintenance at the test site for which no allowance had been made within the initial \$35 million).

The provisions of Public Law 81-110, Section 8(b) were invoked as a security precaution with regard to expenditures under the principal contracts as well as the agreement with the Atomic Energy Commission for construction, operation and maintenance of the test site. The first part of this provision extended to the Agency the authority to expend funds without regard to law and regulations for Agency functions. The second part extended to the Agency authority to expend funds for objects of a confidential, extraordinary, or emergency nature, without review by the General Accounting Office, when so certified by the Director.

Speaking about the use of the Agency Reserve for projects such as AQUATONE, Mr. Bissell in 1965 remarked that the Agency should

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learn that the Reserve is a potent weapon.

"If you want to be narrow about it, you can say it is a potent weapon for advancing the interests of the Agency. If you want, as I rather prefer, to speak as a citizen, it is a potent weapon for getting something moving fast if the national interests ever call for it... There were then people around Washington who were willing to get things moving fast, but there wasn't anybody else who could, and more than once the Agency's Reserve made exactly this kind of thing possible." 1/

Air Force Support

The understanding from the beginning of the joint effort had been that the Air Force would supply Government Furnished Equipment (GFE), including forty jet engines, technical advice and personnel. The fact that the joint agreement was not signed until August 1955 left some uncertainties in the early budgetary exercises as to who would pay for what. Mr. Gardner, in a letter to Mr. Dulles dated 27 December 1954, wrote:

"I assure you that the Air Force is keenly interested in this development from the point of view of its own mission as well as yours, and to that end is furnishing the engines as part of its contribution and will provide such other assistance as required." 2/

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1/ From notes on Mr. Bissell's "Dining In" Speech of 12 October 1965.

2/ Letter from Mr. Trevor Gardner, 27 December 1954, to the Director of Central Intelligence (Annex 19).

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Mr. Bissell had listed for a meeting with General Twining on 7 March 1955 the contributions he believed the Air Force would have to make, the more important of which were: (a) Continued help in the whole development and procurement process in the form of judgment, services of many kinds, and equipment; (b) help in the selection, testing and training of pilots; (c) the services of a number of competent officers (say 10 to 20) to help in the actual conduct of operations; (d) the use of certain Air Force facilities abroad and cover at those bases; and (e) support during the operational phase in many forms including transportation, intelligence, weather information, and housekeeping.

The largest single item for which the Air Force had accepted funding responsibility, the jet engines, presented several problems, according to Col. Ritland: (1) The total cost of \$18 million was hard to bury in the Air Force budget; (2) the Air Force, as a result of furnishing these engines for the U-2, would not be able to equip one squadron with F-100's, thus delaying the completion of the 137-wing program; and (3) the total production of the J-57/P-31 series of engines was due for delivery to Martin Aircraft for the USAF's modified Canberra program (BLACK KNIGHT), and an explanation would be required when they were delivered elsewhere. The task

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of making these explanations and justifications fell to Mr. Gardner and General Putt and was accomplished without serious repercussions through briefings of key officials in the Air Force and the cooperation of Pratt & Whitney officers and engineers in the cover story on engine delivery.

Early in January 1955 a complete list of aircraft-associated GFE was furnished by Lockheed and a list of photographic GFE (amounting to approximately \$1-1/2 million) was furnished by Perkin-Elmer. The aircraft list was turned over by General Putt's office to Colonel Gerald F. Keeling of the Deputy Chief of Staff, Materiel's office, and he began work immediately arranging for delivery of the required items to Lockheed at Burbank, California. It was decided, principally for reasons of security, that the Agency would procure the photographic GFE from Air Force depot stocks through its normal channel (i. e., the Air Maritime Division/DDP to Air Force Intelligence). The amounts of this equipment ordered by Perkin-Elmer appeared excessive and after delivery of a large quantity to the subcontractor (Hycon), much of it had to be returned to Air Force stocks as unneeded or unsuitable for project cameras. Instead of \$1-1/2 million, the project budget at the end of June 1955 showed only \$315,000 committed for photographic GFE.

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Although there was no agreement in force until August 1955 Air Force support was forthcoming from the beginning of the year, not only in the provision of GFE but in the areas of research and development, aeromedical and weather planning, provision of personnel, and the setting up of the test site. After the joint agreement was signed, this support broadened and included the selection and training of primary mission pilots and other cadres; logistical and operational support of all kinds in the deployment of detachments to overseas bases and in the staging of missions; targeting requirements and intelligence; and support for the system set up to handle the intelligence obtained. Most of these areas of support will be detailed in subsequent chapters.

The timely and successful accomplishment of the Air Force contribution to the U-2 mission was engineered by the Headquarters USAF Project Officer, assisted by a small staff of Air Force officers, acting in the name of the Air Staff. The position of Project Officer was held in turn by: Colonel (now Brigadier General) Russell A. Berg, 1955-56; Lt. Col. (now Brigadier General) Leo P. Geary, 1957-1965; Colonel Clason B. Saunders (now retired), 1965-67. The positive and aggressive approach of this small staff (particularly during General Geary's tenure) toward fulfilling

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project support requirements and solving related problems, greatly facilitated the accomplishment of the joint mission.

In preparing Status of Funds Reports in the early days, the Project Comptroller, [redacted] at Mr. Bissell's behest, had attempted to include figures on the USAF share of project costs. Finding this a cumbersome task, and almost meaningless in that insufficient figures were available to him to give a reasonable estimate of Air Force participation, he requested that the practice be discontinued, or else that the Air Force be requested to provide current and factual cost information. [redacted] advised against the latter since he felt the Air Force could very well request in turn that Agency cost data be furnished the Air Force and unless there was assurance that such data would be rigidly controlled, he did not feel that it should be released.

At that point the effort to document Air Force contributions to the project in dollars along with Agency costs was discontinued. One rough estimate was prepared from incomplete figures provided by Lt. Col. Geary covering the two year period July 1955 through July 1957, and showing total major materials provided at \$18,527,232 and operating costs at \$4,016,215 for a total of \$22,543,447. For purposes of a high level briefing by the Director at the end of

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March 1956, Mr. Bissell estimated total costs of the project from inception through FY 1957 (not broken down between Agency and Air Force) to be \$73 million for major materials and \$25 million operating costs, for a total of \$98 million. (A break-down by items of these two estimates is shown in Annex 20.)

Project Comptroller

In the first months of the project the Agency Comptroller's concurrence or approval was obtained on contracts and other obligating documents originating with the project, but by March 1956 the volume of work being generated was such that he could no longer cope with it and he therefore recommended [redacted] to be official representative of the Comptroller's Office, to handle the financial and related functions of Project AQUATONE. Mr. Bissell concurred in the appointment of [redacted] as Project Comptroller and Certifying Officer, appropriate bond was set, and the delegation of authority issued on 12 May 1955 and circulated to appropriate officials of the Agency.

At a later point in the history of the project, Gen. Cabell raised the question whether contracts and other financial documents requiring the Director's signature should not first be signed by the

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Agency Comptroller, himself, rather than by a member of the AQUATONE staff. Mr. Saunders, the Comptroller, said he had complete confidence in the abilities of [ ] and other personnel assigned from the Comptroller's office to the project staff.

Mr. Bissell added that he was confident [ ] certification was in all cases completely supportable by appropriate documentation and most conservatively given, as confirmed by the Agency Auditor-in-Chief's review. It was agreed that no change would be necessary in the current arrangement.

The problems relating to budgeting for AQUATONE (and successor organizational entities) were complex enough due to the many phases of the project where no previous experience availed for guidance; but they were complicated by the constant change of pace imposed by the international political situation, which became the controlling factor in securing permission to operate.

First Budget Presentation: FY 1955-56

On 18 July 1955 the operational requirements for FY 1956 were presented to the CIA Comptroller along with a tabulation of commitments for FY 1955 (see Annex 21 for figures). In the preparation of these first estimates there were naturally items on which

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costs would only be learned through experience. Included also were substantial add-on's not covered in the original Project Outline: FY 1955 obligations of \$2.3 million and an additional \$5.1 million for FY 1956 representing the development and production of a communication and navigation system for the U-2, a radar photographic system, photographic processing, construction of a domestic test site, and ground support at overseas bases.

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These estimates were presented to the Bureau of the Budget, represented by Mr. Macy, on 20 July 1955, and defended by Mr. Bissell, Col. White, Mr. Saunders and [ ] for CIA. The principal single item questioned by Mr. Macy was the \$3.5 million for development of a radar photography system. He was assured by Mr. Bissell that all possible precautions were being taken to preclude any duplication in development of project equipment, all of which was being closely coordinated with the Air Force. The original project proposal had indicated that research on the equipment to be procured had been completed in large part; however, it was obvious that in the drawing-board-to-operations type of project which evolved there would be research and development costs, though some were difficult to separate.

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Mr. Macy's greatest concern in approving the FY 1956 budget was in regard to the over-all authority for the project. He noted that the original concept had changed somewhat in the six months of the project's life, and he wanted to assure himself that those responsible were not exceeding their authority. Mr. Bissell pointed out that discussion had been held with the President not more than five days before by Mr. Allen Dulles, and that the President was still most interested in and continued to sanction the undertaking.

The efforts of the Bureau of the Budget to keep the project within the bounds of the original concept did not end with this meeting, but the unwritten approval of the President proved to be quite elastic, by interpretation. Mr. Bissell said later:

"The Presidential approval had been obtained... on really quite a permanent basis. This approval endured for a good many years and it was ultimately good for something over \$300 million, and it would never have been given if this had been known in advance." 1/

The \$15.8 million required for FY 1956 was supplied from the Reserve for Contingencies on 1 August 1956. As the year progressed, it became clear that the needs had been underestimated since additional firm requirements of \$3.6 million developed (due mainly to

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1/ From notes on Mr. Bissell's "Dining In" Speech, 12 October 1965.

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unanticipated research and development of electronic equipment). These additional funds were made available through re-evaluation and reprogramming of regular operations already budgeted for.

FY 1957

In November 1955, the funding of the project for FY 1957 was the subject of a meeting between the DCI and Secretary of the Air Force Donald A. Quarles. Messrs. Bissell and Gardner were also present. The practical question to be settled was whether the direct costs of the project for FY 1957, estimated at \$15 million, should be included in the CIA budget or in the Air Force budget. Before agreement could be reached on this question, however, other basic issues had to be considered.

In briefing the Director before the meeting, Mr. Bissell recommended strongly that, if present administrative arrangements for the project were to continue for another year, either funds be included in the CIA budget or the turn-over of full control of the project to the Air Force be set in motion immediately. He submitted several considerations in favor of continuing present arrangements: The difficulties which the Air Force would experience in continuing secure procurement methods, in making use of the predominantly civilian maintenance and support organization in

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being, and in preserving the "plausible denial" concept once the project had become the responsibility of SAC or another operational USAF command. He felt the status quo should be maintained long enough to prove or disprove the AQUATONE capability and allow for the emergence of a sound, over-all plan for peacetime overflights. If responsibility changed hands at the beginning of the next fiscal year, this would occur just as overflight operations were getting underway with consequent disruption of command channels and organizational arrangements, and delay in completing the primary mission.

As to the Agency's problem of getting money from the Bureau of the Budget and Congress, Mr. Bissell emphasized three points:

"First: It should be made absolutely clear to the Director of the Budget that... the issue is not merely a financial one of which Agency shall budget for a required expenditure but is basically one of organization and ultimate responsibility. If the Bureau of the Budget recommends Air Force financing it is in fact making a recommendation about the character of and the responsibility for this project. The issue should be discussed in these terms.

"Second: It should be kept in mind at all times by all concerned that we are making a choice between (a) burying X dollars for CIA in the Air Force budget, and (b) adding the same X dollars to the Air Force budget. Whatever the outcome, the Congress is going to be asked to vote X dollars in the Air Force budget. More-over X dollars is far too big to get by on any basis

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without explanation to someone. I am unable to see why security is served by explaining the purpose to which the X dollars will be put to the whole Armed Services and Appropriations Committees instead of to the smaller number of Congressmen and Senators who pass on the CIA budget.

"Third: No matter how the accounts are set up, this project should be supported before the Bureau and before Congress by the Air Force and the CIA jointly and their joint support should be in such terms as to make it unmistakably clear that they are agreed on the urgency of the requirement, the size of the budget, and the organizational arrangements under which the project is being carried on. If this is done, I believe there is little bearing on purely political grounds between one choice of financing and another." 1/

The meeting with Mr. Quarles resulted in agreement that CIA should be responsible for the project budget through FY 1957.

At the beginning of FY 1957, operations by the first field detachment over Soviet Russia and the Satellites began with excellent results, but due to protests received by the State Department from the Soviet, Czech and Polish Governments, overflights of primary targets had to be suspended. For the remainder of the year, restricted operations continued and two more detachments were readied and one deployed to Turkey. With the slower pace of operations thus imposed, expenditures for FY 1957 were kept within the budget of \$15 million. (The

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1/ TS-142628, 11 November 1955. Memo to the DCI from Project Director, Subject: Meeting with Messrs. Quarles and Gardner.

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original amount budgeted had been approved at \$18.3 million but this had been reduced by \$3.3 million at the Project Director's urging.)

FY 1958

By January 1957, with a new fiscal year approaching, future plans for the project were still uncertain, Agency budget estimates had only been made for the first half of FY 1958, and a date for turn-over of responsibility to the Air Force had not been established. Efforts to lift the political restriction on primary missions had not succeeded; on the other hand, higher authority had not called for outright cancellation of the program. Many alternate plans were being considered with a view to keeping the capability in being in a more economical way.

In April 1957 Mr. Bissell wrote the Director and Deputy Director of CIA a memorandum pointing out the increasing urgency for reaching a decision on whether the U-2 capability was to be maintained in civilian hands beyond the end of the current photographic season, and if so, on what scale and in what form. The existing organization had been geared to a relatively brief, intensive operation. Faced with protracted inactivity and uncertainty, and with repeated postponement

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of decision, its morale and effectiveness were already impaired. He felt it essential to convert the organization to one designed to maintain a standby capability for occasional and limited use, or else begin to phase it out of existence. He concluded:

"a. It would be feasible to reorganize and to develop a new cover for AQUATONE with the mission of maintaining a substantial U-2 capability throughout the effective life of the aircraft in such a way as to support continued operations at a low rate if permitted and bursts of intensive operations if and when required. It is tentatively proposed that the reorganized project would have one detachment readied for carrier operations, one stationed in the Far East, probably at Okinawa, and one operating and ready to operate in Europe but probably stationed in the ZI and trained and equipped for extreme mobility.

"b. The extension of AQUATONE in this fashion would permit a significant reduction of manpower, amounting perhaps to a quarter to a third of present strength. It could probably be financed through FY 1958 within the limits of the present amounts budgeted for AQUATONE but would preclude the turnback of any surplus funds from the AQUATONE FY 1957 budget because the FY 1958 budget provides for only 6 months' operation at roughly present strength. Some financial provision would be required in the FY 1959 budget but an annual rate probably no more than half that budgeted for the current fiscal year." 1/

Finally, on 6 May 1957, a meeting was arranged with the President, to urge a definite decision on the project's future. (See Annex 22 for position papers prepared for that meeting.) The Agency

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1/ TS-164213, 19 April 1957. Memo for DCI, DDCI from Project Director.

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and Air Force participants came away from the White House meeting with different ideas of the President's intent. On 29 May the Air Force and Agency participants met again to reach an agreed interpretation of the decisions rendered at the 6 May meeting. As a result of the second meeting, it was agreed between the two agencies' representatives that the President and the Secretary of State, for political reasons, wished the project to remain under civilian direction. In addition, Presidential approval had been given for staging a series of overflights from Pakistan (provided approval of that country could be obtained) during the current photographic season.

On 19 July 1957 General Cabell met with Generals Bergquist, LeMay, and Lewis to argue the case for civilian control and, fortified by the agreed interpretation of Presidential desires, was able to prevail over General LeMay's recommendation that all reconnaissance, including overflight and peripheral Elint missions, be put under SAC control. Plans for operations made subsequent to this meeting are outlined in Annex 23.

The forecast then was for another year of operations, which would carry into FY 1959, and with this mandate the FY 1958 and 1959 budget estimates required reorientation. The FY 1958 requirements had been set at \$10.8 million on the assumption that the project would operate at

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full strength during the first half of the fiscal year only, but the eventual obligations amounted to \$18.9 million. This represented an over-run of more than \$2 million on CHALICE (AQUATONE re-named in April 1958) and the initiation of three new projects: CORONA, CHAMPION, and GUSTO (satellite and follow-on manned reconnaissance aircraft). Funds in the amount of \$7 million to cover the initial costs of CORONA were transferred from the Agency Reserve. Also in April 1958, Mr. Bissell's organizational and functional scope within the Office of the Director was broadened to include besides the special projects: (a) the exercise of general supervision of all research and development activities of the Agency, and (b) a continuing search for fresh approaches to the Agency's tasks. His title was changed to "Special Assistant to the Director for Planning and Development" and the Project Staff became the Development Projects Staff. Annex 24 contains the Headquarters Notice setting forth the terms of reference.

FY 1959

In May 1958, faced with the problem of drawing together budget estimates for the next presentation, Colonel Jack A. Gibbs, then Deputy Project Director, wrote to Mr. Bissell:

"While the concept of CHALICE operations is not too clear for the next year...we can still prepare a reasonable

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budgetary document. On the other hand, GUSTO\* is very foggy both as to technical feasibility and future mode of operations. Accordingly, nothing has yet been placed on paper in meaningful form and until we know a little more about the technical possibilities, little more than an estimated cost of opening Watertown and some development and production estimates can be rightfully entered on paper." 1/

It was not until the middle of August 1958 that budget figures (even then not firm) received the Director's approval. In submitting the estimates to the Director, Mr. Bissell said, by way of background:

"During the past year the activities for which I have been responsible as the Director of Project AQUATONE have multiplied. Certain new tasks were handled as subprojects of AQUATONE without formal approval by you as separate projects, and with no separate funding or accounting. Others were handled in an ad hoc manner as new projects but with approval by you of only the sums initially provided therefor. It appears desirable in the current fiscal year to handle these several tasks as separate projects. The purpose of this memorandum is to set forth the estimated operating budget for each such project for FY 1959, to request approval of the projects, and to recommend appropriate funding action." 2/

(The full text of this memorandum with a description of the tasks to be performed under each of the special projects is in Annex 25.)

Only \$5.9 million had been included in the approved Congressional budget for CHALICE on the assumption that U-2 operations

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\* Code name of feasibility study of U-2 successor aircraft.

1/ DPS-0413, 9 May 1958. Memorandum for Project Director from Col. J. A. Gibbs, Subject: FY 1959 Budget.

2/ DPS-3074, 12 August 1958. Memo for DCI from R. M. Bissell, Jr.

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would be closed out at the end of December 1958. Extension of this activity for another season with detachments operating on a limited basis from Turkey and Japan and a small unit carrying out development and testing at Edwards Air Force Base, California, and activation of a British unit within Detachment B, at Adana, raised the estimates to more than double that figure. Requirements for all projects were estimated roughly at \$16 million and a recommendation was made to withdraw funds from the Agency Reserve to cover the additional \$10,250,000 required. It was also noted that if the feasibility study on the U-2 successor aircraft proved successful and a decision were made by the advisory panel at their meeting in September, a quite substantial financial requirement would develop later in Fiscal Year 1959. (Delay in this decision put the first large outlay for the successor program forward into FY 1960.)

When the Bureau of the Budget was considering the FY 1959 estimates, Mr. Macy questioned the continuation of the U-2 activities and said he had the impression that the Agency's program would be terminated and the Department of Defense would take over. Col. William Burke, who replaced Col. Gibbs as Deputy Project Director on 1 June 1958, in reply to Mr. Macy's question, said the extension of the project

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was a reflection of the capability of the U-2 to survive and that present intelligence community estimates were that it would be useful until about January 1960. He pointed out that a SAC U-2 unit operating outside the Western Hemisphere would jeopardize CHALICE security. Mr. Macy said he would like, for the record, a statement outlining CHALICE past, present, and future plans. Such a paper was prepared by Col. Burke and cleared through Mr. Bissell and Gen. Cabell. It contained the following paragraphs:

"The original assignment for employment of the special aircraft for overflight activities was made to this Agency. This was based on the covert nature of the proposed overflight activities. At that time it was the intelligence estimate that the Soviets would have the capability to intercept the special aircraft by the fall of 1957. Since it would then not be possible to continue these operations on a covert basis, the plan was for all aircraft, equipment and military personnel to revert to the Air Force.

"As the fall of 1957 approached, actual operating experience caused revisions to intelligence estimates extending the useful life of the special aircraft for overflight beyond that date. The present estimate is that the Soviets will not have an effective intercept capability until January 1960. In view of the continued life span of the special aircraft and the fact that the majority of the targets in the USSR had not been covered, it was agreed to extend the program under the direction of this Agency, the termination of which to be dictated by the situation. This was decided at a White House meeting attended by high level representatives of the agencies involved.

"This Agency is prepared to turn over CHALICE assets to the Air Force at such time as the validity of the facts

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dictating the original assignment to this Agency have expired." 1/

(A year later, when Col. Burke was preparing to brief the Bureau of the Budget on FY 1960 plans, Mr. Bissell warned him to brief the BOB people fully, but not to allow any give and take on the question of management of CHALICE.)

In the middle of FY 1959 (on 18 February 1959) the long-debated proposal for the consolidation of all Agency air activities (which had the strong backing of General Cabell) took effect with the amalgamation of the Development Projects Staff (CHALICE and other projects), the Air Maritime Division of DD/P, and the Aircraft Maintenance and Support Division of the Office of Logistics, into a single component—the Development Projects Division, DD/P. (See Notice No. N 1-120-2, Annex 26). Mr. Bissell, meanwhile, had been made Deputy Director for Plans effective 1 January 1959 but continued to carry the title and authority of "Project Director" of CHALICE and the other DPD special projects. Col. William Burke was named Acting Chief, DPD, with Mr. James A. Cunningham as Assistant Chief.

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1/ CHAL-0309, 2 Sept 1958. Memo for Mr. Robert H. Macy, from Deputy Director, DPS/DCI.

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At the end of FY 1959 actual obligations incurred by DPD were:

CHALICE	\$12 million
GUSTO	6.3 million
CORONA (incl. \$4.1 DOD)	8.1 million
Other	1 million
	<u>\$27.4 million</u>

Air Section (budgeted separately)	4.6 million
	<u>\$32 million</u>

Fiscal Year 1960

The first budget submission by DPD as a new member of the Clandestine Services (DD/P) got off to a poor start. Upon receiving the estimates for FY 1960 Mr. Bissell, after a preliminary review, immediately wrote to Col. Burke to "register his alarm at the tendencies therein apparent". After studying the figures at length, he returned them to DPD to be reworked with specific instructions on the line items which must be cut.

"The DPD submissions are in the worst shape they have been in for some years. In major part... it reflects what I regard as extremely bad past accounting practices with respect to air assets... brought about by accounting for costs for assets and operations through at least four or five different components of the Agency..." 1/

He requested that the following cuts be made:

1/ DD/P-4-6650, 20 Aug 1959. Memo to AC/DPD, from DD/P,  
Subject: FY 1960 Budget.

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Reduce by:

Domestic construction	\$200,000
Government salaries (These were \$300,000 higher than FY 1959 plus \$480,000 in flight pay)	200,000
Operating cost Eastman Facility	300,000
Travel and Base Maintenance and Operations	300,000
CORONA Contingency (\$1 M)	200,000
S. E. I. Contingency	200,000
Air Section Development	200,000

These cuts added up to \$1 million from CHALICE and \$600,000 from other activities, and reduced the total budget request to \$122.5 million.

After directing these cuts, the DD/P went on to say:

"I am absolutely determined that such items as increasing personnel and administrative costs at Headquarters, running low priority backlogs through the Eastman facility, survey trips and excessive delegations at meetings, and the storage of obsolete aircraft shall not be allowed either to cause a cancerous growth in the total DPD budget or to displace more promising and important activities. We have accomplished what we have in the past largely by being small and hardworking. I realize that the absorption of the Air Section and certain divisional responsibilities not only add to the permanent workload of your Division but give rise at this juncture while the change is taking place to enormous confusion and a heavy temporary load of extra work. I am convinced, however, that with good management you can exercise effective cost control and it is absolutely essential that you do so." 1/

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1/ DD/P-4-6650, 20 Aug 1959. Memo to AC/DPD from DD/P,  
Subject: FY 1960 Budget.

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After resubmission, the FY 1960 budget was approved on 1 September 1959 for "planning purposes," but a list of excepted items requiring clarification or justification was forwarded to Col. Burke for action with a reminder to him (and his branch chiefs) that program approvals not only authorized the obligation of funds, but also required the monitoring of the rate of obligation so as to remain within the totals allowed for the year.

An effort was made by the DD/P in November 1959 to bring the budgetary affairs of the DPD more nearly into line with standard Clandestine Services practices. All activities of the DPD were brought together into a list of "Activity Programs" which was meant to parallel the DD/P area divisions' presentations of annual "Operational Programs." (See Annex 27 for the DD/P's explanation of the new approval procedure.) The very nature of DPD's business, however, with its heavy emphasis on industrial procurement, and a budget which never remained static, but in a constant state of change, made it very difficult to fit DPD and its activities into the mold of a DD/P division (although the effort continued until February 1962, when Mr. Bissell left the post of DD/P (and the Agency), and DPD was reorganized under the Deputy Director for Research (DD/R)).

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Total obligations for FY 1960 amounted to approximately \$118 million (a saving of about \$4 million from the requested \$122 million); Defense Department financing of OXCART represented \$75 million of the total, and \$43 million came from Agency funds.

Fiscal Year 1961

Planning and budgeting for DPD's FY 1961 activities took place in the backwash of the May Day 1960 incident and subsequent publicity. The Director approved maintaining the IDEALIST\* capability on a limited scale at least through the summer of 1961. The U-2 was grounded until September 1960 when Detachment G became operational and Detachment C phased out. Hopes were pinned on the follow-on vehicle to take over the reconnaissance program by 1962. The satellite reconnaissance program was continuing; full policy clearance had been given the P2V program based in Taiwan; and air activities in the Far East were generally on the increase (e. g., STBARNUM, the Tibetan operation). Approval for a joint U-2 program with the Chinese Nationalists was received at the end of 1960 and a detachment was deployed to Taiwan in December. Requirements for U-2 coverage of Cuba began and continued through the fiscal year. Plans were made for a long-range replacement program for obsolete aircraft in the Agency inventory (on the Air Support

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\* New crypto for CHALICE.

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side) although the accent was on more use of MATS and other USAF air support in the interest of economy.

The initial submission of the FY 1961 Operational Program drew the following reaction from the DD/P (Mr. Bissell):

"I cannot in good conscience recommend that the Director approve the DPD budget for FY 1961. . . We are assuming that our inventory of U-2 aircraft is cut from 13 in FY 1960 to 7 in FY 1961, that the number of pilots is reduced by about one-third, that the total personnel are reduced by about one-sixth, and that operations conducted are at a reduced rate. Yet the numbers your Division has presented show only a 20% reduction in the cost of materiel and an actual increase of \$400,000 in overhead other than headquarters. I can predict with certainty that the DCI would not approve these figures. . . I would like responsible section heads to show cause for these extraordinary estimates. . . If we cannot cut the costs for FY 1961 below \$8.5 million, I will recommend that the project be terminated at an indicated savings of some 200 personnel. We have reached a phase in this activity where we must simply find ways to achieve at least a 15% reduction in costs when we are reducing our capability by 45%." 1/

The figures were reworked, sent forward and approved by the Director on 16 July 1960 with the proviso that every effort should be made to reduce the IDEALIST budget further and that a report should be made on such efforts by 1 January 1961. The FY 1961 approved DPD budget totaled \$30.85 million in Agency funds plus \$65 million of DOD funding for OXCART. The DOD funding was later increased to

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1/ CHAL-1082-60, 8 July 1960. Memo to AC/DPD from DD/P.  
Subject: FY 1961 Operational Program.

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Withheld under statutory authority of the  
 Central Intelligence Agency Act of 1949 (50  
 U.S.C., section 403g)

\$85 million, and actual obligations at the end of FY 1961 totaled \$119.9 million.

In January 1961, [redacted] was nominated by the CIA Comptroller to replace [redacted] who had resigned from the Agency.

Fiscal Year 1962

The DPD concept of IDEALIST operations for FY 1962 anticipated the continued exploitation of the operational capability of the U-2 aircraft and associated special equipment, requiring permanent operating detachments in the ZI and at overseas bases, equipped and manned to accomplish photographic and electronic reconnaissance. Detachment G at Edwards Air Force Base was expected to maintain the capability to stage to forward bases anywhere in the world and also to continue the development program as new equipment was required. Overseas bases at Adana (very limited) and at Tao Yuan, Taiwan, were expected to be maintained.

The FY 1962 Congressional Budget submission estimated requirements for all DPD projects to be:

Special Projects (principally IDEALIST, OXCART, and CORONA)(\$50M from DOD)	\$71.82M
Air Support	9.11M
Special Requirements	<u>1.47M</u>
TOTAL	\$82.40M

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These figures represented a \$14 million reduction from the previous year's requirements for special projects and a \$1.4 million increase in Air Support (principally for Far East programs). Actual obligations at the end of FY 1962 showed a total of \$85 million, of which DOD funds represented \$67.5 million.

#### Fiscal Year 1963

The outlook for Fiscal Year 1963 was that exploitation of the U-2 intelligence gathering capabilities would continue and probably increase. Planning was for a minimum of seven operational, J-75-equipped aircraft, allowing for continuing test programs as well as overflight operations. The aircraft utilization rate for FY 1963 was estimated at a total of 457 sorties for a total of 676 flying hours of all types in the U-2. The development of the OXCART vehicle and related equipment would continue at an accelerated pace with that program being given top priority by highest authority. A CORONA follow-on program was also projected.

#### Increases in budget estimates covered:

- a. Administration and support: Increases in average employment, periodic pay increases, increased travel.
- b. Development: Increased research and development, mainly in support of the Scientific Engineering Institute (a

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proprietary company set up to do research and testing for  
DPD).

c. Air Support: Increased employment, travel, transportation, aircraft maintenance, and procurement of aircraft, and modernization of facilities.

d. Air Proprietaries: Development of indigenous air proprietaries in East Africa, Middle East and South America.

The only forecast reduction was in construction for special projects which was expected to taper off.

Midway into FY 1963 an activity program was approved for setting up an Electronic Data Processing Branch in OSA Operations Division with the mission of providing planning data for OXCART and IDEALIST missions, ephemeris plotting for satellite projects and such other future programs as might be developed.

Also midway through FY 1963, the National Reconnaissance Office\* having come into being, the budgetary procedures for the CIA portion of the National Reconnaissance Program were finally ironed out and an agreement signed in April 1963. The Director of Program B (covering those CIA projects falling under the control of the Director, National Reconnaissance Office (D/NRO) was to prepare a definitized program

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\* See section on NRO at the end of this chapter.

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document including estimate of funds required. The funds to finance the National Reconnaissance Program were appropriated to the Department of Defense and the funds required by CIA to carry out its portion of the program were to be transferred by means of Standard Forms 1080. Monthly reports were to be furnished D/NRO on the fiscal status of each project. This system was to be effective with the FY 1964 appropriations. FY 1963 funds appropriated to CIA for programs falling under NRO control were to be obligated in accord with specific instructions issued by DNRO. There was no flexibility available to the Director, Program B, in the use of funds between specific projects or tasks. Any adjustments required specific approval of the DNRO.

Following the setting up of budgetary procedures for CIA's NRP participation, long-range funding requirements for 1964 through 1968 were requested for presentation by the Director of Program B (the DD/R). The IDEALIST program was expected to operate throughout the five year period engaging in approximately 60 missions per year with nine aircraft assigned: two at Detachment H, four at Detachment G at Edwards supplying a dual staging capability, and three remaining U-2's stationed at Lockheed for systems testing, replacement for rotational maintenance and a backup for operations.

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MAJOR MATERIEL COMMITMENTS & BUDGET  
FY 1955-1956

	FY 1955			FY 1956				Total
	Hq	Test Base	Total	Hq.	Test Base	Base A	Base B	
1. Aircraft								
a. Airframe and test	\$22,500,000.00		\$22,500,000.00					
b. Advance Engineering and design				\$ 250,000.00				\$ 250,000.00
2. Photographic Equipment and Test								
a. GFE Cameras (Procured from Air Force)	315,000.00		315,000.00					
b. Cameras and Windows	5,085,000.00		5,085,000.00	415,000.00				415,000.00
c. Ground Handling Equipment	100,000.00		100,000.00	261,000.00				261,000.00
3. Photographic Processing								
a. Special Chemical Processing Equipment	447,000.00*		447,000.00					
b. Standard Processing Equipment	175,000.00*		175,000.00					
c. Minicard Equipment	128,000.00*		128,000.00					
d. Special Optical Rectification Equipment				300,000.00*				300,000.00
4. Electronic Equipment								
a. S & X Band Elint (6 units each)	355,000.00		355,000.00					
b. C & N System (2 prototypes and units for all aircraft)	861,000.00*		861,000.00	1,000,000.00*				1,000,000.00
c. VHF Combat Systems (6 units)	451,000.00		451,000.00	250,000.00				250,000.00
d. Elint Search & Lock-on (6 units all bands)	54,175.00		54,175.00	2,500,000.00				2,500,000.00
5. Radar Photography				3,500,000.00*				3,500,000.00
6. Test and Training Base								
a. Base Facilities (construction)		\$725,000.00						
7. Ground Support Facilities						\$25,000.00*	\$250,000.00*	\$25,000.00*
								300,000.00
	\$30,471,175.00	\$725,000.00	\$31,196,175.00	\$8,476,000.00	\$25,000.00	\$250,000.00	\$25,000.00	\$8,776,000.00

\* Items not covered in Project Outline:  
 FY 1955 - \$2,336,000.00  
 FY 1956 - 5,100,000.00  
 \$7,436,000.00

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	FY 1955			FY 1956						
	Hq	Test Site	Total	Hq	Test Base	Base A	Base B	Base C	Total	
<b>1. Personnel</b>										
<b>a. Government Employees:</b>										
Salaries	\$ 5,064.22	\$ 369.23	\$ 5,433.45	347,011.53	\$ 208,833.17	\$ 323,096.23	\$ 163,962.52	\$ 53,901.75	\$1,096,805.20	
Travel & Allowances	15,529.11	483.00	16,012.11	66,098.20	126,346.88	289,868.24	167,620.43	50,364.32	700,298.07	
U. S. Civilian Pilots						180,000.00	90,000.00	45,000.00	315,000.00	
Contractor Employees (Training & Overseas)										
(1) Lockheed										
Salaries		447,000.00	447,000.00			153,408.00	81,667.00	25,845.00	260,920.00	
Travel & Allowances						75,135.00	66,410.00	33,990.00	175,535.00	
Burden and Profit		203,000.00	203,000.00			76,704.00	40,831.00	12,923.00	130,458.00	
(2) Hycon										
Salaries	37,500.00	38,500.00	76,000.00			36,000.00	25,200.00	12,600.00	73,800.00	
Travel & Allowances						12,805.00	13,275.00	9,162.00	35,242.00	
Burden and Profit	28,717.00	29,483.00	58,200.00			27,580.00	19,306.00	9,653.00	56,539.00	
(3) Ramo-Wooldridge										
Salaries						16,000.00	11,110.00	5,535.00	32,645.00	
Travel & Allowances						7,615.00	7,965.00	5,498.00	21,078.00	
Burden and Profit						12,253.00	8,510.00	4,255.00	25,018.00	
						(over)	66,120.00	38,280.00	29,000.00	133,400.00
<b>2. Fuel (including Transportation)</b>										
<b>3. Film</b>										
a. Test and Training		90,000.00	90,000.00		24,000.00				24,000.00	
b. Operational	40,000.00		40,000.00			67,200.00	28,800.00	19,200.00	115,200.00	
<b>4. Processing Plant Operation</b>										
a. Process Film & Paper	280,000.00		280,000.00	700,000.00					700,000.00	
b. Process Chemicals & Supplies				50,000.00					50,000.00	
c. Salaries				180,000.00					180,000.00	
d. Burden & Profit				225,000.00					225,000.00	
e. Plant Rental & Security				90,000.00					90,000.00	
<b>5. Logistics</b>										
a. Warehousing (Space etc.)				30,000.00	18,750.00				48,750.00	
b. Air Support Operational Cargo						522,900.00	301,500.00		824,400.00	
c. Air Support (Airlift)						270,300.00	178,398.00	91,902.00	540,600.00	
<b>6. Base Operations &amp; Maintenance</b>										
a. Fuel for Electricity, Vehicles and Water					105,000.00				105,000.00	
b. Shuttle & Training Aircraft					135,000.00				135,000.00	
c. Maintenance (Camp & Equipment)					192,000.00				192,000.00	
d. Messing & Housing (Cost & Subsidy)		75,000.00	75,000.00		395,280.00				395,280.00	
e. Heavy Equipment (USAF to furnish)										
f. Station Wagon & Autos (Procurement)					5,700.00	5,700.00	5,700.00	5,700.00	22,800.00	
g. Safeshouse Rental & Housekeeping					7,000.00	9,000.00	9,000.00	12,000.00	37,000.00	
h. Special Clothing (Guards etc.)					3,000.00	3,000.00	3,000.00	3,000.00	12,000.00	
i. Study and/or Recreation Facilities					4,000.00	2,000.00	2,000.00		8,000.00	
j. Communication Lines (LA to site)					47,460.00				47,460.00	
k. Fire Protective Equipment (USAF)										
<b>7. Hq and Vicinity Operational Expense</b>										
a. Car Rental (Security)				500.00	300.00				900.00	
b. Office Space (L. A. Vic., Security)						2,350.00			2,350.00	
c. Apt & Housekeeper, site & E. Coast				5,000.00	5,000.00				10,000.00	
d. Commercial Communications				5,000.00					5,000.00	
	\$406,810.33	\$883,835.23	\$1,290,645.56	\$1,668,709.73	\$1,280,020.08	\$2,156,684.47	\$1,262,534.95	\$429,529.07	\$6,797,478.27	

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	FY 1955			FY 1956					Total
	Hq	Test Site	Total	Hq	Test Base	Base A	Base B	Base C	
<b>B. Plant Overhaul of Equipment</b>									
a. Airframes				\$ 100,000.00					\$ 100,000.00
b. Electronic				25,000.00					25,000.00
c. Photographic				125,000.00					125,000.00
<b>Total, page 3</b>	\$ -0-	\$ -0-	\$ -0-	\$ 250,000.00	\$ -0-	\$ -0-	\$ -0-	\$ -0-	\$ 250,000.00
<b>Total, page 2</b>	\$ 406,810.33	883,835.23	1,290,645.56	\$ 1,668,709.73	\$ 1,280,020.05	\$ 2,156,684.47	\$ 1,262,534.95	\$ 429,529.07	\$ 6,797,478.27
<b>Total, page 1</b>	30,471,175.00	725,000.00	31,196,175.00	8,476,000.00	-0-	25,000.00	250,000.00	25,000.00	8,776,000.00
<b>Grand Total</b>	\$ 30,877,985.33	\$ 1,608,835.23	\$ 32,486,820.56	\$ 10,394,709.73	\$ 1,280,020.05	\$ 2,181,684.47	\$ 1,512,534.95	\$ 454,529.07	\$ 15,823,478.27

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XCART was expected to reach operational peak in FY 1965 and continue with an average of 60 operational missions per year (an over optimistic estimate). Modification and development would continue on airframe and engine as well as subsystems. Two permanent staging bases and five pre-strike and post-strike bases were planned. The TAGBOARD drone and related systems were expected to be developed by FY 1965 and put into operation the latter part of the period with a squadron of launchers to be organized by FY 1966. (As it developed, the D/NRO transferred the TAGBOARD program to the Air Force in 1963— see Annex 28 for chronology of that program.)

An advanced manned reconnaissance vehicle would be studied in FY 1965 and a prototype produced in FY 1966, with ten vehicles to be produced in FY 1967. (Research on this project—ISINGLASS—was phased over to the Air Force by mutual agreement between the DD/S&T/CIA and the D/NRO in April 1967. Since there was no established Air Force requirement for a vehicle of this kind, according to the D/NRO, the further development in this field has been a unilateral effort by the original contractors with no governmental financing.)

Follow-on satellite systems were to be studied with development and eventual operation to be achieved commencing in FY 1966, with an

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anticipated 24 launchings per year from surface vehicles, static launch pads or possibly submarines.

Photographic processing would continue for all reconnaissance programs throughout the five year period and in addition infra-red, ultra-violet and side-looking radar capabilities would be developed with processing initially resting with the developers of the systems until FY 1966 when processing might be consolidated into a government or contractor facility.

Countermeasures to disguise and defend all reconnaissance systems would be developed simultaneously with each system.

Amounts forecast in this long range program (in millions of dollars) were:

<u>Project</u>	<u>FY 1965</u>	<u>FY 1966</u>	<u>FY 1967</u>	<u>FY 1968</u>
OXCART	\$83.7	\$ 84.3	\$ 77.8	\$ 81.8
IDEALIST	15.1	13.015	16.48	16.33
TAGBOARD	25.45	40.25	43.6	44.25
Advanced Manned Recon Vehicle	27.55	81.0	110.3	140.7
Follow-on Satellite Processing	50.0	100.0	250.5	250.5
Countermeasures	30.9	11.8	13.75	16.25
Communications in support of NRO	2.0	1.0	.50	.50
	.45	.40	.70	.80

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Of the total actual obligations under Program B (CIA) for FY 1963 of \$158 million, \$148 million was provided through NRO with only \$10 million in the CIA budget for OSA. For subsequent years obligations of CIA funds by OSA ran to \$9 million in FY 1964, \$10 million in FY 1965, \$11 million in FY 1966, and \$12.6 million in FY 1967.

Fiscal Year 1964: NRO

The Program B submission to NRO in June 1963 requested \$520 million for FY 1964; the DNRO immediately made a cut of \$136 million from this request, establishing a system of quarterly funding as opposed to annual funding due to limitation of allocations to the Comptroller, NRO. Because of non-availability of funds, the DNRO was obliged to reduce some items in Program B to what were considered by OSA officers as unrealistic levels (for example the Eastman contract for processing overflight photography was cut by \$1.25 million). General Jack Ledford (then Director of Special Activities) recommended as an alternative to operating at these levels that certain projects be cancelled or suspended to provide the necessary funds for forecast expenditures. The largest cuts made were in the OXCART program but IDEALIST also suffered a \$4 million cut, which was equal to the amount budgeted for a permanent base in India, and the purchase price of two electronic collection systems (System X).

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Program B obligations for FY 1964 (NRO Budget) were:

OX CART/WEDLOCK*	\$215,536,700*
IDEALIST	10,600,000
CORONA	33,029,043
KOBOLD (Electronics)	6,990,000
URANIUM	1,000,000
ISINGLASS	750,000
TAGBOARD	33,590,000
EUCOLITE	13,520,000
Eastman (R&D)	2,000,000
STPOLLY	5,757,524
	<u>\$322,773,267</u>

\* Includes Air Force procurement.

Dissatisfaction with having to operate under the fiscal restrictions imposed by the DNRO led OSA officials to consider the pro's and con's of CIA's voluntarily withdrawing from the entire National Reconnaissance Program and transferring its programs to the Air Force. On 7 October 1963, Dr. Albert D. Wheelon, appointed as the first Deputy Director for Science and Technology in August 1963, outlined the considerations of such action to the DCI among which were the saving of about 700 personnel slots and of approximately \$12 million in the CIA budget for FY 1965. He concluded, however, that:

"... OSA represents a unique national asset: an experienced, integrated organization with a demonstrated capability for developing and operating reconnaissance systems which produce intelligence data upon which this country has come to rely. Until that record is matched, I

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submit that we can find better opportunities to save \$12 million and 700 positions somewhere else in the Federal Government. " 1/

Fiscal Year 1965

The original submission to NRO for the FY 1965 budget for the IDEALIST program was for \$38.9 million and included \$13.5 million for procurement of new U-2 aircraft. The cost of this new aircraft procurement, plus \$9.8 million of the total electronics program were disallowed by NRO.

The concept of operations for IDEALIST remained approximately the same as for the previous two years with five out of the nine available U-2's configured for inflight refueling and two for aircraft carrier operations. The mission remained the same with requirements furnished by the intelligence community through USIB and COMOR, and with approvals for overflight operations being sought through the DNRO from the Special Group. Sortie estimate for FY 1965 was for a total of 152 sorties of approximately 1342 total hours duration; plus 321 test and training missions of 963 total hours duration.

Total funds obligated by the Director of Program B at the close of FY 1965 were:

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1/ BYE-0206-63, 7 October 1963 (see Annex 29).

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	OX CART	\$112,829,000
	IDEALIST	16,395,000
	J58 Engine R&D	84,000,000
50X1, E.O.13526	[REDACTED]	3,875,000
	Photo Processing	12,392,193
	Eastman Kodak R&D	3,500,000
	Countermeasures	11,000,000
	CORONA	26,479,000
	IUPOLLY	1,200,000
	STSPIN	11,957,807
	FULCRUM	8,158,000
	Total	<u>\$291,786,000</u>

The Auditor's Report on OSA operations for the FY 1965 period showed a total allotment from NRO of \$719 million, more than \$400 million of which represented OSA procurement for other programs under NRO jurisdiction. The OSA staffing complement during this period consisted of 300 staff employees and 379 assigned military personnel divided among the Headquarters office, four domestic installations, and five overseas bases, with physical support also being provided to about 1500 contractor techreps at various locations.

During this period the Office of Special Projects (OSP), which had responsibility for the Agency's satellite activities, was separated from the Office of Special Activities, DD/S&T, effective 15 September 1965. OSP continued to rely on OSA for financial and security administration of its contracts and its telegraphic communications support.

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~~TOP SECRET~~Fiscal Year 1966

The outlook for the IDEALIST program for FY 1966 assumed the life expectancy of the U-2 would carry through at least two more years. Beyond 1966 the picture became less clear as to the identification of specific targets for the U-2 system. The useful life was expected to become more limited as the introduction of enemy defensive measures increased, and the areas for safe operations diminished. (See Annex 30 for estimate by the Director of Program B.)

A significant increase in the OXCART budget for FY 1966 represented the funding of an expected staging/operating base at Kadena for the purpose of China Mainland reconnaissance, while a \$7 million increase for IDEALIST represented principally improved Elint, countermeasures and camera systems. The NRO budget for Program B for FY 1966 covering all OSA and OSP projects and OSA procurement for the Air Force, amounted to \$727 million. OSA's obligations at the end of FY 1966 were:

OXCA RT	\$ 92,622,036
IDEALIST	16,026,556
Photo Processing	16,564,890
Eastman R&D	4,100,000
General R&D (U-2R)	100,000
KOBOLD (Electronics)	10,471,038
STSPIN	4,788,065
IUPOLLY	1,143
Total	<u>\$144,673,728</u>

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~~TOP SECRET~~Fiscal Year 1967

Program B's NRO budget for FY 1967, including OSA and OSP projects, and Air Force projects funded through OSA, amounted to a total of \$484,332,856. Obligations for OSA projects alone were as follows:

OX CART	\$ 68,455,735
IDEALIST	10,320,850
KOBOLD (Electronics)	10,911,921
General R&D (Sensors)	2,048,238
Photo Processing	17,000,000
Eastman Kodak R&D	1,375,053
U-2R Procurement	35,347,850
IUPOLLY	638
STSPIN	1,275,236
Total	<u>\$146,735,521</u>

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NRO Establishment: Principal Events to December 1966

Background

When consideration was being given late in 1955 to the continuation of the U-2 project as currently set up, with costs being budgeted by CIA and in turn buried in the Defense Department budget, Mr. Bissell in a memorandum to the DCI made the following suggestion with regard to the long-term management of all U.S. reconnaissance programs:

"The present dispersion of responsibility, whereby activities of the sort here under discussion are being carried on by USAFE, FEAF, SAC, and ourselves, is uneconomic and involves considerable risk of duplication of effort and of inadequacy of central control. It would probably be desirable in the long run to create a single operating organization, controlled directly from Washington, which would carry out all overflight activities involving penetrations of more than a few miles in depth in peacetime. This organization could draw heavily on existing commands (and on the CIA) for support.

"The argument against the conduct of overflights by strictly military organizations with air crews that are members of the Armed Services of the United States is even more powerful today than it was a year ago. Though the second Geneva Conference has demonstrated that the Russians are nearly as unyielding as ever, enough of the spirit of the first Geneva Conference is still adrift so that anything that could be identified as an overt act of military aggression would call down serious political penalties upon this country. Accordingly, if there is to be a single organization responsible for overflights, its aircrews should be civilians; it should be organized to as great an extent as feasible with civilian personnel; and its activities should be regarded as clandestine intelligence gathering operations.

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"The foregoing considerations lead me to the conclusion that the single organization here proposed should be a mixed task force, organized outside of the framework of any of the regular military services though drawing extensive support from them. On the other hand, I am inclined to believe that the Air Force should own a majority of the common stock in this organization, by contrast with the present situation in which the CIA owns the majority of the common stock in AQUATONE. In any event, however, I believe that both CIA and the Air Force should contribute personnel and support and consideration might even be given to bringing the other services in as minority stockholders.

"One further argument in favor of some such arrangement as that here proposed is that an organization with a permanent interest in this activity would be in a position to stimulate continuing research and development. It is worth noting that with two early and unimportant exceptions the aircraft under production for AQUATONE are the first ever designed exclusively for a reconnaissance mission and, of course, are the only ones that have ever been designed to meet the requirements of altitude, range and security imposed by the contemplated mission.

"The views advanced in the preceding paragraphs have to do with the ultimate organization (and by inference financing) of overflight activities..." 1/

In light of the above arguments, Mr. Bissell proposed that the DCI examine, together with Messrs. Quarles and Gardner of the Department of the Air Force, the organization for overflight reconnaissance and endeavor to arrive at a rational and orderly pattern for the longer run no later than Fiscal Year 1957.

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1/ TS-142628, 11 November 1955, Memo for DCI from R. M. Bissell, Jr. (See Annex 31).

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NRO Agreement

Six years passed before the organization proposed by Mr. Bissell received active consideration by the Defense Department and CIA. On 6 September 1961 a letter of agreement was signed by Deputy Secretary of Defense Roswell L. Gilpatric and the Acting Director of Central Intelligence (Gen. Cabell) with respect to the setting up of a "National Reconnaissance Program". The agreement was that a National Reconnaissance Office (NRO) was to be established on a covert basis to manage this program and that it was to be under the direction of the Under Secretary of the Air Force (then Dr. Joseph V. Charyk), and the Deputy Director for Plans of the CIA (Mr. Bissell), acting jointly and supported by a small special staff drawn from Defense and CIA personnel. The NRO would have direct control over all elements of the total program. (See Annex 32 for letter of agreement.)

Within the framework of this agreement, drafting sessions began, looking toward an agreed division of responsibilities between Agency and Air Force. On 22 November 1961, an eleven-page working draft of "NRO Functions and Responsibilities" was presented by the Air Force side and a meeting was requested between Mr. Bissell and Dr. Charyk to consider the draft. This paper went into great detail

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on all aspects of the total reconnaissance program, even to establishing responsibilities for the formatting of the collected product.

The DD/P countered with a two-page "Division of Responsibilities Within NRO" drafted by Mr. Eugene Kiefer in collaboration with a DPD working group of Messrs. Cunningham and Parangosky, and Colonel Beerli. This paper (see Annex 33 for text) recommended the continuation under NRO direction of the current workable and well understood allocation of responsibilities between the Air Force and CIA based on existing agreements, with consideration being given to redefinition of responsibilities for developing programs in order to make the best use of both agencies' capabilities. The DD/P sent copies of this statement, with Dr. Charyk's agreement, to the President's Foreign Intelligence Advisory Board, as requested by General Maxwell Taylor, then Special Assistant to President Kennedy.

Meanwhile at the end of November 1961, Mr. Allen Dulles had retired as Director of Central Intelligence and Mr. John A. McCone had succeeded him. Also the imminent departure of Mr. Bissell from the CIA was forecast, becoming effective 17 February 1962, and a period of change and reorganization intervened before the conclusion

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of an NRO agreement. Following the departure of Mr. Bissell, the Agency's reconnaissance projects were separated from the DD/P's management control and placed under the aegis of the newly assigned Deputy Director for Research (DD/R), Dr. Herbert Scoville.

Dr. Scoville, at a meeting with Mr. McCone on 19 March 1962 to discuss NRO planning, was told that the DCI did not favor a dual chairmanship for NRO but believed a single chairman with the other agency's senior representative as deputy should be the management set-up. The language of the agreement should not mention individuals by name, but Mr. McCone was willing to concede Dr. Charyk the Directorship with Dr. Scoville as Deputy Director. Within this general set-up, the DCI insisted that projects be assigned specifically to each agency, e.g. OXCART to CIA and SAMOS to USAF. He also wished to have language written into the agreement whereby advance planning would be done jointly by the DNRO and the DD/NRO. Lastly it was the DCI's wish that CIA, through the BYEMAN system, should control all security clearances for all programs within the purview of the NRO.

The DD/R on 20 March 1962 sent to the DCI a new draft agreement based on the letter agreement of 6 September 1961, and including the desired changes of the DCI. Dr. Scoville noted to the DCI:

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"I have discussed this with Dr. Charyk who generally concurs and believes that it is a good working document on which to develop the specific plans for the National Reconnaissance Office. I made it clear to him that, although the document does not specify that he will be the Director, this is our intention. He concurred in the philosophy that both the Director and the Deputy Director should be involved in the advance planning and that one Agency or the other should be given primary responsibility for all approved projects..." 1/

The agreement of 2 May 1962 (see Annex 34) signed by the DCI and the Deputy Secretary of Defense (Roswell Gilpatric), which was Dr. Scoville's draft as rewritten in the Pentagon, said that the DNRO would be designated by the Secretary of Defense and the Director of Central Intelligence and would be responsible directly to them for the management and conduct of the NRP. However, no mention was made in the agreement of a Deputy Director. CIA would be the Executive Agent for DNRO for those covert projects already under its management and such additional covert projects as might be assigned to it.

On 3 May 1962, the DCI confirmed to Deputy Secretary Gilpatric his agreement that Dr. Charyk be named DNRO. On 14 June 1962, the Secretary of Defense issued the Department of Defense internal directive regarding NRO and announced the designation of Dr. Charyk as DNRO in addition to his other duties as Under Secretary.

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1/ TS-155848, 20 March 1962. Memo for DCI from DD/R.

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Prior to scheduled meetings between Drs. Charyk and Scoville on 22 and 23 May 1962 to iron out some of the working arrangements on NRO, Mr. James Cunningham noted to the DD/R that, assuming the greatest concession to date was yielding the position of DNRO to Dr. Charyk and thus to the Air Force, the Agency should seriously consider seeking the Chief of Staff position in NRO lest the CIA contribution be so fully subordinated to Air Force interests that the only influence it could exert would be through the DD/R's personal relationship with the DNRO in the person of Dr. Charyk. Mr. Cunningham was not insistent that the slot be filled by an Agency staff civilian, although this was certainly reasonable, but he felt strongly that if the individual assigned belonged to the military he should certainly be on the Agency payroll, seconded to NRO, and responsive to CIA policy views.

During the 22-23 May meetings Dr. Scoville agreed with Dr. Charyk that the NRO Staff should be located in a single office, which should be adjacent to the DNRO (in the Pentagon).

On 6 July 1962, Mr. McGeorge Bundy, Special Assistant to the President, directed a memorandum to the Secretary of Defense and the Director of Central Intelligence wherein he took note of the

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agreements made to date between them regarding NRO (which had been reported to the President by the Foreign Intelligence Advisory Board) and commented:

"We believe that the actual structure of the documents is inadequate to support an efficient organization when the present experienced and distinguished group moves on to other tasks. We therefore recommend a continuing study of a more satisfactory, permanent, documentary basis for the NRO with particular references to existing NSC directives with which the present NRO plan may be in conflict." 1/

The President had approved the Board's report and Mr. Bundy requested that the Secretary of Defense and the DCI take appropriate action concerning NRO documentation and make a joint report to the PFIAB by 15 September 1962.

The view which had been expressed by Mr. Cunningham regarding Agency acquisition of the NRO Chief of Staff slot was not strongly supported by either the DD/R or the DCI. When Dr. Charyk issued his first draft memorandum on organization and functions of the NRO on 23 July 1962 for DOD/CIA concurrence, the Chief of Staff position had been assigned as follows:

"The NRO staff will be covered by the overt title of Office of Space Systems, Office of the Secretary of the Air Force. The Director, Office of Space Systems will be the

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1/ BYE-0029-62, 6 July 1962. Memo from McGeorge Bundy to DCI and Secretary of Defense.

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overt title of the Director, NRO Staff. The NRO Staff will receive all administrative and logistic support from the Office of the Secretary of the Air Force." 1/

The Office of Space Systems had been set up under the Office of the Under Secretary of the Air Force to manage the satellite program. Its Director was Brig. Gen. Richard D. Curtin, USAF, who thus became the first Director of the NRO Staff.

The DNRO's draft also established Program A (satellite effort) under USAF management, and Program B (CIA assets) whose Director was the Deputy Director for Research, CIA, and proposed setting up Program C (Navy assets). In his memorandum to the DNRO of 29 August 1962, the DD/R commented on the proposed organization and functions of NRO as follows:

"In general I concur with the referenced paper... and think it is a good and useful basis for initial NRO operations. It is probable that over a period of time some changes will occur, particularly in the staffing pattern which must be responsive to the particular current requirements...

"In connection with the CIA participation in the NRO, I should like to suggest that the DD/R's position be designated as Senior CIA Representative reporting directly to DNRO rather than as Director of Program B since this would give him the responsibility as the DCI's representative with responsibilities across the entire NRO. The Assistant Director of Special

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1/ BYE-1733-62, 23 July 1962. Memo from DNRO to Program Directors and NRO Staff Director, para 2 d (2), full text at Annex 35.

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Activities, CIA, who within the Agency has direction of Agency reconnaissance activities under the DD/R, should be designated as Director of Program B.

"In view of the fact that the Agency is a legally separate entity budget-wise from the Defense Department, I believe that the NRO budgetary procedures insofar as they apply to CIA should be spelled out in more detail than currently is the case in paragraph 2 i, on page 4..." 1/

The DD/R appended to his memorandum a proposed procedure for budgeting for the CIA portion of the National Reconnaissance Program:

"The over-all NRP will be prepared based on proposals from the various Program Directors... These will be reviewed by Drs. Charyk and Scoville and incorporated into the NRO proposed program. This program will be presented by Dr. Charyk to the DCI and the Secretary of Defense, at which point it will then become the official program.

"DNRO will present and defend this program to the Bureau of the Budget indicating which portions will be the responsibility of CIA. CIA will place in its annual budget funds necessary to carry out its portions of the program. In the presentation to Congress CIA will defend its program before its committees with an indication that they are approved parts of the over-all NRP.

"After Congress has approved the CIA programs including those for NRO and provided the funds, the Agency will look to the Bureau of the Budget to apportion those funds in the normal manner. The funds contained in the CIA Budget for NRO activity will be expended under the direction of the DD/R in accordance with approved programs and NRO will be kept advised by Dr. Scoville as appropriate.

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1/ BYE-3545-62, 29 August 1962. Memo for DNRO from DD/R.

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"In cases where budgeted amounts are not sufficient to meet the program aims of NRO, e. g. where policy or program shifts have taken place which required alterations in scope, etc., the Agency would look to NRO to provide the flexibility or, as appropriate, take steps with the Bureau of the Budget and/or Congress to acquire supplemental funds. Where NRO either supplements Agency funds or uses the Agency as an executive agent for contracting purposes under the NRO agreement, DNRO will advance funds in the same manner employed in the past." 1/

Commenting on the DD/R reply to the Charyk paper on organization and functions, Mr. Cunningham agreed that the DD/R position in the NRO should be elevated to Senior CIA Representative if it were not desired by CIA to make a frontal attack on the problem and secure the post of Deputy Director of NRO for the DD/R (which he still felt to be the proper set-up). Mr. Cunningham also questioned the provision in the paper that prior specific approval of the DNRO will be required for any matter of the NRO or NRP to be processed to higher authority. He felt that tied the DCI's hands to a degree inconsistent with his role not only in the intelligence community but more particularly as senior action official on programs of primary concern to CIA.

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1/ BYE-3544-62/A, Att. A, 29 August 1962. DD/R Memo to DNRO.

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On 11 September 1962, Drs. Scoville and Charyk agreed to the following: (1) Dr. Charyk would propose to the Deputy Secretary of Defense (Gilpatric) that Dr. Scoville be made Deputy Director of NRO; (2) that the budgeting for CIA portion of NRP because of its complexity should be studied further; (3) that the Agency would not contract for GAMBIT and [ ] (satellite) programs; (4) that the minor Agency changes to the Charyk paper were accepted; (5) that a high level liaison individual from CIA to NRO was acceptable to DNRO; (6) that the Operations Center for satellite control would be transferred to the Pentagon when NRO was sufficiently set up, approximately four months hence.

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On 5 October 1962 at a meeting with Secretary McNamara, Deputy Secretary Gilpatric, Dr. Charyk, DCI McCone and DD/R Scoville present, a CIA paper was presented by Mr. McCone on reorganization of NRO to eliminate dual reporting by the DNRO and establishing the Secretary of Defense as Executive Agent to the National Reconnaissance Planning Group. Secretary McNamara said that from the outset of NRO he had had reservations on the requirement for a special organization for reconnaissance and did not understand why in the long run this could not be handled by normal intelligence organizational procedures.

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He said while he was satisfied with the existing NRO organization for the present, he would review Mr. McCone's paper and discuss it with him at a later date. He suggested the possibility that perhaps NRO and NSA should both be subordinate to DIA. Mr. McCone rebutted this suggestion on grounds that the activities of these two organizations transcended the strictly military intelligence sphere and also because of the difficulties DIA was having in becoming functional.

On 17 October 1962 DNRO assigned DOD to manage and operate all FIREFLY drones against Cuba under NRO supervision with CIA Elint assistance. On the same day DNRO refused the assignment of Mr. Robert Singel of CIA to the NRO Staff as a liaison officer (after previously agreeing to such an appointment) because he felt he already had all the full-time staff personnel necessary to accomplish the functions assigned by the 23 July 1962 memorandum. Also on the same day he assigned the AQ-12 (TAGBOARD) drone project management to the Director of Program B (CIA).

During the Cuban missile crisis in October 1962, the NRO was put to its first test regarding timely flow of information on the reconnaissance program between the Air Force and CIA, and came up sadly lacking in the view of OSA. When Dr. Scoville protested to Dr. Charyk

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the latter stated clearly that he was not attempting to keep CIA informed on all that NRO was doing but only on those programs which were specifically CIA's responsibility. He added that he only reported to Secretary McNamara and that the NRO was not a joint operation at all. If Mr. McCone had any other understanding, Dr. Charyk said, he should speak to Secretary McNamara.

On 17 October 1962, Dr. Charyk agreed, with several minor changes, to the redraft of the NRO Agreement furnished the Secretary of Defense by Mr. McCone on 5 October, and in a memorandum accompanying the draft addressed to Deputy Secretary Gilpatric said that he felt the establishment of the National Reconnaissance Planning Group was a good step, and one which should satisfy the concern expressed by the PFIAB. However, he considered the proposed paragraph on financial management to be completely unacceptable.

On 23 November 1962, Dr. Charyk, as a result of a letter from Mr. McCone on procedures governing CIA's responsibilities for funding projects under the NRO agreement, explained the problem to the Deputy Secretary of Defense in the following terms:

"...Mr. McCone again proposes to budget for those programs which are the responsibility of the NRO; to justify the amounts in their budget submission to Congress; and to

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have full fund control over amounts contained in their budget. This, in effect, gives the DNRO a financial function in advance budget planning but not a responsibility for financial control and administration of the National Reconnaissance Program. The points raised here appear to me to be fundamental. Either the DNRO has financial control and, hence, possesses the essential management tools required, or the NRO becomes a 'paper concept'.

"With respect to the current fund problem, it is true that no funds have actually been issued although the NRO Comptroller has advised the CIA that funds are available for approved programs and has also advised them of the amounts which would be released at this time. No action to request transfer of these amounts has been taken by CIA. This, I believe, is because the Agency desires the release of all funds without restriction. I am prepared to release funds only as requested and justified and I believe the Bureau of the Budget is sympathetic to this position. In this respect I am advised by my Comptroller that CIA is utilizing other funds to finance contractual documents under the responsibility of the NRO and that at the present time they are in a deficiency position. My Comptroller has notified the CIA Comptroller that if funds are not requested on Form 1080's by November 26th, the interim Joint Resolution Authorization will be withdrawn. The CIA may find itself in a highly vulnerable position as to violations of financial procedures for Government operations..." 1/

As a result of Dr. Charyk's memoranda to Under Secretary Gilpatric, the latter requested a conference with Mr. McCone for the purpose of ironing out the differences regarding CIA participation in the NRP. Meanwhile, the role cast by Dr. Charyk for CIA in the program was not sitting well with OSA and there was a good bit of

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1/ BYE-0356-62, 23 Nov 1962. Memo to Mr. Gilpatric from Dr. Charyk.

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frustration at the working level. In the first week of January 1963 a memorandum was drafted in OSA for the DD/R's signature which set out for the DCI the modifications to the NRO organization believed necessary if CIA was to play an active role, not only as a participating member in the NRP through IDEALIST, OXCART and CORONA projects, but also in the management, direction and coordination of the total national reconnaissance effort. Due to the imminent resignation of Dr. Charyk, the time was felt to be propitious to effect the changes (foremost among these being the designation of the DD/R as Deputy Director of NRO, so as to give the Agency a day-to-day voice and vote in the decision-making process within the NRO). This memorandum to the DCI was signed by Dr. Scoville, but subsequently he had second thoughts and did not send the memorandum to Mr. McCone.

On 24 January 1963, Mr. Cunningham addressed a memorandum to the Executive Director, Mr. Kirkpatrick (BYE 2164-63/A), which set forth the history of the Agency's joint participation in reconnaissance projects beginning in 1954, and making several proposals which would offer CIA a greater role in the NRP than it currently enjoyed. He pointed out the deterioration in CIA/USAF relations under the NRO as follows:

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"With the advent of the National Reconnaissance Office certain problems and incidents have occurred which would suggest that the NRO in its present form is not functioning as desired, and too often has been the arena for misunderstanding between the Air Force and the CIA. Resolution of differences has not been without a price paid in widening the gulf which is rapidly increasing between a once harmonious USAF and CIA relationship.

"Possibly this condition is more properly a sign of the times and not the NRO. Possibly the responsibilities of the reconnaissance programs have evolved to the stage where their size and operation make clear-cut management no longer realistic or obtainable within the Governmental environment that presently exists.

"It is difficult to isolate a turning point in the USAF/CIA relationship and to point to any one act or series of acts which have prompted the erosion that has taken place. Whatever the reason, it is fair statement of fact to conclude frankly that during the short reign of the NRO the USAF/CIA relationship has deteriorated to the point where mutual trust is now hesitant and there is speculation on either side of 'power grabs' by the other." 1/

The proposed courses of action to improve the situation were:

1. Appointment of D/NRO and DD/NRO as full-time positions, with CIA and DOD respectively represented in the two slots.
2. Make the NRO Staff an executive and administrative body but not involved in day-to-day operational and contractual decisions.
3. Equalize the representation on the NRO Staff between the participating agencies.

1/ BYE-2164-63/A, 24 January 1963. Memo to Executive Director.

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4. Assign all Program Directors to the Washington area to simplify coordination processes.

5. Use Joint Reconnaissance Center for coordinating activities rather than maintain a duplicate NRO facility.

6. Assign all national reconnaissance to NRO Program Directors, including SAC.

7. Locate the whole NRO Staff in one office area on neutral ground.

8. Designate Director of Program B (CIA) responsible for processing and disseminating intelligence product from all national reconnaissance programs.

As a result of direct conferences between Mr. McCone and Mr. Gilpatric, a new agreement was staffed out and signed by them on 13 March 1963. It provided for the DD/NRO slot to be filled by a CIA appointee (the DD/R), but placed the executive direction of the whole National Reconnaissance Program in the hands of the Secretary of Defense, or his appropriate deputy, with policies and guidance to be jointly agreed with the DCI. A separate agreement was reached on 5 April 1963 as to program funding with particular relation to Program B (CIA) and was made an appendix to the full agreement. (See Annex 36 for text of these agreements.)

On 10 May 1963, a paper outlining the duties of the DD/NRO, as approved by the DNRO, was passed to Col. Ledford, AD/SA, by the

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new Director of the NRO Staff, Col. John L. Martin, Jr. (See Annex 37 for terms of reference). This paper, which had originated with Dr. Scoville, had been redrafted by the NRO Staff and it omitted any requirement for coordinating DNRO papers with the DD/NRO. When Dr. Scoville protested, Col. Martin argued that there was never time for coordination (despite the fact that NRO staff work was always a lengthy and time-consuming process). In many cases, as a result, the DNRO signed papers concerning Agency activities which were factually incorrect, having never been cleared with the Agency's senior NRO representative.

On 24 May 1963, the new DNRO, Dr. Brockway McMillan, noted to Dr. Scoville three reasons why he intended to follow the policy of using CIA contracting authority for other than Program B tasks:

(1) To provide essential security to NRO matters not possible otherwise; (2) to provide speed of response not obtainable through DOD contractual channels for urgent cases; and (3) to obtain significant savings to the government or improvement in management by use of such contracting authority in joint procurement actions.

In June and July 1963 discussions and drafting sessions took place between the NRO Staff and the JCS Joint Reconnaissance Center to

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develop a working agreement for J R C support of the NRP. A draft agreement was presented for Mr. McCone's comments on 8 July which was characterized by Col. Giller (Acting DD/R on Dr. Scoville's departure from the Agency) as being sufficiently vague and general to permit any interpretation desired. He recommended that the paper be rewritten, following a clearly-stated purpose for such an agreement, and that the CIA Air Operations Center (within OSA), which had for ten years planned and executed all covert overhead reconnaissance, be designated the NRO Operations Center and source of support vis-a-vis the JCS/JRC. Also that only in times of actual hostilities should there be automatic transfer to the JRC of NRO operational assets.

On 17 August Col. Ledford wrote at length to the DDCI concerning the disputes, confusion and slow-downs in the National Reconnaissance Program. He said that steps should be taken to make the organization work, or else it should be abandoned and a return to independent action by DOD and CIA should be made. It was felt among the OSA Staff that the basic difficulty in the entire situation was the dual role of the DNRO. It was difficult for him to function impartially when on one hand he was responsible for USAF interests as Under Secretary, and on the other he was responsible for over-all government interests in the role of

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DNRO; the two functions were not always compatible and in fact were quite often diametrically opposed.

At a meeting on 15 October 1963 where the above DD/S&T views were aired, Mr. McCone expressed the view that the Agency staff should spend more time pre-empting its position in NRO with ideas and spend less time complaining about projects and programs which might be taken away from them. This resulted from the withdrawal by the DNRO of the TAGBOARD program from CIA direction and its assignment to the newly designated Program D (USAF) under the direction of Colonel Geary.

Although the position of Deputy Director, NRO, was awarded to CIA, to be filled by the DD/R, Dr. Scoville found it impracticable to do justice to both jobs at once, and furthermore he very soon after his appointment as DD/NRO resigned from his position in the Agency. On the appointment of Dr. Albert D. Wheelon to head the renamed Directorate of Science and Technology, Mr. Eugene P. Kiefer of that Directorate was assigned to the position of DD/NRO and served in that capacity between August 1963 and the spring of 1965. Upon his departure, Mr. James Q. Reber was nominated to the DD/NRO slot from his current position as Chairman of the Committee on Overhead

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Reconnaissance (COMOR) and has served in that capacity at NRO since September 1965. (Note: His tour ended in July, 1969.)

Monthly Forecast

The system of the monthly forecasting of aircraft and satellite activities under the National Reconnaissance Program was promulgated on 3 January 1964 by the DNRO, whereby each Program Director would submit his schedule to the DNRO for amalgamation with all others and for processing through the Special Group for approval. The Standard Operating Procedures for the Forecast of NRO Air and Satellite Activities were issued on 16 April 1964 by the Director of the NRO Staff, then Brigadier General John L. Martin, Jr.

Land Panel for Overview of NRP

Early in 1965, at the instigation of Mr. McCone, then DCI, the President's Special Assistant for Science and Technology, Dr. Donald Hornig, set up a panel under the chairmanship of Dr. Edwin H. Land, the broad charter of which was to maintain an overview of the National Reconnaissance Program with particular interest in technical characteristics of intelligence requirements, the status of existing projects, and the adequacy of research and development programs. The panel was not subordinate to the President's Science Advisory Committee (PSAC) but reported directly to Dr. Hornig, and staff support for this panel

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was provided at the White House level by Dr. Don H. Steininger of Dr. Hornig's staff.

NRO Agreement of August 1965

The continued dissatisfaction on the part of CIA with the working of the NRO led to the promulgation of a further revision of the agreement in August 1965. On 6 August a new draft was discussed between Mr. John Bröss on behalf of CIA and Mr. Cyrus Vance, successor to Mr. Gilpatric as Deputy Secretary of Defense. The draft was agreed to and signed by the DCI, then Admiral William Raborn, and Mr. Vance on 11 August 1965. Among other changes, the new agreement provided for the Executive Committee of NRO to guide and participate in the formulation of the National Reconnaissance Program through the DNRO. The DNRO was to sit with the Executive Committee but not as a voting member. (See Annex 38 for text of the agreement.)

On 1 October 1965 Dr. Alexander Flax succeeded Dr. Brockway McMillan as DNRO, and on the same day a letter was sent to him by the DCI outlining the changes in the Agency's organizational structure in support of the NRP; i. e., the consolidation of satellite activities under OSP, the manned reconnaissance under OSA and SOD, and all these activities coming to a head under the management of the Director

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of CIA Reconnaissance Programs. Mr. Huntington Sheldon was appointed to this new position. (See Annex 39 for letters to Dr. Flax and Mr. Sheldon.) In January 1967 Mr. Sheldon's appointment was rescinded and the position of Director of Reconnaissance for CIA was abolished. The Deputy Director for Science and Technology (then Mr. Carl E. Duckett) was authorized to deal directly with the DNRO on behalf of the DCI in the management of all CIA programs under the National Reconnaissance Program.

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ANNEX 19

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Washington

Office of the Secretary

27 December 1954

The Honorable  
Allen W. Dulles  
Director of Central Intelligence  
2430 E Street, N. W.  
Washington 25, D. C.

Dear Mr. Dulles:

I am familiar with the proposed agreement with Lockheed Aircraft Corporation in behalf of the Government. Although the aircraft covered thereby are required so urgently that neither you nor we have been able to examine the cost estimate in detail, a fixed price agreement with a price redetermination clause and a stipulated maximum price appears to afford adequate protection to the Government, and to be the most suitable form of contract from an administrative and security standpoint. As you undoubtedly are aware, the construction and testing of aircraft of new design is most expensive, especially when time is a vital factor and the production of so limited a number as here contemplated renders the aircraft virtually handmade.

The fact that known structural and aerodynamic know-how is incorporated in the design proposal does not preclude pioneering problems associated with an entirely new area of performance and altitude. Therefore, on the basis of our knowledge of similar Air Force contracts for research and development and for procurement, I believe that the terms and the estimated cost are reasonable.

Although the requirements both of speed and security make it necessary to give the supplier considerable freedom of action to proceed without detailed supervision at every stage, our opinion, based on a large amount of business over a period of many years, is that Lockheed is a reliable and efficient producer accustomed to keeping its books and records in accordance with standard Government accounting practices.

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It is understood that the size of this procurement program is based in part on the assumption that the results expected to be obtained with these aircraft will be of interest to other Departments and Agencies of the Government, and that the aircraft will probably be useful for various purposes in addition to the mission for which they are primarily intended. I assure you that the Air Force is keenly interested in this development from the point of view of its own mission as well as yours, and to that end is furnishing the engines as part of its contribution and will provide such other assistance as required.

Sincerely yours,

(Signed)

Trevor Gardner  
Special Assistant (Research and Development)

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DX-101

DEPARTMENT OF THE AIR FORCE  
WASHINGTON

OFFICE OF THE SECRETARY

27 December 1954

The Honorable  
Allen W. Dulles  
Director of Central Intelligence  
2430 E Street, N. W.  
Washington 25, D. C.

Dear Mr. Dulles:

I am familiar with the proposed agreement with Lockheed Aircraft Corporation in behalf of the Government. Although the aircraft covered thereby are required so urgently that neither you nor we have been able to examine the cost estimate in detail, a fixed price agreement with a price redetermination clause and a stipulated maximum price appears to afford adequate protection to the Government, and to be the most suitable form of contract from an administrative and security standpoint. As you undoubtedly are aware, the construction and testing of aircraft of new design is most expensive, especially when time is a vital factor and the production of so limited a number as here contemplated renders the aircraft virtually handmade.

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Although the requirements both of speed and security make it necessary to give the supplier considerable freedom of action to proceed without detailed supervision at every stage, our opinion, based on a large amount of business over a period of many years, is that Lockheed is a reliable and efficient producer accustomed to keeping its books and records in accordance with standard Government accounting practices.

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intended. I assure you that the Air Force is keenly interested in this development from the point of view of its own mission as well as yours, and to that end is furnishing the engines as part of its contribution and will provide such other assistance as required.

Sincerely yours,



Trevor Gardner  
Special Assistant (Research and Development)

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ANNEX 20

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8 August 1957

MEMORANDUM TO: Project Director

SUBJECT: USAF Contribution - Project AQUATONE

1. Attached is a schedule showing the major items contributed by the USAF to Project AQUATONE during the period August 1955 through 31 July 1957. This schedule was prepared on the basis of information furnished by Colonel Geary and represents actual value where known and the best estimates available on those few items where the value was unknown.

2. The schedule does not contain general support items such as salaries and travel of participating military personnel not carried on the Project Table of Organization.

3. There may be some few additional items that were overlooked and are therefore not incorporated in the attachment. The elements considered were selected for the most part from memory, and we could have failed to recall some very important and costly considerations. Colonel Geary has advised that if more exacting figures are required for your purposes, he will be pleased to take necessary steps in the USAF to insure that more reliable cost figures are produced.

(Signed)

[Redacted]  
Project Comptroller

Attachment:  
TS-164300

Withheld under statutory authority of the  
Central Intelligence Agency Act of 1949 (50  
U.S.C., section 403g)

TS-164616

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TS-164616USAF CONTRIBUTION - PROJECT AQUATONE  
AUGUST 1955 THROUGH 31 JULY 1957I. MAJOR MATERIALS

A. Engines - 45 (40 in operation, 5 lost) @ \$400,000	\$18,000,000
B. Construction:	
1. Edwards Air Force Base	27,232
2. Adana	500,000
	<u>\$18,527,232</u>

II. OPERATING COSTS

A. Training - Watertown (SAC 4070th Sup. Wg.)	\$ 500,000
B. Fuel - 5 million gallons @ 40¢	2,000,000
C. Flight Costs	
1. C-124 - 500 hrs. @ \$425 per hr.	212,500
2. C-54 (shuttle) 20 mo. X 120 hrs. @ \$195	468,000
3. C-54 (unit) 11 mo. X 75 hrs. @ \$195	160,875
4. T-33 (8 units) 16 mo. X 40 hrs. @ \$102	522,240
5. C-47 - 5 mo. X 50 hrs. @ \$100	25,000
6. L-20:	
a. Base A - 15 mo X 50 hrs. @ \$20	15,000
b. Site - 16 mo X 50 hrs. @ \$20	16,000
D. Use of Government Furnished Equipment	
1. Fuel trailers (Watertown) 690 days @ \$17	11,730
2. Firefighting equipment 690 days @ \$23	15,870
3. Storage - 23 mos. @ \$3,000 per mo.	69,000
TOTAL OPERATING COSTS	<u>\$ 4,016,215</u>

SUMMARY

TOTAL MAJOR MATERIALS	\$18,527,232
TOTAL OPERATING COSTS	4,016,215
	<u>\$22,543,447</u>

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SAPC-4637

24 March 1956

## ESTIMATED COST OF PROJECT - FY 1955-1956-1957

## MAJOR MATERIEL COSTS:

Aircraft	\$23,250,000
Engines	29,232,000
Photographic Equipment	6,526,000
Electronic Equipment	6,221,175
Radar Equipment	3,150,000
Navigation Equipment	250,000
Personal Equipment (Pilots)	300,000
Photographic Processing Plant	1,200,000
Base Construction - U.S.	1,125,000
Base Construction - Foreign	460,000
GFE and Components	1,193,720
	<u>\$72,907,895</u>

## OPERATING COSTS:

Personnel, Government	\$ 5,779,728
Medical Support (Domestic)	50,000
Personnel, Contractors	3,442,837
Fuel	470,960
Film	911,280
Processing Plant Operations	6,282,480
Logistics	4,958,000
Domestic Base Operations & Maint.	1,378,025
Foreign Base Operations & Maint.	99,100
Hqs Operational Expenses	31,767
Plant Overhaul of Equipment	1,787,102
	<u>\$25,191,279</u>
GRAND TOTAL	<u>\$98,099,174</u>

Prepared by  
Richard M. Bissell, Jr. 7

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ANNEX 21

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ANNEX 22

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3 May 1957

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT: High Level Meeting on Project AQUATONE

1. As explained to you on 2 May, the paper to be handed by you to the President at the May 6th meeting has been cut down to a brief status report. A copy is attached hereto and copies have been sent to the Air Force (Tab A).

2. It is understood that the following topics which are now excluded from the formal paper will be raised by you, probably in this order, for discussion at the meeting:

- a. Alternative Lower Priority Targets.
- b. The RAINBOW Program.
- c. Maintenance of a Non-Military Overflight Capability.
- d. Proposed Modification of Operational Concept.

I have drafted a separate paper on these four topics indicating the line I believe we should take on each. Copies of this paper have gone to the Air Force who are fully aware of our views. This paper is also attached hereto. (Tab B)

3. I hardly need remind you that the third of these topics is the sensitive one because there is not full agreement between the Air Force and ourselves on this matter. I have drafted the paragraph on this topic with great care in an attempt to emphasize that the difference between the Air Force and ourselves is a difference in our estimate of what our own political authorities would prefer. I urge you to emphasize that our disagreement is of this nature, since we have no desire to maintain an overflight capability unless we stand a better chance than the Air Force of being allowed to use it, while the Air Force has no desire to stop us if they are convinced that this is the case. It follows that instead of having a debate with the Air Force about the views of the political authorities it is simpler to ask what they are.

4. I know that it is difficult to control the course of such a meeting as the one planned for the 6th but I would urge you to make a major effort at least to raise all four

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of these topics so that we can try to get, if not clean-cut decisions, at least some feeling for the President's views. I repeat, the Air Force is well aware that these issues will be raised.

5. I have prepared still a third piece of paper which contains a number of arguments I hope you will have an opportunity to use in favor of letting us operate. (Tab C)

(Signed)  
RICHARD M. BISSELL, JR.  
Project Director

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3 May 1957

AQUATONE/OILSTONE PROJECT

1. Status:

a. Weather conditions are generally favorable for aerial reconnaissance over Europe and most of Siberia from April through October and in the Far East are moderately good in summer and at their best during the autumn.

b. AQUATONE Detachments are now in place and operational in Germany and Turkey with four aircraft each and in Japan with three aircraft. They fly occasional weather missions in support of their cover and high altitude air sampling missions, all over friendly territory. The Detachment in Turkey carries out occasional reconnaissance over the Middle East.

c. At the Bermuda Conference in March, the British Government on its own initiative offered to permit operations under AQUATONE to be conducted from bases in the United Kingdom, thus reversing the earlier negative decision.

d. A similar military capability is currently being developed by the Air Force which is equipping a SAC squadron with Air Force procured U-2 aircraft. This unit will be operationally ready and available for deployment by 1 August 1957.

e. It now appears that the U-2 will be relatively safe from interception at least through the present reconnaissance season and possibly, under certain circumstances, considerably longer. Nevertheless, both its margin of advantage and the security surrounding this operation are subject to continuous erosion so the AQUATONE capability must be regarded as a wasting asset.

2. Plans for the Current Season: Additional hard intelligence obtainable only through aerial reconnaissance is urgently required, especially on developments and installations having to do with Soviet guided missiles, nuclear weapons, and intercontinental bombers. To cover thirty-five such targets which have been selected by the Intelligence Community as having the highest priority should require some twelve to fifteen successful missions, taking account of normal weather patterns. If permission is granted to conduct

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these overflights it is proposed that they be undertaken only as highly favorable weather materializes so as to obtain maximum coverage with a minimum number of sorties. This would imply a rate of operation of only one to three missions per week.

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3 May 1957

## ADDITIONAL BUSINESS CONCERNING PROJECT AQUATONE/OILSTONE

The paper on AQUATONE prepared for submission to higher authority contains a brief account of the current status of the Project and plans for operations during the current season. All other issues were excluded in order to focus attention on the major decision required at this time. It was agreed, however, in conversations with representatives of the Air Force that the following additional matters be discussed orally with the political authorities along the lines indicated under each heading.

1. Alternative Lower Priority Targets: If authority cannot now be granted to overfly some or all of the highest priority targets in the USSR, it is important to determine whether:

(a) Overflights of the following lower priority areas (listed in the order of priority) should not be conducted:

- (1) Specified peripheral areas of the USSR,
- (2) China,
- (3) European Satellites, or

(b) There is sufficient prospect of receiving at a later date authority for overflights of the USSR to warrant postponing operations over lower priority areas.

2. The RAINBOW Program: During the last nine months significant progress has been achieved through this Project in the development of radar camouflage. It is believed that the radar reflectivity of the U-2 aircraft can be so reduced as to create a good chance that a majority of overflight missions will avoid detection entirely. Nevertheless, it must be anticipated that at least a certain proportion of them will be detected, although their continuous tracking should be extremely difficult. Our plan is to equip the U-2 aircraft with this protection if and as it is operationally developed. If it is effective, it will reduce not only the

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likelihood of detection and tracking but also the possibility of interception even after the Soviets have developed aircraft or missiles capable of operating at extreme altitudes.

3. Maintenance of a Non-Military Overflight Capability: The principal reason for developing the AQUATONE capability originally within a CIA framework (but as a joint Air Force/CIA Project) rather than in the Air Force was to maintain greater security, employ deeper cover, use civilian pilots, keep the aircraft outside of military control, and therefore, make possible more plausible denial of U.S. military responsibility in the face of any Soviet charges. On the other hand, it can be argued that an operation of this character can be conducted as securely by military units operating under military cover as by the Clandestine Service, that the distinction between military and civilian control is irrelevant to the possibility of denial and therefore that this tool is politically no more usable for overflights in the hands of the Clandestine Service than in the regular military establishment. Although this issue could be debated at length between this Agency and the Air Force, what is really important is the attitude of the political authorities of our Government. The decisive question is whether they believe (rightly or wrongly) that the use of U-2 aircraft for overflights by the Clandestine Service will give rise to lesser risks of embarrassment or counteraction than their use by a tactical military arm. If this does turn out to be their view, it would seem to be worthwhile to continue the present joint operation through 1958, probably with some changes in organization and cover and on a reduced scale, in order to maintain the capability where it would be most likely to be used. Meanwhile the parallel Air Force capability would be developed separately. If, however, the political authorities believe that the political risks are the same for nonmilitary as for military overflight operations, then it is proposed that CIA's equipment be transferred to the Air Force at the end of the current reconnaissance season.

4. Proposed Modification of Operational Concept: If the present joint project organized within a CIA framework is continued beyond the present season, consideration will be given to the following modifications of present operational concepts. Their purpose would be to reduce the political hazards to which overflights give rise or to be

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prepared for unfavorable political developments and thus to render the U-2 capability politically more usable.

a. The use of non-U.S. pilots (possibly British) in order to heighten the possibility of plausible denial.

b. The modification of a few of the Agency's aircraft to permit basing them on an aircraft carrier and thereby to avoid the exposure of friendly governments to political and diplomatic pressures.

c. The occasional use of a commercial air survey corporation as cover.

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3 May 1957

AQUATONE MEETING  
9:30 a.m., Monday, 6 May 1957

## BRIEFING NOTES FOR DCI

The following are points you may wish to make orally in the forthcoming meeting on AQUATONE.

1. Russian awareness of U.S. overflights, though undoubtedly a source of irritation, should increase their willingness to consider a realistic mutual inspection system and in particular an effective version of the open skies proposals. The knowledge that they cannot altogether prevent aerial reconnaissance should increase the attractiveness to them of a plan to control and regularize it.

2. Although overflights can be regarded as provocative, it is difficult to understand how they could provoke any counter action except the most vigorous efforts at interception. The Russians know, even if no overflights are conducted, that our offensive air capability exists. They have given every evidence of believing correctly that overflights are conducted only for reconnaissance purposes. Above all, knowledge that it is possible for our aircraft to overfly their country beyond the reach of interception, perhaps carrying high yield weapons, would be a powerful deterrent to overt attack no matter how "provoking".

3. Two missions over Bulgaria, one over the Caucasus area of the USSR in December and one inadvertent overflight of the Caucasus in April have been detected by the Soviets without, however, provoking any diplomatic protest. This may suggest only that deep penetration missions over a few sensitive areas, or missions which penetrate the USSR after being tracked by the Satellites, are apt to provoke a diplomatic reaction. It may also be evidence of greater sensitivity to missions flown from Germany where there are known to be a number of U.S. bases than from other extreme locations.

4. The President's Advisory Committee on Foreign Intelligence has unanimously recommended that overflight missions be resumed.

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29 July 1957

MEMORANDUM TO: General Thomas D. White  
Chief of Staff  
United States Air Force

SUBJECT: Future Plans for Project AQUATONE/OILSTONE

A variety of circumstances make it necessary at this time to go forward with plans and preparations for the future of Project AQUATONE/OILSTONE. This matter was discussed on 19 July by the DDCI with the Vice Chief of Staff. In confirmation of their conversation, this memorandum summarizes the considerations which lead us to believe that the present joint Project should be continued next year, and our plans for its continuation. We will have a much firmer basis for such judgments as this in a few weeks and it goes without saying that any decisions made at this time may have to be modified.

A decision on the future of this Project clearly should be based on our joint estimate of the probability that overflight operations will be permitted next year by the political authorities and of the advantages they see in having such operations conducted by a civilian agency using civilian pilots rather than by a military organization. Whether overflights are permitted will, in turn, depend largely on: the risk of loss of an aircraft by enemy interception or otherwise; and the risk of strong Russian diplomatic or political reaction to such activities. Our present views on these points are as follows:

a. As to risk of loss, we have as yet seen no hard evidence that the Russians have developed an interception capability effective above 65,000 feet and we believe that there is a chance that electronic countermeasures may reduce the effectiveness of such an interception capability when developed. We estimate therefore, that the risk of interception will be low enough to be acceptable. The risk of loss through malfunction is always present but will be no greater than heretofore and appears to be acceptable.

b. As to risk of diplomatic protest, we are still hopeful that the experience of the current season will demonstrate that at

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least occasional overflights of the USSR can be conducted without eliciting embarrassing diplomatic protests provided a few of the most highly sensitive areas (such as Moscow itself) are avoided and provided overflights of the USSR are not tracked by one or more of the Satellite governments to the embarrassment of the Russian military establishment. We also hope that the Russian tracking ability will be impaired by electronic countermeasures to a point where they will not have solid evidence on which to base protests.

c. As to sponsorship, it is our understanding that the political authorities prefer to have this mission performed under civilian sponsorship as at present, and that such sponsorship therefore increases the likelihood of obtaining permission to operate.

We conclude from the foregoing that sporadic overflight activity, at least, is quite likely to be permitted by our political authorities but that there is little prospect for an intensive overflight program. Accordingly, we believe the present joint project should be continued for another season in order to maintain an overflight capability in what we believe to be the most acceptable form, but on a reduced scale appropriate to a variable, and on the average low, level of activity.

To give effect to these conclusions, we propose to maintain only two Detachments at reduced strength instead of three as at present. On the basis of this planning, one of the two units now stationed in Europe will be phased out in October 1957 and the other will be based at Giebelstadt. The Detachment now in the Far East will remain at Atsugi NAS at least until January 1958 and probably longer. Should it be deemed feasible for political or security reasons to move this unit out of Japan, it will be redeployed to Edwards Air Force Base or some other suitable base in the ZI. Any continuing research and development will also be conducted at Edwards Air Force Base. We plan certain changes in both organizational arrangements and ground support equipment designed to maximize the mobility of the two remaining Detachments so they will be ready on short notice to stage through advanced bases in the Far East and Near East and will be able in this way to obtain coverage of any part of the Soviet Bloc accessible from friendly territory.

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This contemplated reduction in scale will render a number of aircraft and other items of equipment surplus to this program. It appears that an initial transfer of five aircraft can be made in November of this year. Further transfers will of course be made as and when additional aircraft and other items become surplus. It is our hope that we can arrive at an agreement with you whereby equipment turned over to the Air Force by this Project can be borrowed back at a later date if a requirement for it should arise.

The execution of these plans obviously depends on continued Air Force support. They are based on the assumption, as indicated above, that this Project will be able to retain the facilities now occupied by it at Giebelstadt and Edwards Air Force Base and possibly to obtain some additional facilities at Edwards Air Force Base. If feasible, arrangements should be made to leave certain supplies and ground equipment in place at Adana and at a Japanese or other Far Eastern base and to obtain the temporary use of certain facilities at these bases when required for staging operations. I recognize the burden that the provision of this support places upon the Air Force but hope it will be appreciably reduced by the planned reduction in the scale of this activity.

The Air Force has been a full partner in this enterprise from the beginning and I will of course be happy to discuss any of these points with you if you so desire. I will look forward to receiving your comments.

(Signed)  
ALLEN W. DULLES  
Director

CONCUR:

CPC  
Deputy Director

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ANNEX 24



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N-1-110-11

NOTICE  
NO. 1-110-11ORGANIZATION  
8 April 1958

## ORGANIZATION AND FUNCTIONS

## SPECIAL ASSISTANT FOR PLANNING AND DEVELOPMENT

## 1. POSITION

Effective 1 April 1958, there is established in the Office of the Director the position of Special Assistant to the Director for Planning and Development. The incumbent of this position will be responsible for the functions hitherto performed by the Special Assistant to the Director for Planning and also for (a) the exercise of general supervision of all research and development activities of the Agency and (b) a continuing search for fresh approaches to the Agency's tasks. The following outline of objectives and authorities elaborates and defines these new responsibilities.

## 2. PRIMARY PURPOSE

The primary purpose of this action is to stimulate the exploitation by the Agency of advanced technology and the invention, development, and operational employment of new methods of performing its tasks. It must be expected that progress toward this objective will require the use not only of new or different tools but also of new or different operational concepts, human skills, and organizational devices. Accordingly, there is need for the creative and imaginative study of all promising possibilities of innovation and of the interrelated changes in techniques and in ways of exploiting techniques that go to make up important innovations. The primary effort of the SA/PD should be to meet this need and to set in motion research and development that holds promise of opening up entirely new approaches. He should also endeavor to insure that work carried on to meet already recognized requirements is focused on the highest priority needs. An important part of this task will be to encourage fundamental reconsideration of needs and possibilities by experienced operators as well as by researchers and to achieve a more effective interchange of ideas between them.

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## 3. AUTHORITY

a. Studies and Recommendations

The SA/PD will have access to information on operational concepts and techniques and on Agency organization as required for investigations of the sort referred to above. He is authorized to make recommendations for modifications in operational concepts and for the development and use of particular skills or organizational devices where in his judgment changes of this character are required as elements of promising innovations in the Agency's method of performing its tasks. In general it is not intended that he will concern himself with organizational problems except as they relate to possible innovations nor is it anticipated that he will review specific current projects except in connection with the above purposes. Studies and recommendations of the sort here characterized, the scope of which extends beyond research and development, will in all cases be made available to the Deputy Directors concerned before submission to the Director of Central Intelligence.

b. Research and Development

In the narrower field of research and development, the SA/PD will review programs covering the specifically research and development activities of all components within the Agency. He may direct modifications in programs proposed to him and after such review, modification, and approval, will act as the sponsor of Agency research and development programs at the Deputy Director level. Within the latitude ordinarily granted in the execution of programs, he will have general authority to disapprove or direct modification or undertaking of projects. This authority will be limited to the reallocation of personnel and funds already committed to approved research and development programs or provided for in such programs. All of the foregoing authority is subject to coordination with the Deputy Directors concerned where changes in research and development activities would have a significant effect on their organizations or operations, and is subject to existing requirements for review by the Project Review Committee and by the Director of Central Intelligence.

ALLEN W. DULLES  
Director of Central Intelligence

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ANNEX 25

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DPS-3074

12 August 1958

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT: Financing of Special Projects - FY 1959

1. This memorandum contains a recommendation (paragraph 9) submitted for the approval of the Director of Central Intelligence.

2. Background: During the past year the activities for which I have been responsible as the Director of Project AQUATONE have multiplied. Certain new tasks were handled as subprojects of AQUATONE without formal approval by you as separate projects, and with no separate funding or accounting. Others were handled in an ad hoc manner as new projects but with approval by you of only the sums initially provided therefor. It appears desirable in the current fiscal year to handle these several tasks as separate projects. The purpose of this memorandum is to set forth the estimated operating budget for each such project for Fiscal Year 1959, to request approval of the projects, and to recommend appropriate funding action.

3. Estimated Operating Budgets: The special project activities currently in progress under my direction will be treated as five separate projects. For security purposes the nature of the activities being carried on under these projects is summarized in a separate document (TS-155106). The proposed operating budgets for these five projects and the Congressional budget for this office for special projects are as follows:

	<u>Operating Budget</u> <u>FY 1959</u>	<u>Congressional</u> <u>Budget</u>	<u>Additional</u> <u>Requirement</u>
CHALICE	\$ 12,588,599	\$5,924,281	\$
THERMOS	111,000		
GUSTO	1,882,925		
CHAMPION	72,360		
CORONA	1,519,640		
TOTAL	<u>\$16,174,524</u>	<u>\$5,924,281</u>	<u>\$10,250,243</u>

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4. Explanation of Increased Requirements: It will be seen that the presently estimated operating budgets total nearly three times the budgetary total submitted to Congress. The reasons why these large additional requirements have materialized may be summarized as follows:

a. CHALICE: The whole amount included in the Congressional budget was originally intended for this Project. It was computed on the assumption that CHALICE would be terminated on 31 December 1958. It now appears that operations will continue throughout the fiscal year. Moreover, steps are being taken to associate appropriate agencies of the British Government with us in this Project and the British participation will give rise to certain unforeseen additional costs. Accordingly, it now appears that somewhat more than twice the amount originally requested will be required.

b. THERMOS: All active work on this program has been terminated. It has been necessary, however, to remove THERMOS provision from certain items of equipment which gives rise to the cost indicated above.

c. GUSTO: The feasibility studies which constitute this Project have involved extensive and costly engineering and scientific studies by the contractors concerned. This Project has also required in the current fiscal year the augmentation and completion and the subsequent operation of highly sophisticated test facilities at a location in the western part of the country. The Project is expected to involve the construction of mock-ups and measurement of certain of their characteristics. The extent and duration of this work could not have been foreseen when the Congressional budget was submitted.

d. CHAMPION: This feasibility study was undertaken with little warning in the latter part of fiscal year 1958. Some \$270,000 was obligated in that fiscal year, the bulk of the funds having been obtained with your concurrence from the Agency Reserve. It now appears that the scope of the feasibility study should be expanded and considerable experimental work authorized looking toward the eventual development of a highly sophisticated intelligence collection system.

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These costs are highly unpredictable and the estimate of probable cost is subject to further change.

e. CORONA: This Project was initiated in the last half of Fiscal Year 1958. It was financed by the Agency in the amount of 7 million dollars which was released for the purpose from the Agency Reserve. At the time of that release, it appeared that little additional funds would be required. It now appears, however, that there may be modest over-runs on contracts already entered into and that the Agency may have to cover costs originally expected to be assumed by the Department of Defense. Accordingly, additional funds in at least the amount indicated above will be required in the current fiscal year.

5. Shifts Between Projects: By way of general comment on the above requirements, it should be stated that the totals for the several projects are by no means firm even at this date. On the basis of estimates even more current than the above, it would appear that the requirement for GUSTO may be somewhat less than shown above and those for CORONA and CHAMPION will certainly be greater. Accordingly, this Office desires freedom to shift funds between projects, provided no major change in the scope of the projects will be made without the approval of the DCI.

6. Contingency: It is hoped that the feasibility studies being conducted under Projects GUSTO and CHAMPION will reach a point during the current fiscal year which will permit the development and procurement of a major new intelligence collection system to be undertaken. Such an outcome would give rise to large additional financial requirements during the current fiscal year. No meaningful estimate can be made at this time, however, of this contingent requirement since no calculation can be made of the total cost of such a system until its character is well defined and no decision has been made as to whether and how this cost might be shared with the Department of Defense.

7. Withdrawals from the Reserve: It is believed that all of the above requirements which are excess to the Congressional budget can appropriately be financed through the release of funds from the Agency Reserve. As indicated above, the decision to extend CHALICE to the end of the year was not made, even for planning purposes, until the beginning of the

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fiscal year; the magnitude and duration of THERMOS and GUSTO were altogether unpredictable; and Projects CHAMPION and CORONA had not even been conceived when the budget was submitted. My basic recommendation, therefore, is that a release of funds from the Reserve in the amount of \$10,250,243 be sought for the above purpose.

8. Timing: Although substantial additional funds will unquestionably be necessary, it is believed that it would be premature to seek the above recommended release of funds from the Reserve at this time. As indicated above, the firm requirements for the five projects listed are still subject to change. More important is the large contingent requirement referred to in paragraph 6. Accordingly, it would seem appropriate to postpone the release until approximately 1 October by which time the magnitude of the requirement should be more clearly defined. In the meanwhile, funds can be obligated as needed for all of the above projects making use of a total allotment to this Office no greater than the Congressional budget figure. This will mean in effect borrowing from CHALICE to finance the other four projects for the first third of the fiscal year since the allotment was originally approved for CHALICE alone. Such action will require approval of the above projects and of the proposed operating budgets by the DCI, subject to the availability of funds and his approval to transfer funds among them as needed.

9. Recommendations: That the DCI:

a. Approve the five projects listed in paragraph 3, above and the operating budgets for Fiscal Year 1959 therein submitted subject to the availability of funds.

b. Authorize an allotment to this Office for the above projects not to exceed the total of the Congressional budget and the obligation of funds thus allotted for the several projects as required.

c. Authorize a request to the Bureau of the Budget on or about 1 October 1958 for the release of supplementary funds for the above projects in the amount indicated above, subject to final review of this request by the DCI prior to submission.

Approved:  
Allen W. Dulles

(Signed)  
RICHARD M. BISSELL, JR.  
SA/PC/DCI

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13 August 1958

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT: Identification of Special Projects

REFERENCE: Memorandum for DCI from SA/PD/DCI dated  
12 August 1958 (DPS-3074)

1. This memorandum is for information only. Its purpose is to identify the special projects referred to in a separate memorandum on the financing of these projects (DPS-3074). The tasks to be performed under these several projects were not described in the referenced memorandum on financing because of their extreme sensitivity and because the recommendations on financing, if approved by you, should be in such a form that it could be circulated to a number of unwitting individuals within and outside of the Agency. The five projects therein referred to are identified in the following paragraphs.

2. CHALICE. This is Project AQUATONE renamed. The activities comprised in this project include:

Personnel and support of the two CHALICE Detachments overseas, the ZI base at Edwards Air Force Base, and almost all of the Development Projects Staff;

The operation and maintenance of the U-2 aircraft remaining in possession of the Agency (currently thirteen in number);

Any remaining development work on U-2 aircraft and other sub-systems employed in CHALICE (notably a new ECM device and considerable production flight testing of items to be delivered to the Strategic Air Command);

Costs of British participation, such as personal equipment for British pilots and possibly some modifications to an additional overseas base.

3. THERMOS. This was the name given to the extensive studies we have conducted over the past two years in an effort to develop an effective radar camouflage for the U-2

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aircraft and other conventional aircraft. As explained in the memorandum on financing, most of the costs of THERMOS have been incurred in preceding fiscal years when this was carried on as a subproject under AQUATONE and financed out of AQUATONE funds. These costs included:

Sizable contracts with Scientific Engineering Institute, International Telephone & Telegraph Company, Eastman Kodak Company, and the A. D. Little Company for the production of camouflage;

Costs in excess of \$1 million incurred under contracts with Lockheed Aircraft Corporation for the application and removal of camouflage and for the measurement of radar reflectivity;

The construction and installation of highly sophisticated test facilities at Indian Springs Air Force Base and their operation by the firm of Edgerton, Germeshausen & Grier under contract with us.

Since we have now abandoned efforts to develop an effective camouflage, the only costs remaining to be incurred under this project in FY 1959 are those of removing the THERMOS covering from the two aircraft on which it remains. We also expect to incur modest additional costs to permit the Scientific Engineering Institute to write up in useful form the results of two years of highly significant work.

4. GUSTO. This project, which is nearly a year old, consists of feasibility studies looking toward a successor aircraft to the U-2. The major expenses that have been incurred have been the costs of work performed by the Scientific Engineering Institute; Edgerton, Germeshausen & Grier; and the Lockheed Aircraft Corporation. Lockheed has conducted an extensive program involving at least preliminary design of no less than 30 to 40 configurations of aircraft. It has also carried out an extensive program of model building and of measuring radar reflectivity of models. Lockheed also built a partial full-scale mock-up of a possible GUSTO aircraft. SEI and EG&G's costs have been for model testing and for extensive radar measurements on the above-mentioned mock-up. Additionally, some funds have been spent (under subcontract to Lockheed) for studies by NARMCO, Incorporated of the feasibility of certain types of plastic structures. Lastly, \$100,000 was obligated under this project to match an equal sum obligated by the Air Force for the construction of a pilot plant

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to produce beryllium oxide fibers for possible use in high strength plastic structures. Virtually all of the above costs are continuing in the current fiscal year.

5. CHAMPION. Under this project a feasibility study (parallel to GUSTO) is being made of a possible extremely radical, high-performance reconnaissance aircraft which might achieve an operating altitude in excess of 125,000 feet and would operate at Mach 3. This study is based on a design concept that originated with the Bureau of Aeronautics of the Navy. The study was initiated only after this design concept had been reviewed by the then National Advisory Committee for Aeronautics which strongly recommended that the study be made. This project is being carried out in cooperation with and with the technical assistance of the Bureau of Aeronautics. Study contracts have been let with Convair, Boeing, Hughes, Marquardt, and Goodyear. \$270,000 was obligated for CHAMPION in 1958, of which \$200,000 was released by the Director of Central Intelligence from his special reserve and the balance was supplied from AQUATONE funds. The project has been closely followed in recent months and has been reviewed by the special panel under the chairmanship of Dr. Edwin Land. It is believed to be highly promising. Substantial additional costs are required and are believed to be justified in the current fiscal year to permit the feasibility studies to be continued. It should be possible within approximately two months' time to complete most of the studies now in progress or proposed. At that time, a decision will have to be made as to whether to proceed to a preliminary design study and to experimental work with gliders. These activities would involve substantially larger funds than presently proposed in the operating budget for FY 1959.

6. CORONA. This name covers all aspects of the program for the launching of 12 reconnaissance satellites which will take photography during their overflights of the Soviet Bloc and will contain provisions for storage of the exposed film in a capsule which will re-enter, drop in a preselected ocean impact area, and be recovered. This project was approved at the highest level and \$7 million released from the Agency Reserve was obligated in FY 1958, almost all for prime contract to Lockheed's Ballistic Missile Division. Although the total of \$7 million contained some reserve over the then available estimate of the Agency's share of the costs of the program, it now appears that there will be some overrun. Moreover, ARPA is in grave trouble with its biomedical program

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and there is a real possibility that the Agency will have to pick up certain costs which were originally planned to be charged to the biomedical program. Finally, the Agency will probably incur some operational costs, for which no firm estimate is yet available.

7. GENERAL COMMENT. The above outline may help to make clear both the reason that such large costs for the above projects have materialized in the last few months, well after the budget for FY 1959 was presented to Congress, and the difficulty of estimating even at this date just what the cost of these projects will be. It is understood that activities of the sort herein described are in no sense exempt from the requirement for economical administration and the need to restrict our outlays within reasonable and approved limits. Nevertheless, if CHALICE is to be continued through the full fiscal year and if CORONA is to be carried through, there is little room for maneuver in the reduction of their costs. With respect to feasibility studies, the philosophy of this office has been that the objective in view is so important, and the cost of exploring technical possibilities is so small a part of the cost of a whole new reconnaissance vehicle, that any and all promising technical opportunities should be explored with urgency.

(Signed)  
RICHARD M. BISSELL, JR.  
Special Assistant to the Director  
for Planning and Development

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ANNEX 26

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No. 1-120-2

N-1-120-2

ORGANIZATION  
18 February 1959ORGANIZATION AND FUNCTIONS  
OFFICE OF THE DEPUTY DIRECTOR (PLANS)

## ESTABLISHMENT OF THE DEVELOPMENT PROJECTS DIVISION

- Rescissions: (1) Paragraphs 6 and 7 of R 1-110 dated  
21 May and 8 April 1958  
(2) Paragraph 9b(17) of R 1-140 dated  
27 December 1956

1. The Development Projects Division (DPD) is established in the Office of the Deputy Director (Plans), effective 16 February 1959. The Development Projects Division combines the following components which, with their functions and responsibilities, are transferred to it.

Development Projects Staff, DPS/DCI  
Planning Staff, PS/DCI  
Air Division, OPSER, DD/P  
Aircraft Maintenance Support Division, OL, DD/S  
Supplemental Activities Branch, FI/D, DD/P

2. Colonel William Burke, USAF, is appointed Acting Chief, Development Projects Division. He will be directly responsible to the Deputy Director (Plans). Colonel Burke is located on the fifth floor of the Matomic Building, 1717 H Street NW, extension 4207.

3. Mr. James Q. Reber, who is appointed Chief, Special Requirements Staff, DPD, will continue as Chairman of the Ad Hoc Requirements Committee.

ALLEN W. DULLES  
Director of Central Intelligence

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ANNEX 27

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DD/P 4-9575

30 November 1959

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT: DPD Activity Programs FY 1960

## 1. PURPOSE:

To formalize approval of the Activity Programs of the DPD-DD/P for FY 1960.

## 2. BACKGROUND:

a. The project outline for AQUATONE, dated 7 January 1955, established the basic grant of authority to Richard M. Bissell, Jr., in his capacity as Project Director to serve as approving officer for AQUATONE. The original project outline authorized the Project Director to approve expenditures up to \$100,000 without referral to the DCI, but required DCI approval of any contracts or other commitments in excess of that amount. This authority was, in effect, amended and extended by a paper approved by the DCI on 12 August 1958 (DPS-3074) which gave provisional approval to the budgets for Projects CORONA, GUSTO, CHAMPION and other projects to be administered by the Development Projects Staff. This component had been established in the O/DCI under the AQUATONE Project Director to assist in administering AQUATONE and several other sensitive projects including those enumerated immediately above.

b. Several defects were later identified in the approval procedures called for in the 7 January 1955 AQUATONE Project Outline and in the 12 August 1958 amending paper. These defects were discussed in considerable detail in a memorandum for the DCI entitled "Approvals procedure for Development Projects Division" (DPD 0596-59) which recommended changes in the then established procedures. This latter paper was approved by the DCI on 17 February 1959 and is the presently governing document for the approval of DPD activities.

c. The major change embodied in the 17 February 1959 document was to organize DPD's rapidly growing activities into so-called procurement programs. Under this system

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each identifiable operational effort, even though it may involve many separate contracts, is made the subject of a so-called Activity Program, often set forth in a document entitled a "Program Approval". This document (which is in intent similar to the Project Outline used elsewhere in the Clandestine Services) shows the major purpose, the contractors, the funds required and the source, and other related information. Each such Program, if the cost of the activity will exceed \$100,000, is submitted to the DCI for approval. Once such approval is obtained the individual contracts let in pursuance of the Program do not require DCI approval even if they exceed \$100,000. The obvious advantage to be gained by this system is to pull together the various contracts in a single undertaking so that the DD/P and the DCI may exercise judgment on a more coherently organized basis than was possible under the old system, which required the Director to sign all individual contracts of more than \$100,000 even if they were all part of a related effort. The 17 February 1959 document continued the delegation to the DD/P (in his capacity as Project Director) to approve activities up to \$100,000.

d. These changes had the effect of organizing DPD business more nearly along the lines followed by the rest of the Clandestine Services, DPD having "joined" the CS upon the assumption of Mr. Bissell of the position of Deputy Director (Plans) on 5 January 1959.

### 3. PROPOSAL:

In a further attempt to bring DPD more closely in line with standard CS practice, the present document is being submitted for the approval of the Director. Its purpose is similar to an area division's Operational Program, although the very heavy emphasis on industrial procurement in DPD requires that there be some substantial differences. In the table following there appears a listing of DPD Activity Programs. These are of two sorts. On the one hand are included the individual projects or activities for which DPD is currently responsible. On the other hand, as in the case of CHALICE (the renamed AQUATONE) there are three Activity Programs corresponding to the responsibilities of different branches within DPD. At the conclusion of the chart there is a short description of each one of the Activity Programs. This is in turn followed by a request for the DCI to approve,

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with certain exceptions, the Programs as listed. (N.B. This chart does not show certain activities for which DPD has certain contracting and/or technical monitoring responsibilities, but into which no Agency money is put. Primary among these are ARGON, a mapping satellite program, and FOG, the Air Force U-2 procurement program.)

(See attached Chart of DPD Activity Programs as of 1 November 1959 to which the following numbered items refer.)

- a.(1) CHALICE Development. Completion of J-75 engine procurement and installation; furnish a jamming (ECM) device against intercept aircraft; modify system to read electronic data transmitted by ICBM's.
- a.(2) Materiel. Maintenance, overhaul and supply of all systems, air frames and facilities for CHALICE operations at two overseas and one domestic installation.
- a.(3) Operations and Administration. Funds for maintenance of complete staffing of all DPD missions including technical representatives for two domestic and two overseas bases; provision of necessary maintenance facilities and other operational support items.
- b. NIGHTLATCH Development of a second phase of a system to measure sophisticated Russian radar characteristics.
- c. CHAPLAIN. Deployment of a unit to operate a pulsed ionospheric radar utilizing back-scatter techniques to detect missile launches
- d. CORONA. Further development of a satellite-borne reconnaissance camera with recovery of exposed film carton.
- e. Air Section. Maintenance of worldwide support, capability and of Agency detachments in Eglin AFB, Florida, and Kadena AFB, Okinawa; maintenance, overhaul and modification of 10 Agency-owned or

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controlled aircraft; R & D of countermeasures against ground and air intercept.

- f. & g. External Research. Funds for CENIS and Department of State; support for Scientific Engineering Institute.
- h. C-130. Procurement and modification of two C-130B aircraft.
- i. OXCART. Development of a successor aircraft to the U-2 together with photographic and electronic gear.

#### 4. APPROVAL STATUS:

Under the approvals procedure discussed above, the DCI has received and signed Activity Programs for a portion of CORONA. Activity Programs will be forwarded shortly covering CHALICE Development, NIGHTLATCH, OXCART, CHAPLAIN (operational phase), SEI, and C-130B procurement (if approved by the DD/P after further study). Because of their well-established status and continuing nature, it is proposed to submit to the DCI no separate Activity Programs containing detailed budgets for the other Activity Programs listed on the above table, that is for CHALICE Materiel, CHALICE Operations and Administrative Overhead, Air Section, and External Research. It is believed to be more appropriate to handle the activities covered under these headings in the same manner as the non-project activities of other divisions in the CS. If this procedure is acceptable, the approval by the DCI of the DPD Operational Program for FY 1960 will satisfy all internal requirements for approval of the Activity Programs listed above as not requiring separate project handling.

#### 5. It is recommended that the DCI approve:

- a. The procedures proposed in paragraphs 3 and 4 above.
- b. DPD Activity Programs for FY 1960 listed in the chart in the amounts shown with exception of items:

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- a. (1) CHALICE Development
- b. NIGHTLATCH
- c. CHAPLAIN (operational phase)
- g. S.E.I.
- i. C-130B Procurement
- j. OXCART.

(Signed)  
RICHARD M. BISSELL, JR.  
Deputy Director  
(Plans)

Recommendations in para 5 approved:

(Signed)  
ALLEN W. DULLES  
DCI

Attachment:  
Chart

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DPD ACTIVITY PROGRAMS  
(As of 1 November 59)

FY '60 SOURCES OF FUNDS

ACTIVITY	Budget FY 59	Total Rqmts FY 60	Budget FY 61	Available for '60 Appr. Funds	Release fr CIA Reserve or other Agencies	Addtl. Re- leases fr Reserve FY 60	Total Rqmts. FY 60
a. CHALICE							
(1) Development	10,000	919,685	437,000	919,685			919,685
(2) Materiel	3,787,086	3,884,850	3,844,850	3,884,850			3,884,850
(3) Ops & Admin (incl. all DPD) Overhead	8,794,546	9,012,191	8,871,327	9,012,191			9,012,191
Sub-total	12,591,632	13,816,726	13,153,177	13,816,726			13,816,726
b. NIGHTLATCH	-0-	165,000	-0-	165,000			165,000
c. CHAPLAIN	-0-	306,800 <sup>4)</sup>	254,300 <sup>5)</sup>	-0-		306,800	306,800
d. CORONA	8,180,000 <sup>1)</sup>	5,835,250	640,000	1,611,000	4,224,250		5,835,250
e. Air Section	4,907,186	4,949,635	4,727,635	4,949,635			4,949,635
f. External Research							
(1) CENIS	250,000	250,000	250,000	250,000			250,000
(2) State	87,275	85,836	86,000	85,836			85,836
g. S.E.I.	350,000	726,246	825,000	726,246			726,246
h. C-130B	-0-	8,981,095	-0-	-0-		8,981,095	8,981,095
i. OKCART	7,041,463	93,150,000	73,510,000 <sup>2)</sup>	-0-	75,000,000	18,150,000	93,150,000
	33,407,556	128,266,588	93,446,112	21,604,443 <sup>3)</sup>	79,224,250	27,437,895	128,266,588

1) Of this total \$4,100,000 is DOD money.

2) Of this total, \$65,000,000 is to come from DOD.

3) Of this total, \$21,000,000 has been allocated from the DD/P allocation. It is expected that the difference will be made up from savings.

4) Does not include development costs of \$664,444 which were approved as part of TSS FY 60 budget.

5) Not included in FY 61 budget submission.

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ANNEX 28

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17 August 1967

MEMORANDUM FOR: Deputy Director for Science and Technology

SUBJECT: TAGBOARD Program

1. This memorandum is for information only.
2. This Office has little information about the TAGBOARD program since its transfer to Director, Program D, NRO, in 1963. However, since the Agency handles contracting for TAGBOARD, some background information is available. A significant events summary chronology of the program is attached, based largely on information available to the Office of Special Activities Contracting Officer.
3. Additional comments about the program that follow are based on informal remarks made in the past several weeks by Kelly Johnson, Col. Clason B. Saunders, Director, Program D (case officer of the program) or as indicated.
4. Initially the TAGBOARD D-21, Mach 3.3 drone was to be carried on top of and launched from specially modified A-12 aircraft (originally two) which were designated M-21's. In this configuration the D-21 drone ramjet engine was to be ignited, checked out while attached to the M-21 and launched at speeds of Mach 3 - 3.2 for cruise flights at altitudes of 85-95,000 feet for a distance of about 3,000 miles. At recovery, camera, payload and certain equipments are ejected and retrieved, by a parachute air snatch accomplished by special C-130 aircraft, with the basic D-21 drone vehicle being destroyed.
5. After loss of an M-21 aircraft during a flight test launch in 1966, the program was reviewed by NRO and reoriented. Two B-52-H aircraft were substituted in place of the M-21 launch aircraft and configured to accommodate a modified D-21 drone, redesignated the D-21B, which would be gravity dropped from the B-52H launch vehicle. The reoriented program required an addition to the D-21B drone of a solid propellant

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OXCART/TAGBOARD

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BYE 2559-67

Page 2

rocket booster (in essence a second stage) and associated equipment to enable the drone to be accelerated, after drop from the B-52H, to an appropriate altitude and ram pressure (to start the inlet) at which time the D-21B drone ramjet engine would be ignited. The program called for the use of a solid rocket, which had been previously qualified and man-rated for the Apollo program. However, according to Col. Saunders, sometime after the reoriented program was under way, Kelly Johnson ascertained that the new D-21B configuration needed more thrust and, as a result, the rocket had to be redesigned and increased in size to accommodate the new requirement. Recently problems have been encountered with qualifying the redesigned rocket. Kelly Johnson said that quality control problems were encountered in the rocket case materiel but corrective action has been undertaken. Also according to Col. Saunders, it was necessary to add a flame shield type of nozzle to the aft end of the rocket to protect the drone from hot exhaust temperatures of the rocket. Aside from the aforementioned major redesign effort, we have been hearing (off the record) of some concern being expressed by Lockheed performance people about the eventual range of the D-21B drone, originally forecast at 3000 nm. OXCART practical flight experience in Southeast Asia indicates that the severity of upper air hot day temperatures (above standard day) encountered may reduce D-21B specification range by as much as 10% in similar situations. Also, there is some concern that wind shears or rapid temperature changes may possibly induce flameouts when operating in areas of the world where these situations are encountered.

6. Step by step, the TAGBOARD reoriented program has evolved from a purported initial simple second stage configuration, with an on-the-shelf qualified rocket capability, into a redesigned one of increased size and complexity. It is not known to what extent Kelly Johnson returned to the wind tunnel to verify these rather major changes from the initial approved reoriented TAGBOARD program. Kelly Johnson, however, exudes his usual confidence forecasting the satisfactory demonstration of the D-21B in four test flights scheduled later this year. It is a rather optimistic feeling for such a complex reoriented program (new first stage, i. e., B-52H, and addition of a second stage, i. e. rocket et al).

(Signed)

JOHN PARANGOSKY

Deputy Director of Special Activities

Attachment

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EYE-2559-67I. Summary TAGBOARD ChronologyA. July 1962

Lockheed Aircraft Corporation (LAC) authorized to perform a drone configuration and feasibility study for approximately six months.

B. December 1962

LAC authorized to proceed towards design and fabrication of 20 drones and conversion of two A-12 aircraft (WEDLOCK) to launch vehicles. Definitive contract later provided essentially for the following:

1. Conversion of two A-12 aircraft to M-21 launch aircraft
2. Fabrication of 20 D-21 drones
3. Static testing of one of the 20 drones
4. Flight test of 12 airplane months, including demonstration of specifications
5. Initial spares, AGE, manuals, facility construction (Bldg. 199 and Area 51) and other related items.

C. March 1963

Hycon authorized to proceed with fabrication of cameras. Definitive contract later provided essentially for:

1. One prototype HR-335 camera
2. Nine production HR-335 cameras
3. Flight test program
4. Initial spares, AGE, manuals, etc.

D. October 1963

At NRO request technical responsibility for the program was

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BYE-2559-67  
Page 2

transferred from CIA/OSA to General Geary (now Col. Saunders), Program D Director, with contracting to remain with CIA/OSA.

E. April 1966

LAC authorized to proceed with production of 15 additional Model D-21 drones.

F. August 1966

On fourth test drone launch over PMR the M-21 launch aircraft (S/N 135) was destroyed leaving one M-21 aircraft S/N 134 as the only launch vehicle. Of the initial 20 drones fabricated, this left 15 D-21 drones (one used for static testing and four for launches). Without a back-up launch vehicle, program was re-evaluated.

G. September 1966

LAC advised to continue program on a limited basis.

H. December 1966

LAC provided with one B-52H aircraft (as a replacement for M-21 launch aircraft) for modification to a launch configured aircraft, but to continue program on a limited basis.

I. January 1967

After NRO review program reoriented: LAC authorized to:

1. Retrofit the 15 remaining D-21's to D-21B configuration
2. Fabricate seven additional D-21B's in lieu of the 15 D-21's previously authorized
3. Modify the B-52H aircraft
4. Produce long lead items for modification of second B-52H launch aircraft

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J. May 1967

LAC advised to procure long lead items for eight additional drones. (15 retrofit, 7 production and long lead for 8)

K. July 1967

LAC advised to proceed with twelve additional drones (15 retrofit and 19 production).

L. August 1967

LAC delivery schedule received for current approved program:

Drone Delivery Schedule

Retrofit D-21 Drones to D-21B Aircraft Configuration:

<u>Serial Number</u>	<u>Date</u>
501	1967 July
507	August
508	August
509	September
510	September
511	October
512	October
513	November
514	November
515	December
516	December
517	1968 January
518	January
519	February
520	February

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BYE-2559-67  
Page 4Production D-21B Drones:

<u>Serial Number</u>	<u>Date</u>
521	1968 March
522	April
523	May
524	June
525	July
526	August
527	September
528	October
529	November
530	December
531	December
532	1969 January
533	February
534	March
535	March
536	April
537	May
538	June
539	June

M. August 1967

Proposal received from Hycon to finish the updating of the ten cameras previously furnished under the initial contract and to deliver eleven additional cameras. (After the loss of launch aircraft S/N 135 Hycon was also advised to work on a limited basis, i. e., procurement of long lead items, etc., until approval to proceed with reoriented program was received.)

N. A second B-52H launch aircraft has been assigned to the program and furnished to LAC for modification in September 1967. Estimated completion of modification is December 1967 including check-out.

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BYE-2539-67  
Page 5II. General

A. Initial D-21B drone flight testing will be conducted from Area 51 through December 1967 and later at Beale Air Force Base. Four drone test launches are scheduled to be made by the end of December 1967 to demonstrate specifications. It is also planned that two of the launches will include Hycón camera tests.

B. The following NRO funding has been allocated, thus far, to the TAGBOARD program as indicated:

FY 1963	6,415,000
FY 1964	33,475,000
FY 1965	34,300,000
FY 1966	22,208,000
FY 1967	48,516,000
*FY 1968	36,733,400**
	<u>\$181,647,400</u>

\*As of 15 August 1968

\*\*Includes \$2,000,000 for long lead items for procurement of sixteen drone systems to be procured in FY 1969. (Contractors, LAC and Hycón, have been advised that future procurements are anticipated to be sixteen drones and eight cameras per year.)

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ANNEX 29

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7 October 1963

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT: Abolition of the Office of Special Activities - Pros and Cons

1. This memorandum is for your information.
2. In connection with FY 1965 budget and manpower limitations, it has been suggested that CIA withdraw voluntarily from the entire National Reconnaissance Program, and that the assignments of the Office of Special Activities be transferred to the United States Air Force.
3. Such an action would reduce the CIA manning table by approximately 700, half of them Air Force personnel on assignment to whom we have made no career commitment. By doing so, we would save only \$12 million in FY 1965, since all of the developmental and operational programs are now funded in the Air Force (NRO) budget. This elimination would reduce DD/S&T by one half and eliminate our residual substantive influence on the reconnaissance program.
4. However, the tragedy in such an elimination would be a national one. The Intelligence Community now depends on satellite and aircraft photography for the majority of its raw intelligence on the Soviet-Sino Bloc. Two systems have produced all of this photography to date - the U-2 and CORONA - both products of the Office of Special Activities and its predecessor, the Development Projects Division. These two systems also provide an unusual amount of hard intelligence on the uncommitted and semi-friendly world. Were it not for an in-house CIA developmental and operational capability, albeit strongly supported by the Air Force, there is real question in everyone's mind whether we would now have either of these priceless national assets.
5. The U-2 flew higher and farther and took pictures because intelligence was its only mission. Likewise, the CORONA succeeded and was gradually improved because national intelligence was its only mission. On the other hand, intelligence will always rank fourth or fifth on

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the Air Force priority list, as compared with strategic and tactical warfare, not to mention military space. This is as it should be, but it does not presage a dramatic change in Air Force policy.

6. The essential fact in evidence is that CIA (Office of Special Activities) has demonstrated by performance an ability to identify, pursue and operate reconnaissance programs which provide the majority of our national intelligence. I submit that they do so because they are in the intelligence business. The OSA represents the only proven group in the Government - or at least outside the Air Force - which can carry a development program through from conception to operation. Continuity of civilian personnel in the organization and CIA flexibility in bringing outstanding non-Government people into participation on a meaningful basis are major reasons for this record. The argument that this activity is a parasitic one is handily abolished by OXCART which is leading both DOD and civilian (SST) supersonic aircraft by a wide margin. This capability has been painfully developed over the past ten years and now represents a major national resource. It is not a resource to be brokered away lightly.

7. The transfer of the assignments of OSA to the Air Force would do little to enhance their capabilities and would assure no greater control of the NRP for the Intelligence Community. Neither is it a factor in influencing the NRO, for its role has been progressively reduced from that of a wife to a domestic. Rather, it would remove the one pacing group from the reconnaissance field. By executive decision, manned overflights of denied territory have been carried out only by the CIA since 1956 so as to assure maximum secrecy and permit plausible denial. To transfer this function to the Air Force should be made a matter of Presidential decision.

8. It is not clear that the operational role played by OSA, especially in the U-2 program, could be effectively handled by the Air Force. Elaborate base negotiations and use of foreign national pilots is a new assignment for the Air Attaches in areas where DD/P coordination of intelligence activities is already strained. It is not clear that adequate secure Air Force communications exist to existing and planned bases. Certainly, there is question in my mind whether an Air Force U-2 program could or would exploit the opportunities offered by U. S. Navy carrier platforms.

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9. There is also a very serious question whether covert contracting, under CIA's unique legislation, and proper security could be maintained if OSA were abolished, since these functions are now performed in-house by special arrangement and appear in the OSA personnel budget. CIA security influence over the entire National Reconnaissance Program would certainly diminish if the structure of security controls were transferred to the Air Force.

10. The basic argument against abandoning OSA to the Air Force is not a bureaucratic one. Rather, it is that OSA represents a unique national asset: an experienced, integrated organization with a demonstrated capability for developing and operating reconnaissance systems which produce intelligence data upon which this country has come to rely. Until that record is matched, I submit that we can find better opportunities to save \$12 million and 700 positions somewhere else in the Federal Government.

(Signed)

ALBERT D. WHEELON  
Deputy Director  
(Science and Technology)

cc: DDCI  
EX DIR  
Deputy to DCI/NIFE

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ANNEX 30

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BYE 2165-65

3 February 1965

MEMORANDUM FOR: Director, NRO

SUBJECT: IDEALIST Program Summary

1. In order to forecast the life expectancy and utility of the U-2, it is necessary to assess briefly the capabilities of other covert reconnaissance systems in being, both satellite and manned.

a. CORONA. Basically, the KH-4 role is one of search reconnaissance and broad area surveillance. Presumably, the system has nearly reached the ultimate in its performance. The results of NPIC comparison of the KH-4 product to U-2 photography over Cuba demonstrate that KH-4 is not the successor to manned aircraft reconnaissance.

b. GAMBIT. KH-7 is the system which most closely approximates U-2 quality. However, it has been the least reliable reconnaissance system and remains in R&D status. Even upon achieving operational readiness, KH-7's lack of quick response and its subjection to perishable weather forecasts make it unlikely that KH-7 will be an early successor to the U-2 other than in areas now denied the latter.

c. Albeit a SKYLARK capability is being developed, and the general OXCART capability is being improved, it is not foreseen within the immediate future that the OXCART will be technically ready for employment over the Sino-Soviet Bloc.

2. It is apparent from the above that there is no successor to U-2 reconnaissance in the immediate future. It may be therefore assumed that the life expectancy for the U-2 will be at least two more years, operating in the same general areas as at present--China, North Korea, Sino-Indian border, SEA, Cuba, Tuamotu Archipelago, and wherever a requirement may be generated.

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3. Beyond 1966, the requirement for the U-2 becomes less clear as to identification of specific target areas. It can be assumed, however, that the international scene will be no less parlous than it is now, and crises will continue to occur which will require covert reconnaissance. They could occur in South America, Africa, the Middle East, and Indonesia. For reasons of mobility, economy, reliability, and quick response, the U-2 would be the appropriate reconnaissance vehicle.

4. The useful life of the U-2 is limited by the introduction of unfavorable defensive environments. As such defenses develop, this will shrink the areas in which the U-2 may safely operate. In light of the history of surface-to-air missile deployment outside the communist sphere, it seems doubtful that by 1970 the areas of safe operation for the U-2 will be much more circumscribed than at present.

5. To supplement future intelligence gathering reconnaissance, there exists a long-standing requirement for base-line photography of broad areas of the earth, particularly in Africa and South America. National sensitivities will preclude, in all probability, such acquisition other than by covert means. The U-2 provides the best vehicle for an enterprise of such magnitude.

6. The five-year forecast submitted to the Executive Committee on 1 September 1964 is still considered valid, and the utility life of the U-2 will depend largely on availability of aircraft as attrition takes its toll in the ensuing years.

(Signed)  
Jack C. Ledford  
Colonel, USAF  
Director, Program B

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ANNEX 31

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11 November 1955

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT: Meeting with Messrs. Quarles and  
Gardner on 14 November 1955

1. You will remember that the basic purpose of this meeting is to try to reach agreement on the manner in which the budget for Project AQUATONE/OILSTONE for Fiscal Year 1957 will be handled. The major practical question at issue is whether this budget (which will amount to about fifteen million dollars) is to be included in the CIA budget, which in turn is buried in the Defense budget or, alternatively, whether the whole amount is to be included in the Air Force budget. I have discussed this matter at some length with Colonel Ritland and with Colonel Berg (the Air Force project officer for AQUATONE) and it has appeared to all three of us that a number of rather far-reaching underlying issues must be considered in order to arrive at a sensible conclusion on the immediate practical question. I comment briefly on these issues in the following paragraphs.

2. One point on which I feel extremely strongly, and on which Colonel Ritland and Colonel Berg agree with me, is that the budget for this project must be included in the CIA budget if the present administrative arrangements are to continue in effect during Fiscal Year 1957. At the present time AQUATONE is housed in CIA space, governed by CIA security regulations, and placed in a line of command outside of the regular Air Force line of command. This arrangement was the one contemplated in the proposal originally approved by higher authority and it is the one you have favored throughout our discussions with the Air Force. It is working smoothly and effectively with the basic principle of conducting AQUATONE as a clandestine intelligence gathering operation accepted by all concerned. It is, however, out of the question that this Agency should continue to play its present part in the administration and control of the project unless it is budgeting for at least a sizeable part of the cost. Actually, I believe that on the basis of our present planning the Air Force will incur at least half of the cost of the project throughout its life since the Air Force is furnishing some thirty to forty million dollars worth

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of materiel, existing and newly built facilities at overseas bases and operational support which will probably cost more than the direct operational activities for which we have budgeted. Accordingly, I must recommend to you in the very strongest terms can employ that we either budget ourselves for the direct cost of this project for Fiscal Year 1957 or set in motion immediately the turn over of the full control of the project to the Air Force. Only a fiscal theorist could even seriously suggest an intermediate alternative.

3. The foregoing recommendation defines the practical question that must be decided at this time. Contemplation of this practical question, however, inevitably involves thought as to what is to be the ultimate fate of AQUATONE (if it turns out to be feasible to continue the operation of this project for a number of years) or of the successor activities which surely must be contemplated if AQUATONE itself turns out to have a short life. Moreover, this question cannot be disentangled from that of the manner in which similar activities are organized and carried out within the Air Force. In short, it is hard to chart a sensible course for AQUATONE without trying to decide how all activities of this sort could best be organized within the U.S. Government.

4. Without attempting to lead you through extensive argumentation, I will summarize my own views on this matter as follows. I might say that these are concurred in by Colonel Ritland and I believe they are regarded as sensible by Colonel Berg.

a. The present dispersion of responsibility, when by activities of the sort here under discussion are being carried on by USAFE, FEAF SAC, and ourselves is uneconomic and involves considerable risk of duplication of effort and of inadequacy of central control. It would probably be desirable in the long run to create a single operating organization, controlled directly from Washington, which would carry out all overflight activities involving penetrations of more than a few miles in depth in peacetime. This organization could draw heavily on existing commands (and on the CIA) for support.

b. The argument against the conduct of overflights by strictly military organizations with air crews that are members of

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the Armed Services of the United States is even more powerful today than it was a year ago. Though the second Geneva Conference has demonstrated that the Russians are nearly as unyielding as ever, enough of the spirit of the first Geneva Conference is still adrift so that anything that could be identified as an overt act of military aggression would call down serious political penalties upon this country. Accordingly, if there is to be a single organization responsible for overflights, its aircrews should be civilians; it should be organized to as great an extent as feasible with civilian personnel; and its activities should be regarded as clandestine intelligence gathering operations.

c. The foregoing considerations lead me to the conclusion that the single organization here proposed should be a mixed task force, organized outside of the framework of any of the regular military services though drawing extensive support from them. On the other hand, I am inclined to believe that the Air Force should own a majority of the common stock in this organization, by contrast with the present situation in which the CIA owns the majority of the common stock in AQUATONE. In any event, however, I believe that both CIA and the Air Force should contribute personnel and support and consideration might even be given to bringing the other services in as minority stockholders.

d. One further argument in favor of some such arrangement as that here proposed is that an organization with a permanent interest in this activity would be in a position to stimulate continuing research and development. It is worth noting that with two early and unimportant exceptions the aircraft under production for AQUATONE are the first ever designed exclusively for a reconnaissance mission and, of course, are the only ones that have ever been designed to meet the requirements of altitude, range and security imposed by the contemplated mission.

5. The views advanced in the preceding paragraphs have to do with the ultimate organization (and by inference, financing) of overflight activities. Meanwhile, how is AQUATONE to be carried on for another fiscal year? The following considerations, I submit, all suggest that the present arrangement should be continued through Fiscal Year 1957 or until such time as a more permanent arrangement can be arrived at.

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a. At the present time it would be difficult if not impossible for the Air Force to take over the responsibility for AQUATONE and to carry the project on in anything approaching the present fashion. Air Force procurement procedures differ sharply from those that have been employed in this project. The Air Force is less well organized to make use of a predominantly civilian maintenance and support organization, which has been developed in this case for well considered and solid reasons. Within the Air Force an operational activity of this sort would undoubtedly be made the responsibility of SAC or of another operational command. In this way the project would become a direct military activity and the advantages of plausible denial by the military establishment and of attributability only to the civilian intelligence arm would be lost.

b. Although the present arrangement cannot be regarded as a permanent one, it will take time to evolve either the pattern proposed above, or any other arrangement that will perpetuate certain of the advantages of the present one. The surest way to encourage some sound and well-thought-through plan of overflight organizations is to maintain the status quo long enough (a) to prove (or disprove) the AQUATONE capability and (b) to allow the emergence of a carefully-thought-out plan for the longer run.

c. Regardless of these considerations, grave practical difficulties would confront a shift of responsibility as early as the summer of 1956. The end of this fiscal year will occur only two and a half months after the target date for the initiation of operations. It is vital that command channels and organizational arrangements not be disturbed at that point. Nine or twelve months later it is to be hoped that the organization conducting the project will be seasoned, its equipment accumulated and the phasing out of civilian personnel in favor of the military will be feasible (if it is then desirable). Indeed, the risks involved in a major change some nine and a half months from now are so great that I believe the shift might well be undertaken at once if it is going to have to be made so soon.

6. I am not closing my eyes to the practical problem of getting money from the Bureau of the Budget and from Congress. I would emphasize three points, however, that bear directly upon this ugly task.

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First: I believe it should be made absolutely clear to the Director of the Budget that, as stated in paragraph 2 above, the issue is not merely a financial one of which Agency shall budget for a required expenditure but is basically one of organization and ultimate responsibility. If the Bureau of the Budget recommends Air Force financing it is in fact making a recommendation about the character of and the responsibility for this project. The issue should be discussed in these terms.

Second: It should be kept in mind at all times by all concerned that we are making a choice between (a) burying X dollars for CIA in the Air Force budget, and (b) adding the same X dollars to the Air Force budget. Whatever the outcome the Congress is going to be asked to vote X dollars in the Air Force budget. Moreover, X dollars is far too big to get by on any basis without explanation to someone. I am unable to see why security is served by explaining the purpose to which the X dollars will be put to the whole Armed Services and Appropriations Committees instead of to the smaller number of Congressmen and Senators who pass on the CIA budget.

Third: No matter how the accounts are set up, this project should be supported before the Bureau and before Congress by the Air Force and the CIA jointly and their joint support should be in such terms as to make it unmistakably clear that they are agreed on the urgency of the requirement, the size of the budget, and the organizational arrangements under which the project is being carried on. If this is done, I believe there is little bearing on purely political grounds between one choice of financing and another.

7. In the light of the above I recommend:

a. That you propose to Messrs. Quarles and Gardner that they undertake an examination of the organization of overflight reconnaissance activities, the CIA to join in their discussions insofar as CIA activities and interests are concerned, and that we endeavor to arrive, after full consideration, at a rational and orderly pattern for the longer run.

b. That, pending the outcome of such study, AQUATONE be continued under the present organizational arrangement in Fiscal Year

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1957, with a provisional decision at this time, however, that some more permanent long-run arrangement will come into effect no later than Fiscal Year 1957.

c. That the CIA budget for the direct costs of AQUATONE in 1957 as presently planned but that the budget for this project be presented and defended to the Bureau of the Budget and the Congress jointly by the two agencies.

d. That in the interests of security as well as for the other reasons listed above, the Air Force reconnaissance activities employing the special Lockheed aircraft to be bought by the Air Force be closely integrated with the activities of AQUATONE, with the hope that this integration of activities may turn out to be a step toward the permanent long-range arrangements to be evolved in the course of the next year and a half.

(Signed)

RICHARD M. BISSELL, Jr.  
Special Assistant to the Director  
for Planning and Coordination

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ANNEX 32

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Special Handling

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YTHE SECRETARY OF DEFENSE  
Washington, D. C.

6 September 1961

The Honorable Allen W. Dulles  
Director of Central Intelligence  
Washington, D. C.

Re: Management of the National Reconnaissance Program

Dear Mr. Dulles:

This letter confirms our agreement with respect to the setting up of a National Reconnaissance Program (NRP), and the arrangements for dealing both with the management and operation of this program and the handling of the intelligence product of the program on a covert basis.

1. The NRP will consist of all satellite and overflight reconnaissance projects whether overt or covert. It will include all photographic projects for intelligence, geodesy and mapping purposes, and electronic signal collection projects for electronic signal intelligence and communications intelligence resulting therefrom.

2. There will be established on a covert basis a National Reconnaissance Office to manage this program. This office will be under the direction of the Under Secretary of the Air Force and the Deputy Director (Plans) of the Central Intelligence Agency acting jointly. It will include a small special staff whose personnel will be drawn from the Department of Defense and the Central Intelligence Agency. This office will have direct control over all elements of the total program.

3. Decisions of the National Reconnaissance Office will be implemented and its management of the National Reconnaissance Program made effective: within the Department of Defense, by the exercise of the authority delegated to the Under Secretary of the Air Force; within the Central Intelligence Agency, by the Deputy Director (Plans) in the performance of his presently assigned duties. The Under Secretary of the Air Force will be designated Special Assistant for Reconnaissance to the Secretary of Defense and delegated full authority by me in this area.

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4. Within the Department of Defense, the Department of the Air Force will be the operational agency for management and conduct of the NRP, and will conduct this program through use of streamlined special management procedures involving direct control from the office of the Secretary of the Air Force to Reconnaissance System Project Directors in the field, without intervening reviews or approvals. The management and conduct of individual projects or elements thereof requiring special covert arrangements may be assigned to the Central Intelligence Agency as the operational agency.

5. A Technical Advisory Group for the National Reconnaissance Office will be established.

6. A uniform security control system will be established for the total program by the National Reconnaissance Office. Products from the various programs will be available to all users as designated by the United States Intelligence Board.

7. The National Reconnaissance Office will be directly responsive to, and only to, the photographic and electronic signal collection requirements and priorities as established by the United States Intelligence Board.

8. The National Reconnaissance Office will develop suitable cover plans and public information plans, in conjunction with the Assistant Secretary of Defense, Public Affairs, to reduce potential political vulnerability of these programs. In regard to satellite systems, it will be necessary to apply the revised public information policy to other non-sensitive satellite projects in order to insure maximum protection.

9. The Directors of the National Reconnaissance Office will establish detailed working procedures to insure that the particular talents, experience and capabilities within the Department of Defense and the Central Intelligence Agency are fully and most effectively utilized in this program.

10. Management control of the field operations of various elements of the program will be exercised directly, in the case of the Department of Defense, from the Under Secretary of the Air Force to the designated project officers for each program and, in the case of the Central

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Intelligence Agency. Major program elements and operations of the National Reconnaissance Office will be reviewed on a regular basis and as special circumstances require by the Special Group under NSC 5412.

If the foregoing is in accord with your understanding of our agreement, I would appreciate it if you would kindly sign and return the enclosed copy of this letter.

(Signed)  
Roswell L. Gilpatric  
Deputy Secretary of Defense

1 Atch:  
Chart "Single Mgmt for  
National Reconnaissance  
Programs" (TS)

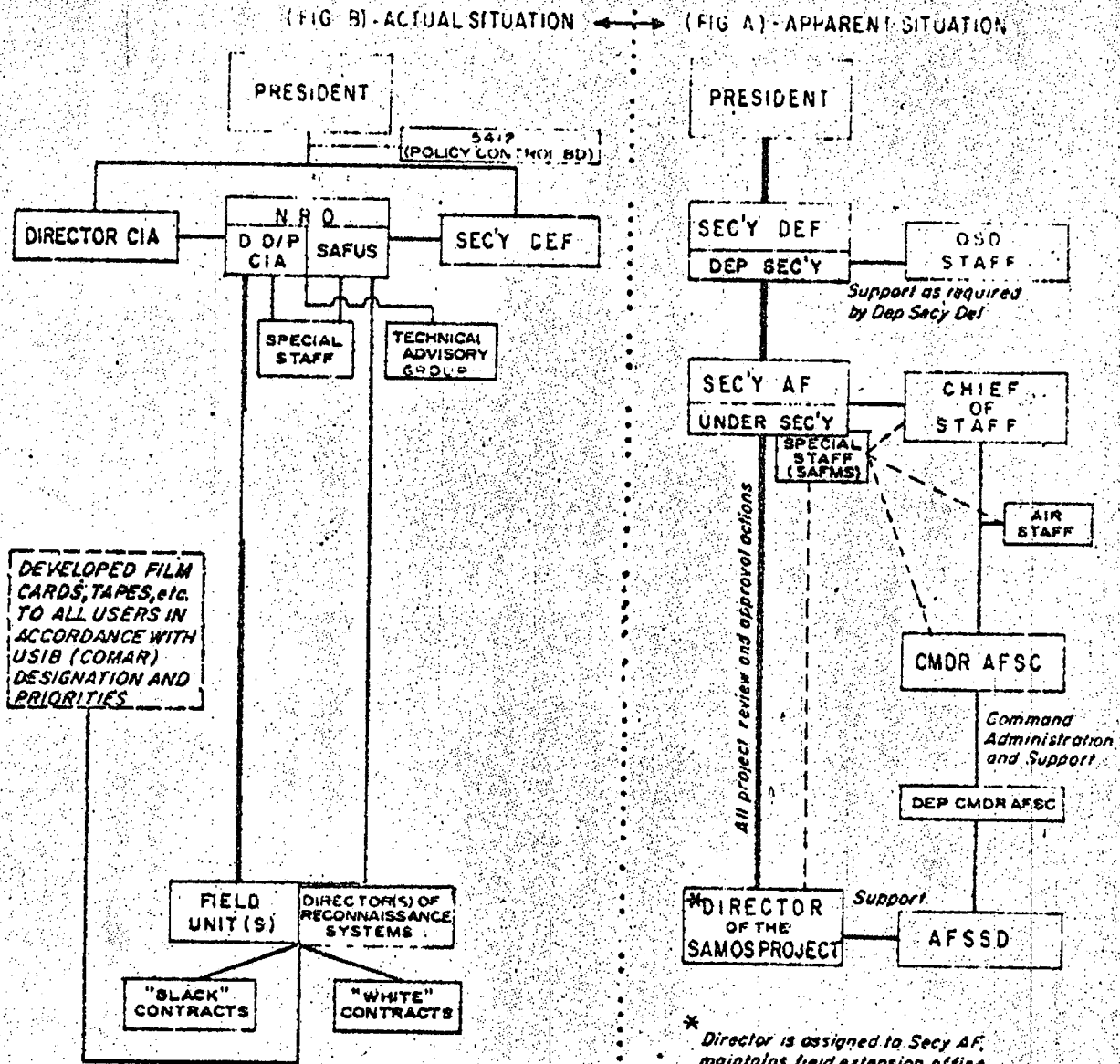
CONCUR:

(Signed) C. P. Cabell  
General, USAF  
Acting Director, Central Intelligence Agency

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# TOP SECRET SPECIAL HANDLING SINGLE MANAGEMENT FOR NATIONAL RECONNAISSANCE PROGRAM(S)



\* Director is assigned to Secy AF, maintains field extension office at AFSSD, also serves as Vice Commander, AFSSD

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ANNEX 33



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5 December 1961

## DIVISION OF RESPONSIBILITY WITHIN NRO

1. The NRO is composed of certain offices within the Department of the Air Force and the Central Intelligence Agency. It is headed by co-directors each of whom acts using the authority of his overt position within his own organization. The NRO has inherited responsibility for several reconnaissance programs which are in different stages of development and operation and which have been managed both technically, operationally, and with respect to security, in somewhat different fashions.

2. There exists today a workable and well understood division of responsibility between the two offices for the several programs with which the NRO is concerned. It is contemplated that there will be no immediate change in the established division of responsibility but consideration will be given to a redefinition of responsibilities for those programs that are today in their earlier stages in such a way as to make the best use of the capabilities of the two participating organizations.

3. The present allocation of responsibilities with respect to the major programs is as follows:

a. CORONA/MURAL/ARGON: The Air Force has primary responsibility for (1) launch scheduling and launching; (2) orbit and recovery operations; (3) development and procurement of boosters, orbiting vehicles, and Elint payloads. CIA has primary responsibility for (1) targeting; (2) procurement of photographic payloads and nose cones; (4) security.

b. SAMOS: The Air Force has primary responsibility for SAMOS with CIA in a supporting role. The latter is important particularly in target planning and in security planning.

c. OXCART: This is the primary responsibility of the CIA with the Air Force in a supporting role.

4. With respect especially to the later configurations of SAMOS and to other advanced systems, consideration will be given to gradual

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modification of this distribution of responsibilities. In general, it is clear that Air Force elements will retain primary responsibility for operations and for vehicle development and procurement. For the most part these activities not only can but must be "white", that is, conducted in a reasonably public fashion. CIA's main contribution will be in target planning, serving as the communication channel for operational control, security, and that development and procurement which should be "black". More specifically, the following gradual changes will be considered:

a. It may soon be possible for all procurement of nose cones (recovery systems) to be white in which case this should be assumed by the Air Force.

b. It would appear that there will be an increasing pressure to conduct the development/procurement of at least certain cameras covertly; the CIA may assume a larger responsibility with respect to all such systems.

(Drafted by Eugene P. Kiefer  
Special Asst for Tech Analysis  
DPD/DDP

Approved by R. M. Bissell, Jr. DD/P  
Copies sent, with agreement of  
Under Secty of AF, Dr. Charyk,  
to PFIAB (Mr. Coyne) and the  
White House (Gen. Maxwell Taylor)

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ANNEX 34

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2 May 1962

COPYAgreement BetweenSecretary of Defense and the Director of Central IntelligenceonResponsibilities of the National Reconnaissance Office (TS)Definitions:

- NRO        National Reconnaissance Office
- NRP        National Reconnaissance Program, to consist of all overt and covert satellite and overflight projects for intelligence, geodesy and mapping photography and electronic signal collection.
- DNRO       Director, National Reconnaissance Office

Policy:

The following plan outlines basic policy for the establishment of functions and responsibilities within the National Reconnaissance Office to insure that the particular talents, experience and capabilities within the Department of Defense and the Central Intelligence Agency are fully and most effectively utilized in the establishment, management and conduct of the National Reconnaissance Program. The DNRO will be designated by the Secretary of Defense and the Director of Central Intelligence, and will be responsible directly to them for the management and conduct of the NRP.

1. Requirements and Priorities:

The NRO will be directly responsive to, and only to, the photographic and electronic signal (SIGINT) collection requirements and

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priorities established by the United States Intelligence Board and will develop the over-all reconnaissance program to satisfy these requirements.

2. Management:

a. The technical management responsibility for all the NRP is assigned to the DNRO. Under this over-responsibility for NRP, DNRO will utilize existing resources in the following manner:

(1) CIA will be the Executive Agent for DNRO for those covert projects already under its management and such additional covert projects as are assigned to it by the Secretary of Defense and the Director of Central Intelligence.

(2) To provide for full use of available capabilities and resources, and to provide for interface with data exploitation equipment development by agencies outside the NRO, personnel of Army, Navy, Air Force and CIA, will be assigned, on a full-time basis, to appropriate positions within the NRO under the DNRO.

(3) A firm liaison channel between the NRO and the NSA will be established as an adjunct to the technical management structure of signal collection projects, and the conduct of such projects carried out in accordance with the exploitation responsibilities of the NSA.

(4) Planning will encompass maximum utilization of the technical and operational resources of the DOD, the Army, Navy, Air Force, NSA and the CIA to support all collection programs, including, but not limited to, electronic signal and photographic collection programs.

b. Financial Management:

(1) The DNRO will be responsible for funding the NRP. DOD funds will be allocated on an individual project basis and will appear as appropriately classified line items in the Air Force budget. CIA will be responsible for funding covert projects for which it has management responsibility under paragraph 2. a. (1) above.

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(2) DNRO will have responsibility for all NRP contracts in accordance with the assignment of technical management responsibility in paragraph 2. a. Consistent with paragraph 2. a. (1), CIA will be the Executive Agent of the DNRO, responsible for administering procurement and contracting for covert projects for which it is assigned responsibility under paragraph 2. a. (1), and for covert contracting necessary for the support of overt projects.

3. Security:

In accordance with the basic responsibility of the Director of Central Intelligence for protection of intelligence sources and methods, CIA will establish security policy for the NRP, including provision for a uniform system of security control and appropriate delegations of security responsibility.

4. Operations:

a. Scheduling: The mission schedule for all NRP efforts will be the sole responsibility of DNRO, subject to coordination with CIA on covert projects for which it is Executive Agent and the obtaining of appropriate clearances where required from higher authority. Operational control for individual projects under the NRP will be assigned to the DOD or to the CIA by the DNRO in accordance with policy guidance from the Secretary of Defense and the Director of Central Intelligence. DNRO will be responsible to assure that mission planning will make full use of all intelligence available in the community.

b. Format: The DNRO will be responsible for the format of the collected NRP product as follows:

(1) Photographic format will include the initial chemical processing, titling, production and delivery to the users as specified by the USIB.

(2) Electronic signal data format will include the decommutation, conversion, technical correction and reconstruction of the

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collected signal data to yield a usable collection product. DNRO will deliver the collection product in proper format together with associated data necessary for exploitation, to the NSA or other user as specified by the USIB.

c. Engineering Analysis: The DNRO will be responsible for engineering analysis of all collection systems to correct the problems that exist on the operating system as well as to provide information for new systems. In connection with covert projects for which CIA is the Executive Agent, this responsibility will be carried out under the supervision of CIA.

5. The DNRO is responsible for advanced plans (post CY-1962) in support of the NRP. In view of the DCI's major responsibility to the NSC for all intelligence programs, all NRO advanced planning will be coordinated with CIA.

6. Public releases of information will be the responsibility of the DNRO subject to the security guidance of CIA.

7. The Deputy Director (Research), CIA, will be responsible for seeing that the participation of CIA in this Agreement is carried out.

(Signed)  
JOHN A. McCONE  
Director of Central Intelligence

(Signed)  
ROSWELL L. GILPATRICK  
Deputy Secretary of Defense

2 May 1962

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ANNEX 35



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## DEPARTMENT OF THE AIR FORCE

23 JUL 1962

MEMORANDUM FOR: NRO Program Directors  
Director, NRO Staff

SUBJECT: (S) Organization and Functions of the NRO

- References:
- (a) Deputy Secretary of Defense memo, for multiple Addressees, Subject, (TS) DOD-CIA Agreement, dated 14 June 1962
  - (b) DOD-CIA Agreement dated 2 May 1962 re NRO
  - (c) DOD Directive TS-5105, 23 dated 14 June 1962
  - (d) Deputy Secretary of Defense memo, for multiple addressees, Subject, (s) National Reconnaissance Office, dated 14 June 1962

1. Purpose.

This memorandum will serve to establish the basic organization of the NRO and functions of the individual NRO elements, and outline the over-all concept of organization and operation. It is effective immediately and will apply until superseded by issuance of formal NRO regulations.

2. Organizational Concepts.

a. Although the NRO is established as an operating agency, the sensitivity of its mission and the security required for its projects and activities make it necessary to conceal all aspects of the NRO organization behind other plausible, overt names, organizations and functions. The NRO thus will be a separately organized, operating agency concealed entirely within other agencies, using personnel and other resources of these agencies on a full or part time basis as required.

b. The NRO will be kept as small as possible in order to operate with the efficiency and quick reaction time required. The Office will

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consist of carefully selected personnel of the highest qualifications, and will be confined to the minimum number required to accomplish the task under the conditions which apply. By arranging these personnel so that other, larger groups may be controlled through overt (additional duty) assignments of NRO Program Directors, the actual size of the NRO may be kept quite small, and thus more easily concealed, although the size of the personnel and resources directly controlled is necessarily large. Thus, in addition to personnel within the NRO, there will be many others who work full time on projects of the NRP under the complete control of the NRO, others who work part time on such projects, and still others who have knowledge of the NRO and/or some projects of the NRP but who are not actually involved in such work at all.

c. Accordingly, the NRO is defined to consist of the DNRO, the NRO Staff, the NRO Program Directors, and their Project Directors and key staff officers. (See Fig 1, attached). At the present there are two NRO Program Directors, with the Director, Program A being responsible for NRP satellite effort conducted by the NRO through utilization of Department of the Air Force resources, and the Director, Program B being responsible for NRP effort conducted by the NRO through utilization of Central Intelligence Agency resources. A Director, Program C is being established to be responsible for NRP effort conducted by the NRO through utilization of Naval Research Laboratory resources. Additional Program Directors will be established, if required, upon decision to undertake development of new projects.

d. Necessary organizational cover for the NRO is or will be provided as follows:

(1) The activities of the DNRO are covered by his position of Under Secretary of the Air Force.

(2) The NRO staff will be covered by the overt title of Office of Space Systems, Office of the Secretary of the Air Force. The Director, Office of Space Systems will be the overt title of the Director, NRO Staff. The NRO staff will receive all administrative and logistic support from the Office of the Secretary of the Air Force.

(3) The activities and office of the Director, Program A are covered by his overt primary duty assignment as the Director of Special Projects, Office of the Secretary of the Air Force, and his field extension of the Office of the Secretary at El Segundo, California.

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Through specified additional duty and specific agreements and written administrative arrangements, he directly controls all resources of the Air Force Space Systems Division which are involved in full or part time work for the NRO.

(4) An appropriate and similarly effective arrangement will be established for the Director, Program C.

(5) The activities and office of the Director, Program B are covered by his overt duty as Deputy Director/Research, CIA.

e. As appropriate, and within the limits of the established strength of the NRO, the DNRO will invite nominations from appropriate Services and Agencies for well qualified individuals to serve in the NRO. Selection of personnel for such duty will be on the basis of individual qualifications for the NRO tasks concerned. These qualifications will include, in addition to education and over-all experience, knowledge of both the principal problems of the parent Service or Agency of concern to the NRO, and the key personnel concerned with these problems. Although personnel selected for duty in the NRO will accomplish liaison and coordination in the course of their NRO duties, they will not be liaison officers as such, or representatives of their parent Service or Agency; they will be full time members of the NRO, serving a full tour on an inter-agency transfer basis, and responsible solely to their NRO supervisors for the duration of such tour.

f. Streamlined management procedures approved by the DNRO will be used throughout all aspects of the NRO management. Program Directors will be responsible directly and solely to the DNRO.

g. Necessary personnel and resources will be made available to Program Directors by the applicable Service or Agency. All such normally required support of the NRO will be covered by suitable documentation, prepared by Program Directors in conjunction with the Service or Agency concerned, and approved by the DNRO.

h. Services and Agencies supporting the NRO and NRP will make no reference to such support outside NRO channels except to identify the total of supporting manpower and resources as "committed in full (or part) support of work assigned under the provisions of paragraph IIB, DOD Directive No. TS 5105.23."

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i. The DNRO is responsible for all funding of the NRP. All covert funds will be budgeted by the CIA, and all covert NRP contracts will be let by the CIA as Executive Agent for the DNRO. In cases where the technical management of covert NRP contracts is assigned to Directors of Program A or C, the CIA may co-locate procurement personnel with the Director concerned. All other NRP funds will be budgeted in appropriately classified items of the Air Force budget. Funds will be transferred to appropriate Services and Agencies on an incremental funding basis, based upon specific approval of assigned NRP work by the DNRO.

j. Although the Program Directors will be responsible for carrying out the operational phases of assigned NRP projects, certain specific operations functions will be carried out within the NRO in Washington. In general, these functions will be those tasks which directly concern the NRO interface with the USIB, which determines program requirements, targets, and priorities, and with the principal users of program results. To the maximum extent possible, all tasks concerning these interfaces will be accomplished within the Washington part of the NRO under the close personal supervision of the DNRO. These tasks will include establishment of the mission schedule for all NRP projects, the approval of specific mission plans, and the obtaining of appropriate clearances where required from higher authority.

(1) Subject to the above provisions, the DNRO will assign operational control for aircraft projects to the appropriate Program Directors. The NRO staff will keep the DNRO currently informed of the status of such operations.

(2) In the case of satellite projects, the NRO staff will be responsible for actual mission planning from the standpoint of specifying desired targets to be covered, desired on-orbit target program options (to the extent that such options exist within the system capability of individual projects), and approval of the actual mission target program and options which are programmed into each flight vehicle. The staff will also make all on-orbit selection between target coverage options, based on weather or intelligence factors. The staff will utilize direct communications links with the Satellite Test Annex (STA) at Sunnyvale, California, and will be assisted in this task by personnel and computer resources of the STA. Where computer programs are required to assist in mission programming, such programs will be developed to provide the maximum flexibility and choice to the staff, and will provide for efficient re-cycling to meet specific target requirements identified after initial mission programs have been computed.

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(3) The NRO staff also will be responsible for NRO interface with the USIB, and for NRO coordination of all peripheral reconnaissance activities.

### 3. Program Directors

a. Program Directors will be "second in command" of the NRO for matters assigned to them. The Director, NRO Staff will be responsible for notifying the appropriate Program Director in case emergency actions are required during the temporary absence of the DNRO. (In case of a long absence, an acting DNRO will be appointed).

b. Each Program Director will submit for DNRO approval at the earliest:

(1) Diagrams, names of personnel, and brief identification of the duties of all of their personnel coming within the definition of the NRO, as outlined herein. Two separate diagrams and duty descriptions will be submitted: one showing the actual NRO organization and duties, and the other showing the overt organization and apparent duties.

(2) Similar identification of all other personnel involved in full or partial support of assigned NRO matters. In case of partial support, the proportion of each individual's work in support of the NRO will be shown.

(3) A list of key non-NRO personnel who are absolutely essential to the conduct of assigned NRO work. Upon approval of this list, the DNRO will make arrangements with the parent Service or Agency so that these personnel will not be transferred or re-assigned without his prior approval. Normally, such personnel will be transferred only when a qualified replacement can be in place for sufficient time prior to departure of the incumbent to assure no serious effect on NRO work.

### 4. NRO Staff

a. In addition to such other duties as the DNRO may assign, the principal responsibilities of the NRO staff will be to:

(1) Assist the DNRO to maintain current knowledge of the status of each project of the NRP.

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(2) Assist the Program Directors by accomplishing all project matters which require action above the Program Director's level in Washington.

(3) Establish and maintain the NRO interface with the USIB and with the principal users of NRP results.

(4) Carry out the operational responsibilities described elsewhere herein as functions of the NRO staff, including satellite mission planning from the point of view of selection of targets and target options, and exercise of all on-orbit target options.

(5) Coordinate all peripheral reconnaissance activities of the U. S. with the missions of the NRP.

(6) Keep designated personnel in each Service and specified Agency completely informed on the content and status of the NRP in order that they may take the action necessary to prepare for adequate exploitation of the collected intelligence products.

(7) Conduct studies of the over-all NRP to determine the most reasonable combination of projects and number of missions that should be planned to meet the total requirements and priorities established by USIB. Monitor detailed studies of individual projects conducted or contracted for by Program Directors.

(8) Monitor and take all necessary staff action to handle State Department, UN, DOD, JCS, and Congressional matters which affect the NRO or NRP.

(9) Assist the DNRO in establishing and maintaining effective streamlined management procedures appropriate to the mission of the NRO and consistent with the security considerations which apply.

(10) Provide staff support to the DNRO for any matter required in connection with his duties, including preparation of reports, illustrations and briefings covering any aspect of the NRP.

b. The organization and functional composition of the NRO Staff is shown in Fig 2, attached.

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(1) The Assistant for Plans and Policy will be responsible for over-all assistance in establishing and maintaining NRO management procedures and the interface of such procedures with all Washington offices and agencies concerned. He will also be responsible for handling State, UN, Disarmament, and DOD matters affecting the NRO or NRP.

(2) The Assistant for Plans and Policy will also be responsible for the continuous study of the over-all NRP, with particular attention to the determination of the number and type of projects required to assure the most efficient and effective over-all program. He will be assisted in this responsibility by a Deputy Assistant (Photo Plans) and a Deputy Assistant (SIGINT Plans).

(3) In order to assure that his responsibilities are discharged in critical appreciation of the present state of NRP capabilities, limitations, and difficulties, the Assistant for Plans and Policy will draw upon other members of the NRO staff and members of the Program Directors' staffs for appropriate part time assistance. Detailed studies of specific projects will be assigned to the appropriate Program Director, as well as all studies for which contractual action is required.

(4) The Deputy for Aircraft Projects will be responsible for assisting appropriate Program Directors in obtaining necessary support for all aircraft and drone projects of the NRP, and for keeping the DNRO currently informed on the status and capabilities of such projects. He will also be responsible for coordination of U. S. peripheral reconnaissance missions with aircraft and drone missions of the NRP.

(5) The Deputy for Satellite Projects will be responsible for assisting appropriate Program Directors in obtaining necessary support for all satellite projects of the NRP, and for keeping the DNRO currently informed on the status and capabilities of such projects.

(6) The Deputy for Operations will be responsible for all satellite operations tasks herein assigned to the NRO staff (ref. par. 2 j). He will be responsible for coordination of U. S. peripheral reconnaissance missions with satellite missions of the NRP. In addition, he will be responsible for the NRO working interface with the USIB in regard to target requirements and priorities.

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(7) The NRO comptroller will be a designated assistant to the Assistant Secretary of the Air Force (Financial Management).

5. Determination of need-to-know

Program Directors will determine need-to-know for all persons who are actively working on assigned NRO matters under their jurisdiction. The DNRO will determine need-to-know for all other persons for all projects of the NRP.

6. Exploitation Planning.

In order to permit adequate preparation for exploitation of the results of NRP projects while necessarily restricting the number of persons having knowledge of the actual collection projects, the following procedure will be followed. The NRO staff will brief and keep current the Intelligence officers of each Service and three of their selected "workers," the Director, DIA, and his designated personnel of the DIA Special Activities Office, the Director, NPIC, and his designated personnel, and the Director, NSA and designated personnel. Except for the DIA, the designated personnel will not exceed three officers in addition to the Chief or Director. These persons will be supported by adequate cleared secretarial and clerical personnel, and will be completely briefed on all applicable collection projects of the NRP. As a result, they will be expected to review the exploitation capabilities of their Service or Agency, and direct the necessary preparatory action. Although such direction will be based upon their specific knowledge of the collection programs of the NRP, the action will be directed by virtue of the organizational authority of the directing official without requiring any further disclosure of specific NRP project data. Normally, no other operational clearances will be granted on the basis of need to prepare for exploitation. Necessary technical data will be released in timely fashion under the product clearance to enable full exploitation of the collected products.

7. Project Responsibility Documents

Program Directors, in conjunction with the NRO Staff, will prepare a separate document for each NRP project for which they have been assigned primary responsibility. This documents will identify the specific assignment of responsibilities for all aspects of the project,

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including pertinent agreements that have been made. Such documents will be signed by all Program Directors concerned and submitted to the DNRO for approval.

8. Processing of NRO Matters

Prior specific approval of the DNRO will be required for any matter of the NRO or NRP to be processed to higher authority.

/s/ Joseph V. Charyk  
Joseph V. Charyk  
(S) Director, National Reconnaissance Office

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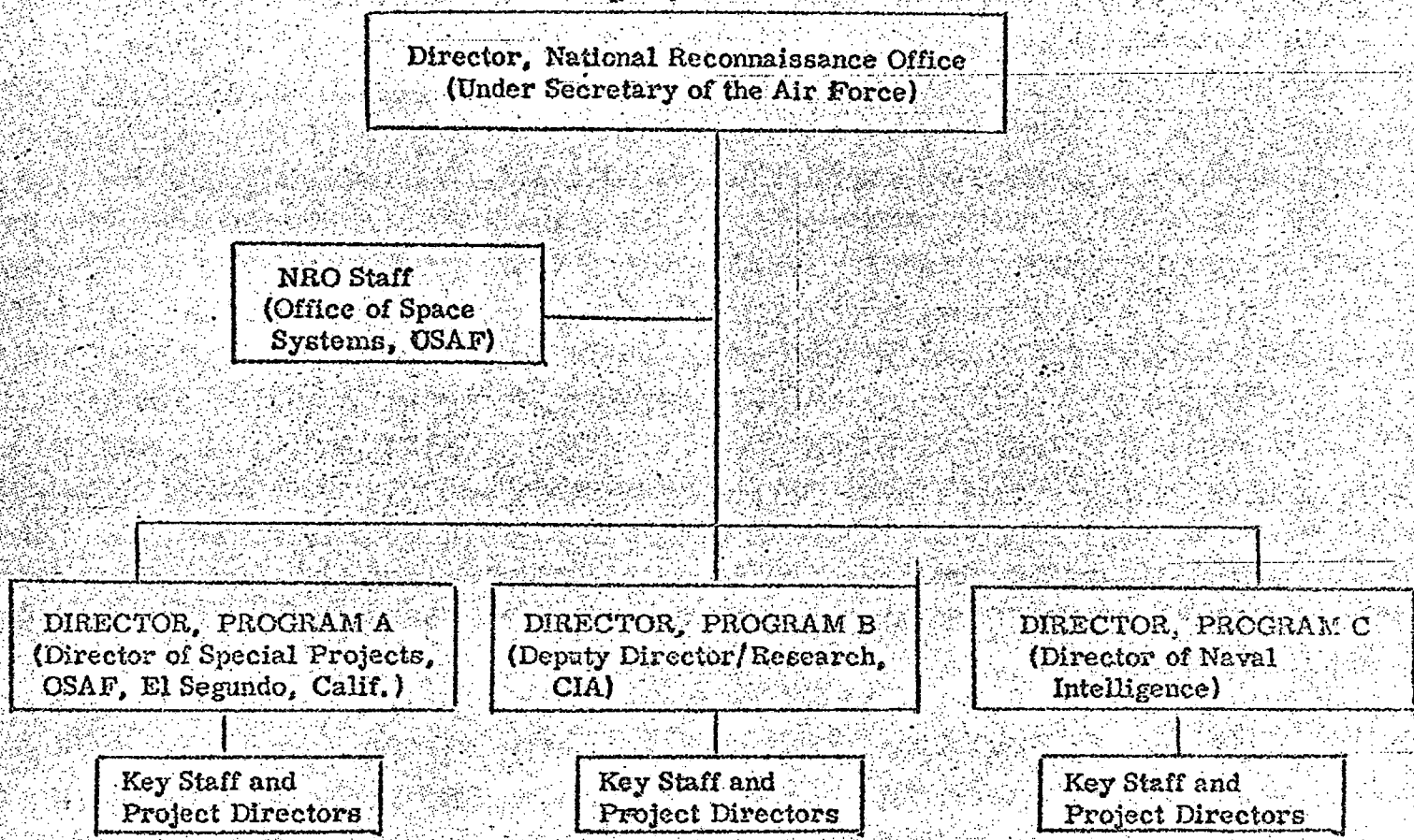
1. Fig 1 - NRO
2. Fig 2 - NRO Staff

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NOTE: Unclassified titles shown in parentheses.

Fig 1 - (s) National Reconnaissance Office

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13 March 1963

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AGREEMENT BETWEEN  
THE SECRETARY OF DEFENSE AND  
THE DIRECTOR OF CENTRAL INTELLIGENCE  
ON  
MANAGEMENT OF THE NATIONAL RECONNAISSANCE PROGRAM

I. Management of the National Reconnaissance Program

A. To insure that the particular talents, experience and capabilities within the Department of Defense and the Central Intelligence Agency are fully and most effectively utilized in the establishment, management and conduct of the National Reconnaissance Program, the Secretary of Defense and the Director of Central Intelligence hereby agree that the Secretary of Defense shall be the Executive Agent for the National Reconnaissance Program, which shall be developed, managed and conducted in accordance with policies and guidance jointly agreed to by the Secretary of Defense and the Director of Central Intelligence.

B. To carry out his responsibilities as Executive Agent for the National Reconnaissance Program, the Secretary of Defense will establish as a separate operating agency of the Department of Defense a National Reconnaissance Office under the direction, authority and control of the Secretary of Defense.

C. In the execution of their respective responsibilities the Secretary of Defense and the Director of Central Intelligence may designate appropriate officials of the Office of the Secretary of Defense and the Central Intelligence Agency to examine and monitor on their behalf the activities of the National Reconnaissance Office.

II. Organization and Command of the National Reconnaissance Office

The National Reconnaissance Office shall consist of:

A. A Director appointed from among the officers and employees of the Department of Defense by the Secretary of Defense with the concurrence of the Director of Central Intelligence, who shall devote a major portion of his time to the business of the National Reconnaissance Office.

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B. A Deputy Director appointed from among the officers and employees of the Central Intelligence Agency by the Director of Central Intelligence with the concurrence of the Secretary of Defense. The Deputy Director NRO shall be in the chain of command directly under the Director NRO and shall at all times be kept fully and currently informed as to all activities of the National reconnaissance Program. Under the direction of the Director NRO he shall be responsible for:

1. Supervising relations between the NRO and the United States Intelligence Board and its subcommittees, and the intelligence exploitation community.
2. Supervising all NRP tasks assigned by the Director NRO to the Central Intelligence Agency.
3. Performing such other duties as may be assigned by the Director, NRO.

The Deputy Director shall act for, and exercise the powers of the Director, NRO, during his absence or disability.

C. Such personnel of the Army, Navy, Air Force, other components of the Department of Defense and the Central Intelligence Agency as shall be assigned on a full time basis to appropriate positions within the National Reconnaissance Office.

D. The chain of command shall run directly from the Secretary of Defense as Executive Agent to the Director, NRO. Guidance to the Director, NRO, shall be furnished by the Secretary of Defense as Executive Agent hereunder and by the United States Intelligence Board.

### III. Functions and Responsibilities of the National Reconnaissance Office

Subject to the direction, authority and control of the Secretary of Defense, the National Reconnaissance Office, under the operational direction and control of its Director, is responsible for the management of all aspects of the NRP, including but not limited to:

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A. Development on a continuing basis for the approval of the Secretary of Defense and the Director of Central Intelligence of a single National Reconnaissance Program of all projects for collection of intelligence, mapping and geodetic information through overflights over denied territory, by collection systems exclusive of normal peripheral operations. Maximum use will be made of appropriate technical and operational capabilities and resources of the Department of Defense, NSA and CIA to support all collection and processing projects.

B. Responding directly and solely to the intelligence collection requirements and priorities established by the United States Intelligence Board.

C. Scheduling all missions for overflights in the National Reconnaissance Program, obtaining appropriate clearances where required from higher authority.

D. All NRP flights over denied territory, employing appropriate capabilities, facilities and resources of the Department of Defense and the Central Intelligence Agency.

E. Initial imagery processing, titling, production and delivery of the collected product to the users as specified by the USIB.

F. Decommuration, conversion, technical correction and reconstruction of the collected electronic signal data to yield a usable collection product, and delivery of such collection product in proper format together with associated data necessary for exploitation to the NSA or other user as specified by the USIB.

G. Engineering analysis of all collection systems to correct the problems that exist on the operating systems as well as to provide information for new systems.

H. Planning and conduct of research and development of future NRP projects, utilizing appropriate resources and capabilities of the DOD, CIA and private contractors.

I. Presentation, as required, of all aspects of the NRP to the Special Group and the President's Foreign Intelligence Advisory Board.

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J. Maintenance of a uniform system of security procedures and control in accordance with security policy established for the NRP by the Director of Central Intelligence.

K. Preparation of budget requests for all NRO programs, and presentation and substantiation of such budget requests to the Secretary of Defense and the Director of Central Intelligence, the Bureau of the Budget and Congressional Committees. CIA will include in its budget presentation to the Bureau of the Budget and Congressional Committees the funds for those NRP tasks which are assigned to CIA and which are to be financed from NRO resources.

L. Direction and management of the application of, and administration of all funds made available for the National Reconnaissance Program. Funds expended or obligated under the authority of the Director of Central Intelligence under Public Law 110 will be administered and accounted for by CIA.

M. Rendition of status of funds reports and analyses.

N. Release of public information subject to the security guidance of CIA.

#### IV. Authorities

The Director, National Reconnaissance Office, in connection with his assigned responsibilities for the National Reconnaissance Program, shall be authorized to:

A. Organize, staff and supervise the National Reconnaissance Office.

B. Establish, manage and conduct the National Reconnaissance Program.

C. Assign all project tasks such as technical management, contracting, etc., to appropriate elements of the DOD and the CIA, changing such assignments, and taking any such steps he may determine necessary to the efficient management of the NRP.

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D. Issue appropriate instructions and procedures implementing this agreement.

V. Relationships

A. In carrying out his responsibilities for the National Reconnaissance Program, the Director, National Reconnaissance Office shall:

1. Report directly to the Secretary of Defense and shall keep him and the Director of Central Intelligence currently informed on the NRO and the NRP. In addition he shall keep such officials of the Department of Defense and the Central Intelligence Agency as the Secretary of Defense and the Director of Central Intelligence may respectively designate under the provisions of paragraph I. C. to examine and monitor the National Reconnaissance Program on their behalf, personally informed on a regular basis, or on request, on the status of projects of the National Reconnaissance Program.

2. Establish appropriate liaison between the National Reconnaissance Office and the United States Intelligence Board, the Joint Chiefs of Staff, the Defense Intelligence Agency, and the National Security Agency.

3. Where appropriate make use of qualified personnel of the Department of Defense and the Central Intelligence Agency as full-time members of the National Reconnaissance Office.

4. Make maximum utilization of appropriate technical and operational capabilities and resources of the Department of Defense, the National Security Agency and the Central Intelligence Agency to support all collection and processing programs including but not limited to, electronic signal and imagery programs.

B. Officials of all elements of the Department of Defense and the Central Intelligence Agency shall provide support within their respective authorities to the Director, National Reconnaissance Office, as may be necessary for the Director to carry out his assigned responsibilities and functions. Streamlined management procedures shall be utilized whereby individual project directors will report directly to the Director, National Reconnaissance Office. The Director, National Reconnaissance Office, shall be given support as required from normal staff elements of the

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military departments and agencies of the Department of Defense and of the Central Intelligence Agency concerned, although these staff elements will not participate in those project matters except as he specifically requests, and those projects will not be subject to normal Department of Defense or Central Intelligence Agency staff review.

VI. Effective Date

This agreement is effective upon signature and supersedes the DOD-CIA NRO Agreement dated 2 May 1962.

13 March 1963

(Signed)

John A. McCone  
Director of Central Intelligence

(Signed)

Roswell Gilpatric  
Deputy Secretary of Defense

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NATIONAL RECONNAISSANCE OFFICE

PROGRAM FUNDING

1. Definitions:

Program - Refers, in the broadest sense, to the NRO.

Projects - Refers to major elements within the NRP, such as OXCART, CORONA, etc.

Tasks - Refers to a work effort assigned by the DNRO which is a portion of a project or which provides for a separate item not considered a complete mission item.

2. The National Reconnaissance Program will be financed from appropriations for the military functions of the Department of Defense.
3. The NRP will be implemented, based upon individual projects and tasks approved by the DNRO and the NRPD through the issuance by the DNRO of program directives to the program directors; i. e. CIA Program Director (Program Baker) in the instance of projects and tasks to be accomplished through CIA.
4. Based upon the program directive, the CIA Program Director (Program Baker) will prepare a definitized program document, including the estimate of funds required therefor. The Comptroller of CIA will prepare a Standard Form No. 1080 "Voucher for Transfers Between Appropriations and/or Funds" in the amount of the estimated funds required as shown on the definitized program document and will cross-reference via a code identifier.
5. The definitized program document and the Standard Form No. 1080 voucher will separately be transmitted to the NRO. The NRO will arrange for the accomplishment of the Standard Form No. 1080 voucher and thereby accomplish the advance to the CIA of the precise amount estimated to be required for the specific individual project or task as previously approved by the Director NRO.
6. In the event that funding requirements for a project or task may change during the course of the fiscal year, the Program Director in CIA will submit a revised definitized program document to indicate revised dollar estimates for decision by DNRO. To the extent revision in

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dollar estimates are approved by the DNRO, the Comptroller CIA will prepare a Standard Form 1080 voucher in the amount of the change and transmit same to the NRO. The NRO will arrange for the required reprogramming of funds and for the accomplishment of the Standard Form 1080 voucher, thereby adjusting the amount of the advances in accordance with the approval of the NRO.

7. Funds advanced to the CIA for each specific project or task will be available only for the specific project or task for which advanced. Any adjustments between projects or tasks will require the specific approval of the DNRO. Flexibility within each project or task is authorized without reference to the DNRO, provided that the total advance for the project or task is not exceeded.
8. The CIA will report at least monthly the fiscal status of each project or task in relationship to the amount advanced to the CIA therefor.
9. The foregoing arrangements will be effective for FY 1964 and subsequent fiscal years.
10. FY 1963 funds appropriated to CIA for NRO programs will be obligated in accordance with assignment of NRO projects and tasks by the DNRO.

The foregoing Program Funding Agreement is effective upon signature and becomes an appendix to the DOD-CIA NRO Agreement dated 13 March 1963.

(Signed)

John A. McCone  
Director  
Central Intelligence Agency

5 April 1963

(Signed)

Roswell Gilpatric  
Deputy Secretary of Defense

4 April 1963

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ANNEX 37

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10 May 1963

METHOD OF OPERATION FOR THE DD/NRO

Reference: DOD-CIA Agreement on NRO dated 13 March 1963 (BYE 6655-63)

1. The referenced agreement defines the duties of the DDNRO, under the direction of the DNRO, as follows:
  - a. Keeping fully and currently informed as to all activities of the NRP.
  - b. Supervising relations between the NRO and the United States Intelligence Board and its subcommittees, and the intelligence exploitation community.
  - c. Supervising all NRP tasks assigned by the Director, NRO to the Central Intelligence Agency.
  - d. Performing such other duties as may be assigned by the Director, NRO.
  - e. Acting for, and exercising the powers of the Director, NRO, during his absence or disability.
2. The DDNRO will retain his present office location and supporting staff as the Deputy Director (Research), CIA. In addition, the Director, NRO Staff will provide a Pentagon office for the DDNRO within the restricted area presently occupied by the NRO Staff. The NRO Staff will provide secretarial and any other assistance required by the DDNRO during occupancy of his Pentagon office. Normally, the DDNRO will use his Pentagon office on a part-time basis. However, when serving as Acting DNRO due to absence or disability of the DNRO, he will occupy his Pentagon office as required.
3. In order to permit the DDNRO to be kept fully and currently informed on all activities of the NRP,
  - a. The Director, NRO Staff will establish internal NRO administrative procedures which will insure that the office of the DDNRO will receive on a routine routing basis copies of all incoming and outgoing correspondence, cables, etc. The NRO Staff will earmark those items

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which they believe require specific attention of the DDNRO, and arrange for priority delivery when appropriate.

b. The Director, NRO Staff will establish procedures to assist the DDNRO to keep informed on NRO problems and actions in work. These procedures will consist of regularly scheduled informal discussions with the DDNRO by senior NRO Staff personnel. Normally, these discussions will be held in the CIA office of the DDNRO, at a time selected by him.

c. The NRO Staff will keep the DDNRO office informed of all major meetings or briefings in order that the DDNRO may attend, or send a representative, if appropriate.

d. The NRO Staff normally will coordinate with the DDNRO action matters of particular interest in regard to his assigned responsibilities prior to presenting them to the DNRO, although such prior coordination shall not be a prerequisite for the Staff to take up any matter with the DNRO. In presenting all actions to the DNRO, the NRO Staff will indicate the coordination which has been obtained, and will obtain any additional coordination which may be required by the DNRO.

4. In order to carry out his responsibilities for supervising relationships between the NRO and USIB, the DDNRO will work with the USIB and its subcommittees, and with the DIA, to insure that appropriate requirements guidance is provided to the NRO for the development and execution of the NRP. He will insure that the NRO keeps the USIB and the DIA adequately informed on NRO programs so that this guidance will be meaningful. With appropriate assistance from NRO Staff, the DDNRO will work with the intelligence exploitation community, primarily NPIC, NSA, and DIA, to insure that a proper interface exists between the NRP and those responsible for exploiting its products. This activity will involve both working with the exploiters to insure adequate preparation to handle the collected products, and insuring that specialized requirements of the exploiters are adequately considered in the development and operation of the collection systems.

5. In carrying out his duties in regard to the CIA support of the NRP, the DDNRO will be responsible for:

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- a. insuring that the CIA is responsive to NRO direction and guidance on all NRP projects and/or tasks assigned to the CIA;
  - b. insuring that the DNRO is informed on the progress of all NRO projects and/or tasks assigned to the CIA, and on any critical problems arising in connection therewith;
  - c. submitting to the DNRO for approval the programs and budgets for NRO projects and/or tasks assigned to the CIA;
  - d. insuring that all NRO funds made available to the CIA are used only for work which has been approved by the DNRO;
  - e. insuring that the CIA has within its own budget the necessary funds and personnel to provide internal CIA support for all assigned NRP responsibilities;
  - f. initiating preparation of proposals for operational employment of NRO projects assigned to the CIA. Such proposals will be submitted to the DNRO, and upon his approval, forwarded to the Special Group and higher authority for approval, as necessary. The DDNRO will act as the NRO spokesman during such higher level presentations when appropriate, as determined by the DNRO.
6. In carrying out the duties of Acting DNRO during a designated absence of the DNRO, the DDNRO will perform all of the functions of the DNRO, following the policies previously established by the DNRO. The NRO Staff will carry out all of its activities in support of the Acting DNRO in the same manner as for the DNRO.
7. The DDNRO shall be in the chain of command directly under the DNRO, although not an intermediary echelon between the DNRO and NRO Program Directors, the NRO Comptroller, or the Director, NRO Staff. The DDNRO shall have command authority over all elements of the NRO when serving as Acting DNRO during the absence or disability of the DNRO.

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ANNEX 38



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11 August 1965 .

AGREEMENT FOR REORGANIZATION OF THE  
NATIONAL RECONNAISSANCE PROGRAMA. The National Reconnaissance Program

1. The NRP is a single program, national in character, to meet the intelligence needs of the Government under a strong national leadership, for the development, management, control and operation of all projects, both current and long range for the collection of intelligence and of mapping and geodetic information obtained through overflights (excluding peripheral reconnaissance operations). The potentialities of U. S. technology and all operational resources and facilities must be aggressively and imaginatively exploited to develop and operate systems for the collection of intelligence which are fully responsive to the Government's intelligence needs and objectives.

2. The National Reconnaissance Program shall be responsive directly and solely to the intelligence collection requirements and priorities established by the United States Intelligence Board. Targeting requirements and priorities and desired frequency of coverage of both satellite and manned aircraft missions over denied areas shall continue to be the responsibility of USIB, subject to the operational approval of the 303 Committee.

## B. The Secretary of Defense will :

1. Establish the NRO as a separate agency of the DoD and will have the ultimate responsibility for the management and operation of the NRO and the NRP

2. Choose a Director of the NRO who will report to him and be responsive to his instructions;

Excluded from automatic regrading;  
DoD Dir. 5200.10 does not apply.

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3. Concur in the choice of the Deputy Director of the NRO who will report to the DNRO and be responsive to his instructions;
4. Review and have the final power to approve the NRP budget;
5. Sit with members of the Executive Committee, when necessary, to reach decisions on issues on which committee agreement could not be reached.

C. The Director of Central Intelligence will:

1. Establish the collection priorities and requirements for the targeting of NRP operations and the establishment of their frequency of coverage;
2. Review the results obtained by the NRP and recommend, if appropriate, steps for improving such results;
3. Sit as a member of the Executive Committee;
4. Review and approve the NRP budget each year;
5. Provide security policy guidance to maintain a uniform system in the whole NRP area.

D. National Reconnaissance Program Executive Committee

1. An NRP Executive Committee, consisting of the Deputy Secretary of Defense, the Director of Central Intelligence, and the Special Assistant to the President for Science and Technology, is hereby established to guide and participate in the formulation of the NRP through the DNRO. (The DNRO will sit with the Executive Committee but will not be a voting member.) If the Executive Committee can not agree on an issue the Secretary of Defense will be requested to sit with the Committee in discussing this issue and will arrive at a decision. The NRP Executive Committee will:

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a. Recommend to the Secretary of Defense an appropriate level of effort for the NRP in response to reconnaissance requirements provided by USIB and in the light of technical capabilities and fiscal limitations.

b. Approve or modify the consolidated National Reconnaissance Program and its budget.

c. Approve the allocation of responsibility and the corresponding funds for research and exploratory development for new systems. Funds shall be adequate to ensure that a vigorous research and exploratory development effort is achieved and maintained by the Department of Defense and CIA to design and construct new sensors to meet intelligence requirements aimed at the acquisition of intelligence data. This effort shall be carried out by both CIA and DoD.

d. Approve the allocation of development responsibilities and the corresponding funds for specific reconnaissance programs with a view to ensuring that the development, testing and production of new systems is accomplished with maximum efficiency by the component of the Government best equipped with facilities, experience and technical competence to undertake the assignment. It will also establish guidelines for collaboration between departments and for mutual support where appropriate. Assignment of responsibility for engineering development of sensor subsystems will be made to either the CIA or DoD components in accordance with the above criteria. The engineering development of all other subsystems, including spacecraft, reentry vehicles, boosters and booster interface subsystems shall in general be assigned to an Air Force component, recognizing, however, that sensors, spacecraft and reentry vehicles are integral components of a system, the development of which must proceed on a fully coordinated basis, with a view to ensuring optimum system development in support of intelligence requirements for overhead reconnaissance. To optimize the primary objective of systems development, design requirement of the sensors will be given priority in their integration within the spacecraft and reentry vehicles.

e. Assign operational responsibility for various types of manned overflight missions to CIA or DoD subject to the concurrence of the 303 Committee.

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f. Periodically review the essential features of the major program elements of the NRP.

2. The Executive Committee shall meet on the call of either the Deputy Secretary of Defense or the Director of Central Intelligence. All meetings will be attended by the DNRO and such staff advisors as the Deputy Secretary of Defense or the Director of Central Intelligence consider desirable.

E. National Reconnaissance Office

1. To implement the NRP, the Secretary of Defense will establish the NRO as a separate operating agency of the DoD. It shall include the SOC which shall be jointly manned.

2. The Director of the NRO shall be appointed by the Secretary of Defense. The Director NRO will:

a. Subject to direction and control of the Secretary of Defense and the guidance of the Executive Committee as set forth in Section D above, have the responsibility for managing the NRO and executing the NRP.

b. Subject to review by the Executive Committee, and the provisions of Section D above, have authority to initiate, approve, modify, redirect or terminate all research and development programs in the NRP. Ensure, through appropriate recommendations to the Executive Committee for the assignment of research and development responsibilities and the allocation of funds, that the full potentialities of agencies of the Government concerned with reconnaissance are realized for the invention, improvement and development of reconnaissance systems to meet USIB requirements.

c. Have authority to require that he be kept fully and completely informed by all Agencies and Departments of the Government of all programs and activities undertaken as part of the NRP.

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d. Maintain and provide to the members of the Executive Committee records of the status of all projects, programs and activities of the NRP in the research, development, production and/or operational phases.

e. Prepare a comprehensive budget for all aspects of the National Reconnaissance Program.

f. Establish a fiscal control and accounting procedure to ensure that all funds expended in support of the National Reconnaissance Program are fully accounted for and appropriately utilized by the agencies concerned. In particular, the budget shall show separately those funds to be applied to research and exploratory design development, systems development, procurement, and operational activities. Funds expended or obligated under the authority of the Director of Central Intelligence under Public Law 110 shall be administered and accounted for by CIA and will be reported to DNRO in accordance with agreed upon procedures.

g. Sit with the USIB for the matters affecting the NRP.

3. The Deputy Director NRO shall be appointed by the DCI with the concurrence of the Deputy Secretary of Defense and shall serve full time in a line position directly under the Director NRO. The Deputy Director shall act for and exercise the powers of the Director, NRO during his absence or disability.

4. The NRO shall be jointly staffed in such a fashion as to reflect the best talent appropriately available from the CIA, the three military departments and other Government agencies. The NRO staff will report to the DNRO and DDNRO and will maintain no allegiance to the originating agency or Department.

F. Initial Allocation of Program Responsibilities

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1. Responsibility for existing programs of the NRP shall be allocated as indicated in Annex A attached hereto.

(signed)  
Cyrus Vance  
Deputy Secretary of Defense

(signed)  
W. F. Raborn  
Director of Central Intelligence

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The following assignments for the development of new optical sensor subsystems are made to take full advantage of technical capability and experience of the agencies involved.

1. The CIA will develop the improvements in the CORONA general search optical sensor subsystems.
2. Following the selection of a concept, and a contractor, for full-scale development, in the area of advanced general search, the CIA will develop the optical sensor subsystem for that system.
3. The Air Force (SAFSP) will develop the G-3 optical sensor subsystem for the advanced high-resolution pointing system.
4. SAFSP will develop the optical sensor subsystems (manned and unmanned) for the MOL program.

The Director, NRO will, in managing the corresponding over-all systems developments, ensure that:

1. The management of and contracting for the sensors is arranged so that the design and engineering capabilities in the various contractors are most efficiently utilized.
2. The sensor packages and other subsystems are integrated in an over-all system engineering design for each system, with DNRO having responsibility for systems integration of each over-all system.

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ANNEX 39



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BYE 0337-65/A

1 October 1965

The Honorable Alexander Flax  
 Director, National Reconnaissance Office  
 Department of Defense  
 Washington, D. C.

Dear Al:

The conclusion of a new NRO Agreement has caused us to examine the CIA organizational structure involved so as to assure ourselves that it will adequately support your office and its program. After careful study, we have decided to consolidate all of our satellite activities in the Office of Special Projects under Mr. John Crowley, and they will be responsible for CIA participation in CORONA, FULCRUM, [ ] and other projects as required. Manned reconnaissance aircraft development and operations will be the responsibility of the Office of Special Activities under Brigadier General Jack Ledford, which will manage the U-2 and OXCART programs. The development of airborne electronic equipment is accomplished in the Office of Elint under Mr. George Miller, but is responsive to the needs and program management of OSA. All of these offices report to the DD/S&T, who is Dr. Albert D. Wheelon. In addition to these activities, we have the NRO funded STPOLLY and STSPIN programs in the Special Operations Division of DD/P under Major General Walsh.

All of this activity will come to a management focus in the person of a Director of CIA Reconnaissance Programs, who will report to the DD/S&T. Admiral Raborn and I will count on this individual to keep us informed on the NRP as appropriate. This will provide you with a single authoritative point of contact within the CIA for all our programs. It will replace the present concept of a Program B manager and relieve General Ledford of the responsibility for programs over which he has no real authority. In the future we will expect General Ledford to serve only in a line capacity as part of the CIA organization, in place of his present dual responsibility which has proved difficult to him and us. It is our desire that the CIA program within the NRP be

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Page 2

so identified and that the Program B description of our activities be discontinued. I have designated Mr. Huntington Sheldon to serve in the capacity as Director of CIA Reconnaissance Programs on an interim basis, and all correspondence or requests bearing on CIA participation in the NRO should be addressed to him. We would hope that working level contact with the NRO Staff and Messrs. Crowley, Ledford, Miller, and Walsh would continue as before.

I believe that the implementation of these management steps will considerably enhance the ability of CIA to support the new NRO Agreement more effectively--an objective to which we are all pledged.

Sincerely,

(Signed)  
Richard Helms  
Deputy Director

cc: Mr. Vance  
Admiral Raborn  
Dr. Wheelon  
Mr. FitzGerals  
Mr. Reber

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12 January 1966

MEMORANDUM FOR : Huntington D. Sheldon

SUBJECT : Assignment of Responsibilities for NRO Matters

1. You will carry out the duties of Director of Reconnaissance, CIA in addition to your other duties as Chairman, USIB Watch Committee; Chairman, USIB SIGINT Committee; CIA SIGINT Officer; Special Assistant to the DD/S&T.

2. I look to you in your position as Director of Reconnaissance, CIA to keep in the closest touch with the Director and Deputy Director of the National Reconnaissance Office and to serve as the Agency's focal point in liaison with the NRO. You will be responsible for formulating, with appropriate coordination, the CIA views and position on all matters relating to the NRO. This will include the primary responsibility for preparing Agency responses to NRO memoranda, letters, and other requests for action or information on all subjects including fiscal and budgetary matters and those matters concerning CIA reconnaissance programs and operational approvals. You will keep the Office of the DCI informed and it will be your responsibility to seek my concurrence as and when required.

3. I will look to you to insure development of Agency positions for use before the NRO Executive Committee. In this connection you should effect coordination as necessary with the DD/S&T, who will attend Executive Committee meetings as my senior technical advisor.

4. In carrying out this responsibility, you will keep abreast of the work done by COMOR and the CIA Directorate of Intelligence in the field of intelligence requirements and targeting for reconnaissance. I regard it as of prime importance that the DCI be in a position at all times to comment on and take actions to correct any inadequacies of the National Reconnaissance Program, particularly in the meeting of national intelligence requirements.

5. You are also responsible for advising me on the budgetary and funding aspects of the National Reconnaissance Program. As a member

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of the NRO Executive Committee, the DCI will be taking an active part in the Executive Committee's consideration of the budgeting for and funding of all elements of the Program.

6. In accomplishing these tasks and to keep me fully informed, you will maintain the closest consultation with all appropriate elements of the Agency. Specifically, I want you to maintain close and continuing contact with the DD/S&T and the Office of Special Activities, the Office of Special Projects, and the Office of Elint; with the Deputy to the DCI for National Intelligence Programs Evaluation; with the Executive Director and, through him, the Office of Planning, Programming, and Budgeting; with COMOR; with the Deputy Director for Intelligence, NPIC, and the Collection Guidance Staff; and with the Deputy Director for Plans, particularly as NRO matters relate to CIA overseas responsibilities. All such Agency elements are to be responsive to your needs for information, advice, and assistance in developing the CIA position and the coordination of relationships on NRO matters.

7. The CIA Office of Security will be responsible for recommending security policy for the NRP and for supporting the NRO as required. The Office of Security will coordinate all NRO security policy matters with the DD/S&T and with you as the Director of Reconnaissance. I shall continue to delegate my authority to grant "need-to-know" approvals involving the NRP to the DD/S&T.

8. I shall expect you to develop the CIA position on matters affecting the processing and reporting of film and magnetic tape reconnaissance records in coordination with other elements of the Agency as necessary.

9. Nothing in this directive to you is to be construed as investing you with operational control of components of the Agency involved in the National Reconnaissance Program.

(Signed)  
W. F. Raborn  
Director

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DSS&T Historical Paper

No. OSA-1

Vol. III of XVI

# DIRECTORATE OF SCIENCE & TECHNOLOGY HISTORY

(TITLE OF PAPER)

History of the Office of Special Activities

Chapter V

(PERIOD)

From Inception to 1969

## DO NOT DESTROY

DECLASSIFIED UNDER AUTHORITY OF THE  
INTERAGENCY SECURITY CLASSIFICATION APPEALS PANEL,  
E.O. 13526, SECTION 5.3(b)(3)

ISCAP APPEAL NO. 2002-0049, document no. 3  
DECLASSIFICATION DATE: March 1, 2016

Controlled by : DSS&T

Date prepared : 1 April 1969

Written by : Helen Klayla

Robert O'Hern

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CHAPTER V. DEVELOPMENT AND  
PROCUREMENT: CONTRACTING  
FOR THE U-2

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CHAPTER V. DEVELOPMENT AND PROCUREMENT:  
CONTRACTING FOR THE U-2

In early December 1954, Lockheed Aircraft Corporation, the Perkin-Elmer Corporation and Pratt & Whitney Aircraft were given verbal authorization to proceed with work on the airframes, engines and photographic equipment for Project AQUATONE. Pratt & Whitney Aircraft was covered by an existing Air Force contract; the other two companies required a preliminary letter contract as soon as possible to cover the costs they were beginning to incur. Before proceeding with contract negotiations, in order to give the Director of Central Intelligence the benefit of Air Force judgment as to the reasonableness of the Lockheed proposal and the reliability and efficiency of the corporation, Mr. Bissell obtained a letter of endorsement signed by Mr. Trevor Gardner on 27 December 1954 (Annex 19). A similar endorsement with regard to the proposed photographic equipment was obtained from Lt. Gen. Putt on 14 January 1955 (Annex 40).

Lockheed Contract

The original negotiations with Lockheed were carried out in December 1954 by the General Counsel, Mr. Lawrence Houston, with Messrs. C. L. Johnson and Robert Bias. An agreed Letter Contract was signed by the company 3 January 1955 and negotiations began

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immediately on the definitive contract. A "Record of Negotiations, Contract SP-1913" (Annex 41) sets forth complete details of the contracting process and agreements reached as to price (\$22,500,000); terms (fixed price, redeterminable upward or downward at delivery of first aircraft or at the time 75% of costs are incurred); and payment plan. Appendix A of Annex 41 sets forth the scope of work. The original scope of work was increased during the life of the contract by nine major items, including six changes to the aircraft, amounting to \$2.8 million. Even with these added charges the final contract price for the original twenty U-2 aircraft was well within the Lockheed estimate.

A concise historical review in outline form of Contract SP-1913 from its initiation in January 1955 through final settlement in May 1958 was prepared by Lockheed and will be found at Annex 42. Final cost figures were as follows:

Cost	\$17,025,542
Profit	1,952,055
Final price	<u>\$18,977,597</u>
Saving from original estimate \$22,500,000	3,522,403

Reasonable allocation of the price would provide the following prices for items as indicated below:

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20 airplanes (\$656,948 each)	\$13,138,966
Spare parts	3,153,858
Ground Handling Equipment	500,519
Special Hatches	765,644
Spare Parts Packaging	254,140
Miscellaneous Items	1,164,470

The methods of Lockheed's Advanced Development Projects (ADP), known familiarly as the "Skunk Works", were a major factor in the development and production of the U-2 reconnaissance system. This division of Lockheed had been in operation since 1943 but until the U-2 was put into production in 1955 the ADP produced only experimental prototypes. The development of a production capability by ADP, using the simple, direct techniques of the original "Skunk Works" as opposed to the more involved management techniques used on other comparable projects, allowed for reductions in cost and time which led to the successful fulfillment of this contract.

In a report on ADP methods written in May 1965, Mr. Johnson said:

"The 'Skunk Works' method of operation can be used only when the government, on its side, grants the manufacturer an unusual amount of responsibility and freedom of action in the over-all management, development and production aspects of the program. It is necessary that both the government and the manufacturer have small, competent project offices to work together, and that contracting methods be direct and simple. There is no place for the extensive

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supervision of industry by government which is now so common under Air Force Regulations. . . The objectives, however, of many of these regulations must be obtained by straightforward, simple management revolving around the concept of using a few good people on each side to do the job." 1/

Perkin-Elmer Contract

In December 1954 the Perkin-Elmer Corporation was requested to take on the production of the photographic equipment for the project which had been designed by Dr. James Baker. The original approach was to Mr. Richard Perkin, President of the company, who agreed to undertake the work. Dr. Roderic M. Scott was also knowledgeable of the program since he, as Chief Scientist of Perkin-Elmer, had previously worked on the optics problems with Dr. Baker.

The company began preliminary planning and preparations for the work on the basis of verbal agreement that a redeterminable, fixed-price contract would be negotiated between the Agency and the corporation when the complete scope of work and cost estimates were known. A Letter Contract was signed 5 January 1955 authorizing expenditures up to \$2.5 million, but it took four months of negotiating to arrive at a definitive contract. The principal cause for delay was

1/ LAC/ADP Report No. SP-782F, 25 May 1965. "Some Comments on ADP Operation" by Clarence L. Johnson.

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the insistence by the Perkin-Elmer representative (Dr. Scott) on a strictly commercial type contract with a fixed price not subject to redetermination and at the same time the Agency Contracting Officer's reluctance to enter into a fixed-price contract for articles never produced before and for which half or more of the cost represented a subcontract. (Perkin-Elmer had offered a sub-contract to the Hycon Manufacturing Company of Pasadena for the actual building of the cameras for the project.) The Contracting Officer proposed a government contract binding on both parties, which would remain in the background, and a commercial order which the contractor would use overtly and bill against as a security measure within the corporation. Dr. Scott agreed to the dual type of contract but clung to the idea of a fixed price. He also wished, because of the device of a straw corporation represented by the Agency's New York cut-out through which Perkin-Elmer was to deal, and because of deviation from Armed Services Procurement Regulations, to have the final contract signed on behalf of the Government by an officer of at least Cabinet rank.

Negotiations bogged down and the Letter Contract had to be extended while a mutually acceptable contract was worked out. The

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contract finally signed on 5 May 1955 was Agency-sterile but not Government-sterile. It called for 36 A-1 cameras, 27 A-2's, 6 B's and 6 C's, with a target price of \$5,085,000 (\$4,750,000 cost plus \$340,000 profit), redeterminable at the time 75% of the cost had been expended.

Even before the contract was signed, the first of many modifications to the original photographic configurations was being drawn up in an effort to cut down weight of the payload to acceptable limits and to simplify the system in order to avoid logistic and field maintenance problems. A 24-inch lens was standardized for the A configuration (rather than both 24-inch and 36-inch lenses) and it was agreed that the marginal value of the 12-inch split vertical cameras in the original specifications of the A-1 and A-2 did not warrant their inclusion. At a meeting on 11 March 1955 with Drs. Baker and Scott, the weight problems of the B and C configurations were reviewed.

"It was brought out that film weight for the B could be reduced from 320 pounds to 250 pounds by reducing stereo overlap. With development of a 2 mil base film there could be a further reduction to 180 pounds and with other weight savings which could be accomplished it appeared that the B could be brought down to 460 pounds (the military load spec was 450 pounds).

"The C configuration weight as proposed was 698 pounds and therefore only a radical change could bring it down to

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maximum weight allowable. Dr. Baker proposed modifying the camera for focal length of 144 inches rather than 200, developing thin base film and high gamma emulsion to make up for reduced focal length. With these changes the weight might be pared down to 442 pounds for camera, film, charting camera and periscope." 1/

The first flight test of the A configuration took place in September 1955 and continuous correction of malfunctions, reworking of parts and refinement of techniques (including the training of ground crews in the proper handling and loading) were necessary before operational readiness was reached. The A-2 configuration was deployed first with Detachment A in May 1956 and was used exclusively for the first year of operations by Detachments A and B. The A-1 was not flown operationally until October 1957 by Detachment B and it was also used with good results in typhoon hunting missions in Japan by Detachment C.

The B camera was slow in delivery and functioned poorly during the Detachment B combat readiness tests in July 1956 due mainly to shutter trouble. After reworking and further testing, however, the B camera became the workhorse and was used almost exclusively in the U-2 from the summer of 1958 through 1966 with good results. The first C camera was tested in December 1956 and in January 1957 had

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1/ TS-103289, 21 March 1955. Memo for the Files by H. I. Miller.

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one effective mission; it was never used operationally, however, due to complex optical problems inherent in the design, and was later shelved.

Amendments to the original Perkin-Elmer contract covered the furnishing of ground support equipment, the redesign of shutters, lenses and other components, and overhaul of cameras. Separate contracts were negotiated for the furnishing of technical personnel to service the equipment at foreign bases.

On 10 July 1958, Perkin-Elmer made final settlement of its sub-contract with Hycon on the following basis: \$3,707,148.60 approved cost; \$329,100 profit (8.77%); \$69,914 allowed for California tax expense; total \$4,106,000. Subsequent dealings with Hycon by the Project were by direct contract with that company.

Final negotiations between CIA and Perkin-Elmer on the prime contract were held 23 July 1958 to redetermine cost and establish profit. Perkin-Elmer's portion of the final price was \$2,614,141, including a 12% profit, which together with the sub-contract cost totalled \$6,720,141 (later adjusted to \$6,698,906.11 in May 1960). Of this total approximately 6-1/2% represented procurement for the Air Force which was reimbursed with Air Force funds.

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Ramo-Wooldridge Contract

The electronic equipment called for under the Project Outline included: 12 sets of electronic search equipment to be used on photographic missions, together with 3 sets of automatic FERRET equipment (total \$3 million). Prior to the Agency's assumption of major responsibility for the joint project, the Air Force had chosen Ramo-Wooldridge to produce the electronic equipment on the recommendation of Mr. Donald Quarles (at that time Assistant Secretary of Defense for Research and Development). This choice was questioned by Mr. Ralph Clark (Agency ELINT Staff Officer) since he believed Ramo-Wooldridge skills were mainly in the field of radar rather than search equipment for ELINT collection. Dr. Edward Purcell, member of the Land Panel and adviser to the Project on electronics, also questioned the choice on grounds that Ramo-Wooldridge was fully occupied with its missile contract.

On 5 January 1955 Dr. Burton Miller, representative of Ramo-Wooldridge, met with Mr. Bissell at Project Headquarters, with Messrs. Clark and Purcell also present. Mr. Bissell wished to determine whether Ramo-Wooldridge had the resources to do the job and whether they could give it the priority required in view of their

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other commitments. He also wished to get agreement for Dr. Richard C. Raymond of Haller-Raymond-Brown to consult with Ramo-Wooldridge in order to benefit from his experience in building electronic equipment.

Dr. Miller assured the group that Ramo-Wooldridge was anxious to take on the job and was desirous of diversifying company activities (half of its assets were now tied up in missile contracts). There were plenty of cleared personnel already working on other CIA contracts who could be put to work on the new job and thus he estimated the first units could be built by August 1955. Dr. Miller's confidence and persuasiveness (added to Mr. Quarles' recommendation) obviously quieted any doubts of those present since a letter of intent to purchase the equipment from Ramo-Wooldridge was carried to Los Angeles for signature within the week.

At a meeting with Dr. Miller on 17 February 1955, Drs. Purcell and Raymond and Messrs. Ralph Clark and Herbert Miller reviewed the electronic components to be fabricated and the type of proposal required from Ramo-Wooldridge to support the writing of a definitive contract. At the close of that meeting Dr. Purcell noted that he was favorably impressed by the planning work done thus far and that he

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believed that Ramo-Wooldridge could be counted on to come up with the desired results.<sup>1/</sup>

On 7 March 1955 the Project Contracting Officer presented a copy of the proposed contract to Dr. Miller who accepted the terms on behalf of Ramo-Wooldridge with only a few minor changes. Principles agreed to were as follows:

- a. The contract would be a cost-plus-fixed-fee type with fee of 8-1/4%. (The Contracting Officer's findings to support use of a cost-plus-fixed-fee contract were that the exact nature and extent of the work covered and the precise method of performing the work could not be established in advance but must be subject to improvisation and change as work progressed; therefore costs of performing the work could not be forecast accurately enough to set a fixed price.)
- b. Audit would be by local Air Force auditors; they would not be knowledgeable of Agency interest.
- c. Ramo-Wooldridge would bill weekly costs plus 90% of the proportionate fee.
- d. Amendments for additional work would be issued as

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<sup>1/</sup> TS-103279, 17 February 1955. Memo for the Record by H. I. Miller. Subject: Meeting with Dr. Burton Miller.

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soon as scope of work and costs were known; the estimated cost of the first phase was \$309,600 (\$286,000 plus fee of \$23,600).

A contract (No. A-101) in the above amount was signed on 31 March 1955 for the provision of 12 sets of System I. (See Annex 43 on electronic equipment for configuration of electronic systems used by the U-2.) Before the definitive contract could be negotiated, the specifications for the first electronic packages were already in a state of change.

The first and second amendments to the contract with Ramo-Wooldridge authorized an engineering study and the building of a prototype of a communication and navigation system for the U-2. System II was an automatic digital transmission system designed to operate over a range of 4,000 miles using ionospheric sensing and high frequency band. Communication between pilot and ground stations was to be by "canned" messages. An automatic frequency changer, pre-programmed for replying to ground station interrogations, was incorporated originally but was removed on the theory that any emergency or change of course of the aircraft would require pilot initiative, rendering the pre-settings useless.

Delay in readiness of this system and its costliness led to the development of an alternate navigational system (the Baird sextant)

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and the Office of Communications took over the completion and repackaging of System II as a part of the emergency staff communications system of the Agency in June 1957.

Early in 1958 in an attempt to cut back equipment to an austere basis matching the pace of operations, a strenuous effort was made to bring project work at Ramo-Wooldridge to a dead stop, and cutbacks were made in the balance of the systems on order as well as in spares and supporting assemblies. The Project Director indicated to Ramo-Wooldridge that no additional funds could be obligated and if over-runs were expected, still further cutbacks would be made in order to reduce to an absolute minimum the probability of having additional unforeseen financial burdens placed upon the project by Ramo-Wooldridge.

The closing out of the contract required until July 1961 and the subsequent audit and final payment took another year. Meanwhile, in July 1959 an investigation was initiated by the General Accounting Office into contracts between the Air Force and Ramo-Wooldridge due to the company's failure to meet contract terms. This of course brought CIA's business with Ramo-Wooldridge under scrutiny since Air Force contract numbers were being used for cover purposes and

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to facilitate priority deliveries of components used in manufacture of the end items.

In preparation for a meeting between the DCI and the Comptroller General on this subject, the Agency Comptroller (Mr. Edward Saunders) furnished Mr. Dulles the following information:

"Of the rounded \$26 million business with R-W covering the period 1 June 1954 through 31 December 1958, we have one contract in the amount of \$20.4 million awarded in January 1955, covering items we shall identify as Systems I through VI...

"As this equipment was all highly complicated and greatly advanced in the state of the art, it was necessary to procure under contract technical representatives to maintain these items at the overseas bases of operation, totaling to date \$526,450. Another contract was awarded totaling \$1,132,000 to date to cover factory overhaul and repair of the items that could not be serviced in the field.

"These items proved so desirable and were sufficiently advanced that both the U.S. Air Force and the Navy Department solicited our aid in procuring items for them in the rounded amount of \$1.7 million. This was essential because the sensitivity of the program precluded these departments from getting the items through their own resources...

"You may be asked our views with respect to the technical competence of TRW Inc.\*; my information, which comes from the technical officials, is that the Agency is satisfied with the items when delivered, however, we feel that the company needs improvement in the area of estimating costs as well as the area of estimating and maintaining delivery schedules.

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\* TRW is the abbreviation of the new name of the company after the merger with Thompson Products (Thompson Ramo-Wooldridge).

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In fairness to the company, we again bring to mind that the predominance of the items delivered and manufactured were considerably in advance of the state of the art and it may therefore be somewhat unfair to take the firm position that their estimates of cost and delivery time is unsatisfactory. " 1/

The General Accounting Office was insistent upon getting answers in writing to the following questions: (1) Why was Ramo-Wooldridge selected by CIA? (2) At the time of negotiations was CIA aware of the top priority work by Ramo-Wooldridge for the Air Force? (3) Did CIA discuss their proposed work with Air Force before awarding the contract? (4) If so, why did Air Force permit Ramo-Wooldridge services to be diluted in view of the top priority of the work for the Air Force? (5) In negotiations by CIA with Ramo-Wooldridge, what representation did the company make as to availability of personnel, and were any specific individuals named who had been designated to work on the ballistic missile program?

The essence of the Agency reply to the Director of Defense Auditing, GAO, signed by Colonel White on 30 July 1959, was that CIA had no information as to any dilution of Ramo-Wooldridge services to the Air Force resulting from the special project contract, which had

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1/ TS-155229, 21 July 1959. Memo for DCI from Comptroller/CIA, Subject: Discussion with Comptroller General re TRW, INC.

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been carefully coordinated with the Air Force and Ramo-Wooldridge and neither had interposed any objection nor indicated any problem as to the firm's ability to carry out all its government commitments. <sup>1/</sup>

Final settlement of Contract A-101, which ran through 25 amendments, was made 12 June 1962 at a cost of \$18,896,247.09, plus fixed fee of \$1,585,331 (total \$20,481,560.09), covering electronic systems, read-out equipment, miscellaneous items of supply, and techreps for the domestic test site for Project AQUATONE; also included were costs of procurement undertaken for the Air Force, CIA Office of Communications, and the P2V program (STPOLLY).

#### Other Contracts

The principal additional equipment and services developed and/or procured under the U-2 program are outlined below.

APQ-56 Side-looking Radar, Westinghouse Electric. Contract initiated 3 June 1955, on recommendation of the Land Panel, for mapping radar, a modification of the AN/APQ-56 system developed for the B-57, original weight 698 pounds. Weight reduction was accomplished by time-sharing of the right and left scanning with a single recorder producing a continuous record. The record obtained provided a radar

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<sup>1/</sup> DPD-5164-59, 30 July 1959. Letter to Director of Defense Auditing, GAO, from Deputy Director, Support, L. K. White.

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map of the area 2 to 15 miles on either side of the line of flight. This system was flight tested in the summer and fall of 1956 and successfully tied in with the radan and declared operational in January 1957.

Film Processing, Eastman Kodak

a. Engineering Study: Contract initiated 17 June 1955

for an engineering study of film processing and data recording operations and design and installation of equipment. Contract completed 9 March 1959, cost \$257,778.65.

b. Equipment (Film Processing and Minicard): Contract

initiated 1 March 1956 for equipment required to set up film processing centers at Eastman's Rochester plant and at CIA Headquarters (PIC). Contract completed 23 March 1961, [redacted]

c. Film Processing Plant: Contract initiated 1 October

1955 for operation and maintenance of the film processing plant to handle processing of U-2 mission film at Eastman's Rochester plant. Contract completed 23 March 1961, cost \$4,595,068.25 (including some satellite program funds).

d. Film: Contract initiated 29 June 1955 for procurement

from Eastman of film, paper, chemicals, etc. The new thin-base

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film to decrease weight, and the new formula for sub-layer and emulsion were developed by Eastman at the instigation of Dr. Land. Contract completed 18 May 1964, cost \$4,070,411. (Further film procurement continued under a new contract.)

Sextant, Baird Atomic, Inc. Contract initiated 17 October 1955 for a feasibility study of an automatic celestial navigation system for use in high altitude aircraft, and subsequent construction of 8 (later increased to 24) sextants, spare parts, rear view mirror and services of techreps overseas. This was a manually controlled sextant using the existing periscope as a method of presentation. Contract completed 30 June 1957, cost \$720,218.71.

Aeromedical Support, Lovelace Foundation. Contract initiated 28 November 1955 for medical and clinical services to Watertown test site, and U-2 pilot physical and psychological examinations. Services of Lovelace were made available under a USAF contract previous to the writing of this contract. Costs chargeable to the U-2 program as of 30 June 1962 were \$107,771.47. At that time the U-2 successor program was blanketed under the same contract, which is still in force.

Personal Equipment, Firewel Co., David Clark Co. Contract initiated 15 January 1956 (before which Firewel had supported the U-2

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under a USAF contract) for personal equipment for pilots including pressure suits, helmets, oxygen regulators, seat packs, etc. Firewel in general developed, with Air Force cooperation, the different items and subcontracted their manufacture to other firms. The Firewel original contract was completed 8 March 1961 at a cost of \$684,489.56, including Air Force funds. In January 1960 direct contracting was begun with David Clark Company which saved the cost of Firewel's subcontracting costs and profit. At that time, the oxygen equipment and suits had become pretty much production items thereby permitting direct procurement without interface problems.

Radan, General Precision Laboratories. Contract initiated 4 April 1956 for Radan equipment for U-2 and P2V programs, plus flyaway kits, bulk spares, test equipment, handbook of instructions and course selector (read-out equipment to be used with APQ-56 side-looking radar). Contract completed 21 April 1960, cost \$618,929.99.

Later contracts included, among others: Research and testing related to radar camouflage program by M. I. T., Scientific Engineering Institute, Edgerton, Germeshausen & Grier, and Westinghouse; additional electronic intelligence collection and countermeasures systems (see Annex 43 for description); numerous additional and

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continuing contracts with Lockheed have covered all manner of fabrication, overhaul, and other services to the project including the fashioning of special hatches, modifications to the U-2 aircraft (1) to take the J-75 engine, (2) for inflight refueling capability, and (3) a carrier-based configuration; also service contracts for techreps, guards, maintenance of an air shuttle service, and cover contracts for hiring pilots. New camera systems were developed by Hycon, Eastman and Itek (see chart at Annex 44 for a listing of all camera systems available to the U-2 as of December 1966).

Procurement for Air Force and Navy

On 11 January 1956 a letter from the Air Force to the DCI requested that CIA contract for U-2 aircraft and equipment on behalf of the Air Force in the amount of \$31 million. The request and a draft reply agreeing to it were discussed at the Bureau of the Budget by the Agency General Counsel. The Director of the Budget reluctantly agreed to the Agency's undertaking this procurement for the Air Force. The reluctance was specifically on the basis that the Budget Director felt the Air Force should be able to set up procedures as secure and effective as those of the Agency. On 26 January 1956, the General Counsel rendered an opinion on the legality of the proposed procurement

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in the following memorandum to the DCI:

"Under normal circumstances it would be routine for the Air Force to undertake its own procurement with the Lockheed Aircraft Corporation through the Air Materiel Command. There is, however, still a very high degree of sensitivity about the original procurement for intelligence purposes. It was to protect this security that procurement was kept out of normal Air Force channels in the first place and to institute the additional procurement through those channels would largely vitiate the elaborate precautions taken to date in the contracting procedures.

"Based solely on the security requirement, I am of the opinion that it is in the national interest and that there is legal authority for this Agency to enter into an arrangement with the Air Force to act as their executive agent for their additional procurement on a reimbursable basis. In addition, I have reviewed this situation with the General Counsel of the Air Force and we are of the joint opinion that such an arrangement would not involve any contravention or evasion of laws and policies applicable to Air Force procurement. The Air Force has expressed an urgent need for additional planes. I believe our current procedures are the most expeditious available and that continuance of our contractual arrangements is an effective and economical procurement mechanism for this purpose.

"Inasmuch as all aspects of the additional procurement will require prior Air Force authorization or approval, I believe the Agency will be well protected in the event of any dispute. Furthermore, this would facilitate the return of the administration of the contracts to normal Air Force channels if and when security would permit." 1/

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1/ TS-142958, 26 January 1956. Memo to DCI from General Counsel.

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The reply to the Air Force went forward in a letter to Mr. Quarles from Mr. Dulles on 30 January 1956 (full text of letter is in Annex 45) which agreed to take on the procurement of 29 additional aircraft and related equipment for the Air Force, detailed arrangements to be worked out between representatives of the two agencies. The basic general understandings were:

"a. The Air Force will provide necessary funds for the required procurement and will furnish to CIA written requirements for the procurement guidance of CIA. Such written requirements will be authenticated on the part of the Air Force by the signature of... the Air Materiel Command representative in the Weapons System Project Office.

"b. CIA will implement the requirements set forth in writing by the authorized Air Force representative by negotiation of a contract or contracts, for delivery of the required services and supplies. To assure mutual understanding, the authorized Air Force representative will certify that each proposed contract is consistent with and in fulfillment of previously stated Air Force requirements.

"c. The policies and procedures to be followed in connection with contracts negotiated on behalf of the Air Force by CIA shall be the same policies and procedures in effect on CIA contracts for similar procurements under Project AQUA-tone. Requirements set forth by the Armed Services Procurement Regulations shall be complied with to the greatest extent possible, consistent with the unique security considerations inherent in these procurements.

"d. The Air Force and CIA shall maintain close liaison with each other on all aspects of the procurement... and shall consult with each other, utilizing personnel designated for

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this purpose, whenever such consultation is required or indicated." 1/

All aspects of security control were to be the responsibility and province of CIA, and the Air Force was to be guided by CIA in discharging Air Force security responsibilities under this procurement. The Air Force was to furnish cleared personnel to audit the contract accounts.

Procurement for the Air Force under the system thus set up proceeded smoothly with good working relationships between the Project Contracts Staff and the Air Force weapons systems group. There were, of course, problem areas, one of which was in getting the Air Force group to adhere to Project security procedures which were strange to them and apt to be taken somewhat lightly.

Cumulative totals of procurement of U-2 aircraft and related reconnaissance systems and equipment provided for the Air Force by Project contracting mechanisms (and DPD and OSA successively) are shown in Annex 46, covering the period from 1956 through 1966.

In May 1957, the U.S. Navy also requested that CIA procure \$1 million of project-developed equipment, principally photographic,

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1/ TS-143314, 8 February 1956. Memo for Record, Subject: CIA and DAF Basic Understandings in Connection with Procurement.

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for the Navy, with an additional \$2 million worth of the same equipment to be procured at a later date. A basic understanding in connection with this procurement for the Navy was signed by the DCI on 18 July 1957 (TS-164265); this agreement with the Navy followed the same lines as that for the Air Force.

Since the provisions of Section 10(b) of Public Law 110 were invoked with regard to the funds for the additional procurement, this meant the elimination of GAO audit of the Air Force and Navy procurement. The Project Director suggested that in order to forestall any possible criticism for improper use of Section 10(b), the Director might speak informally to the Comptroller General without revealing substantive secret matters. The General Counsel (Mr. Houston) concurred in not opening the contracts to GAO audit but wanted any contact with GAO to be through himself to his cleared counterpart in GAO rather than at the Director's level.

General Counsel Opinion on Early U-2 Contracting

In June 1956, when one operational detachment had deployed to the field and the initial contracting activities had reached a stage where an appraisal could be made, Mr. Houston reviewed for the DCI's information all the legal authorities under which the Agency

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had acted thus far in the procurement area. He concluded:

"The administration of the contracts has not followed the normal Service practices, as for security reasons it was decided to limit the number of contract officers to the minimum, and the large staffs which normally review contracts in varying aspects were here reduced to one small staff. Within these limitations, however, the administration has been meticulous with particular attention to change orders. All contracts and all changes thereto have been reviewed by the General Counsel or his Deputy and specific approvals on policy or fiscal matters have been obtained from the appropriate approving officers in all cases. Again, granting that this system may work only when dealing with companies which are themselves competent in the running of their business and are familiar with Government procurement, under the circumstances surrounding this Project, we believe the procurement system involved adequately protected the Government, was effective in meeting procurement needs, and through its efficiency and simplicity was economical for the Government." <sup>1/</sup>

#### Later Air Force Procurement

In August 1961 an agreement between CIA and USAF was signed covering contracting assistance through established CIA channels for an Air Force version of the OXCART vehicle. Later with the activation of the National Reconnaissance Program and the blanketing of Air Force as well as Agency reconnaissance projects thereunder, further procurement for the Air Force versions of the A-12, engines and systems were levied on CIA by the Director, National Reconnaissance

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<sup>1/</sup> SAPC-6688, 5 June 1956. Memo to DCI from General Counsel, (see Annex 47 for full text).

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Office, at the behest of the Secretary of Defense. In the spring of 1964, following the surfacing to the press and public of the Air Force "YF-12A", an effort was begun by OSA to divest itself of the responsibility for contracting and security for that program. The result achieved, after two years of discussion, exchanges of memoranda, and writing of legal opinions among CIA, Air Force and NRO officials, was agreement on 28 June 1966 by the D/NRO that appropriate staff should begin considering a time schedule for an orderly transfer of contracting functions from the Agency to the Air Force for the SR-71 and YF-12A aircraft and J-58 engine development programs.

At the end of December 1966 when the decision was made by highest authority to close out the OXCART program effective 1 January 1968, discussions were still going on in the working group and the settlement of the contracting issue then became a part of the NRO instructions for the phasing out of the OXCART program (SCOPE COTTON Decisions Numbers 11 and 12 issued by the Director, NRO (Dr. Alexander Flax) on 3 May 1967). The U-2 procurement (IDEALIST for the Agency and DRAGON LADY for the Air Force) was still considered "black" and was not affected by these decisions.

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Development of Contract Management Staff

In the initial negotiations with Perkin-Elmer in early 1955, when it was decided to use the services of the Office of Logistics, the Project Director felt that the Contracting Officer assigned to write that particular contract could perform his function without necessarily having to be fully cleared into the Project, or even knowing that the photographic equipment being contracted for was intended for aerial reconnaissance. When Mr. George F. Kucera began work on the Perkin-Elmer contract, on detail from the Office of Logistics, it very soon became apparent that this theory of Mr. Bissell's would not work out in practice. It was decided that for the sake of security and efficiency, and of centralized project control, it would be better to give Mr. Kucera a full project briefing and arrange for his transfer to the Project Staff as Contracting Officer. When the first Table of Organization was drawn up, therefore, the position of Contracting Officer was set up under the Development and Procurement Division, headed by Mr. Herbert Miller (who also held the title of Executive Officer), and for the first year of the project Mr. Kucera carried on all contract activities single-handed. He of course had the benefit of the General Counsel's advice and also developed a close working relationship with

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With the reorganization of the project staff into the Development Projects Division in early 1959, the research and development and contracting functions were separated into a Development Branch and a Contracts Branch. [ ] was appointed Chief of the Development Branch, serving only a few months before moving on to head the new Air Proprietary Branch. Mr. John Parangosky succeeded him as Chief of the Development Branch. Mr. Kucera departed the Agency in May 1959 and [ ] became Chief of the Contracts Branch, serving in that capacity until 21 September 1960 when he was succeeded by [ ]

After the transfer in February 1962 of the special projects to the cognizance of the Deputy Director (Research), the question arose as to the continuation of current contracting methods, particularly in relation to delegation of contracting authority to Office of Special Activities' Contracts Division. Mr. James A. Cunningham set forth the history and philosophy of procurement under AQUATONE/DPD/OSA for the DD/R substantially as follows:

At the time AQUATONE was established, the Director of Logistics was requested to nominate from the Office of Logistics career service qualified professional procurement individuals to staff the project's Contracts Branch. This relationship continued and is still in being. The delegation of contracting authority has been a direct delegation from the

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DCI and in no sense a redelegation through the DD/S or the D/OL. The original philosophy of this arrangement, in the planning of Messrs. Dulles and Bissell, for these special projects of priority interest to national defense was to use the smallest group possible within a self-contained project organization. The reason for this arrangement was that it was considered impossible to do the sort of job that had to be done using either conventional Agency or conventional Air Force procurement methods, for reasons of security and efficiency.

The Contracting Officer and his staff have nevertheless always contracted in substantial if not complete accord with the Armed Services Procurement Regulations and have never awarded a contract unless the procurement was determined to be inextricably tied to the special project category. Any non-project-peculiar procurement has been given to the Office of Logistics for action.

Contract auditing of procurement by OSA (and its predecessors) has been under the cognizance of the Auditor General of the Air Force. A small group of Air Force contract auditors (about 14 civilians) were divorced from their regular administrative channels and assigned exclusively to render audit service to OSA Contracts Division. In their line of organization they answer directly to (and only to) the Auditor General of the Air Force. They are all cleared to Top Secret. They have become acclimated and sensitive to the covert atmosphere of project business and are considered by the Contracts Division to be an integral part of its team.

In February 1962, the Inspector General's report following inspection of DPD activities (before it became OSA) recommended in view of the peculiar demands of the special projects for logistic support, that the present relationships with the Office of Logistics, CIA, should not be disturbed. 1/

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1/ BYE-1993-62, 28 August 1962. Memo for DD/R from AAD/SA, Subject: OSA Procurement Authority.

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Mr. Cunningham's recommendation that the procurement system be continued as currently established was accepted and on 1 September 1962, the delegation of contracting authority to OSA Contracting Officer, [redacted] was approved by the DD/R and the DDCI (then Maj. Gen. Marshall S. Carter). On the departure of [redacted] in October 1966, the same delegation of authority was conferred on his successor, [redacted]

The chart shown at Annex 49, "Status of Contracts, 30 December 1966", gives a breakdown of the total procurement undertaken by the Contracts Staff for all customers between 1955 and 1966, which covers the negotiation of more than 700 contracts worth more than three billion dollars.

Procurement of Additional U-2's

In the spring of 1963 the dwindling U-2 assets in both the CIA and USAF inventories raised the question of a possible additional buy of a sufficient number of aircraft to meet anticipated requirements. While the OXCART vehicle's operational readiness was anticipated within a year, there were still many places in the world where the U-2 with its maneuverability could collect vital intelligence in detailed coverage not possible with any other aircraft system. The DDCI was

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advised by OSA that it appeared feasible to produce an agreed quantity of new U-2's on a time span and at a cost which was considered reasonable. A rough estimate of the cost of ten aircraft with sub-systems, cameras and engines was on the order of \$20 million.

The question of additional procurement did not pass the discussion stage for more than a year. As of mid-1964 a new production model of the U-2 existed only on paper in the form of a Lockheed proposal for a "U-2L" (the "L" standing for "long"). The basic feature of the new model was the 60-inch extension of the fuselage permitting installation of a second pressurized equipment bay aft of the main Q bay; this in turn enabled the electronic equipment, currently distributed throughout the airframe and operating in the ambient, to be centralized and pressurized to insure greater reliability as well as reducing drag by cleaning up the outside appendages. A small change in depth of the fuselage and a new plumbing job would also permit inflight refueling of not only the main but the auxiliary tanks. Hopefully the new model would gain about 500 nautical miles of range and a small improvement in over-all performance. It was anticipated that the Agency and the Air Force would together order 25, if funds were forthcoming from NRO, with production to commence in the fall of 1964.

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In July 1964, OSA through the DD/S&T provided the DDCI with comparative costs for procuring 18 new U-2's (\$30.1 million) as against updating 12 U-2A's to the latest configuration (\$14.3 million). While the former was more costly, a modification program would add drag penalties which would reduce optimum altitude, whereas drag penalties would be eliminated in the new U-2L. Conversion would also reduce wing strength by 15%. The conclusion was therefore that procurement of new U-2L's was the best approach to insure adequate and continued fulfillment of national intelligence requirements.

A meeting of the NRO Executive Committee was scheduled for 1 September 1964 at which OSA was instructed to brief the Committee on the justification for new procurement versus conversion. OSA was warned by Mr. Eugene Kiefer\* (who had been assigned to the NRO staff) that there was no need to make a strong pitch to sell the Committee on the U-2L since the decision had already been made to convert enough U-2's to satisfy CIA requirements. This turned out to be the case and purchase of new aircraft was put off in favor of a temporary, piece-meal solution to the problem, and the \$13.5 million for the U-2L FY 1965 program was cut from the OSA budget submission.

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\* Formerly Assistant for Technology in OSA.

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On 21 June 1965, the Directors of Programs B and D under NRO (Generals Ledford and Geary) outlined to the D/NRO their views for additional U-2 aircraft needs (see Annex 50) and made specific cost comparisons and a recommendation for procurement again on 9 August 1965. The D/NRO (Dr. Brockway McMillan) desired to postpone new procurement for at least a year since, he said, unfortunately the analyses which had been made had not verified an unequivocal requirement to produce an improved U-2. He proposed a program, with the backing of Secretary McNamara, for bringing all Agency and SAC U-2's up to the C configuration with certain specified electronic countermeasures equipment and other modifications included. On 18 October 1965, Dr. McMillan's successor (Dr. Alexander H. Flax) approved the modification program, funds to come from the SAC DRAGON LADY (U-2) budget.

On 21 October 1965, the DCI (then Admiral William Raborn) wrote to Mr. Cyrus R. Vance, Deputy Secretary of Defense:

"We have both received a memorandum from Dr. McMillan detailing his proposal for modernization of the existing CIA/SAC U-2 pool and postponement of additional U-2 procurement. Using attrition rates experienced thus far, it would appear that the total U-2 fleet would drop to approximately half of its present strength before new aircraft ordered a year from now would be available, and that the total number would never reach the minimum acceptable level (27) recommended by Generals Ledford

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and Geary, if the older aircraft are retired as they propose. I do not wish to prejudge this proposal, but do believe that it deserves our careful consideration in the Executive Committee before implementation, since I anticipate a continuing and perhaps increasing need for U-2 reconnaissance coverage round the world." 1/

On 16 May 1966, a further recommendation for a U-2R purchase was made to the D/NRO by the Director of Reconnaissance of CIA, Mr. Huntington Sheldon, based on the Lockheed proposal of 27 December 1965 (LAC Report SP-397, Proposal for U-2R Airplane). The Executive Committee of NRO, two and a half months later on 1 August 1966, approved the production of eight U-2R aircraft with the understanding that in conjunction with the FY 1968 budget a decision would be required on any additional production. In considering the procurement of additional U-2R's beyond the first eight, two different attrition rates were considered (7 per year, and 5 per year). Decision at the 23 November 1966 meeting of the Executive Committee was that four additional U-2R's would be procured and the total 12 deliveries would be stretched out to maintain a follow-on procurement option in the next fiscal year.

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1/ BYE-0406-65, 21 October 1965. Letter to Mr. Vance from the DCI.

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At the end of 1966, the final terms of the U-2R procurement were still a matter of debate among the Agency, the Air Force and the NRO, but development of the vehicle and all its supporting systems was going forward with the anticipation of an operating capability by the spring of 1968.

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DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS UNITED STATES AIR FORCE  
WASHINGTON 25, D. C.

AFDDC

14 January 1955


MEMORANDUM FOR DIRECTOR OF CENTRAL INTELLIGENCE

SUBJECT: Project AQUATONE - Photographic Equipment

1. Reference is made to a memorandum, dated 11 January 1955, addressed to you by Dr. Edwin H. Land, which makes certain recommendations with respect to photographic equipment for use in connection with Project AQUATONE.

2. The USAF is familiar with the proposed photo-reconnaissance equipment to be used for this project, and is aware of development changes that may be made as the project develops. Drs. James G. Baker and Edwin H. Land are members of the USAF Scientific Advisory Board, and in this capacity are authorized to submit recommendations on projects of this nature.

3. We have reviewed these recommendations and concur in the feasibility and capability of this equipment in fulfilling the project's requirements. It is our opinion that the expedited development of this equipment now will advance the state-of-the-art many years.

  
DONALD L. PUTT  
Lt Gen, USAF  
Deputy Chief of Staff,  
Development

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RECORD OF NEGOTIATIONS

Lockheed Aircraft Corporation  
Burbank, California

Contract No. SP-1913  
Amount: \$22,500,000.

I. Background Information

In November 1954, as a result of recommendations made by the Land Panel, the Director of Central Intelligence was authorized and directed to proceed with a covert project having to do with the gathering of intelligence data on the Soviet Union. The project involved the utilization of an extremely high altitude reconnaissance aircraft to serve as the vehicle for carrying photographic and other equipment on flights over the Soviet Union. Project OARFISH is a sub-project of the over-all project and involves only the design and construction, including testing, of the aircraft.

The Lockheed Aircraft Corporation had previously approached the Department of the Air Force with a plan for constructing this high altitude reconnaissance aircraft at a cost of about \$28 million for 20 aircraft, but the Air Force did not, at that time, have a requirement for such a plane. Subsequently, it was brought to the attention of the National Security Council that such an aircraft with precision photographic equipment, might serve to provide vitally needed target information on the location of military and industrial facilities of the Soviet Union. Approval of the project followed.

By letter dated 27 December 1954, signed by Mr. Trevor Gardner, Special Assistant (Research and Development), the Department of the Air Force indicated a keen interest in this high altitude reconnaissance aircraft development from the point of view of its own mission, as well as that of the Agency, and committed itself to furnishing the aircraft engines as part of its contribution, and such other assistance as required.

In December Lockheed was given verbal authorization through Air Force channels to proceed with the development of 20 of the special reconnaissance planes at an estimated total cost of \$22,500,000.00.

Subsequently Mr. C. L. Johnson, Chief Engineer of Lockheed, and Mr. Robert Bias, Lockheed contract representative, met with Mr. Larry Houston, General Counsel for the

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Agency to negotiate a definitive contract. As an interim step for the protection of the Government as well as the Contractor, a Letter Contract was negotiated and signed on 3 January 1955 by the Contractor and subsequently by a representative of the Agency (General C. P. Cabell using the alias [redacted]). Concurrences were obtained in the Letter Contract from the Deputy Director for Support, General Counsel, Comptroller and the Special Assistant to the Director for Planning and Coordination.

Negotiations on a definitive contract proceeded between Mr. Houston of the Agency and Mr. Elias, Contractor's representative. The definitive contract was submitted to the Contractor on February 4, 1955 for his review and signature. It was returned, signed, to the Agency over date of 8 February 1955, but with minor changes recommended. Certain minor typographical changes were made in the contract and it was approved for signature by the Director on 1 March 1955. The contract was signed by the Contracting Officer (Mr. George F. Kucera using the alias [redacted]) on 2 March 1955. Concurrences on signature of the contract proper were obtained from the DDCI, the DD/S, the SA/PC/DCI and the General Counsel.

2. Contractual Arrangements

The definitive contract is a negotiated fixed price type contract with provisions for redetermination of the price upon (1) completion of delivery of the first unit as set forth in the production schedule in Appendix A, or (2) upon expenditure of 75% of the total contract amount as set forth in Part I of the contract (\$22,500,000.00), whichever shall occur first. Redetermination of price shall be on a negotiated basis between the Contracting Officer and the Contractor, using as a basis the statement of costs to be furnished by the Contractor. Provision for audit of the Contractor's books, records and accounts is made in Part III of the contract.

The price set forth in Part I of the contract (\$22,500,000.00) is not a maximum price, but rather is the best estimate available at the time of signing this contract. An effort was made to fix the price of \$22,500,000.00 as the maximum price which could not be exceeded, with provision for downward revision only of the price, but the Contractor would not accept this arrangement

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and insisted on a target price of \$22,500,000.00 and a maximum price of \$24,750,000.00 in such case. This procedure would have required the obligation of the larger amount. Accordingly the price was left at \$22,500,000.00 with provision for either upward or downward revision at the predetermined times. The present obligated amount for this contract is \$22,500,000.00 but the possibility exists, of course, that this amount may have to be increased if subsequent negotiations indicate that the actual costs plus profit exceed this amount.

The contractual arrangements provide for an advance payment of \$1,000,000 plus progress payments monthly. However, the maximum amount of all progress payments, plus the advance payment, shall not exceed \$20,250,000 (90% of the contract price) during the life of the contract, the balance of the payments, if any, to be made after completion of the contract and in accordance with the stated price, if any.

This definitive contract supersedes the Letter Contract of the same number and incorporates most of the standard government clauses.

### 3. Contract Work

The contract work is stated in the contract to be in accordance with Appendix A (Work List dated 10 January 1955) and Appendix B. Appendix A consists of three type-written pages, with control number DXTSC 1030, and sets forth the items to be furnished and delivery schedules. Appendix B consists of the following brochures:

- (1) 10383, 10 January 1955 DXTSC 1030
- (2) 10383, 10 January 1955 DXTSC 1076 (Amendment)
- (3) 10420, 28 January 1955 DXTSC 1077

The contract specifically sets forth that the ground handling equipment referred to in paragraph 13 of Appendix A includes one truck assembly for servicing flight tests conducted by the Contractor under paragraph 11 of Appendix A and for subsequent field maintenance utilization.

### 4. Payment

Payment Plan for this contract is set forth in a memorandum in the file dated 25 February 1955 and concurred in by the Security Office, the Comptroller, and the General

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U.S.C., section 403g)

Counsel. Provision was made for appropriate approvals of interim payments and for channeling the payments into the Lockheed account through [redacted]. Interim payments will be made on the basis of periodic invoicing of costs experienced. Total payments, under the basic contract, shall not exceed \$20,250,000, with the balance being withheld until the price is redetermined at the end of the contract (provided redetermination is not made sooner pursuant to Part IV).

5. Documentation of the Contract Record

On January 2, 1955 the DCI issued a certification placing this contract under the provisions of Section 10(b) of P.L. 110.

Authorization for advance payment under this contract was issued by the Deputy Director (Support) on March 22, 1955.

Determination and findings with respect to the use of negotiation rather than formal advertising has been issued by the assigned Contracting Officer.

Copies of the appendices referred to in Part I are on file in the project office and with the Contractor, and agreement has been reached as to the scope of the work involved.

6. Other Factors

In a redeterminable type fixed price contract an overwhelming amount of day-to-day administration is not desirable or required. However the Agency should maintain an intimate touch with the contract so as to be aware of the manner in which costs are being accumulated, types of costs, rate of expenditure and similar matters since this information will be invaluable at the time of negotiations of the redetermined price. An audit of the Contractor's final cost statement may or may not be required and close observation of the contract during its heavy expenditure stages will determine the necessity or lack of necessity for some type of audit.

The matter of amount of fee is not specifically treated in the contract except that it is to be considered as an item in the redetermination of price. It is understood

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that the Contractor has in mind a fee between 9% and 10% of final costs.

It is certain that amendments to the contract will be required for additional work over and above that visualized at the time the present scope of work, and related estimated cost, were negotiated. Such amendments should consider whether additional obligation of funds is necessary at the time such amendments are made, or whether the present allocation of funds is sufficient. Close observation of the actual rate expenditure compared to the estimated rate will determine this information.

(Signed)

GEORGE F. KUCERA  
Contracting Officer

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LOCKHEED AIRCRAFT CORP.  
Burbank, California

10 January 1955

WORK LIST

1. Engineering design for a high altitude reconnaissance aircraft as described in Appendix B.
2. A report on wind tunnel tests in the Contractor's wind tunnel to establish the aerodynamic characteristics of lift, drag, stability and control, using a 1/10 scale model. These tests also include an airflow distribution test on a fuselage duct model.
3. Experimental type tooling for construction of 20 aircraft with aircraft spares described in Item 10.
4. Three mock-ups of the special equipment bay behind the cockpit, for use in fitting the reconnaissance equipment and studying alternative loads.
5. A stress analysis report describing basic loading conditions for the aircraft and analysis of the complete structure.
6. A static test on the wing, tail and aft fuselage section of the aircraft, and a report on these test results.
7. Progress reports showing financial expenditures, progress of construction and engineering, and photographs of the first aircraft during construction will be furnished every two months, starting 1 February 1955.
8. An air-transportability report on the aircraft, describing means for shipping the disassembled aircraft by cargo aircraft and recommending the best type of cargo aircraft for the job.
9. A short operational analysis of the aircraft to determine optimum usage of the type for the basic mission.
10. Twenty aircraft as described in Appendix B, plus the following aircraft spare parts:

Main wing panels	5 left plus 5 right
Horizontal stabilizers	5
Fin surfaces	5
Main landing gears	10

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Tail landing gears	10
Windshield glasses	10
Canopy assemblies	10
Wheels, main & tail	20 sets
Tires, main & tail	100 sets
Brakes	60 sets
Generators	40
Starters (engine installed parts only)	40
Hydraulic pumps	40
Fuel boost pumps	60
Hydraulic & fuel valves	60 each type
Radomes ARN-6	40
Sump fuel tank bags	40
Refrigerators & outflow valves	40
Canopy pressure seals	40
Electric actuators	60
Ailerons	5 left, 5 right
Flaps	5 left, 5 right
Elevators	5 sets
Rudders	5 sets
Wing tip assemblies	20
Landing gear doors	10
Dive flaps	5 sets
Equipment hatch	5
Air duct entrances	5 sets
Tailpipes	5

Aircraft delivery rate at Burbank is:

- #1 - July 15, 1955
- #2 - Sept. 9, 1955
- #3 - Oct. 14, 1955
- #4 - Nov. 18, 1955
- #5 - Feb. 13, 1956
- #6 - Mar. 5, 1956
- #7 - Mar. 26, 1956
- #8 - Apr. 16, 1956
- #9 - May 4, 1956
- #10 - May 24, 1956
- #11 - June 14, 1956
- #12 - July 5, 1956
- #13 - July 24, 1956
- #14 - Aug. 10, 1956
- #15 - Aug. 29, 1956

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#16 - Sept. 18, 1956  
#17 - Oct. 4, 1956  
#18 - Oct. 22, 1956  
#19 - Nov. 7, 1956  
#20 - Nov. 26, 1956

Delivery of the aircraft at Burbank is with the wings, tails and powerplants removed for shipping. Spare parts are packaged for shipping, also.

11. Flight tests on aircraft #1, #2, and #3 during the period between August 1, 1955 and December 1, 1955. In this period the first aircraft will demonstrate its capability to perform the basic mission and work out airplane and powerplant problems. Aircraft #2 will be used for special equipment tests, while aircraft #3 will perform radio and navigation tests. The test site for these flights is assumed to be in continental United States within 500 miles of Burbank, California. A report on these tests will be furnished.
12. Simple flight manuals, maintenance manuals and drawings will be provided for each aircraft.
13. Ground handling equipment of special type required for the project will be designed and provided. No list of such equipment can be prepared at this time, but an arbitrary cost figure is presented in other sections of this contract.
14. A description of the purchasing, accounting and inspection systems used to conduct this program in the Contractor's factory.

The reports referred to above will be submitted no later than December 1, 1955, except that certain maintenance information dependent on actual operation for its determination may be developed later.

Engineering drawings used to construct the aircraft will be provided if desired, but it is mutually understood and agreed that these will be of the minimum number and type required to build the aircraft by Lockheed experimental means.

Lockheed assumes the responsibility of weapon system manager for the construction and testing of the aircraft described.

(Signed) C. L. Johnson

1/10/55

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ANNEX 42

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HISTORICAL REVUE

LOCKHEED AIRCRAFT CORP.

CONTRACT No. SP-1913

PROJECT

"CHALICE"

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# BACKGROUND

1. LAND COMM.-
2. PRESIDENT-
3. CIA-
4. USAF-

CONTRACT GO AHEAD

LETTER CONTRACT- 22 DEC. 1954

Signed By - DDCI

# DEFINITIVE CONTRACT

NEGOTIATIONS - GEN. COUNSEL

CONTRACT DATE - 2 MARCH 1955

TYPE - Fixed Price Redeterminable -

UPWARD OR DOWNWARD AT

(1) DELIVERY 1st AIRCRAFT OR

(2) 75% OF COSTS INCURRED

NO CEILING PRICE SET

CONTRACT AMOUNT - \$22,500,000.



# BASIC SCOPE OF WORK

- (1) 20 U-2 AIRCRAFT - complete with  
PROVISIONS FOR VARIOUS CONFIGURATIONS
- (2) SPARE PARTS - GHE
- (3) WIND TUNNEL, STATIC AND  
FLIGHT TESTS
- (4) REPORTS - ENGINEERING, FINANCIAL,  
PROGRESS AND OPERATIONAL

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# SPECIAL PROVISIONS

- (1) AGENCY STERILE - ALIAS
- (2) SPECIAL SECURITY PROVISIONS
- (3) \$1,000,000 ADVANCE PAYMENT
- (4) BAILMENT OF 3 AIRPLANES
- (5) CONTRACTOR INSPECTION AND  
ACCEPTANCE

# INCREASES IN SCOPE

- (1) SURVEY FOR TEST SITE
- (2) EQUIPPING OF TEST SITE
- (3) GUARDS, CRASH AND FIRE PROTECTION
- (4) ASSISTANCE IN SETTING UP DEPOT
- (5) "ACCOMODATION SALES"
- (6) REPAIR OF CRASHED AIRCRAFT
- (7) SHOP EQUIPMENT OVERSEAS
- (8) ADMINISTRATIVE SERVICES

# (9) CHANGES TO AIRCRAFT

(A) Auto-pilot installation

(B) ARC/34 installation

(C) Additional Photo Hatches

(D) SAMPLER Hatches

(E) ELECTRONIC Hatches

(F) IMPROVEMENT Type Mods

# COST: ORIGINAL PROPOSAL

COST \$20,547,945

PROFIT (9½%) 1,952,055

---

PRICE \$22,500,000

Included No CONTINGENCIES

Original Quote To USAF - \$28,000,000

Money Not Available To Obligate Ceiling

Many Unknowns - Testing - Security

# Estimated Cost of INCREASED SCOPE

COST \$2,605,100

PROFIT (9½%) 234,414

---

PRICE \$2,839,514

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# DELIVERIES:

## BASIC CONTRACT SCHEDULE

<u>1955</u>					<u>1956</u>										
J	A	S	O	N	J	F	M	A	M	J	J	A	S	O	N
1	0	1	1	0	0	1	2	1	2	1	2	2	1	2	2

## ACTUAL DELIVERIES

<u>1955</u>					<u>1956</u>										
J	A	S	O	N	J	F	M	A	M	J	J	A	S	O	N
1	0	1	1	1	1	1	2	1	1	1	2	1	2	2	1

ALL SPARES, GHE - DELIVERED CONCURRENT

with A/C and in time to support units

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# Final Settlement Procedure

- (1) Contractor Proposal - 13 Nov. 1957
- (2) AF Audit Report - 29 Jan. 1958
- (3) Ltr. To Contractor - 24 Feb. 1958
- (4) Contractors' Reply - 21 MAR. 1958
- (5) Negotiations - 15 APR. 1958
- (6) Contract Amend. - 28 May 1958



# Contractors' Final Proposal

(including all INCREASES in Scope)  
-----

Cost	\$ 17,156,445
Profit (11.4%)	<u>1,952,055</u>
Price	\$ 19,108,500

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# SETTLEMENT NEGOTIATIONS

Costs Accepted By AF Audit -

\$16,306,399

Costs Questioned - \$850,046

	<u>Q</u>	<u>A</u>
(1) MAN. ICP	79,925	0
(2) FIELD SER.	80,124	80,124
(3) EXCESSIVE EST. 1957 Ovtld.	5,142	0
(4) OFF SITE Flight TRAIN.	6,430	6,130
(5) MATERIAL Cost TRANS.	20,441	0
(6) SURPLUS MATERIAL	4,109	4,109
(7) Eject. SEAT Cost TRANS.	1,274	0
(8) WORK IN RESTR. AREA.	255,673	253,544
(9) Flight Bonus	123,214	125,542
(10) SPARES IN Excess From Ants.	177,334	177,334
(11) Accomodation Sales	53,636	53,636
(12) Cost of BASE Equip Auth	8,932	8,932
(13) SPARE PARTS	15,604	} 9,792
(14) G H E	448	
(15) SPEC. Hatches	17,558	
(16) SPARES Packages	70	
(17) Misc.	132	

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Costs Disallowed - \$130,903

Grand Total Costs Accepted

\$17,025,542

Profit:

Target Profit - \$1,952,055 (9 1/2% of Orig Est. Cost)

Final Profit - \$1,952,055 (11.46% of Final Appr. Costs)

OR

(9.94% of Final Appr. Costs plus Actd. Scope of \$2,605,100)

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# FINAL CONTRACT PRICE

Cost	<del>\$</del>	17,025,542
Profit		1,952,055
PRICE	<del>\$</del>	<hr/> 18,977,597

THIS IS A REDUCTION OF \$3,522,403  
FROM THE ORIGINAL PRICE OF  
\$22,500,000. THIS REDUCTION DOES  
NOT INCLUDE THE ADDITIONAL SCOPE  
PERFORMED IN THE ESTIMATED  
AMOUNT OF \$2,839,514.

ANNEX 43

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ELECTRONIC EQUIPMENT - U-2 PROGRAM

1955 - 1966

System I. (Ramo-Wooldridge, 1955-56)

Originally designed as an S-Band Elint receiver to pick up GCI and air defense signals, the system was changed to include half X-Band receivers to pick up air intercept communications, blind bombing and missile control signals. The system was designed to receive and record on magnetic tape pulsed microwave signals emanating from regions within line-of-sight range of the receiving antennas in the U-2. Up to the end of 1957, System I had been the source of the Project's greatest pay-off in Elint collection. It was replaced in 1959 by System VI.

System II. (Ramo-Wooldridge, 1955-59)

The original communications and navigation system for the U-2 did not work out (see Chapter V, Development and Procurement, p. 12).

System III. (Ramo-Wooldridge, 1955-57) (S. T. L., 1963)

This VHF recorder, developed as the original COMINT collection package for the U-2, was designed to detect automatically and record a sample of all radio signals in the frequency band between 95 and 145 megacycles, including continuous test carrier, CW transmission and AM broadcast, and to record the frequency of the signal and the time of recording. The building of a prototype was authorized in June 1955 and an order for six receivers plus spares and test sets was given in April 1956.

In August 1957 the Project Director advised the Chairman of the Requirements Committee that it was the opinion of the principal customer for System III that, at least as it had been employed to date, this system yielded a product not even of marginal intelligence value. It was suggested that the equipment, rather than operating in a search-and-lock-on mode be pre-set to frequencies on which valuable take might be anticipated, in order to obtain longer and more continuous samples. The system at that point was only carried on experimental

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missions in order to establish its value by positive evidence. On 16 September 1957, the Project Director instructed the Director of Development and Procurement to eliminate System III, and on 26 March 1958, the Contracting Officer instructed Ramo-Wooldridge to transfer System III surplus material to the Navy.

In 1963 System III was resurrected and updated and several OEL personnel were trained by Systems Technology Laboratories of TRW in order to provide for emergency installation and maintenance of the system in case of need. The system has been deleted from the IDEALIST configuration a number of times, the latest date being 1 June 1967. (System XXI will replace.)

System IV. (Ramo-Wooldridge, 1955-58)

This unattended airborne FERRET system was designed to receive and record automatically electromagnetic energy radiation in the general frequency spectrum between 150 and 40,000 megacycles. A very complex system requiring more than two years development and testing, its basic units included 8 frequency-sweeping superheterodyne receivers, 2 crystal video wide open receivers, a 14-channel magnetic tape recorder, an oscilloscope and a film recorder. The engineering study was begun in July 1955 and an acceptable plan with technical exhibit was finally presented by Ramo-Wooldridge in May 1956. The Agency Elint Staff Officer [redacted] recommended acceptance and simultaneous work on the system, read-out equipment and test equipment to avoid any further delay. In October 1956, permission was given for a delay in delivery of the prototype in order to realize a savings of \$150,000 in overtime pay. The prototype was finally delivered to the test site in February 1957. Arrangements were made with the Navy to flight test the system against equipment at Point Mugu Navy Missile Test Center. Testing and rework continued through the summer of 1957 and in September an urgent requirement hastened the final testing for a special mission which was run by Detachment A on 11 October 1957 over the Barents Sea with good results. System IV was used during the next two years on approximately 16 overflight or peripheral missions with fair to excellent results.

The responsibility for operation and maintenance of the equipment was taken over by Project Communications Staff in August 1958. In March 1962 all System IV equipment, valued at \$805,355, was transferred to the Air Force U-2 group since the system was incompatible with the J-75 Project U-2's.

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System V. (Ramo-Wooldridge, 1956)

This crystal video system consisted of nine System I units using different antennas tuned to selected bands to permit coverage over the entire frequency range of the equipment, i. e., from 60 to 10,750 megacycles. It received only pulse type signals with moderate sensitivity and the information received was recorded on a 14-channel, 1-inch tape recorder, and two 3-channel, 1/4 inch tape recorders. The disadvantage of this system was that it weighed in excess of 400 pounds leaving no space for any other payload than the tracker camera. A special hatch cover contained all of the antennas.

System V was flown with good results on two missions over the Caspian and Black Seas, one each in 1956 and 1957, and one over the China Coast in 1958. System VI replaced the System V capability.

System VI. (Ramo-Wooldridge, 1958-59)

This system, intended to replace Systems I, III and V, and using cannibalized parts from existing components, received and recorded pulse type data in the frequency range from 50 to 14,000 megacycles in four bands as follows:

P Band	50-300 MC
L Band	300-1000 MC
S Band	1000-8000 MC
X Band	8000-14,000 MC

It consisted of four separate channels to receive and record signals from each of the four frequency bands, using high gain, broadband video amplifiers preceded by antennas designed for each band. Information was recorded on two 3-channel, 1/4 inch tape recorders with each unit receiving and recording signals from two of the four bands. An automatic switching arrangement was incorporated in each channel of the system to permit time sharing of the channel for right and left antenna.

The advantage of this system was that it could be carried along with either the A-2 or B camera. Special A-2 or B hatch covers provided windows, brackets and cabling for System VI components and 20 different configurations of the system were possible. Once System VI was tested

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and available for operational use, it was decided that System IV could be retired and the funds thus saved be used for increasing the collection capabilities of System VI. A total of 18 systems were procured and nine remained in the inventory at the end of 1966. The system was updated to configuration VI-A in 1963, and in 1967 planning was underway to update it again to configuration VI-C.

System VII. (Haller-Raymond-Brown, 1959-60)

This system was proposed by OSI in December 1958 and was designed to intercept and record missile telemetry signals of the pulse position modulation type during the pre-burnout stage of missile launching. The signals to be intercepted were believed to be less than four and certainly less than six simultaneous transmission frequencies; therefore the system envisioned the use of six pick-up heads of high accuracy and high fidelity. The need for the system was immediate and so available equipment was employed throughout. The Ampex 814 Recorder running at 60 ips with a recording time of 12 minutes was selected for the system.

Approval to proceed with System VII was given by the Critical Collections Problems Committee and the Elint Committee of USIB on 10 December 1958, and Haller-Raymond-Brown was authorized to proceed with fabrication of one complete system and spares. The system was delivered to Edwards North Base and tested there in April and May 1959.

Headquarters USAF and CHALICE personnel jointly planned a telemetry mission for 9 June 1959 through Iran which included use of a SAC RB-47 aircraft with manned telemetry collection equipment, and a CHALICE U-2 aircraft with System VII automatic collection equipment. The purpose of the joint planning was to coordinate both efforts and ensure that the aircraft would be on station at the proper time with respect to optimum operation of each equipment. By virtue of the higher altitude of the U-2 (65,000 feet) System VII was able to pick up missile telemetry approximately 80 seconds after missile launch time. This intercept provided 30 seconds of telemetry prior to first stage burn-out and was the first such intercept from a Soviet ICBM launching recorded by the U.S. intelligence community. The RB-47 at

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a lower altitude with manned equipment able to search for and detect new telemetry frequencies, was able to get second stage telemetry which provided confirmatory information for the U-2 intercept. This mutually confirmed information ensured greater precision to analysts determining the size, type and other characteristics of engines used in the missiles.

A third partner in this effort was NSA, who advised the alerted CHALICE and SAC crews at Adana six hours prior to shot time. Take-off timing and flight planning was such that both aircraft were at optimum positions at blast-off time as was planned.

System VII was flown operationally for a year by Detachment B between June 1959 and 1 May 1960 with one excellent, eleven good, two fair and nine poor missions.

System VIII. (Haller-Raymond-Brown)(Procured for U. S. Navy)

This system was a modification of System VII to be installed in a Navy A3D aircraft to obtain telemetry signals from Soviet ICBM impact area in the Pacific. Contractual relationships were handled by DPD with Douglas Aircraft, acting as subcontractor to HRB for installation. DPD and OSI monitored development of the system and DPD Security monitored security aspects of the project, but operational use was the responsibility of the Navy.

System IX. (Granger Associates, 1958)

Early in 1958 an Agency requirement was generated for an electronic countermeasures device, for the P2V program and for the U-2. Investigation by OSI determined that the S-441 Deception Repeater (designed by Dr. Rambo under Air Force/Navy contract in 1956-57) could be repackaged to fulfill the DPD requirement. Responsibility for development was delegated to DPD/Development and Procurement Staff and the initial contract with Granger Associates was written 26 June 1958 for a prototype article, Granger Model 504. The purpose of the system was to provide false angle information to X-Band conical scan airborne intercept radars, which was achieved through the use of

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inverse gain techniques. OSI continued to act as technical adviser on this development and upon completion of the testing of the prototype in May 1959 it was recommended by [redacted] that the Model 504 be produced in limited quantities in a production version capable of operating at maximum altitude of the U-2. System IX was aboard the U-2 which was shot down over Sverdlovsk on 1 May 1960.

Subsequent to the loss of that aircraft and the compromise of the Granger Black Box, it was decided to update or redesign the equipment and a contract was let with Applied Technology Inc. (a new company set up by Dr. William Ayer, who had designed the Granger 504) in December 1962 for a prototype and 14 production units of a new higher-powered model. The first sets were completed in April 1963. Configurations X-B, IX-C (Air Force), and IX-D represent improved models. System IX-B is still in operational status.

System X. (Haller-Raymond-Brown, 1962)

System X was a modification of System VII engineered specifically for Elint coverage of the Soviet missile site at Sary Shagan. Two sets were ordered in August 1962 in advance of the overflight approval and OSA funded the work conducted by HRB and Lockheed to progress System X toward eventual installation in the U-2. This funding was undertaken with the expectation that the engineering work would be applicable to other aircraft systems such as the RB-57F, if it were decided to use that vehicle on political grounds for collection against the Soviet ABM effort.

In May 1962 with the approval of USIB Chairman (Mr. McCone) OSA tried to get the British to sponsor a U-2 with System X to fly over Sary Shagan from Pakistan. While political efforts were being made by the British with Pakistan for approval, the Air Force was making an effort to adapt System X to an improved version of the RB-57D. Dr. Charyk favored use of the RB-57 rather than the U-2 for this mission, and this was agreed at a USIB meeting in late August of 1962, and the British were disengaged from their efforts. At the same time OSA discontinued contractual responsibility for System X and the Air Force took over.

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System XII. (Haller-Raymond-Brown, 1962-64)

System XII was developed as an airborne warning receiver against the SA-2, Soviet surface-to-air missile (SAM). It alerts the pilot with visual and aural signals when a threat radar illuminates his aircraft and instantaneously indicates the azimuth bearing of the illuminating radar. Threat radar signals are discriminated from non-threat signals and if several threat radars illuminate the aircraft simultaneously, the system indicates the direction to each without serious interaction.

Configuration XII-B was developed in 1965 by Applied Technology, Inc. In addition to previous characteristics, it senses and provides proper sector coverage for System 9B and enables System 13C (S and C Band jammer) against SAM TWS guidance radar threats. In December 1966 the system was modified to include a LORO capability by installing a 2500 PRF counter which bypasses the scan rate detector and allows the system to unblank on receipt of a 2500-PRF (+ 10 percent) signal in the receiver pass band. This modified system is designated XII-B-1. Systems XII-B-2 and XII-C are in development by American Electronic Labs.

Systems XIII, XIV, and XV. (Sanders Associates, 1963)

A countermeasures system effective against the FAN SONG radar was developed by combining the ALQ-19 (System XIII) with parts of the ALQ-49 (System XIV) and the ALQ-51 (System XV). This S-Band and C-Band jammer with improved techniques was renamed System XIII-A. This development was undertaken to provide a jammer completely different electrically and mechanically from any known military system in design or inventory. With the initial reluctance of the Joint Chiefs to approve the operational use of System XIII because of the microwave frequency memory loop, a contract was let to design a system which would delete that feature. The goal originally set for this equipment was achieved and a contract was let in August 1964 to develop the new package. Tests were conducted in October-December 1964 against FAN SONG simulation. A request for authorization to replace System XIII with XIII-A in the U-2 operational systems inventory was made to D/NRO on 25 February 1965. This was approved and by the end of May 1965 the first operationally ready unit was installed at Detachment H. Configuration XIII-C was developed by Sanders Associates beginning in September

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1965 (code name MAD MOTH). It included the addition of a 3-tube traveling wave tube transmit chain, LORO recognition circuitry, inverse linear gain capability, and amplitude modulation output techniques, as well as weight-saving features. Nine production units were acquired beginning delivery in July 1966 and an additional seven sets of System XIII-A were subsequently retrofitted to the XIII-C configuration. (The Air Force also procured units for their U-2's, B-57's, and SR-71's.) A configuration XIII-D is being developed by Sanders with greater jamming power and other features.

#### System XVI.

System XVI was projected as a lightweight, passive Elint collection system to replace Systems III and VI, using many of the components and subsystems already in operational use in Project STSPIN and other programs. For a variety of reasons this system was not developed for operational use in the U-2, the principal problems being size and weight. In July 1964 the decision was made to postpone consideration until the U-2R procurement question was settled.

#### System XVII. (Haller-Raymond-Brown-Singer, 1964-65)

In October 1963, the USIB concluded with respect to its long-standing requirement for information on the Soviet ABM program that there was a sufficiently high possibility of collecting ground radar emissions from Soviet tests of such systems as to justify development and employment of an effective airborne Elint capability. Such a system would be used to collect against Sary Shagan from over China near the Soviet border. NRO was asked to work toward development of such a capability as soon as possible. On 29 October 1963, the Acting DD/S&T, Col. Giller, instructed OSA to develop a System X type of collection equipment for use in the U-2, working with OEL to develop specifications and configuration.

The new system, designated System XVII, is an unattended specialized receiving system for collection of telemetry and other missile-associated signals from the launch site at distances from 340 to 420 miles. The system continuously searches the frequency

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spectrum between 50 and 8000 megacycles with ten sweep-lock receivers. Known telemetry and other missile-associated signals are monitored using 14 fixed tuned receivers.

Development of the system was authorized in July 1964 and HRB-Singer was awarded a contract on 1 September 1964 for production of two prototypes and some ground support equipment. By the time the system was operationally ready for a mission against Sary Shagan, the tip-off time before an impending launch had been cut to such an extent that it would be practically impossible to prepare and launch a U-2 mission in time to intercept meaningful signals. The only operational use made thus far has been by Detachment H along the China Coast against SAM sites.

BIRDWATCHER (HRB-Singer, 1962-63)

This system is an inhouse Agency design developed by [ ] of OEL, the purpose being to provide an automatic means of relaying from the airborne vehicle information concerning the status of various aircraft systems during emergency situations. The data transmitted to the ground station is then analyzed to determine the cause and effects of the emergency situation. The system for the U-2C consists of up to 40 input sensors of 20 single channels and 10 dual channels sampling the status of various systems functioning, and a keyer modulator for driving the onboard 618-T-3 HF transmitter. The system can be activated by any one of designated critical sensors, by the pilot of the aircraft, or by the ground site's interrogation signal. The system has been proven operationally and has successfully fulfilled its design purpose.

OSCAR SIERRA. (HRB-Singer, 1965)

This system, designed to augment System XII, is a passive electronic countermeasures system with a broad band receiver operating in the L Band frequency range. The system receives and recognizes a missile guidance signal within a 40-mile radius and provides an alarm which consists of turning on a red light in the pilot's compartment, providing an input to BIRDWATCHER, and turning on System XIII. Three prototypes were deployed after successful tests in February 1965, and six production units were ordered. The Mark III configuration was

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initiated by HRB-Singer in December 1965 and the first prototype flight tested in June 1966 did not perform satisfactorily. At the end of 1966 continued rework and development was being performed on this version.

System XX. (Aerojet General Corp., 1967-68)

• An infra-red sensor which detects the after-burner of a pursuing fighter aircraft is in the development stage.

System XXI. (HRB-Singer and Sylvania Electronics Systems, West, Inc.)  
(1966-67-68)

An airborne VHF COMINT collecting system designed as a replacement of the obsolete System III is in the development stage.

Single-Side-Band Radio. (Collins Radio, 1960)

The Collins Model 618T radio was chosen to meet the requirement of light weight communications set to be used principally in the event of need to recall the U-2 during an operational mission.

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SPECIAL ELINT PROJECTS

NIGHTLATCH. [redacted]

In late 1958 a new Soviet GCI set was reported by the Air Force. This set was nicknamed BAR LOCK. It was similar to previous Soviet GCI sets in that it utilized two search dishes fixed on a rotating trailer, and multiple transmitters. It differed in having six transmitters instead of the usual five and in persistent reports that the signals were extremely strong.

In view of the excellent performance which the known characteristics should provide, interest in more detailed knowledge of the parameters of this radar was quite high. The major unknowns were (1) peak pulse power; (2) vertical coverage pattern; (3) horizontal antenna patterns and technical competence of the antenna design.

A specialized Elint collection program was initiated in March 1959, testing of the airborne equipment began in June, and field operations commenced in mid-August. During the following three months data was obtained on a number of BAR LOCK and BIG MESH sites in Eastern Europe and about 80% of the necessary data reduction was accomplished. The remainder of the data reduction took place after field operations had terminated.

The development, testing and employment of the special electronic package was provided under contract by [redacted] and the final cost, plus fixed fee, for this work was \$165,427.60. The aircraft and crew to support the operational phase were supplied by the Air Force.

CHAPLAIN. (Joint CIA [redacted] Program)

The purpose of this project was to deploy to a field site location in Pakistan and operate special back scatter radar equipment which was developed for the collection of intelligence concerning missile launchings in the Soviet Union.

A survey team composed of [redacted] officers and [redacted] [redacted] DPD Communications Officer, visited Pakistan arriving 8 April

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1960 and in meetings with the Pakistan Intelligence Service reached agreement on the location of the antenna for Project CHAPLAIN in the Malir Cantonment just outside Karachi.

Deployment to the field began 1 October 1960 as a joint enterprise between CIA [redacted] Total complement was composed of 17 field service techreps (ACF Industries), 5 USAF officers and men, and 1 CIA Staff employee for a total of 23. An Air Force Major commanded the group and the CIA technician was deputy and technical director for the project.

The equipment was developed jointly by OSI and TSD. DPD participation was principally with budgeting for the deployment phase for FY 1961-62, and in obtaining political approval from the Pakistan Government. DPD recommended that either TSD or the Office of Communications furnish the team leader. The man chosen was [redacted] of TSD. Chief, NE Division wished the team to report through the [redacted] although the DD/P felt he should report directly to Headquarters, DPD.

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By mid-July no degree of operational success had been achieved and DPD was in the position of having full responsibility for operational support overseas but with little or no direct responsibility for the technical operation or exploitation of the end product.

In September 1961, [redacted] proposed that the joint project become a fully military one. Ambassador Rountree in Karachi turned down the request of [redacted] for militarization of the project.

In August 1962, it was recommended and agreed that Agency participation be transferred to OEL.

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STATUS OF CONTRACTS - 30 DECEMBER 1966

Funds Obligated under OSA Contracts:

	FY 1955-1962	FY 1963	FY 1964	FY 1965	FY 1966	FY 1967	Total
OSA	\$135,216,361.41	\$130,785,876.99	\$172,285,874.00	\$235,680,911.80	\$178,036,061.65	\$105,772,337.31	\$ 957,777,423.16
CIA Other	8,061,061.02	3,011,940.27	4,136,280.41	11,475,203.90	9,927,798.99	178,839.00	36,791,123.59
USAF	427,137,411.00	250,014,334.60	417,143,234.15	451,327,493.73	485,644,953.46	81,440,322.00	2,114,709,815.30
Navy	3,027,732.48	72,296.77	99,427.92	517,908.79	1,047,513.49	301,615.00	5,066,494.45
Army	572,587.64	2,446,564.00	1,483,295.00	1,437,142.85	366,416.00	9,300.00	6,315,305.49
<b>TOTAL</b>	<b>\$576,017,219.91</b>	<b>\$386,331,012.63</b>	<b>\$595,148,111.48</b>	<b>\$700,438,661.07</b>	<b>\$675,022,743.59</b>	<b>\$187,702,413.31</b>	<b>\$3,120,660,161.99</b>
<b>IDEALIST Total</b>	<b>\$ 80,333,696.73</b>	<b>\$ 11,565,946.72</b>	<b>\$ 9,802,552.66</b>	<b>\$ 15,595,302.69</b>	<b>\$ 13,971,806.16</b>	<b>\$ 4,401,368.56</b>	<b>\$ 135,670,673.52</b>

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Total contracts let by OSA, 1955-66: 709 (including 111 for USAF) Payments completed: 284 Contracts currently active: 425

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Central Intelligence Agency  
Washington, D. C.

Office of the Director

30 January 1956

The Honorable Donald A. Quarles  
Secretary of the Air Force  
Washington 25, D. C.

Dear Mr. Quarles:

I refer to Mr. Gardner's letter of 11 January 1956 in which it is requested that this Agency undertake the procurement, for and in behalf of the Air Force, of L-182 \* aircraft additional to those presently being procured for Project AQUATONE (TS). The decision that the procurement of airframes and certain other equipment for this Project be undertaken by the Central Intelligence Agency was made concurrently with and as a part of the decision whereby the Project itself was launched. You will remember that the considerations which prompted the undertaking of this major intelligence collection effort by this Agency were the requirement for the tightest possible security and the desire that it be treated as a non-military clandestine activity. The maintenance of security required that knowledge of the activity be confined to the smallest possible circle of people, specifically to many fewer individuals than would normally participate in such procurement were it undertaken in accordance with standard Air Force procedures. In any event, the need for speed required the employment of procedures involving less widespread coordination than those regularly employed by the military departments. These arrangements were understood and agreed between us from the inception of the project and I believe that an unusually high degree of security has been maintained.

We are now advised that the Department of the Air Force has established a firm requirement for 29 additional aircraft and related equipment for the Air Force inventory for the earliest possible delivery. Upon review we are of the opinion that the production by the Lockheed Aircraft Corporation of its model L-182 and related equipment still requires the highest degree of security protection, since knowledge of the existence and performance of the L-182 is

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the most highly sensitive information concerning Project AQUATONE. From discussions between Air Force and Agency personnel on this subject, it appears that the special security procedures and precautions which have been instituted for this procurement heretofore could not be continued if the Air Force were to undertake its own additional procurement. In order to limit knowledge of this aircraft and inferences as to its intended use, I believe the procedure requested by your Department is in the national interest. Accordingly, this Agency will act as executive agent of the Air Force in the procurement of aircraft and related equipment, which will be carried out in accordance with the principles of the Armed Services Procurement Regulations. As your agent, this Agency will take only such action as shall be specifically requested by your Office.

Detailed arrangements for the administration of this program will be worked out at the earliest opportunity with your representatives, at which time the transfer of approximately \$31,000,000 will be accomplished. Furthermore, we will keep the security aspects of this program under constant review as I am in agreement that the administration of the contracts involved should revert to the normal Air Force system at such time as security requirements permit.

Sincerely,

(Signed)

Allen W. Dulles  
Director

Noted: R. M. Macy  
Bureau of the Budget

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HISTORY OF USAF FUNDS TRANSFERRED TO CIA/OSA  
FOR U-2 AND SYSTEMS PROCUREMENT

29 Feb 1956	FY 1956	\$ 9,000,000.00
18 Apr 1956	FY 1957	22,000,000.00
17 Apr 1957	FY 1958	11,000,000.00
27 Aug 1957	FY 1959	5,000,000.00
10 Sep 1959	FY 1960	2,600,000.00
23 Dec 1959	FY 1960	2,600,000.00
20 Feb 1960	Proj 4076	1,325,000.00
21 Oct 1960	FY 1961	4,200,000.00
28 Jul 1961	FY 1962	4,700,000.00
		<hr/>
		\$62,425,000.00
	(Transferred to NPIC)	- 140,000.00
		<hr/>
		\$62,285,000.00
5 Nov 1962	FY 1963	6,200,000.00
	(Transferred to NPIC)	- 193,850.00
		<hr/>
		\$68,291,150.00
10 Dec 1962	FY 1963	474,076.00
20 Aug 1963	FY 1964	2,000,000.00
11 Oct 1963	FY 1964	1,100,000.00
30 Dec 1963	FY 1964	3,100,000.00
8 Jun 1964	FY 1964	717,174.00
30 Jun 1964	FY 1964	372,144.00
20 Jul 1964	FY 1965	5,200,000.00
28 Aug 1964	FY 1965	5,200,000.00
7 Oct 1964	FY 1965	600,000.00
2 Jul 1965	FY 1966	4,029,000.00
22 Nov 1965	FY 1966	4,652,000.00
28 Jan 1965	FY 1966	278,000.00
Mar 1966	FY 1966	110,000.00
13 Sep 1966	FY 1967	8,380,000.00
		<hr/>
	TOTAL	\$104,503,544.00
	Less: Cumulative Obligations through 31 December 1966	98,589,321.94
		<hr/>
	Total Unobligated Balance	\$ 5,914,222.06
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5 June 1956

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT: Contracts - Project AQUATONE

1. This memorandum is for your information.
2. The first phase of our procurement activities under Project AQUATONE is in concrete form and all the contracts are sufficiently developed to allow an appraisal. It appears appropriate to review the situation at this time when the Air Force plans an additional procurement phase of the equipment, particularly from our prime contractor, the Lockheed Aircraft Corporation. To this point the procurement has been joint in nature. The CIA has signed the contracts and has provided the funds for the major procurement items; the Air Force is providing certain Government-furnished equipment and is procuring certain other items which it is in a better position to develop and procure.
3. In considering this joint procurement, it should be kept in mind that the CIA is authorized to exercise the authorities contained in the Armed Services Procurement Act of 1947, including Section 10 thereof. Section 10 is specifically designed to facilitate procurement of supplies and equipment by one agency for another, and the joint procurement of supplies and services required by the agencies. It provides for such assignments and delegations of procurement responsibilities within the Agency as may be desirable and the assignment and delegations of procurement responsibilities from one agency to another or the creation of joint or combined offices to exercise the procurement responsibilities. The procurement program for Project AQUATONE, therefore, is clearly within the contemplation of Section 10 of the Armed Services Procurement Act of 1947.
4. In general, the various contracts let under Project AQUATONE follow normal Government procurement standards although they may differ as to type. In certain instances security or the urgency involved has required alteration of procedures or waivers of certain specific limitations. Insofar as the security precautions are concerned, we

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rely on Section 10(b) of the CIA Act of 1949 in order to have some of the contracts appear either Agency sterile or Government sterile and to issue payments in a secure manner. It is probable that the Air Force does not have the legal authority to achieve such cover arrangements in precisely the same way, although commercial cover has been achieved by the Department of Defense through other devices. On the waiver of limitations, however, we have had little occasion to issue any substantive waivers or exercise unusual authorities which were not available to the Air Force under its own authorities. Consequently, the procurement by the CIA has, to date, been basically no different from that which could be accomplished by the Air Force. A potential difference, however, arises from the fact that we can waive any and all limitations in the event Project security or other considerations requires us to do this, whereas the Air Force could be limited in what can be done in this regard.

5. Consideration was given to the Air Force undertaking this procurement and the following facts were ascertained. A similar proposal from the corporation had previously been rejected by the Air Research and Development Command. The processing in the Air Force under the proposal known as CL 282 had gone on for six to nine months before rejection. If the present proposal in which the CIA had an interest were to be sponsored by the Air Force, it would have to be referred back again to the ARDC for full justification which would of necessity include the CIA's interest. If approved by ARDC it would then have to go through the Air Materiel Command with full coordination under all the Air Force rules and procedures. Only after that could negotiations on the contract itself be instigated. No estimate of the time involved could be made, except that it would be a long drawn out procedure and that necessarily during this procedure a considerable number of offices and individuals would get at least an indication of the purposes for which the procurement was aimed. With time a vital factor and absolute security indispensable, the Air Force channel of procurement was patently impossible.

6. In the opinion of the Air Force officers and officials concerned, there was no method by which the Air Force could short cut this procedure without raising as many questions as might be raised by going through the full coordination process. On the other hand, the CIA from the procurement standpoint alone could enter into the transaction almost

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instantly upon approval by the Director, and it would be necessary to inform only a handful of people outside of those who would know the substantive nature of the Project in any case. Not only would there be far closer security, but also there would be much greater flexibility, which is essential in view of the unknowns to be encountered and the extreme urgency in solving them. It was unanimously agreed, therefore, that the CIA should handle the contracts and funds in an amount estimated to cover the 1955 Fiscal Year needs were allocated. This was approved by the Bureau of the Budget.

7. From the outset it was apparent that if the CIA were to execute the contract, it would have to be some form of a redeterminable fixed-price contract. Fixed-price contracts have the advantage of (i) simpler administration, (ii) minimum of time-consuming delays, (iii) less complex audit procedures, (iv) more responsibility on the Contractor, and (v) generally greater flexibility to cope with unusual conditions which this type of procurement would involve. Security problems, likewise, are simplified. I, therefore, entered into negotiations with Mr. Johnson, the Lockheed Project Engineer, on the basis of a fixed-price arrangement. He set forth a proposal in which the price was stated to be \$22,500,000. At this time we had the information from the Air Force that the similar proposal, previously considered by ARDC as CL-282, had been estimated to involve \$28,000,000. I stated that due to the uncertainty on costs we should probably have some redetermination provision and asked Mr. Johnson if the \$22,500,000 were an outside figure. He asserted that it was, and accordingly I prepared a letter contract which obligated the amount of \$22,500,000. We then began negotiation for a definitive contract with Lockheed, and their Contracting Officer, Mr. Bias, told me that when Mr. Johnson mentioned the figure of \$22,500,000 to the Corporation Comptroller and that there would be a price-redetermination clause, the Comptroller had deemed it prudent to ask for provision for price redetermination upwards from \$22,500,000. I stated that the Agency did not have additional funds to obligate for this purpose at this time, but that if the need arose they could be made available and I would commit the Agency to an upward and downward price redetermination with the profit factor varying inversely with any increase in cost. This was further discussed with Mr. Johnson, who indicated that he had considerable confidence in his estimate of \$22,500,000 as an outside figure, but that there were obviously some unpredictable items. I undertook to point out to Mr. Johnson the method by which we planned

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to operate, including direct negotiation, elimination of detailed and current audit procedures, and over-all simplification of contract procedures, all of which I felt would allow Lockheed to make savings not normally available. Mr. Johnson agreed that this should not only expedite production but also should lead to savings on his estimate, although he was careful to point out that wage rates would be somewhat above normal as they would be utilizing the cream of the Lockheed employees for this Project. The definitive contract was, therefore, negotiated on the \$22,500,000 price with negotiation upwards if cost experience justified; unlimited downwards. No price profit factor was established although we indicated to Messrs. Bias and Johnson that at \$22,500,000 we could not go over the average profit factor on Government contracts, which appeared to be in the neighborhood of 9-1/2% unless substantial savings through economy and efficiency were achieved and that contrariwise, if the expenditures ran over \$22,500,000, we would propose that the profit factor would be reduced.

8. It is important to keep in mind that in the prime contract as well as the others executed by this Agency for Project AQUATONE, the responsibility for performance was put on the Contractor. By performance here is meant more than the actual flight performance of the plane. It is the performance of the whole system with all its interrelated parts, so that the responsibility was not only for a machine which flew at a certain height for a certain distance at a certain speed but also to assure that the flight performance was capable of sustaining the camera, communications, navigation, and other necessary equipment. In normal Air Force procurement, each part and all materiel must meet rigid Air Force specifications and inspection so that as the product comes off the line its performance is largely the result of the Air Force's supervision. Under our Contract No. SP-1913, the contractor was aware of the performance which was required and it is his responsibility to produce this performance in such manner as he deems most effective and efficient. Lockheed, therefore, worked directly with Perkin-Elmer, Hycon, Ramo-Wooldridge, and the rest as a member of a team to evolve a complete and balanced system. In the event of disputes or the need for policy determinations, Lockheed could turn to one place to provide the answers instead of having each aspect staffed through separate staff components as in the Air Force. In certain instances modifications have been required for the Government's purposes over

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and above the original specifications, which will add to costs otherwise contemplated, but these have been or will be reflected in change orders so that the basic concept of SP-1913 is not affected.

9. In considering the circumstances under which SP-1913 was negotiated, it appears that the definitive contract is advantageous both to the Contractor and to the Government. To the Contractor it gave the greatest possible freedom from inspection and supervision while, of course, throwing upon him responsibility for results. Since the contract with the CIA is small for this particular corporation, the incentive is to produce results which would then be attractive to the Air Force and larger procurement. This places a premium on efficiency and performance. From the Government's viewpoint, the price redetermination procedure with provision for upward redetermination tends to eliminate those contingencies which the corporation would put into a fixed-price contract on a new production item. Furthermore, the profit percentage-wise and dollarwise will go up as the Government's expenses are reduced; on the other hand the percentage will go down and perhaps the dollar amount too if the cost to the Government goes up. As of March 25, 1956, the Contractor is ahead of schedule and actual expenditures are some \$3,000,000 under what it was anticipated expenditures would be as of this date. However some \$1,400,000 additional work has been added since inception of the contract. This means that the original work, plus that which has been added by change orders, will still be accomplished under the original contract price, with some residue, provided that no unusual costs are encountered during the next six or seven months.

10. Due to the Contractor's long years of experience with Government contracts, the negotiation on the price redetermination is not inordinately difficult since all cost factors are well established, including such items as overhead allocations. This is bolstered by the fact that the contract provides for inspection and audit of the books and records of the corporation at any time and arrangements are now being made to have the Air Force audit the contract on a secure basis and in accordance with procedures familiar to Lockheed and to the Air Force. Consequently, the contract has the usual benefits and ease of administration and performance of a fixed-price contract with the further benefit to the Government of recovering any contract funds not actually expended for the contract work, by virtue of the redetermination factor. This, of course, is feasible only where a company has had such an extensive course of dealings with the Government that cost elements are well

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settled and both parties are thoroughly familiar with Government procurement practices. Negotiation of the final fee or profit (as a percentage or as a lump sum) is the only area in which difficulties may arise.

11. In connection with procurement which the CIA is undertaking as agent for the Air Force through Contract SP-1914, generally the same practices and procedures are being followed as applied to SP-1913. Since the CIA is, however, the agent of the Air Force, a detailed agreement outlining this agency has been executed between the Agency and the Air Force. In this the Air Force clearly undertakes responsibility for requirements and specifications and for inspection and acceptance and the Central Intelligence Agency performs the contractual functions and administers the contract and any changes thereto, in accordance with the written request of the Air Force. Present known requirements of the Air Force indicate that some 20 to 30 contracts on behalf of the Air Force will have to be processed by us under this arrangement.

12. In the foregoing we have discussed in considerable detail SP-1913, both because it is the major and basic contract and because of all the contracts it is the only one in which there was a departure from normal Government procurement practices as opposed to procedures. Even on that point, which involved the implied commitment of additional funds over and above the immediate obligation of funds, the same result could be achieved by other devices available to armed services procurement agencies. Other contracts with Perkin-Elmer, Hycon, and Westinghouse, etc., are all similar to SP-1913 in the procurement methods utilized and, again, probably are all within the legal authority of the Air Force to procure in this manner. The contract with Ramo-Wooldridge is in all substantive aspects the same as the Air Force would write—a standard cost-plus-a-fixed-fee contract. It is interesting to note that in the so-called unusual type contracts written to date (Lockheed, Perkin-Elmer, Westinghouse, etc.) which provide for upward redetermination of price, no such request for additional funds has been made as yet, and will not, in all probability be made. However the CPFF standard contract has increased considerably in cost over that originally budgeted. This indicates only that it is the nature of the work that determines the ultimate cost to the Government rather than the method of contracting. The administration of the contracts has not followed the normal service practices, as for security reasons it was

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decided to limit the number of contract officers to the minimum, and the large staffs which normally review contracts in varying aspects were here reduced to one small staff. Within these limitations, however, the administration has been meticulous with particular attention to change orders. All contracts and all changes thereto have been reviewed by the General Counsel or his Deputy and specific approvals on policy or fiscal matters have been obtained from the appropriate approving officers in all cases. Again, granting that this system may work only when dealing with companies which are themselves competent in the running of their business and are familiar with Government procurement, under the circumstances surrounding this Project, we believe the procurement system involved adequately protected the Government, was effective in meeting procurement needs, and through its efficiency and simplicity was economical for the Government.

(Signed)  
LAWRENCE R. HOUSTON  
General Counsel

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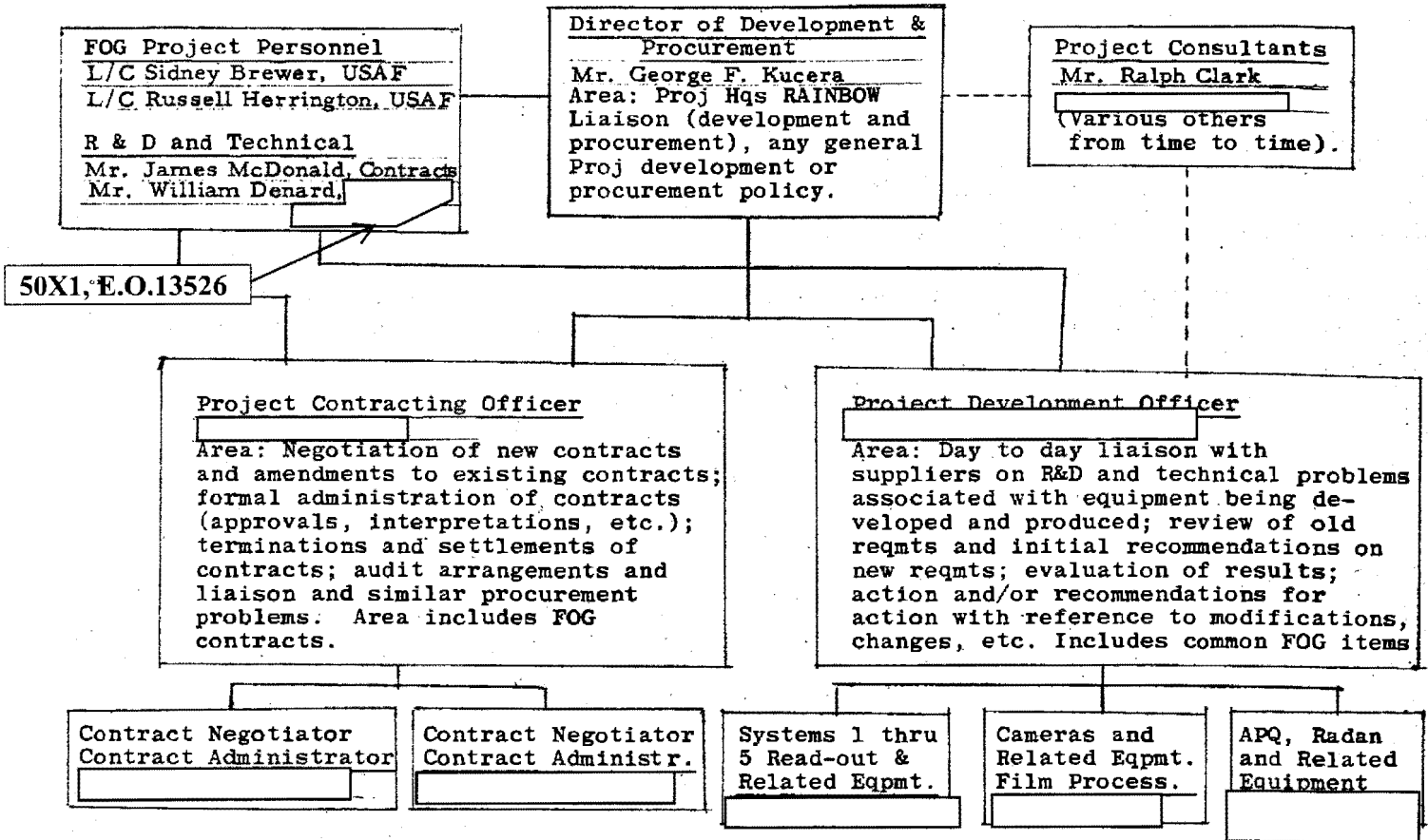
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ANNEX 48



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ORGANIZATION CHART -- DEVELOPMENT & PROCUREMENT



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U.S.C., section 403g)

Att. to SAPC-16511  
11 June 1957

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## U-2 CAMERA SYSTEMS

<u>System</u>	<u>Focal Length</u>	<u>Range</u>	<u>Lateral</u>	<u>Ground Resolution</u>	<u>Scale</u>	<u>ROM Cost</u>	<u>Availability/Remarks</u>
Tracker (Perkin-Elmer) *	3"	3000 n. m.	Horizon to Horizon	15'	$\frac{1}{280,000}$		Quantity: 17; fits U-2C
Tracker (T-35)	2"	4000 n. m.	Horizon to Horizon	12'	$\frac{1}{420,000}$	\$10,000	Quantity: 15; fits U-2C & R
Hycon B Camera (framing)	36"	Variable, Max. 3160 n. m.	Horizon to Horizon	3', 30-35 lines AWAR	$\frac{1}{23,300}$	\$120,000	Operational; 8 on hand
Improved Hycon B Camera (framing)	36"	Variable, Max. 3160 n. m.	Horizon to Horizon	2.5', 45 lines AWAR	$\frac{1}{23,300}$	\$120,000	Operational; 3 on hand
Eastman Kodak Camera (Panoramic)	21"	3740 n. m.	55	1.25', 110 lines per mm, low contrast	$\frac{1}{43,000}$	\$950,000	3 ordered for OXCART; 3 mos. time required to configure for U-2.
C Triple Prime (Itek) Panoramic (referred to as the Delta)	24"	3000 n. m.	17.3	10", 120 lines per mm	$\frac{1}{35,000}$	\$168,000	Prototype available with limited spares for limited operational use.
Dual C Triple Prime (Itek); Convergent Stereo	24"	3000 n. m.	17.3	10", 120 lines per mm	$\frac{1}{35,000}$	#1 \$435,000 #2 301,000 #3 200,000	Delivery of stereo cameras scheduled beginning Feb 64; 4 cameras ordered.

\* Original tracker, no longer used by IDEALIST

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ANNEX 50

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altitude, better defensive gear, and improved maneuverability due to redesign will extend on into the 1970's the U-2 capability for overhead reconnaissance of denied areas.

8. A follow-on subsonic reconnaissance aircraft should have the following characteristics:

50X4, E.O.13526

a. Reach  in one hour or less.

b. Range of 3,000 N. M. at or above 70,000 feet.

50X4, E.O.13526

c. Mid-range operational altitudes over denied territory at or above

d. Increased maneuverability at altitude to increase the survivability margin against SAM defenses.

e. Integrated, light-weight warning/defensive counter-measures systems.

f. High-altitude engine re-light and flameout prevention.

g. Expanded night photo capability.

h. Real-time read out of selected airborne sensors by a ground station.

i. Infrared defensive system.

j. Internal installation of all sensors and equipment.

k. Compatibility with existing sensor systems.

l. Structurally capable of carrier operation.

m. Structurally capable of conversion for air refueling.

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9. The requirement for U-2 reconnaissance having been stated in paragraph 4, it is appropriate at this point to recommend a new buy. It is our understanding that your memorandum of June 10, 1965, was predicated on not purchasing improved model aircraft; nonetheless, it is the considered judgment of the undersigned that a very definite need for the U-2 abides for covert work and overt surveillance reconnaissance and photo mapping into the distant future. Based on current attrition rates, it is possible to predict that the total U-2 inventory, exclusive of AFSC holdings, could conceivably reduce to 9 or 10 aircraft in a three-year period. Such a figure would be considered a marginal effective national reconnaissance asset. We agree with that part of your June 10 memorandum to up-date all SAC U-2's, but it is our opinion that the conversion should be at a rate faster than specified. We are in consonance with the rest of the proposal as a sound plan basically, but since we are recommending a purchase of new aircraft, we feel its implementation at this time would be premature.

10. To realize the maximum benefit from a new reconnaissance aircraft, the Agency and the USAF (and other interested agencies) should jointly approve and purchase a similar model airframe. Further, this aircraft should be produced in quantity to give both users an operational inventory not later than the end of FY-67. In the meantime, modify all U-2 aircraft in the USAF and Agency inventory to the light-weight J75-13B configuration and standardize sensors and defensive ECM equipment. This will reduce overall spares requirements, provide maximum flexibility of utilization, and permit an orderly phase-out of the equipment at the end of its service life. In addition, a decision to convert the SAC fleet implies a decision to purchase engines immediately.

11. It is recommended that USAF and CIA, in joint enterprise with the contractor, initiate a new buy of an improved U-2. This decision should be made in the near future while tools and dies are readily available. To delay will cause a future purchase to be more difficult and expensive. When the decision is made to purchase, it will be necessary to determine its size, considering the missions and needs of the participating agencies as stated in paragraph 4.

(Signed)

JACK C. LEDFORD  
Brigadier General, USAF  
Director, Program B, NRO

LEO P. GEARY  
Colonel, USAF  
Director, Program D,  
NRO

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BYE 2614-65

21 June 1965

MEMORANDUM FOR: Director, National Reconnaissance Office

SUBJECT: Future Needs for U-2 Aircraft

REFERENCE: Memorandum from DNRO to Directors,  
Programs B and D, dated 22 March 1965,  
Subject: Future Needs for U-2 Aircraft  
(BYE 36277-65)

1. The measure of denial of covert aerial reconnaissance by the U-2 will depend in large measure upon the rate at which hostile defensive environments, both missile and aircraft, are introduced, and the progress we make toward countering those environments. With introduction of the Systems 13A, 9B, 12B and Oscar Sierra, computer studies show survivability of the U-2 against SAM-defended areas is now above 80%. To improve this survivability rate we must continue our aggressive development and implementation of defensive countermeasures. Development of hostile defensive environments notwithstanding, there will continue to be many requirements for U-2 quality photography, U-2 flexibility and responsiveness to emergency situations, and U-2 economy of operation.

2. Since the first loss in 1960 to the surface-to-air missile, the U-2 has been regarded as vulnerable to the SAM threat. However, with the use of countermeasures and warning devices, as well as judicious mission planning, the U-2 has so far accommodated the problem and survived as an effective intelligence collection capability. In the very recent past, a latent threat, the fighter-interceptor, has loomed as a hazard to the U-2 mission. Whereas the SAM threat can be neutralized by avoiding its lethal range, the high-performance fighter-interceptor is a flexible defense which can seek out the U-2. Countermeasures to the fighter threat have been developed and are being improved. Comprehensive studies indicate 94% survivability of the U-2 against MIG-21 type aircraft when the U-2 employs existing defensive measures. In the future we can maintain and improve this survivability by implementing the program described in this paper.

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3. As was pointed out in the briefing rendered the NRO EXCOM on 1 September 1964, unless new aircraft are put into the U-2 inventory, estimated losses over the next five years will force closure of the U-2 program for lack of aircraft. The total inventory as of 4 June 1965 is 25 aircraft of which 20 are photo-configured. The 25 remain from the original purchase of 55 aircraft. It is interesting and perhaps illustrative to note that of the 30 U-2's lost, only seven were on operational overflights. Of these seven, five aircraft were lost on Agency overflights. Five losses out of 461 overflight missions represents a loss rate of 1.1%. The loss near Key West on 20 November 1963, and that over China on 30 October 1963, were probably caused by aircraft or systems malfunctions not caused by hostile action.

4. In the near future, 1967-1970, the U-2 can profitably operate in any area where there is a requirement to produce high-resolution photography, where it is politically more desirable to conduct covert overflights, and where it can deliver photography more economically than other methods. With an improved aircraft to provide increased altitude and maneuverability and the use of defensive systems now in production or in development, even the present restriction against flying directly over SAM sites will cease to be a valid limitation to unrestricted operational use of the U-2. The requirement for covert strategic search and overt surveillance will continue for the foreseeable future in the following areas:

a. The TACKLE program will continue in China and North Korea. Here the U-2 will cover targets and areas which require high-resolution photography but are not capable of being surveyed quickly or continuously by other less responsive and more expensive capabilities.

b. The major portion of Indonesia can be covered by U-2 missions unless and until the Indonesian fighter capability shows marked improvement beyond any reasonable estimate of their projected force structure.

c. All of Africa can most profitably be photographed on U-2 missions. Defensive system improvements noted above will probably permit SAM-defended targets to be photographed.

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d. The greater part of the Middle East including Saudi Arabia, Iran, Iraq, Yemen and the Levant Coast is a likely target area for U-2 operations.

e. The Sino-Indian Border and Tibet, as well as Sinkiang Province, are now and may remain profitable target areas for the U-2.

f. Southeast Asian countries which may be subverted and infiltrated by the Chicoms (Burma, Malaysia, for example) should be "safe" target areas for a significant portion of the 1967-1970 period.

g. Should the need arise, such as it did in Venezuela, Central and South America, crisis situations can be covered by the U-2 either from land bases or from carriers.

h. ELINT requirements dictate that continued improvement in collection platforms must be made. The aircraft being considered herein will be a considerably better capability.

i. In conjunction with its reconnaissance role the U-2 is capable of performing photo-mapping chores more cheaply and more effectively than current assets.

j. There are indications that NASA has expressed interest in acquiring U-2's for reasons not known, and have mentioned a figure of three aircraft as probably satisfying their needs.

k. Should atmospheric testing be resumed, undoubtedly the U-2 will once again play a significant air sampling role, with particulate and gaseous collection gear.

5. The USSR, its European satellites, Israel, China targets defended by SAM sites and/or latest fighters, the Nile Valley in Egypt and SAM-defended targets in Indonesia have been denied to the U-2 as it now exists. Any area which has a sophisticated air defense system (and the pilots and equipment to use it) such as the USSR has, will probably pose a risk to the continuation of U-2 operations in that country. The very

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depth of the Soviet and European satellite countries' defenses and the quality of the Israeli system deny U-2 coverage of those areas. The area within the lethal radius of a SAM site anywhere in the world is denied to the U-2 in its present configuration, but will become open to the improved U-2.

6. The collection capability of the U-2 in its present or proposed form compares favorably with other systems in that it produces a high-quality product at a competitive cost. It is a more economical instrument to collect photography in lesser-defended areas than is the A-12/SR-71, which should be reserved initially, at least, for areas the U-2 cannot penetrate. Drones, TAGBOARD or Model 147, are committed to a pre-programmed track which is flown only if the guidance system is 100% accurate for the entire mission. A manned aircraft (U-2 included) can be kept on track or returned to track if and when it becomes necessary. In this respect the U-2 is more likely to photograph a specific target, given the same conditions. As a complement to satellite systems, the U-2 can be effective and economical for a significant time, certainly in the 1967-1970 period. As the search/surveillance satellite detects targets worthy of more detailed examination, it also surveys approaches to those targets. Here we have not only target identification but also an up-to-date exposure of defensive sites. This information is the data on which selection of the most profitable follow-on coverage can be made. GAMBIT may be needed but may also be programmed for a higher priority. On the other hand, the U-2 may be able to do the job equally as well, quicker and cheaper.

7. Clearly then, there is a need for a less vulnerable, flexible reconnaissance system capable of acquiring high-resolution photography. Such a system could be a follow-on aircraft to the U-2 which would incorporate an additional altitude capability, a more effective and integrated defense and countermeasures system, and an airframe clean of external drag items. Continuing positive efforts are being made to improve the current U-2's performance through a weight-saving program to increase altitude, through improved ECM, and through new tactics. Although significant progress has already been made, there is, however, a limit which the current U-2 can achieve through such measures, and it falls short of the desired gains a new model can provide. The increased

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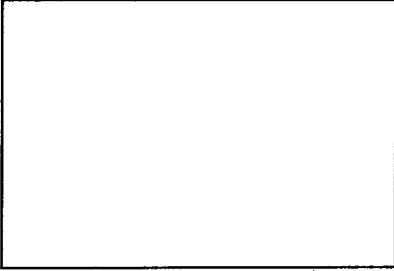
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CHAPTER VI. COMMUNICATIONS

Project Communications Chiefs



1955 - 1960

1960 - 1961

1961 - 1965

1965 - 1968

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U.S.C., section 403g)

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## CHAPTER VI. COMMUNICATIONS

Agreement with Director of Communications, CIA

On 17 March 1955 the Director of Communications, [REDACTED]

[REDACTED] outlined the support he anticipated would be required of his office by Project AQUATONE in the following memorandum to the Project Director:

"To facilitate orderly planning it is considered essential that the tasks to be performed by the Office of Communications in Project AQUATONE be defined as completely as practical at this time. A great deal must be done in a limited time if the project schedule is to be met. If we are to successfully execute all our responsibilities in this project, we must initiate the detailed planning for all of them immediately.

"Accordingly, the following project tasks are understood as being those presently assigned to this Office:

- "a. Radio Location System (RANOL technique).
- "b. Staff communications with bases and advanced bases.
- "c. Maximum security flight communications (telemetering techniques).
- "d. Provide Elint equipment.
- "e. Maintain all electronic equipment identified with the foregoing functions. In addition, maintain the conventional radio communications and navigation equipment installed in the aircraft.
- "f. Perform preliminary Elint data reduction and deliver to designated official.

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"In the above, it is understood that we will monitor the development of the unique equipment involved, including its testing, and the development of the operational technique for its use. We will insure that spares exist at the proper locations and that teams of selected communications technicians are trained and competent in servicing and pre-flight checking the equipment mentioned in sub-paragraph f. Further, it is understood that we will perform all these functions during all phases of the project as it develops and as the unique equipment becomes available. Consequently, we are aware that for all practical purposes we must be ready in all respects for the first test flights in July.

"It is probably equally important to delineate related functions which it is believed the Air Force is in a better position to perform. These are:

"a. Conventional VHF/UHF terminal communications at main, advanced and recovery bases. This will include control tower to aircraft communications for flight control during take-offs, landings and ground-controlled approaches (GCA).

"b. Trunk-line transmission of project staff communications at the appropriate Air Force bases. (This is not an unusual requirement, but will necessitate specific agreements by this Office for the delivery of our cables to our mobile communications teams for deciphering and delivery to the project control officer at the base." 1/

The Project Director replied on 22 March 1955 confirming the above understanding of Office of Communications support to be furnished, and further confirmed his understanding that [redacted] would be the administrative communications officer for the project, under

1/ Letter from [redacted] to Mr. Bissell, dated 17 March 1955.

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[redacted] general supervision, and would participate in organizational and operational planning, taking primary responsibility for the planning of the communications systems and developing a table of organization for communications and electronic maintenance personnel. The communications plan and operational concept as set forth in the composite AQUATONE Planning Guide issued in October 1955 is attached as Annex 51.

HBJAYWALK Channel

In July 1955 the special communications set-up to service Project AQUATONE traffic was arranged and the Chief of the Signal Center,

[redacted] organized a staff of about ten cleared communicators to handle project traffic. All messages were delivered to and picked up from the L Building Signal Center. The indicator "HBJAYWALK" was assigned for project cable traffic and the cryptonym "DYADIC" was assigned by the Office of Communications to AQUATONE Project Headquarters. The shortened form, ADIC, has been used since as the cable address for incoming messages to Project Headquarters.

Between July 1955 and February 1956, communication links were established on this channel with the test site at Watertown, Lockheed at Burbank (also servicing Hycon and Ramo-Wooldridge by courier),

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[redacted] and Pratt & Whitney. A separate Signal Center to support the project was set up in the new Project Headquarters on the fifth floor of the Matornic Building on 27 February 1956 with a direct link to the main Signal Center. The HBJAYWALK channel was opened with [redacted] 50X1, E.O.13526 [redacted] net early in 1956 in anticipation of deploying the first field detachment to Europe.

The reasons for establishing project communications as a separately controlled net, briefly summarized, were the need for maximum speed in message handling, special security requirements limiting access to such messages, the flexibility for setting up and controlling short-term circuitry, and not least, the necessity for Project Headquarters to closely control all field activities via immediate communications.

#### Test Site Communications

The communications plan developed for supporting the U-2 test phase at Watertown Strip was based on the use of a transportable radio station made up of two communications trailers. Radio communications, either CW or radio-teletype circuits, as required, were established with the Agency radio station in the Washington area. This channel would maintain a continuous Test Site/Washington radio watch for

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priority and after-hours traffic. Radio frequencies for the circuits were appropriately backstopped with Federal Communications Commission. A VHF radio circuit connected the Test Site and Mercury, Nevada (the AEC field station nearby) which served as a relay point. The weather unit supporting Watertown operations was located at Mercury and had four teletype circuits and one facsimile channel with a VHF link to Watertown.

The Watertown communications team also furnished HF communications with aircraft whenever required by Project Operations. It also furnished and serviced walkie-talkie sets for the security patrol and the ARC-3 radios installed in the mobile ground control vehicle and the base ambulance.

By the end of August 1955 cable traffic between Watertown and Headquarters had reached 8,000 word groups per week and by October 11,000 groups per week. At the end of November 1955 this rate had jumped to 32,000. Shortage of personnel at the test site made it necessary for the communicators assigned there to put in many hours of overtime.

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~~TOP SECRET~~AACS Support

The Commanding General, Army-Airways Communication System (AACS), was briefed on AQUATONE by Colonel Berg in December 1955 and promised his wholehearted cooperation in supporting the Project's communications needs. A requirement for his help developed rather quickly and in March 1956 Gen. McClelland wrote to the Project Director as follows:

"It is now apparent that AQUATONE will require the augmentation of the staff of operators and technicians at my principal radio stations to an extent not originally contemplated and in excess of the T/O of each station. I do not have sufficient qualified personnel for this purpose nor can I foresee a recruiting program that would promptly yield qualified personnel.

"It is my understanding that the Air Force will procure and operate aircraft nearly identical to AQUATONE's. In this event the AACS will be required to furnish the same support to SAC that O/C will provide for AQUATONE. It would appear to the distinct advantage of the AACS if some of their technicians could acquire operational and technical experience with the ground station aspects of System II... It is my belief that with Air Staff approval, the Commanding General of AACS would be pleased to make available up to 65 specially selected personnel... I believe this virtually the only method by which I can properly reinforce my base radio stations to adequately perform their support functions." 1/

The Project Director concurred in the use of AACS personnel at certain

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1/ SAPC-4749, 5 March 1956. Memofandum for Project Director from Director of Communications.

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specified communications installations, provided they were not employed in positions which properly should be under the administrative control of a Detachment Commander or Project Headquarters, and subject to agreement by Colonel Berg on behalf of the Air Force.

He replied to Gen. McClelland as follows:

"Although I concur in this arrangement and am most appreciative of your efforts to ensure proper support for this project, I do wish to raise again with you the question as to the wisdom of placing for a long period of time such a heavy requirement on the Air Force to provide trained personnel in support of an Agency operation. The question in my mind is the very fundamental one of whether this Agency should not staff and equip itself more nearly to stand on its own feet when it undertakes major new tasks.

"I am well aware of the fact that several special projects which are currently active in the Agency have combined to place an especially heavy burden on the Office of Communications... Under the circumstances it would have been impossible for you to expand your staff rapidly enough to fill these extraordinary requirements without any help from the military services, and it might be unwise to expand it to this extent in view of the probably temporary requirements. Nevertheless, I am inclined to feel that the Agency should be taking steps which will make possible at least a substantial reduction in the use of AACCS personnel as rapidly as suitable individuals can be recruited and trained to take their place." 1 /

The decision not to use the System II communication and navigation equipment in the U-2 relieved the recruiting problem in that respect

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1 / SAPC-4712, 24 March 1956, Memorandum to Director of Communications from Project Director.

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in the summer of 1956, although AACS continued to support the Project by supplying personnel when requested, furnishing communications lines, and lending equipment. (This support by AACS carried over into the successor program at both Area 51 and the OXCART field stations.)

Growth of Cable Traffic Volume

The urgency attached to all activities relating to the U-2 project and to the subsequent overhead reconnaissance projects of the Agency was nowhere more apparent than in the number of word groups of traffic handled by the special signal center (ADIC, later changed to OPCEN). In November 1956 the Project Communications Officer reported overload of facilities and manpower to the tune of 900,000 groups per month, which at that time represented about one-fifth of all Agency traffic. The recommendation was to cut wherever possible, and to make greater use of deferred precedence.

At a Director's Staff Meeting at the beginning of July 1957, discussion of the enormous and steadily growing communications traffic of the Agency brought out the fact that AQUATONE was responsible for a significant fraction of the total traffic. A survey revealed that nearly half of the total project cable traffic represented dummy deception messages transmitted for the purpose of preventing marked variations

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in the over-all traffic pattern which would indicate periods of active operations. This was considered a necessary precaution against compromise of missions through traffic analysis by the enemy. The Project Communications Officer concluded that significant reduction could only be achieved by (1) scheduling penetration missions two weeks or more in advance, (2) launching such missions with no close control by Washington, or (3) deactivating one or more overseas bases.

Because of dependence on weather information and political approval, (1) and (2) were out of the question. One of the three bases would be closed in three or four months but could not be closed sooner. The over-all conclusion was that no major reduction in traffic was feasible until one base was deactivated, but meanwhile the staff was exhorted to eliminate all unnecessary communications.

After DPD was set up as a Division of DD/P, Mr. Bissell in January 1959 forcefully brought to the attention of the DPD staff the fact that the current volume of cable traffic would no longer be condoned and ordered an immediate cutback. (He particularly singled out the verbose cables between Headquarters and the British Air Ministry regarding Project OLDSTER, and between Headquarters and various Agency Chiefs of Station abroad.)

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In 1960 with the addition of the satellite and the follow-on aircraft programs, many new stations were added to the HBJAYWALK network, principally industrial suppliers and Air Force installations. Detachments G and H became operational and communications support in the establishment of circuitry, message handling and engineering and maintenance support increased proportionately. During February 1960 the special signal center handled a total of 1,063,393 word groups of traffic.

With the establishment of the Directorate of Science and Technology, the special signal center took on communications support for the Office of Special Projects, Office of Elint, and Office of Research and Development, and other components of DD/S&T in addition to Office of Special Activities (OSA). During the operational life of the OXCART vehicle, a data processing capability was maintained by OSA and its transmissions were also serviced by OSA Communications Staff.

Following the blanketing of OSA operational activities under the National Reconnaissance Program, another large block of stations was added to the HBJAYWALK network. A directory of this network as of the end of December 1966 (alphabetically by cable designator) is attached as Annex 52.

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The OSA Communications Division was relieved of the responsibility for supplying electronic technicians for Detachments G and H in 1964 when OEL took over Elint responsibility for all of CIA.

At the end of 1966 the total T/O for the OSA Communications Division was  made up of  Headquarters and  field personnel. Message volume handled by the Special Signal Center had reached a monthly rate of about 10,000 messages (word groups were no longer counted); 64% of this traffic was generated by OSA; 20% by the satellite activities of OSP; and 16% by other components of DD/S&T and other miscellaneous traffic.

#### Support for Staging Operations

In addition to the more or less fixed installations which Communications supported in the field during the life of the U-2 program, there has been the requirement to support forward staging base operations, which over the years between 1956 and 1966 have amounted to approximately 25 separate stagings to the following widely scattered bases:

Bodo Air Base, Norway  
Charbatia Air Base, India  
Cubi Point Naval Air Station, Philippines  
Eielson Air Force Base, Alaska  
Lahore Air Base, West Pakistan  
Laughlin Air Force Base, Del Rio, Texas  
Peshawar Air Base, West Pakistan

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Ramey Air Force Base, Puerto Rico  
Takhli Air Base, Thailand  
USS Ranger, at sea in the Pacific  
Watton RAF Base, England

50X1, E.O.13526

A typical Communications Annex to an Operations Order setting forth detailed communications activities to be performed in support of a staging operation, is attached as Annex 53, and relates to the second staging from Charbatia, India, during which coverage was obtained of the Sino-Indian border area.

Since 1963 Communications support of staging operations has included the monitoring of BIRDWATCHER\* emissions from the mission aircraft. At the outset of this program the only ground monitoring stations were at Detachment G and Detachment H. The need for additional ground stations in key locations was foreseen in order to provide an effective monitoring network. Since the Office of Communications, CIA, had a number of active radio stations geographically suited to this purpose, steps were taken to seek the assistance of these stations and special equipment for monitoring the BIRDWATCHER was ordered in the spring of 1964.

By the end of 1964 an extensive network was in operation with the following stations in the Far East participating, as required:

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\* See Chapt. V, Annex 43, page 9, for description of this equipment.

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In 1965 two additional stations were added to the net: [REDACTED]

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BIRDWATCHER coverage has also been provided for during ferry flights of the IDEALIST aircraft from Edwards Air Force Base, California, to the Far East. A special monitoring kit was fabricated and placed aboard the accompanying KC-135 tanker so that monitoring could be accomplished enroute by personnel aboard the tanker as well as by ground stations.

In Praise of Commo

As a commentary on the outstanding support which the U-2 and other OSA projects have received from the Agency Communications Staff, the following extract from a paper by Mr. James A. Cunningham is relevant:

"Communications and Communications Security:

"The Project IDEALIST Communications Staff operates not only administrative communications but is responsible for operations communications as well. In contrast to the Air Force system, all Project traffic is by direct circuit transmission and all of it is enciphered to the highest standards.

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The Communications Staff is composed exclusively of professional personnel, trained to the uniform Agency standard of maximum proficiency, security and speed. The only cryptographic violations we have experienced in the past year, for example, have been on those circuits manned by USAF personnel. This staff has also furnished specialized communications and Elint service to Project IDEALIST in the form of engineering and maintenance assistance. On Elint systems, they work closely with the analysts so that technical maintenance enjoys a real-time relationship to the collection equipment. This is an important asset not available in package form to the Air Force. As an example of its speed, and even allowing for SAC unfamiliarity with communications from Omaha to Edwards Air Force base, on the initial SAC-executed mission of 14 October, the go-no-go weather forecast took SAC a total of 14 hours, 22 minutes to transmit through relay points from Omaha to Edwards Air Force Base, in contrast to a re-transmission time of one hour, 13 minutes from Washington to Edwards Air Force Base on CIA's system, utilized in this instance as a backup capability. By the time the SAC forecast arrived at Edwards, the mission had been on the ground at McCoy Air Force Base for 42 minutes, and the weather was no longer within the valid period for which it had been requested." 1/

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1/ BYE-3944-62, 14 October 1962, Paper by Mr. James A. Cunningham, Jr., Subject: Agency U-2 Versus SAC Coverage of Cuba.

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ANNEX 51

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~~PS-142636~~  
October 1955COMMUNICATIONS OUTLINE PLANGeneral

The Office of Communications within the CIA has assumed responsibility for providing communications support to the Project AQUATONE mission. Personnel have been detailed from the Office of Communications and have been assigned to Project AQUATONE under the general direction of the Project Director. In addition, the facilities and resources of the Office of Communications, both in the ZI and overseas, are available to the Project AQUATONE mission as required.

Assumptions

Communications support will be required for potentially three rear bases with associated forward staging bases from each rear base. It has been stated that two forward staging bases could be operational simultaneously from any of the rear bases.

A long range navigation and communications system will develop to furnish ranging and azimuth information along the flight path of the special vehicle and to provide a limited communications channel between appropriate ground stations and the special vehicle while on flight missions.

Newly developed Elint equipments will be available for the planned overflights and will be used extensively throughout the Project operational phase.

Over-all operational control will be maintained by the Project Headquarters in Washington.

Air Weather Service support, required on a continuous basis for all rear base installations, will, to a large degree, be furnished by the USAF Weather Central in Washington.

Tasks

The Project communications support responsibilities can be categorized generally as follows:

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1. Installation of communications facilities and maintenance of all the Elint and conventional electronic equipments to be utilized for the Project mission.
2. Establishment and operation of the communications circuits providing communications between rear bases and advance staging bases including air-ground communications with special vehicles.
3. Establishment of rapid communications links from Project Headquarters in Washington to the rear bases overseas.
4. The development of a comprehensive training program to properly equip communications personnel for the varied and specialized tasks imposed by the Project mission. This training program is currently underway, and will be continued for the required period of time.

#### Operational Concept

The establishment of communications links between Project Headquarters and rear bases overseas will usually be accomplished by utilizing existing services after determination of the most secure and rapid communications channel. A special signal center, within the CIA Signal Center complex, is available to process traffic for sensitive projects and will be utilized to process traffic for Project AQUATONE Headquarters. This signal center has tie-lines with ACAN, GLOBECOM, and CIA networks and will route Project traffic via the appropriate channel as directed by the Project Communications Officer. A Project signal center will be established and manned at each of the rear bases thereby providing complete cryptographic control of all Project traffic by designated CIA personnel. Transit time studies of Project traffic flow will be made on a continuing basis in an effort to insure most expeditious delivery of cables between Project Headquarters and rear bases overseas.

A cryptographic facility will be established at the Air Weather Central in Washington and linked to the special signal center by landline. This will serve to disseminate weather data from the Air Weather Central to rear bases, the Watertown site and such other users as deemed necessary.

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The Office of Communications maintains large communications installations on a global scale. CIA base radio stations in [redacted] are being considered for support of Project communications objectives. In addition, a radio facility in Alaska can and will be established for Project AQUATONE purposes, if required. These CIA base radio stations will have the dual function of directly communicating with the special vehicle and providing a communications link with Project personnel at advance staging bases.

System II equipment, requiring high power transmitters and extensive antenna installations, will be located at certain of these base radio stations. A rapid communications channel will be established between the rear base launching an operational flight and the base radio station in position to communicate with the special vehicle. By this means, communications between rear bases and special vehicles is achieved on a limited but two-way basis. This method of communications is currently envisioned as consisting of pre-arranged messages represented by three digit groups which will be displayed to both pilot and ground operator by some electro-mechanical means.

The CIA base radio stations will also support Project field components by furnishing communications to advance staging bases. When an advance staging base develops, a two-position, trailer-mounted radio facility will be transported to the advance staging base and will communicate with the pre-determined CIA base radio station. The CIA base radio station will then be in position to relay messages between the rear base concerned and the advance staging base. All CIA base radio stations involved in Project duties will embark upon a dummy traffic deception program, prior to their operational utilization, in an attempt to disguise the unusual circuit activity which could alert opposition intercept activities.

A communications team, under the supervision of a communications team leader, will locate at each of the rear bases. These teams will install facilities at the rear base, as required, to terminate the communications command channels and will then assume the duties of operating and maintaining these facilities. The communications links terminating at the rear base will be the ACAN, GLOBECOM or CIA channel with Project Headquarters in Washington and the circuit with the nearest or most appropriate CIA base radio station.

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The communications team at the rear base will either utilize existing ground to air facilities or install facilities deemed necessary for Project operations. Each rear base will have the following ground to air communications capability:

a. A 100-watt UHF ground station equipped with well-designed antennas to work against the AN/ARC-34 UHF command set in the special vehicle.

b. A UHF DF equipment which can serve to furnish steer information to the special aircraft.

c. A LF beacon, which can be voice modulated, for working with the ARN-6 radio compass in the special aircraft.

At such times as advance staging bases develop from the rear base, the communications team will have the capability to deploy small teams with each advance staging group. Equipment for the advance staging bases will be such as to provide the same ground to air capability outlined above in addition to the two-position trailer-mounted radio facility which serves to communicate with CIA base radio stations. A secure cryptographic system will also be added to each advance staging base to enable the handling of enciphered communications. It is intended that all of the equipment required for establishing the communications facilities at advance staging bases will be placed in trailers or carefully crated for handling by the supporting logistics function.

The training program for communications personnel assigned to Project AQUATONE can generally be described as follows:

a. Preparatory training and indoctrination in Washington immediately after assignment to Project duties.

b. Formalized training at the Ramo-Wooldridge plant on Systems I, the ARN-6 radio compass and the AN/ARC-34 UHF command set.

c. "On-the-job" training and drilling at the Watertown base on all the equipment to be encountered overseas.

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d. Final maintenance training on specific units in a specialized shop established in the Washington area.

e. Radio operating, cryptographic, propagation and other training, as deemed appropriate, in the Washington area.

f. Specialized training for field engineers, one to each team, at the Ramo-Wooldridge plant for Systems II, III, and IV.

Conclusion

Considerable effort is being exerted to select and properly modify equipment for the Project AQUATONE mission. Also, especial emphasis is being placed upon the training and programming of communications personnel to achieve the maximum in competent and well-balanced communications teams for each rear base. A small, fully-trained reserve team will be held available in Washington to assist with Project tasks in the ZI and also to be deployed to the overseas bases as the need arises. These measures supported by the resources of the Office of Communications should serve to meet all Project communications requirements.

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ANNEX 52

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<u>Date</u>				<u>Communicators</u>
<u>Opened</u>	<u>Designator</u>	<u>Station</u>	<u>Location</u>	<u>Company/Projec</u>

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8/55	ABOUT	Pratt & Whitney	Los Angeles	
1/60	ACORN	Itek	Lexington, Mass.	2

50X1, E.O.13526				
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7/59	BABY	Perkin-Elmer Corp.	Norwalk, Conn.	4
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50X1, E.O.13526				
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7/56	BAIL	Eastman Kodak	Rochester, N. Y.	3      2
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50X1, E.O.13526				
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8/55	BEIGE **	Lockheed Aircraft Corp.	Burbank, Calif.	3
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50X1, E.O.13526	
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\*\* Formerly BAAL

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50X1, E.O.13526

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<u>Date Opened</u>	<u>Designator</u>	<u>Station</u>	<u>Location</u>	<u>Communicators Company/Project</u>
2/64	BELLY	Itek	Palo Alto, Calif.	2
2/63	BIJOU	Applied Technology Inc.	Palo Alto, Calif.	2
8/62	BINGO	Minneapolis Honeywell	Burbank, Calif.	1
10/64	BOOK	David Clark Co.	Worcester, Mass.	4
-	BRISK	Eastman Kodak (AF)	Rochester, N. Y.	
12/55	CABAL****			
7/55	CABLE	Area 51 Test Site	Mercury, Nevada	7
6/57	CACTUS	Detachment G	Edwards AFB, Calif.	6
10/60	CARD	Detachment H	Tao Yuan, Taiwan	

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<u>Date</u> <u>Opened</u>	<u>Designator</u>	<u>Station</u>	<u>Location</u>	<u>Communicators</u> <u>Company/ Project</u>
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[Redacted]

2/64	COACH	OX Detachment/Staging	Wake Island	
1/61	COBRA	Detachment G/Staging	Cubi Point, P.I.	

[Redacted]

7/56	CORK	Detachment B/later OX	Incirlik AFB, Adana, Turkey	1
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[Redacted]

1/65	LMSC	Lockheed Missile & Space	Sunnyvale, Calif.	2
1/66	LRL	Lawrence Radiation Lab.	Livermore, Calif.	3

[Redacted]

[Redacted]

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<u>Date</u> <u>Opened</u>	<u>Designator</u>	<u>Station</u>	<u>Location</u>	<u>Communicators</u> <u>Company/ Project</u>
	SANDIA	Sandia Corp.	Albuquerque, N.M.	4
4/62	SPECTRE	NPIC	Washington, D. C.	8
	SPER	JASPER Radio Site	England	
	SYSTO	Perkin-Elmer (AF)	Norwalk, Conn.	
	TOWER	Lockheed (AF)	Los Angeles, Calif.	
6/63	TRW	TRW Systems Grp.	Redondo Beach, Calif.	5
10/62	WADDY	RecTech (AF)	Westover AFB, Mass.	8(AF)
7/61	WECEN	Weather Central, SAC Hq	Offutt AFB, Neb.	5
5/63	WHALE	AFRDR(AF)	Pentagon	

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<u>Date Opened</u>	<u>Designator</u>	<u>Station</u>	<u>Location</u>	<u>Communicators Company/Project</u>
1/63	WHIG	D/NRO Staff (AF)	Pentagon	
12/63	WH	White House	1600 Pennsylvania Ave.	
7/61	WITCH	Air Weather Service (AF)	Scott AFB, Illinois	

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ANNEX E (COMMO) - PROJECT BIG BARRELL III OPS ORDER 7-64  
 Dated: 23 November 1964

I. Commo links

A. Ferry flight support

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(1) Over-the-counter service, utilizing OTP's will be provided at Guam. Contact at Guam is Lt. Col. Willoughby.

Routing indicator [ ]

(2) CIA facility at [ ] will be utilized. Contact is [ ]

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B. Charbatia

(1) Radioteletype with KW-26 primary and OTT back-up circuit to [ ] for entry AXANET network. Radio equipment already in place Charbatia (from previous staging) remaining associated equipment and crypto gear being provided and deployed by Detachment G.

(2) CW capability with OTP circuit to [ ] for alternate back-up. Equipment already in place Charbatia.

(3) KODGER CW emergency capability, using "Ferry Flight" [ ] OTP's; Crypto link between Charbatia/OPCEN.

(4) CW radio link Charbatia/emergency recovery base, if required. Equipment and crypto material being deployed by Detachment G.

C. OPCEN

(1) OPCEN-[ ] fast freight patch activated  
 18 November.

(2) OPCEN-[ ] fast freight patch activated

20 November.

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## II. Personnel deployment

## A. Detachment G

(1) Detachment G deploying one team leader, three CT/C's, two CT/R's, two ET's, and one WET.

(2) One ET and two CT/C's to accompany ferry flight.

## B. OPCEN

(1) Two CT/C's being assigned TDY

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(2) Two CT/C's being assigned TDY

## C. SEACA

One CT/R being assigned TDY Charbatia.

## III. Equipment

A. Radio equipment already in place Charbatia, additional spares being deployed from Detachment G.

B. Crypto equipment being deployed from Detachment G.

C. Elint: Systems IXA, XII and XIII plus "p" and "S" Bands System VI and BIRDWATCHER will be utilized. Systems III and VI being deployed per ADIC 7966, para L1.

D. Nav aids and SSB/BW - Radio jeep w/LF Beacon and Ground SSB/BW facility already in place or being deployed by Detachment G.

## IV. BIRDWATCHER

A. Ferry flight: Special BW kit to be placed aboard KC 135 for monitor.  CARD and Charbatia to monitor also. Detachment G will provide signal plan info and alert stations for monitoring.

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B. Operational missions: Charbatia and [ ] will monitor; [ ] will also monitor if required.

#### V. Deception

[ ] KW 26 RTTY deception circuit activated 19 November. When Charbatia ready activate, circuit will be picked up by Charbatia and dropped by [ ] At completion of staging when Charbatia deactivates, [ ] will pick up again and continue operation of circuit on 24 hours basis for approximately one week.

#### VI. Crypto Stock

A. Key material for Charbatia [ ] crypto link in place [ ] Detachment G deploying Charbatia ends. [ ] will be control station.

B. Detachment G providing pads for ferry flight "over-the-counter service" at Guam. These pads will also be utilized for emergency KODGER crypto link Charbatia/OPCEN.

#### VII. Crypto Procedures

A. With exception of KODGER, which utilizes special procedures, all pad links follow [ ] procedures. Reciprocal system indicator [ ] to be used between [ ] and Charbatia. System indicator [ ] to be used for KODGER and [ ] messages.

B. Charbatia [ ] OTT circuit assigned reciprocal system indicator [ ] procedures apply. Charbatia routing indicator is [ ] is [ ]

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CHAPTER VII. SECURITY AND  
COVER

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U.S.C., section 403g)

Chiefs of Security and Cover Officers - 1954-1968

Security:

William H. Marr  
December 1954 - November 1955

[REDACTED]  
November 1955 - July 1960

William J. Cotter  
July 1960 - April 1964

William R. Kotapish  
April 1964 - July 1966

[REDACTED]  
July 1966 - September 1967

[REDACTED]  
September 1967 - August 1968

[REDACTED] *aug 70*  
September 1968 - Present

Cover:

Initially cover was an additional  
duty of the Security Staff.

[REDACTED]  
October 1955-April 1956

[REDACTED]  
April 1956 - May 1962  
(Doubled as Cover Officer  
and Security Officer)

[REDACTED]  
May 1962 - October 1967  
(Doubled as Cover Officer and  
Special Assistant to DSA for  
Liaison)

[REDACTED]  
October 1967 - Present  
(Doubling as Cover Officer and  
Security Officer)

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CHAPTER VII. SECURITY AND COVER

Development Period

At the outset of Project AQUATONE, before a Headquarters Staff had been formed, matters relating to security and cover were handled directly by Mr. Bissell and his personal assistant. Their first tasks were the initiation of a clearance list of knowledgeable participants, and first steps toward the development of cover. Mr. Bissell himself put a great deal of thought into designing a cover story for the development stage of the project which would keep knowledge of the most highly sensitive facts to an absolute minimum. These facts he considered to be: (a) the altitude and range expected from the aircraft; (b) aircraft delivery schedule; (c) association between the aircraft and the photographic and electronic equipment being developed as components of the reconnaissance system; (d) CIA connection with the project; and (e) the purpose for which the system had been approved.

Meanwhile, at the end of December 1954, the Director of Security, Colonel Sheffield Edwards, was briefed and pledged full support of his Office and as a first action, nominated Mr. William H. Marr of his staff to be Project Security Officer. The immediate problems to be solved, in view of the fast-moving activities of Mr. Johnson's group at

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Lockheed, were (1) a cover story for the contractors, and (2) plant security and personnel investigation and clearance procedures.

The development period cover story, based on Mr. Bissell's outline with inputs from knowledgeable Air Force and contractor representatives, was promulgated on 26 January 1955 and copies were distributed to key men in each supplying company. (See Annex 54 for text.) At the same time contact and communications instructions were issued to the five current suppliers covering procedures for personal contacts between headquarters personnel and contractor representatives. Through the Office of Security a series of post office boxes with notional addressees were rented for the secure exchange of postal communications between Project Headquarters and the contractors.

For emergency communications (before the secure teletype system came into being in midsummer 1955) unlisted telephones were installed in Project Headquarters and key offices at suppliers' plants, and the numbers were exchanged among those needing to have immediate access to one another.

The system of postal communications, which began in February 1955 with the establishment of mail channels between Headquarters and five companies, with eight post office boxes in four cities being

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serviced once or twice a week, developed over the extended life of the U-2 and successor projects until at the end of 1966 it encompassed the following network:

For outgoing mail from Project Headquarters: 115 post office boxes in 85 cities with addressees including approximately 100 suppliers, 3 field units, 1 depot and 1 weather station, with daily servicing by company or unit personnel in most cases. Of the 115 boxes, 15 are used by other DDS&T units and 10 are used for Air Force contract business.

For incoming mail to Project Headquarters: 16 post office boxes in Washington, D. C., at various post offices, with daily servicing by Office of Security personnel. An average of 30 pieces of mail per day is received through these boxes, a few of which boxes are also used by other components of DDS&T.

#### Plant Security

In the middle of January 1955, the Air Force and Navy representatives at Lockheed Aircraft Corporation were given limited briefings on the special project in "Building 82" and were relieved of any security responsibility for work in that area. [redacted] of the Agency's Los Angeles office was given the job of Project Security Officer for plants on the West Coast. Inspections were made of physical security arrangements at Lockheed and Ramo-Wooldridge and found to be adequate. With the assistance of the machinery available in the Air Force Office of Special Investigations (OSI), a system for processing security

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clearances for plant personnel via OSI to the Agency's Office of Security was set up which had the appearance of a normal Air Force procedure. Investigations began immediately on the civilians nominated to work on the aircraft and supporting systems. Arrangements were also made for secrecy agreements to be obtained, through OSI, from all military personnel briefed on the project.

On 7 February 1955, the Director of the Federal Bureau of Investigation, Mr. J. Edgar Hoover, was briefed on the project and the Agency's interest in it, particularly with regard to the work at Lockheed. Three men in the FBI Los Angeles office were briefed (including head of the Espionage Squad), and they, as well as FBI Headquarters in Washington, continued to support the project wherever possible with personnel, facilities and files.

Security Responsibility: Agreements

Although agreement in principle was reached with the Air Force and Navy in December 1954 that CIA would have security responsibility for Project AQUATONE, within a few months it was felt by the Project Director and the Office of Security that it would be advantageous to have this clearly spelled out and agreed in writing. On 29 April 1955 the following agreement was formalized:

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"In order that security responsibilities relative to Project AQUATONE may be clarified and understood by the Central Intelligence Agency, Office of Special Investigations, U. S. Air Force, and Office of Naval Intelligence, U. S. Navy, the following provisions shall apply:

"1. The Central Intelligence Agency has assumed primary responsibility for all security in this Top Secret project, which includes operational security as well as granting security clearances.

"2. The Office of Special Investigations, U. S. Air Force, and Office of Naval Intelligence, U. S. Navy, will furnish liaison assistance in connection with clearance actions, including making available to Central Intelligence Agency pertinent information from their files. Where necessary, Office of Special Investigations, U. S. Air Force, and Office of Naval Intelligence, U. S. Navy, will assist Central Intelligence Agency by giving needed support relative to various phases of the Project, the scope of such support to be determined by prior agreement of the undersigned.

AGREED: Maj. Gen. Joseph F. Carroll, USAF  
Director of Special Investigations

RAdm. Carl F. Espe, USN  
Office of Naval Intelligence

Richard M. Bissell, Jr.  
Central Intelligence Agency. " 1/

The agreement signed with the Air Force in August 1955 for the joint direction of the project did not reiterate the Agency's prime responsibility for security; however, when the Air Force U-2 program

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1/ ~~TS~~-103552, 29 April 1955. Memorandum for the Record.

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was set up, the Air Force agreed in December 1956 to follow certain prescribed security procedures to insure proper control of the follow-on program and to protect CIA's association with it.<sup>1/</sup> The "need to know" principle restricting information was to be adhered to, personnel involved who would be aware of the Agency's interest were required to have TS clearance including a National Agency Check and background investigation, and the Air Force agreed to certify to Project Headquarters the names of their people attending joint meetings or visiting suppliers' installations so that proper notifications could be made in advance. While this agreement was fulfilled in the main, there were numerous breaches requiring Project Security action--briefings and debriefings, investigations of information leaks, etc., involving many man hours and much travel by the Security Staff.

At the inception of CORONA in April 1958, Project Security assumed responsibility for cover and security for that project and subsequent Agency participation in the reconnaissance satellite program, involving principally the procurement and delivery of the payload.

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1/ TS-158772, 14 December 1956. Memorandum from Brig. Gen. M. A. Preston to Mr. R. M. Bissell, Jr., Subject: USAF R-17 Program. Para. 8 a-d. (Annex 55).

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When the OXCART agreement was signed in February 1961 between the Air Force and CIA, two paragraphs relating to security responsibility were inserted:

"3. d. Security of this project within the DOD will be the responsibility of the Air Force Project Officer. All clearances for personnel within the DOD will be approved in advance and monitored by the Air Force Project Officer.

.....

"5. Responsibility for the overall security of the program shall rest with CIA. In view of the security aspects of this project, it is important that maximum practicable compartmentation should include provision for logical, innocent explanation of the activities involved." 1/

In May 1962 an "Agreement Between Secretary of Defense and the Director of Central Intelligence on Responsibilities of the National Reconnaissance Office" was negotiated, and the question of security responsibility was covered as follows:

"3. Security: In accordance with the basic responsibility of the Director of Central Intelligence for protection of intelligence sources and methods, CIA will establish security policy for the NRP, including provision for a uniform system of security control and appropriate delegations of security responsibility.

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1/ OXC-0321, "Organization and Delineation of Responsibilities, Project OXCART" signed 18 February 1961.

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.....  
"6. Public releases of information will be the responsibility of the DNRO, subject to the security guidance of CIA." 1/

Clearance Procedures

The industrial security phase of AQUATONE opened up a new realm and concept to the Agency's Office of Security. The unique problems presented required the establishment of a new set of operating principles in order to deal with the numbers and types of personnel who became involved in various phases of the project. In the early days clearances were obtained and briefings given on an ad hoc basis by various staff members as the occasion demanded, and the degree of knowledgeability imparted varied from one individual to another, and was seldom detailed in writing for the record.

In January 1956 the Project Director became alarmed at the large numbers of Air Force personnel being fully briefed on the project and visiting the test area on their own cognizance. He wrote to Col. Ritland:

"It seems to me that we are rapidly sliding into a position where literally hundreds of senior Air Force officers

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1/ BYE-1166-62, 2 May 1962. "Agreement Between Secretary of Defense and the Director of Central Intelligence on Responsibilities of the National Reconnaissance Office."

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have been and are being cut in on AQUATONE, not because they have any real need to know or because we expect any contribution from them, but only because they are in the habit of knowing about projects of this sort which are handled through regular Air Force channels... I do feel we should review with Col. Berg the extent of knowledgeability in the Air Force and launch a new campaign to clamp down." 1/

In reply, Colonel Ritland noted that since the Air Force would begin to operate their own U-2's about September 1956, a realistic attitude must be taken with regard to the increasing numbers of USAF personnel involved in planning for the follow-on program. His solution was to have Project Security set up categories of knowledgeability by phases. Once these were firmly defined, the briefing of individuals could be restricted to that phase in which they were to participate, thus cutting down the numbers of fully knowledgeable persons.

The eventual system of distinguishing between three levels of security access (which has continued through subsequent projects) was based on criteria set forth below as developed principally for guidance in dealing with the great volume of contractor personnel clearances.

A Phase I approval is required for an individual who does not need to know and cannot determine the ultimate application

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1/ SAPC-3080, 7 January 1956. Memorandum to Col. Ritland from R. M. Bissell, Jr., Project Director.

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or future sensitive use of the equipment being developed or manufactured. Generally speaking, the work which he is doing could have a variety of applications, is a job that he would normally be performing and would, in most cases be a fabrication type function which does not require access to sensitive Project areas.

A Phase II approval is required for an individual who needs to know equipment or system configuration, performance characteristics, identification of other contractors, suppliers and vendors, test site locations and knowledge of equipment or subsystem capabilities. In general, this individual will or may become knowledgeable of information, requirements and parameters which reflect an advance in the state of the art or, by the nature of the function he performs, will have access to areas, material or information from which he might be able to deduce such knowledge.

A Phase III approval is required and will be granted only for those individuals who require official confirmation of mission objective and project knowledge which includes operational information, plans and identity of Project Headquarters. Phase III approvals will not be granted as a matter of courtesy, deference or convenience and requests for approval at this level must be adequately justified.

The Deputy Director of Security for Investigation and Support,

[redacted] was made responsible by the Director of Security for supporting project needs in all areas of security. He soon realized that the scope of the job required more manpower than he had readily available. Decisions were made in April and May 1955 to give the Agency's Office of Security responsibility for the physical security of the test site (even though the AEC maintained a

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perimeter guard), as well as of the overseas field bases. It was further decided that the Project Security Staff would be responsible for custodial and courier activities, including the transport of mission photographic yield.

In November 1955, [redacted] noted to the Project Director that the initial conception of AQUATONE as a short-term project, which would require only a temporary diversion of Security's efforts away from other Agency activities, was no longer valid. Requirements levied on Security were increasing rather than diminishing. At last count 1,759 clearances had been processed although initially it was believed that there would be only about 600 in all. Therefore at least six more professionals and twelve more clerks were needed and an addition of \$100,000 to the current Office of Security budget in order to weather the crisis. The Project Director approved the addition of four slots to the Project T/O but recommended all other needs be put to the Deputy Director for Support as increases in the Office of Security T/O and budget; this was done with the Project Director's strong backing. As the life of the project was extended, the requirements for security support grew, as did the staff. In November 1956 Mr. Bissell wrote the following note of appreciation to Col. Edwards:

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"It was brought to my attention that your office has initiated 4,611 clearance cases of various types since this Project has been in existence, of which 4,008 have been completed. In addition 452 support cases which your office has completed have materially facilitated the accomplishment of our program. Although the AQUATONE mission and resulting requirements are far from completed, I would like to express sincere appreciation for your continuing support. Your accomplishments have demonstrated a major team effort." 1/

In 1958 the 5,000 mark was passed in clearance cases. From December 1958 through August 1959 the Security Office handled over 1,000 clearances of Convair employees engaged in the GUSTO feasibility study (for a successor to the U-2). More than 800 of these were handled by a temporary security group set up in 50X1, E.O.13526 manned by eight professional and four clerical personnel on a rotating basis, and using a commercial investigative force to supplement their efforts.

Once the follow-on vehicle to the U-2 was approved and production of the system began, the numbers of clearance cases handled by CIA Security increased by leaps and bounds. Also, meanwhile, during early 1962 the National Reconnaissance Office was being

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1/ SAPC-10905, 27 November 1956. Memorandum to Director of Security from Richard M. Bissell, Jr.

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organized and OSA's reconnaissance programs were blanketed under the new agency's control. The DCI expressed the desire that CIA should control the security systems of each and every program within the NRP domain. This did not include clearances in programs such as SAMOS and MIDAS but CIA would be the central point of record for all clearances and responsible for inter-Agency coordination, clearance recordation and dissemination of clearance information on all of them. In view of the implications of this requirement to the Office of Security in terms of manpower and budget, the Director of Security initiated action to centralize within the Office of Security, CIA, all records of persons approved for access to programs requiring special clearance for which CIA had security responsibility. Planning went forward during the summer for collation of all clearance data into the central indices under the control of a "Special Security Center". The Center was organized and staffed, and [redacted] [redacted] was designated as its head effective 4 September 1962. As of that date OSA Security Staff was relieved of all record-keeping and paper work involved with clearances other than those instigated by OSA.

Statistics on clearances current as of the beginning of 1966 on OSA's two principal projects were as follows:

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## OXCART:

CIA personnel	1,507
Government (other agencies)	1,765
Industry, all phases	<u>11,651</u>
Total OXCART	14,923

## IDEALIST:

CIA personnel	2,021
Government (other agencies)	2,158
Industry, all phases	<u>2,857</u>
Total IDEALIST	7,036

Security at Watertown Test Site

In May 1955 a crash recruiting and training program was instituted to ready 15 security agents for duty at Watertown (later to deploy abroad with Detachment A) and 15 each for Detachments B and C, in turn.

Applicants were required to possess at least an undergraduate degree from an accredited college and were selected on the basis of both present and future potential with the idea of phasing them into the Security Support Division after their project assignments. A school for these agents was set up at Watertown to continue their training in weaponry, radio and switchboard operation, and the practical application of security methods and procedures. It was considered essential that these young men possess the flexibility to respond to crisis situations

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as well as to do well the monotonous jobs required of personnel dedicated to the broad concept of security support.

Security duties at the test site were wide-ranging and included:

Physical Security:

Manning of two checkpoint gates and roving patrol 24 hours a day.

Apprehension and interrogation of intruders.

Badge and documentation control and maintenance of access lists.

Briefing and debriefing of base personnel and transients.

Local hire employee investigation and clearance documentation.

Area and safe checks, burning of classified waste and Top Secret Control.

Safety of work areas and coordination of base firefighting plan with contractor-furnished fire crew.

Air Shuttle, Burbank to Watertown:

Dispatch control of passengers and cargo to and from the test site (in coordination with the West Coast Security Officer in Los Angeles).

Courier and Escort Duties:

Classified documents and equipment accompanied and given protection and proper storage.

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Escort of remains of accident victims, briefing and giving aid and comfort to bereaved families.

Cover:

Briefings and promulgation of cover based on issuances from Headquarters.

Responsibility for local implementation of the USAF cover established for the testing phase at Watertown.

Emergency Assistance:

Proper notification to all points on details of accidents, crashes, etc.

Securing of wreckage and equipment in case of crashes.

Debriefing of uncleared witnesses, and control of publicity.

Other:

Administration of program to determine radioactivity level at the area through personnel wearing film badges while at the site and checking exposed filters.

Daily liaison with AEC Security Office at Mercury, Nevada on mutual security problems.

Daily consultation and advice to base administrators and base personnel in areas of security and cover as required.

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MATS Shuttle: Burbank to Watertown. To protect the security of activities at Watertown, the decision was made that ingress and egress to and from the training area would be by air in all but certain special cases. Since the majority of personnel travelling to the test site were contractor employees (largely Lockheed) whose homes were in the Burbank and Palmdale areas, the first shuttle service was provided by a USAF C-47 bailed to Lockheed and flown and serviced by Lockheed crews. Since the project could not fully control this service and because difficulties were expected regarding individual insurance coverage of those using the flight, arrangements were made with the Air Force in September 1955 for a regularly scheduled shuttle using a USAF C-54 to be operated by MATS with project-cleared crews. This service began on 3 October 1955.

The Air Force (MATS) was responsible for providing aircraft service between the two points on a daily schedule (except Sundays), and for all flight operations, maintenance, parking, loading and unloading. The project was responsible for maintaining a facility at Burbank (staffed with Security personnel), to prepare and certify personnel and cargo manifests, establish priorities, and maintain communications with suppliers and others using the shuttle.

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Mt. Charleston Crash. Less than two months after this service was initiated by MATS, a tragic accident occurred which had especially severe effects in the area of project security. As described by the Deputy Project Director, Col. Ritland, it happened as follows:

"On 17 November 1955 at about 3:00 p.m., EST, the Project Director's office was notified by telephone from Watertown that the MATS shuttle from Burbank was three hours overdue. The aircraft had cancelled its IFR clearance en route and was proceeding to Watertown under VFR conditions on last report. The weather was extremely bad with clouds topping all mountains and scattered snow showers throughout the area. Both cleared contacts at Norton Air Force Base (Generals Bunker and Caldara) were away from the base and therefore the SOP for accident reporting and investigation had not been put into effect. . .

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"After considerable confusion, General Caldara was located. . . through the efficient efforts of [redacted] and his Security channels in that area. . . General Caldara phoned his office and authorized his third in command, Colonel DeMarco, to assume full responsibility for following up on activities. . . The situation as described above caused some confusion since DFSR was handling and controlling the entire investigation, news releases, and assuming direct control over Flight Service and Nellis without the senior representative being knowledgeable as to why he was operating in this fashion. Considering all this, it is my opinion that the general handling of matters. . . was extremely satisfactory." 1/

For a time due to bad weather no search activities could be accomplished

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1/ Report (unnumbered) by Col. O. J. Ritland, 17-19 November 1955.  
 Subject: Shuttle Crash.

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but after a few hours notification came from General Robert Taylor of Air Defense Command that the wreckage had been sighted on the south slope of Charleston Peak. From the report of the condition of the aircraft, it was obvious that there were no survivors. Headquarters staff immediately put in motion all necessary actions which must eventually be carried out.

A great many uncleared and unbriefed people (principally Air Force personnel and Special Agents from the Office of Security) had to be brought in very quickly to handle matters relating to the bringing out of the bodies, notification of next of kin, mortuary and escort arrangements, and dealings with the press. The fact that the Project Security Officer, Mr. William H. Marr, and four of his staff assigned to Watertown were among the victims added an emotional overtone to the crisis atmosphere prevailing at Project Headquarters. Many people became aware of Agency interest in activities at Watertown as a result of the crash and ensuing confusion, but fortunately no public breach of any magnitude resulted. The most damaging result of this first serious incident in the life of AQUATONE was the loss of the fourteen men. (See Annex 56 for listing.)

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As a postscript to the accident, on 5 August 1956 the briefcase of Mr. Marr, which had lain hidden at the scene of the wreckage for more than eight months, was discovered by some Boy Scouts hiking in the mountains and was turned over by their Scoutmaster to the OSI Special Agent at Nellis Air Force Base. Upon opening the case he discovered Mr. Marr's connection with CIA and forwarded the case and contents to his regional headquarters in the Los Angeles area for passing to the nearest CIA contact. This compromise of the project's security was contained by debriefing those involved and stopping up all possible leaks therefrom.

Emergency Procedures. The SOP established for accident investigation at Watertown Strip (which had just been completed prior to the MATS shuttle crash) proved basically sound but a complete review in light of the accident necessitated some changes. Public information releases were henceforth to be the responsibility of the PIO, USAF Headquarters, in the Pentagon, in conjunction with the air base nearest the accident, and the Atomic Energy Commission was to be brought into any press release activity immediately. Firm cover and identification documents must be prepared for all personnel operating under cover. The one critical name on the MATS list had been that of

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[redacted] who was listed as a passenger with no affiliation (later covered by USAF/OSI backstopping his documentation as a [redacted])

[redacted]

The MATS service from Burbank resumed on 28 November 1955 and was accident-free for the next year and a half's operation at Watertown. The emergency procedures, however, were called into use several times during the U-2 testing and training phase. (See Annex 57 for a listing of major U-2 accidents.)

#### Security Support in the Field

Prior to departure of Detachment A to the field in the spring of 1956, on the recommendation of the Security Staff, approval was given for briefing all Detachment A personnel (including the techreps) on project sponsorship and mission. Each member took a secrecy oath and signed a formal memorandum of understanding as to his responsibilities in protecting classified U. S. Government information. This briefing was very well received and appreciated by the members of the unit and became standard procedure for each succeeding detachment.

While the same general categories of support provided by Security at the test site were later required at the overseas bases, each unit had security requirements peculiar to its location and to its position

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vis-a-vis the local authorities and other U.S. activities in the area. Increased policing of individual security observance was necessary (particularly after dependents were allowed to join detachments overseas). In addition there were varied courier assignments, chiefly the task of escorting mission "take" and pouches from the field to the film processing center, liaison with other U.S. security services on counter intelligence activities, monitoring of local public and press reactions, and public releases in support of cover.

#### Security Support at Headquarters

In addition to advising and counseling on the security aspects of day-to-day project business, the Headquarters Security Staff were called on to carry out various assignments, among which were:

Procurement, sweeping electronically, and guarding of rooms for suppliers' meetings and other conferences (usually in Washington or Los Angeles, sometimes in the Boston area).

Assistance to contractors in setting up plant security and documentation systems.

Investigation of reported or suspected security breaches.

Assistance in obtaining medical attention in several severe psychiatric cases where security of project operations was at stake.

Continuous recruiting and training of replacements for field positions.

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Drafting, clearing and promulgating policy paper on release of project-developed systems, subsystems and techniques to other U. S. Government agencies (text at Annex 58).

Cooperation with the Agency CI Staff in making a damage assessment following the shoot-down of the U-2 on 1 May 1960.

Control of publicity resulting from loss of Air National Guard crews involved in the Cuban operation.

Two incidents are detailed below as typical of jobs which the Security Staff was called upon to handle for Project Headquarters.

On 5 July 1957 an article appeared in the Morning Call of Allentown, Pa., reporting that a local area company had a contract with CIA to produce a dessicant film dryer for use in high altitude photo reconnaissance. The contract was an unclassified one entered into overtly by the Agency's procurement division and did not contain an anti-publicity clause. The president of the company, from his knowledge of the technical aspects of film development and chemical requirements involving a micron capability, had deduced the future use of the dryer and had given the information to a local reporter. This incident caused the expenditure of many man hours of travel, consultation, briefing, debriefing and reporting by the Security Agent assigned to the case. The recommendation was made that Procurement Division

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include an "anti-publicity clause" on all CIA contracts rather than leave such matters to the discretion of the company officials involved.

With regard to the second incident, on 27 March 1961, the Acting Chief of Development Projects Division wrote the following commendation letter to the Director of Security, CIA:

"On 14 March 1961 the Agency, and in particular this Division, was confronted with a security problem of considerable magnitude. A C-47 aircraft of this Division, enroute from Rochester, N. Y., to Bolling lost an engine and had to jettison 43 boxes of highly classified material /processed U-2 mission film being returned from Eastman to the Agency's Photo Interpretation Center/ in the rugged mountainous area in the vicinity of Williamsport, Pa.

"In response to an urgent request for assistance, the Office of Security immediately made available ten Security Officers who were dispatched to the probable recovery site. Through the diligent and most professional efforts of this team, whose activities were coordinated in excellent fashion by [redacted] DPD/Security, the complete classified cargo was recovered with dispatch. This particularly fine achievement is, indeed, a reflection upon the excellence of the caliber of men in the Office of Security career service..." 1/

The Project Headquarters Security Staff has been kept at the

minimum number consonant with the volume of project business;

however, the Office of Security has maintained cleared staff within its organization to support the U-2 project (and subsequent activities

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1/ DPD-1695-61, 27 March 1961. Memo to Director of Security from AC/DPD.

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of DPD and OSA) in any jobs it was called upon to do. From a staff of one senior Security Officer and two assistants plus clerical help in 1955-56, the numbers had grown by 1961 to a Chief and six full-time Security Officers plus clerical help--two officers assigned to OXCART and one each to CORONA, Air Support, Cuban operation, and IDEALIST for primary responsibility. The approximately 45 field agents who worked for Detachments A, B and C were phased into other areas when it was decided to hire contract guards to maintain physical security at the Detachment G Base at Edwards (North) in 1957 and at Area 51 in 1960.

By the end of 1966, the Headquarters Security Staff numbered a Chief and ten Security Officers, with ten additional officers assigned to field detachments and stations in the ZI and the Far East.

#### Cover

During the testing and training period at Watertown, cover was provided by the Air Force and the Atomic Energy Commission under the guise of a joint upper air research project. The presence of uniformed Air Force personnel at the test site, the provision of materiel support by the Air Force and the conduct of pilot training by a SAC

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unit attested to an Air Force activity, and the location within the AEC Nevada Proving Ground lent credence to the idea of a joint AEC/USAF upper air research program, while hiding CIA involvement. The principal problem during that period was to avoid disclosure by the press, or in other ways, of the capabilities of the aircraft and its systems. Once the training program reached the stage of flying simulated missions great distances from home base, the dangers of such disclosure were multiplied. Two fatal crashes and several emergency landings away from the test site were weathered during the training period with the aid of the established cover, emergency procedures and controlled public releases from the Headquarters USAF Public Information Officer.

Thought was given meanwhile to a cover mechanism for the overseas operational phase of the project and various Air Force commands were considered as possible sponsors for a mixed task force. In December 1955 the Project Director of Administration, Mr. James Cunningham, reminded the Project Director that to move further along the current course of continuing Air Force cover for overseas activities would, in the event of compromise of the project by a hostile force, put the military in a position of not being able to effect plausible denial--

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the initial purpose for investing a civilian agency with responsibility for carrying out the program. He suggested the possibility of a volunteer group on the order of Chennault's Flying Tigers, which by "technical resignation" from the Air Force achieved nominal separation from the military without cutting themselves off from the flow of military support.

In January 1956, with Detachment A's deployment date approaching, the question of overseas cover became urgent. [redacted]

[redacted] a long-time Clandestine Services career officer who had been assigned to the Project Operations Staff was reassigned to work full-time on cover. As a result of his research and discussions with all concerned,

[redacted] put forward the following assumptions and considerations as a basis for establishing cover for the project's operational phase:

"The cover unit must be USAF. No other sponsorship would explain the use of a USAF installation, the extent of USAF logistic support involved, the type of aircraft and associated equipment involved, etc. While other considerations may suggest that it is desirable for other U.S. agencies (governmental or private) to appear to be 'participants' in the detachment's activity, the appearance of USAF control (with at least an executive agent's role) and sanction cannot be avoided.

"Policy considerations dictate that the USAF cover unit appear to have no tactical mission, nor be involved in a function of direct support to a tactical USAF unit.

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"Since the cover must explain plausibly the presence of a good number of civilian technicians, non-USAF participation in the cover unit's activities would lend credence to the story. AEC, U.S. Weather Bureau and private research institutions (e.g., Massachusetts Institute of Technology), have been mentioned as possible participants. The participation of non-USAF agencies would also serve to reinforce the impression that the unit is not tactical in nature..." 1/

Additional considerations posed by  were:

- (1) The necessity for the host government to sanction operations in areas where main bases as well as forward bases were established.
- (2) The requirement for exclusive U.S. security control of that portion of the base from which AQUATONE would operate, which would clearly indicate that the unit's activity was classified.
- (3) Assurance that the briefing of host government officials was consistent with the degree to which they were to share in the "take".
- (4) The question of insignia: Would the aircraft retain USAF markings during operational missions?
- (5) The advisability of releasing an unclassified cover story to the press, and the immediate conforming of the Watertown cover to that of the overseas units.

1/ TS-142951, 13 January 1956. Memo for Project Director from

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The Cover Officer felt that of all the major USAF commands, the one under which AQUATONE would most logically fall was the Air Research and Development Command (ARDC), and since it was desirable that the overseas detachments assume a composite flavor, it was proposed that other USAF elements and one or two non-governmental institutions assign participants to a task force unit for which ARDC would act as executive agent. Missions which could plausibly be assigned the unit were:

- (1) Upper atmosphere meteorological research of interest to Directorate of Scientific Service of the Air Weather Service.
- (2) Solar research in effect of sun spot activity (of considerable interest to the Army-Airways Communication Service).
- (3) Geophysical research directly associated with high altitude flight (e. g., cosmic ray studies, which utilize high altitude photography).
- (4) Field test and evaluation of new electronic and aircraft instrumentation systems.

The Chief of the Agency's Central Cover Branch was briefed on AQUATONE on 2 February 1956. He was given an opportunity

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to review the cover planning done to date, which he received favorably.

On the basis of this planning, the Project Director on 29 February 1956 drafted a "Cover Story for Operations Overseas" (TS-142996) which was the basis for discussion and approval as the eventual classified cover story. Those (other than CIA officials) whose advice and concurrence were obtained during this planning included the following:

USAF:

Maj. Gen. John Samford, Director of Intelligence  
Maj. Gen. Thomas Moorman, Commander, Air Weather Service  
Maj. Gen. Roscoe Wilson, Commander, 3rd Air Force  
Maj. Gen. James H. Walsh, Commander, 7th Air Division  
Col. Paul Heran, SAC U-2 Project Officer  
Col. Russell Berg, USAF Headquarters Project Officer

NACA: (National Advisory Committee on Aeronautics)

Dr. Hugh Dryden, Director of NACA  
Gen. James Doolittle, Member of NACA

Land Panel:

All Members

Representatives of the five principal contractors

Within the Air Force it was believed that USAF participation should be ascribed to the Air Weather Service (not ARDC) since AWS was not a tactical unit, had an obvious interest in upper atmosphere research, did not have responsibility for development of new equipment,

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and had previously conducted scientific research through joint task forces. It was further agreed that the National Advisory Committee on Aeronautics (NACA) would be the most plausible and useful civilian participant since its charter was broad and its mixed groups of military, civilian, governmental and private organizations would bring together many of those having a plausible interest in such a program.

Once approval for use of this cover was obtained through appropriate channels in USAF, discussions were held with AWS and NACA personnel to work out administrative details. Results of meetings between Col. Richard M. Gill, Director of Operations, AWS, and project personnel, including the Project Weather Officer, Lt. Col. Ralph J. Steele (AWS Meteorologist), brought out the following problem areas:

(1) AWS had no charter for engaging in research activity; it could be properly concerned only with the development of operational techniques for high altitude weather reconnaissance.

(2) As proposed, the cover would not be backstopped by actual capability for collecting data; this would arouse suspicion within AWS itself as well as from outside interested parties.

(3) AWS questioned the plausibility of their role as executive agent for conducting operations abroad if the aircraft did not belong to the USAF and bear USAF insignia.

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(4) The backstopping of NACA's role would be complex: explaining ownership of the aircraft and the funding procedure for the project were the two principal problems.

Modifications were introduced into the cover story concerning the procurement and ownership of the aircraft and the living out of the cover story, and the final version of the classified cover story was issued on 26 March 1956 at TS-143267/1 (see Annex 59 for text).

While the classified cover story contained provision for equipping the U-2 with a meteorological configuration in order to live out the cover mission, the delay in assembling and installing this equipment and the slow rate of collecting and disseminating data justified the early fears of the Project Director of Administration (Mr. Cunningham) that

"...in our urgent haste to deploy on schedule, we may well be more interested in the purely frontal aspects of cover rather than in the full backstopping of our cover device." 1/

He recommended turning one of the 20 U-2's over to AWS so they could completely instrument it for a program of meteorological research within the ZI and abroad in order to accumulate actual data and/or cloud atlas photography to establish scientific backstop for the project

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1/ TS-143237, 7 March 1956. Memo for Project Director from D/Admin.

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and for use as a counter propaganda weapon. This recommendation was only partially carried out. In April 1956 Lt. Col. Robert Houghten and Mr. Thomas Coleman (Technical Equipment Specialists of AWS and NACA respectively) were sent out to work with Lockheed engineers to devise a meteorological package suitable for collecting the kinds of information within the U-2's capabilities; however, even after these packages were fabricated and available, it was some time before operational priorities and assignment of equipment technicians would allow a regular program of weather flights for cover purposes.

Also in April 1956, a beginning was made in conjunction with AFOAT/1 (the Air Force Office of Atomic Intelligence) and AFSWP (Armed Forces Special Weapons Project) to develop an atomic sampling capability for the U-2, which further supported project classified cover while doing a real service for the offices concerned (and incidentally requiring the clearing and briefing of quite a number of their personnel).

At the beginning of May 1956, just prior to the deployment of Detachment A, copies of the unclassified and classified cover stories, press release for 7 May 1956 issue by NACA, and background information for dealing with press and other queries, were circulated to all concerned, including the contractors. (See Annex 60 for full text.)

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~~TOP SECRET~~Emergency Procedures

The next order of business for the Cover Officer was the drafting of contingency plans for the possible loss of an aircraft over hostile territory. The Project Director advised the Cover Officer to

"... plan to produce a document which sets forth all actions to be taken... not only press releases and the public 'line' to be taken, but also the suspension of operations and at least an indication of the diplomatic action. If feasible this paper should be agreed with the State Department as well as the USAF and NACA and should probably be discussed... with the British Foreign Office /in view of Detachment A's expected deployment to the U. K. / We should at least make the attempt in this case to be prepared for the worst in a really orderly fashion." 1/

While the emergency procedures were being drafted and cleared, the Project Director, at a meeting with the President's Aide, Gen. Goodpaster, and Drs. Killian and Land, explained the kind of emergency arrangements being drawn up. At that point, Drs. Killian and Land suggested consideration of a much bolder action by the U. S. involving admission that overflights were being conducted to guard against surprise attack. This suggestion was not discussed in any detail and was put aside for further thought. Meanwhile the emergency procedures paper was cleared with all concerned including the State Department and was promulgated in

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1/ TS-143290, 9 April 1956. Memorandum to Cover Officer from Project Director.

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final form as "Procedures to be Followed in the Event of an Aircraft Loss over Hostile Territory", dated 29 June 1956 (see Annex 61).

The same procedures, with appropriate changes to cover local situations, were issued to Detachments B and C in turn.

From the deployment of Detachment A to England in May 1956 through the events of May 1960, the cover arrangements and instructions for emergency procedures remained the same. In the fall and winter of 1956 during the political stand-down of overflights, consideration was given to use of a commercial aerial survey company or other non-governmental cover for operations, but with the critical situation developing in early 1957 in the Middle East, Detachments A and B were called on for almost daily reconnaissance of the trouble areas and discussions of alternate cover were discontinued.

#### Cover Activities in the Weather Field

In August 1956 the Project Director wrote to NACA concerning the lack of research studies needed as counterpropaganda in the event of a U-2 incident. Non-production to date had been due to lack of secure facilities and cleared people to handle film and tape; however, these matters were in hand and it was urged that production of research reports be given immediate attention. A preliminary study of

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weather data was published at the end of December 1956 by NACA, and data for further studies and reports continued to be collected by the detachments. The principal difficulty in publishing studies of interest to the aviation community based on U-2 flights was the fact that data for altitudes above 55,000 feet required secret classification or had to be sanitized before release (which made the reports of less significance to the recipients).

An excellent program of cover publicity stemming from Detachment C's typhoon coverage in the Far East was initiated in 1958 through the energetic efforts of [redacted] (who succeeded [redacted] as Cover Officer in 1956). The Air Weather Service gave unstinting support to the program, including the services of some of their top meteorologists who aided in the accumulation of data and preparation of reports for publication. The Commander of AWS, General Thomas Moorman, and his Deputy, Col. Norman Peterson, and Dr. Robert D. Fletcher, Director of Scientific Studies, were all intimately concerned in developing actual weather studies that could be directly attributed to the cover mission and could be legitimately discussed and defended in public forums if necessary. Their efforts produced a product that would have enabled the operation to live out its cover had it not been for the

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political situation in Japan and several untoward incidents which brought about a great deal of publicity, largely hostile. (See Annex 62 for significant examples of typhoon photography studies.)

Erosion of Cover: Incidents and Press Stories

In April 1957, at the time of the planned surfacing of the SAC U-2 program, Mr. Bissell wrote the following note to the Director and Deputy Director of CIA concerning the deterioration of cover which was to be expected as a result of SAC's activities:

"After careful review, it is my judgment that the present cover for the AQUATONE operation cannot be maintained much beyond next fall. Too many people, especially in the Air Force, are beginning to surmise the true mission of the AQUATONE units and even to suspect an Agency connection therewith. Moreover, the NACA will be most reluctant to continue to provide cover, at least in the present form, beyond the end of this year... The presently planned surfacing of the SAC U-2 program will, if carried through, gravely impair our cover. Not only will the fact that the U-2 is a reconnaissance aircraft become known to a very much larger number of Air Force personnel but, in the course of listing the U-2 in the Air Force inventory and handling its support through normal channels, the unusual procedures employed up to this point in the procurement and support of these aircraft will be widely revealed... I do not believe it is an exaggeration to say that the surfacing of the SAC program will absolutely compel the liquidation of AQUATONE under its present cover..." 1/

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1/ TS-164213, 19 April 1957. Memorandum for the DCI and DDCI, from Project Director.

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Several security safeguards were imposed on the SAC U-2 program in the interest of protecting the existing AQUATONE operation, including maintaining the photographic and altitude capabilities of the U-2 under secret classification and restricting SAC's U-2 operations to peripheral flights. Thus the project did continue beyond Mr. Bissell's prediction of its life span, and NACA agreed in July 1957 to a two-year extension of cover support. However, the cover was a very thin veneer over the actual operations and there was bound to be speculation, evolving into stories in the press, many of which were written in a highly sensational style with obvious untruths included, but in general coming too close to the truth for comfort.

On 4 April 1957 a U-2 from the Edwards Air Force Base detachment crashed in the desert and the Lockheed test pilot, Robert Sieker, was killed. Growing out of this accident and the efforts of the local sheriff to be helpful in securing the crash area on behalf of the investigating team, an article by Wayne Thomis was published in the Chicago Daily Tribune on 12 April 1957 headlined "Secrecy Veils High Altitude Research Jet". It was a consolidation of previously published facts about the U-2 with a good deal of surmise added as well as many inaccuracies. At the same time the Los Angeles Times published a conclusive review by

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Marvin Miles of all publicly known activities of the U-2 to date. From that point, the press continued to refer to the U-2 as a "mystery plane" and used such names for it as "Super Snooper," "St. Peter's Special," the "Black Angel" and others. In 1957 the SAC U-2 squadron at Del Rio, Texas, suffered three fatal and one non-fatal crashes (two occurring on the same day, 28 June 1957) which also drew damaging press comment.

The aviation trade media particularly followed all U-2 incidents with eager attention. Aviation Weekly, the British magazine called Flight, and Japanese publications Air View and Aero Fan, were among those printing largely factual but speculative articles concerning the aircraft's specifications, capabilities, and probable missions.

In February 1959 the Project Security Officer, [redacted] in examining the state of project cover, expressed the following opinion:

"I recommend we give immediate consideration to exposure of the mission of the U-2 within the United Nations, indicating this capability was developed in furtherance of the President's 'Open Skies' proposal of July 1955 as a peaceful tool of the free world..." 1/

This proposal had small chance of serious consideration at the time and represented principally a Security Office warning that time was running out on the ability to maintain cover.

1/ DPD-0460-59, 26 Feb 1959. Memo to AC/DPD from [redacted]

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On 24 September 1959 a U-2 from Detachment C returning to base at Atsugi ran out of fuel and made a forced landing on a prepared dirt strip and was immediately surrounded by inquisitive Japanese (many with cameras). The photographic story of this incident, as published in the November 1959 issues of Air View and Aero Fan, are shown in Annex 63.

By spring 1960, cover had worn threadbare in many quarters and a certain amount of laxity regarding security of operations was present. Even though the detachment personnel worked very hard to produce trouble-free overflight missions, one must give credit to a goodly amount of luck when considering the number of things which could have gone wrong on any one of the 309 missions flown to date (approximately 75 of which were over, or peripheral to, Communist territory).

After the May Day 1960 episode and subsequent revelations in the press and other media, Dr. Glennan, Director of the National Aeronautics and Space Administration (NASA), successor to NACA, was disenchanted with the project and wished to disengage NASA from sponsorship of any further flights. The ungrounding of the U-2 was the subject of protracted discussion during the summer of 1960 among CIA, State, and NASA personnel. On 1 September 1960, Mr. Cunningham

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wrote to the DD/P in that connection as follows:

"With the emergence of a requirement that may call for further U-2 flights from Adana in support of peripheral intelligence collection, we are up against the problem of how to get the aircraft ungrounded, which involves the knotty problem of under whose auspices these flights should apparently be undertaken... there are a limited number of possibilities:

- "a. Continue with NASA-AWS cover.
- "b. Drop all pretence of innocent Air Force (AWS) mission and adopt either SAC or USAFE organizational cover.
- "c. Drop all pretence and state that Detachment 10-10 is a CIA unit.
- "d. Drop NASA cover and substitute another innocent U. S. agency.
- "e. Drop NASA cover and convert to AWS cover.

Recommendation is that Air Force concurrence be sought in the proposal to replace NASA/AWS sponsorship with straight AWS sponsorship... " 1/

Reactivation of reconnaissance flights from Detachment B failed to receive approval of higher authority and therefore cover discussions with regard to sponsorship of an overseas-based detachment were dropped. The remaining personnel and equipment from Detachments B and C were returned to Edwards Air Force Base and amalgamated into Detachment G and subsequent operational missions staged by this

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1/ CHAL-1171, 1 Sept 1960. Memo to DD/P from Actg. Chief, DPD.

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detachment, beginning in September 1960, have had individual cover stories, tailored to fit the circumstances.

From the inception of U-2 overflights, there was no written policy or standard procedure with regard to briefing American Ambassadors abroad, either in countries being overflown or in countries where flights might originate or terminate. Each operation involving a foreign country was evaluated from an individual operational and contingency viewpoint and a determination made in conjunction with the State Department as to whether the Ambassador should be made witting of the activity. State's position was deferred to whenever a strong conviction was expressed with regard to any particular operation. Generally the practice was to advise the Ambassador if operational advantage might accrue from so doing, or if ignorance on his part might prove embarrassing in the event of a mishap.

Once the National Reconnaissance Office came into being, contingency procedures were set forth in the NRO Security Policy Directive No. 1 of 20 November 1962, as follows:

"Prior to development test of a new reconnaissance system, the Ad Hoc Cover Committee will prepare a contingency plan for the system, covering situations which may occur as a result of:  
(1) Malfunction of equipment during any period of 'operational'

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use, the result of which may subject the reconnaissance capability to unauthorized exposure, (2) recovery of intelligence product or vehicle by hostile powers, and (3) damaging press coverage.

"Such plans will include provisions which will enable the U.S. Government to counter any charges of an adverse nature as may be made by foreign powers. In addition, instructions will be issued to appropriate personnel and offices of the Government and industry concerning actions to be taken should any of the aforementioned emergency situations occur so as to centralize the control of information as a responsibility of specific offices, departments, or officials.

"All contingency plans prepared under the supervision of the Ad Hoc Cover Committee will be reviewed by the Special Group. After approval, the NRO will publish and distribute the plan.

"Personnel affiliated with projects of the NRP will not respond to press inquiries which seek information about NRP activities unless specifically authorized to do so by the DNRO or as called for by provision of a contingency plan." 1/

In August 1963 the Ad Hoc Cover Committee was redesignated the Interdepartmental Contingency Planning Committee (ICPC) on the initiative of the Director of CIA in order to more accurately reflect the function of the committee and to eliminate the undesirable connotation of the term "cover." The ICPC is chaired by the DNRO and member agencies are State, Defense, NRO, Joint Chiefs of Staff, USAF, CIA, and the White House. This committee has held very few formal meetings since its establishment and its procedures are presently outdated and generally unworkable in the face of an emergency.

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1/ NRO Security Policy Directive No. 1, 20 Nov 1962, Paragraph 14.

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Development of the BYEMAN System

By late 1960 the multiplicity of procedures for special handling of communications relating to the special collection projects, and the overlapping between the collection projects and the dissemination of the intelligence acquired, had made it difficult to classify and control the related documentation. On 21 February 1961, the TALENT<sup>\*</sup> Control Officer (then Mr. James Q. Reber) circulated an instruction to certain TALENT and TALENT/KEYHOLE<sup>\*\*</sup> Control Officers in the community which drew attention to the problems presented in handling documents and materials falling within the purview of the two control systems which also contained IDEALIST (U-2) or satellite data. The clearances of certain individuals for access to T or KH material did not mean that they were automatically given access to information concerning the projects which produced the T and KH material.

In order to establish standard procedures to safeguard information pertaining to the sensitive collection projects for which CIA had responsibility, a control system was established called the "BYEMAN System". The indicator BYEMAN covered only the developmental and/or

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\* Control system for intelligence collected by the U-2 program.

\*\* Control system for intelligence collected by satellite program.

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operational aspects of DPD's sensitive collection projects and did not concern itself with the control or dissemination of the intelligence product. Compartmentation within the BYEMAN System was to be maintained through the continued use of individual project indicators and controls. BYEMAN materials which also contained T or KH data were to be handled as follows: TALENT control personnel would effect control and storage and TALENT courier service would handle deliveries. TALENT Control Officers would be responsible for seeing that the materials were made available only to persons possessing appropriate operational clearances.

Through 1961 the BYEMAN System operated on ad hoc procedures while a manual of instructions was being drafted and agreed. The BYEMAN Control Manual was first issued on 20 December 1961 by the Agency's BYEMAN Security Officer, Mr. William J. Cotter, then Chief of the Security Staff of DPD/DDP. During January 1962 steps were taken to set up the BYEMAN system throughout the intelligence agencies concerned. Members of the system were the same as the membership of COMOR: CIA, DIA, NSA, USAF, USN, USA and State. On 18 January 1962 at a meeting of COMOR, implementary procedures for the system were recommended relating principally to the need to

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communicate via electrical channels with all members of the community and with the needs of the various BYEMAN Control Officers for manuals, and appropriate rubber stamps, cover sheets, briefing forms, oath forms, etc. Since the Agency (DPD) controlled the electrical communication channel, Mr. Cotter also had the responsibility for disseminating the rules and regulations regarding such communications.

On 24 January 1962, the Special Assistant to the President for National Security Affairs (Mr. McGeorge Bundy), as a result of Recommendation No. 29 of the PFIAB's Report to the President of 20 January 1962, wrote to the DCI to register Presidential concern over the security of the most sensitive intelligence reconnaissance projects being conducted by CIA. Replying to Mr. Bundy on 20 February, Mr. Bissell (DD/P) was able to report:

"The following action has been taken on the recommendations of the President's Foreign Intelligence Advisory Board...

"On 20 December 1961 a security system specifically designed for the protection of information pertaining to these joint Air Force/CIA projects, for which the CIA has been given security responsibility, was approved (BYEMAN Security System). This system is presently being implemented throughout the intelligence community. Where feasible, billets will be established in each agency to assist in the stabilization and control of the number of clearances in each agency. All requests for access approvals will be submitted through a BYEMAN Security Officer designated by each agency, and he

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will have the responsibility to review critically each such request to assure that the individual must be authorized such information in order to directly contribute to the program. Each such BYEMAN Security Officer will periodically review the list of individuals cleared within his agency to ensure that all individuals listed thereon continue to require the appropriate project access approval. If a person is no longer contributing he will be immediately debriefed. Approximately every six months each BYEMAN Security Officer will rebrief all persons under his jurisdiction holding these special clearances...

"A communication is being directed to each control point throughout Government and industry inviting attention to the latest expression of Presidential concern and directing that immediate positive action be initiated to reduce the number of persons currently approved for access and requiring that new requests for clearances be held down to 'an absolute minimum consistent with practical requirements'...

"Within Government, since the large preponderance of individuals cleared for these joint Air Force-CIA projects are naturally within the Department of Defense, the Office of the Under Secretary of the Air Force, Dr. Charyk, will be requested to review, from the need-to-know aspect, the clearance lists of each segment of the Defense Department and each new request for such clearance in an additional effort to establish another level wherein nonessential individuals can be identified.

"At the moment the BYEMAN Security System encompasses Projects IDEALIST, CORONA, and ARGON. In the immediate future, however, Project OXCART will be added to the system. In the meantime, however, all steps being taken to tighten up the BYEMAN projects will also be taken with regard to Project OXCART." 1/

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1/ BYE-0149-62, 20 February 1962. Memorandum for Special Assistant to the President from R. M. Bissell, Jr. (DD/P).

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On 2 May 1962, the agreement on "National Reconnaissance Planning and Operations" was signed by the Secretary of Defense and the Director of Central Intelligence and in accordance with the basic responsibility of the DCI for protection of intelligence sources and methods, CIA was made responsible for establishing security policy for the National Reconnaissance Program, including provision for a uniform system of security control and appropriate delegations of security responsibility. As a consequence of carrying out this responsibility, all of the projects under the control of the National Reconnaissance Program have subsequently been added to the BYEMAN Control System.

In order to centralize security control and the handling of clearance matters under the BYEMAN System, a "Special Security Center" was established in the CIA Office of Security and on 4 September 1962 the positions of BYEMAN Security Officer and BYEMAN Control Officer for CIA, along with the attendant responsibilities, were assigned to Messrs. [REDACTED] respectively. The Office of Special Activities (formerly DPD) was thus relieved of these duties, which it had previously performed.

Withheld under statutory authority of the  
Central Intelligence Agency Act of 1949 (50  
U.S.C., section 403g)

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ANNEX 54

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26 January 1955

## SANITIZED COVER STORY - FOR USE DURING DEVELOPMENT STAGE

I. Purpose of Cover Story

Cover stories are designed as a secondary defense. Regular security procedures and precautions are the fundamental devices for limiting knowledgeability. By carefully applying the "need to know" principle the cover story itself will be needed very little and those who do hear it will have minimum evidence on which to question the cover. However, it should be remembered that the most essential precaution is to have all personnel properly cleared and well indoctrinated with the importance and extreme sensitivity of this project.

The cover story itself should be treated as classified since even the existence of projects imagined in the cover story are of great national interest. Cover stories should not be discussed over the telephone. As needed the cover should be spread. In many instances suspicions and inquiries can be allayed by simple offhand remarks or by using only part of the cover story. The effectiveness of any cover relies not only on the consistency of its use, but in the imagination and skill of its application. Very often inquiries based on hearsay, rumor or curiosity can be satisfactorily answered with a flat denial or reference to an apparent confusion with some other sensitive activity known to exist within the plant or area.

The cover story as well as the project itself should be protected. If any inquiries are made by persons who were not thought to have heard it or by persons who are known security risks and who display unusual knowledge of the cover story or the project itself, they should be immediately reported to the project or security officer. An attempted penetration can just as likely occur using the cover story for deception as an attempt to penetrate directly the project itself.

It should be noted that project names are classified and should not be used over the telephone or in any way compromised.

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## II. General Cover Story (Project AQUATONE)

a. Purpose: These high altitude aircraft are to be used primarily for upper atmosphere sampling and secondarily, for other kinds of high altitude testing and research. The latter will include testing engine performance, pressurization, and probably the functioning of electronic and photographic equipment at high altitudes without pressurization, personal equipment, and the capabilities of personnel to perform missions requiring sustained flight at high altitudes. The primary purpose renders the project both urgent and sensitive by reason of the growing official and popular concern for the danger of widespread fall-out in the event of wartime use of thermonuclear weapons and with the danger of permanent atmospheric contamination as a result of repeated H-bomb tests. The secondary purpose is also highly sensitive because of the extreme importance of maintaining an exclusive advantage in respect to all aspects of high altitude flight.

b. Organization: Procurement is to be undertaken by the U. S. Government. The project is of interest to and is sponsored by four Federal agencies: the Department of Defense, the Atomic Energy Commission, the Office of Defense Mobilization, and the Civil Defense Administration. Funds are being contributed by the several sponsoring agencies. This basic organization was adopted because the requirement to be met by these aircraft is not purely military in character but reflects the interests of the three non-military agencies as well.

c. Procurement Channels: In view of the urgency, and especially the sensitivity of the project, and of the nature of its sponsorship, the decision was deliberately made not to employ regular Air Force (or Navy) procurement channels, since this would have required the participation on a fully knowledgeable basis of a sizeable number of officers, especially in AMC and ARDC. Nevertheless, the Air Force is supporting the project in two ways: (1) by procuring or supplying GFE, and (2) by providing technical supervision of development and construction (to the extent required in view of the considerable freedom of action necessarily left to the suppliers).

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d. Substantiation: To give the basic cover story substance, Lockheed has been requested to design or to subcontract for the construction of one or more air samplers fitted to the available space. And it would probably be desirable in fact to employ the aircraft for air sampling when a sufficient number are available. To further support the air sampling mission at Lockheed, General Daniel E. Hooks, Chief AFOAT-1, has been told of the existence of a sensitive project using this cover story and has volunteered to visit the area to increase its credibility. Meanwhile, special precaution should be taken to keep to an absolute minimum the number of individuals who are aware of the connection between photographic and electronic equipment under construction by two other companies and the Lockheed contract. Construction of both aircraft and reconnaissance equipment should be planned on the assumption that the equipment will not be actually installed until tests are being run at a site remote from the Lockheed plant. At that time, a further cover story may be required for the individuals conducting the tests. It might be simply that the aircraft will be used to test the possibilities of extremely high altitude photographic reconnaissance but that this use will be secondary to the primary use for high altitude sampling.

III. Subsidiary Cover Story (Ramo-Wooldridge Corporation,  
Sub-project AZAROLE)

Since R-W has contracts with us, it will be difficult to keep our relationship to this contractor unknown. For this reason other contractors and project personnel should not meet at the R-W plant unless absolutely necessary. For internal purposes suspicion of our connection to this work will indirectly reinforce the main cover story in that this will be regarded as simply another contract for ELINT equipment from an agency that is already known to be interested in ELINT data and equipment. Consequently, the cover story will serve mainly to prevent employees from suspecting or detecting the other contractors and the full scope of the project. The most important aspect of this section of the cover story is to confine knowledge of the aircraft, its capability, and its sponsor to the minimum number of personnel.

a. Small package: The small ELINT package can be easily passed off as intended for use in luggage, packages, etc. in regular collection operations, and consequently should not stimulate unusual speculation.

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b. Large package: This package is more difficult to explain since it obviously must be airborne. While the means of its use will be known to those working on it, the cover story can conceal its ultimate use in a highly specialized aircraft by indicating its use will be in pods and wing-tip tanks of military and commercial aircraft flying near targets in routine flights.

IV. Subsidiary Cover Story (Perkin-Elmer Corporation and Hycon Manufacturing Company, Sub-project OCTROI)

The equipment being manufactured under this contract will obviously be for aerial photo reconnaissance. The important facts to conceal are the project's true sponsor, the existence of related projects, especially the aircraft, and the performance characteristics of the aircraft. Knowledge of these facts must be kept to an absolute minimum number of persons although it is to be assumed that imaginative scientists will very likely anticipate accurately the ultimate use of such equipment.

The commercial contract will prevent inquiries until it becomes self-evident that no private firm has the funds or requirement for such a large amount of equipment of this type. When commercial cover is no longer convincing, a government interest will have to be admitted and also the original cover explained away. The commercial contract has several advantages for specialized procurement since it avoids the "Buy American Act" restrictions (which is essential in this job), does not attract attention in government or business circles, and gives the purchaser full benefit of the experience of private firms.

If needed, the natural sponsor, and therefore the natural cover for this work, is the Air Force. More accurate inquiries or interest at later dates can probably be satisfied by labelling the project as Air Force camera research and development. If the need arises to relate the work to a specific aircraft, only as a last resort reference could be made to reconnaissance version of the F-100, Super Sabre jet fighter. As in the case of the ELINT contract, it is most important that no employees or supervisors become aware of either the Lockheed or Agency interest. Extreme caution should be exercised whenever witting members of several firms or project officers meet to discuss requirements or specifications.

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V. Subsidiary Cover Story (Pratt & Whitney, Sub-project DYEWEED)

No great difficulty is anticipated in covering the project contract with Pratt & Whitney. The engine has already been designed.

a. In the immediate future, the work can be explained solely by P&W's interest in developing new engines and retaining predominance in the field of jet propulsion. However and when needed it can be announced (as is the case) that a contract from the Air Force exists for its production under which our procurement will actually be hidden. Contacts will be among Air Force officials and aircraft engineers who regularly confer in any event and whose interest in the engine has already been established and is perfectly natural.

b. The engine being ordered is already reasonably widely known in the higher echelons of the Air Force and aviation management to be under contract for the modified Canberra being built by Martin Aircraft. Any further questions on the increase in the size of the order can be explained by unforeseen testing requirements--e. g., destruction testing.

Again the strength of the cover story rests on the careful security measures. If knowledgeability is restricted to the minimum number of persons it is unlikely that any suspicions will be aroused. While skilled engineers and technicians will undoubtedly have little difficulty predicting that the engine is intended for a high performance aircraft, especially where they need more specific data on the desired capability, this ought not compromise the project since Pratt & Whitney is constantly at work designing and producing higher performance engines to meet anticipated Air Force requirements. There is no need for anyone except a few key individuals to know the true sponsor, the desired capability of the aircraft or its eventual mission. Good security measures, especially in contacts and communications, should make the cover problem relatively simple.

VI. Distribution

This cover story has been distributed to one key man in each plant. All those who are fully witting and have need or occasion to use the cover story should be fully briefed before using it. If anyone who is witting has any doubts or confusion on the structure of the cover story, he should contact the project officer of his plant, who, in turn, can contact the central

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project supervisors, if there are any further questions. Once a cover story has been circulated, nothing is more damaging to the security of the project than to have several persons known to be familiar with a sensitive project contradict each other in using the cover story. Any variations or improvements that occur to key project officers should be communicated through safe channels to the central project group. They should not be used until considered and, if found desirable and feasible, disseminated to all those using the cover story. If this is not done the entire cover of the project may be jeopardized and possibly irreparable damage may be done to the success of the project.

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ANNEX 55

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Department of the Air Force  
Headquarters United States Air Force  
Washington 25, D. C.

14 December 1956

MEMORANDUM FOR MR. BISSELL

SUBJECT: USAF R-17 Program

1. The Air Force follow-on program has now reached the state where certain procedures regarding security, training, etc. must be finalized. Also, there are mutual problems associated with the phasing of USAF personnel and aircraft into Watertown which must be resolved.

2. Accordingly, our tentative operational plan for the Air Force follow-on program is transmitted for your review and comment. Representatives from this headquarters would like to meet with you as soon as possible to discuss those problems associated with our use of Watertown. A proposed agenda for this discussion is included as Inclosure 2.

(Signed)

M. A. PRESTON  
Brigadier General, USAF  
Deputy Director Operations  
Deputy Chief of Staff, Operations

2 Inclosures

1. USAF R-17 Program
2. Proposed Agenda

(AH 1467-6 AFOIN)

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1. The USAF is buying 29 U-2 aircraft (USAF designation R-17) from the Lockheed Aircraft Company. These aircraft are being purchased through the CIA as follow-on aircraft to the Agency's OILSTONE/AQUATONE Program. The Agency has issued letter contract SP-1914 to Lockheed for the 29 R-17 aircraft. The Lockheed Company is producing the R-17 at their Bakersfield, California plant. The latest production and the different configurations of the R-17 follows:

	1956							1957							Totals	
	S	O	N	D	J	F	M	A	M	J	J	A	S	O		N
Photo	1		1	2	3		1	2	1	1			1	1		14
Test						1			1					1		3
Ferret										1			2	1		4
HRR						1			1							2
Sampler							1					2	3			6
Totals	1		2	4	7	9	11	13	16	18	20	23	26	28		29

2. The 29 R-17's being purchased by the Air Force will be assigned as follows:

- a. SAC - 20 Reconnaissance configured aircraft.
- b. SAC - 6 Sampler aircraft to accomplish AFSWP mission.
- c. ARDC - 3 for test purposes.

3. The present understanding between the Air Force and the CIA indicates the Air Force will inherit all the OILSTONE/AQUATONE aircraft after the next photo season (approximately October 1957). There probably will be 15-16 U-2 aircraft remaining in the agency program by June 1957. All of these aircraft will be assigned to SAC as Reconnaissance aircraft and as the Air Force receives them they will be redesignated the R-17. Therefore, by FY 2/58, the Air Force should have a total of approximately 45 R-17 aircraft in the inventory.

4. All of the R-17's assigned to SAC, including the Sampler aircraft of AFSWP, will be assigned to the 4080th Strategic Reconnaissance Wing, Light. The 4080th Wing will be equipped as follows:

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4025 Squadron - 20 RB-57D  
 4028th Squadron - 26 R-17 (20 Reconnaissance and 6 Sampler  
 aircraft)  
 4029th Squadron - 16 R-17 (Residue of Agency's program)

The 4080th Wing is located at Turner AFB, however, since Turner is not acceptable as an operations or training base for the R-17 aircraft, a new home base is being secured. The permanent home base for the 4080th Wing will be Laughlin AFB, Texas. Laughlin cannot be made available to the 4080th Wing until April 1957. During the interim period, the 4080th Wing Hqs and the 4025th Squadron with RB-57Ds will remain at Turner AFB. The R-17's will be located at Watertown AFB, Nevada until April 1957. At that time they will be transferred to the 4028th Squadron of the 4080th Wing at Laughlin AFB, Texas. While at Watertown, the R-17 aircraft will be assigned to the 4070th Wing for transition training of SAC's 4028th Squadron pilots. The 4070th will be responsible for the transition program. The following schedule reflects phasing of aircraft and personnel for training at Watertown:

	15 Dec	15 Jan	15 Feb	15 Mar	1 Apr
Personnel (SAC)	32	140	140	275	Move to Laughlin AFB
R-17	4	7	9	11	13

CIA

"C" Detachment move to "X" Base

5. It is anticipated that the utilization rate of the R-17 while at Watertown will be 30 hours per month for the months of December and January. Thereafter, until April 1957, the utilization rate will be increased to approximately 40 hours per month per aircraft operationally flyable. It is also anticipated that no more than 9 aircraft can be operated from Watertown during the period December - April 1957. This is due to the limited facilities at Watertown AFB. When the 4080th Wing is permanently assigned to Laughlin AFB, the anticipated utilization of the R-17 aircraft will be approximately 40 hours per month per aircraft assigned. The three aircraft assigned to ARDC for tests will be assigned to the Test Center at Edwards on a continuing test program.

6. The concept of operations for the 4080th Strategic Reconnaissance Wing when it is assigned to its permanent home follows:

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a. The R-17 unit will be organized as an augmented squadron with a detachment capability for independent operations from overseas bases for periods of up to six (6) months TDY. Anticipated overseas bases for R-17 operations are Eielson AFB, Alaska; Yokota AFB, Japan; Rhein Main AFB, Germany and Adana, Turkey. It is anticipated that from one to three detachments may be required for simultaneous operations from separate bases overseas. In addition, a training detachment may be operating at home base. Airlift for complete detachments (aircraft crews, equipment, etc.) will be necessary. Flying time at overseas bases will be based upon a sortie rate of six (6) per month, approximately 40 hours per month per aircraft. July 1957 is the target date for initial deployment of an R-17 detachment.

7. It is necessary to develop a cover plan whereby CIA-USAF association in the AQUATONE/OILSTONE Program is protected and the true intent and capability of the USAF organization charged with operating the R-17 aircraft is disguised. Therefore, the following procedures will be utilized:

a. The 4080th Strategic Reconnaissance Wing, presently located at Turner AFB, Georgia will be immediately redesignated the 4080th Weather Reconnaissance Wing, Provisional. This unit will include the 4025th Weather Reconnaissance Squadron equipped with 20 RB-57Ds, the 4028th Weather Reconnaissance Squadron equipped with 26 R-17 aircraft, and the 4029th Weather Reconnaissance Squadron equipped with the residue of the Agency's AQUATONE operation, approximately 16 R-17's (when available).

b. The mission of the 4080th Wing, as published by SAC, will be to support the 3rd Weather Wing of Air Weather Service by:

- (1) Providing meteorological data from high altitude.
- (2) Conducting upper air research and testing.
- (3) Sampling. Note: The sampling mission will be assigned by means of a classified supplement to the basic mission directive.

c. When the 4080th is redesignated a Weather Wing, a public release will be made indicating the unit's unclassified weather mission, its eventual home, the type aircraft assigned and their capability.

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8. To insure proper control of the USAF program and to protect CIA association, the following security procedures will be adhered to:

a. Information pertaining to the USAF program will be restricted on a need to know basis.

b. Personnel involved in the USAF program will have clearances as follows:

- (1) All personnel aware of Project AQUATONE will have a Top Secret clearance to include a National Agency Check and background investigation. This includes headquarters personnel and individuals working in  ; personnel training at Watertown while CIA Detachments are there, or personnel contacting CIA Headquarters or their overseas detachments. NOTE: This does not apply to Watertown when CIA Detachments have been deployed.
- (2) All personnel in the warehousing and maintenance categories and those visiting or in training with AQUATONE suppliers, but who will not have access to those installations listed above, will have a Secret clearance to include a National Agency Check and favorable military record.
- (3) All others in the USAF Program will have SAC approved clearance.

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c. Prior to participation in AQUATONE affairs, CIA (Project) Headquarters will be furnished names of USAF personnel involved with certification concerning appropriate clearance.

d. Whenever any USAF project personnel, coming within scope of above, plan to visit any of AQUATONE's installations or suppliers, their names and itinerary will be furnished AQUATONE Project Headquarters so appropriate notification of visit can be made.

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PROPOSED AGENDA

1. Our R-17 Plan.
2. Follow-on Group phasing into Watertown.
3. The following listed details:
  - a. Space utilization and replacement of equipment at Watertown.
  - b. Moving the Lockheed assembly and flight test personnel from Watertown to Bakersfield.
  - c. Parking Space for FOG and Agency aircraft.
  - d. GCA.
  - e. MATS Schedule.

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ANNEX 56

## Weather Slows Plane Rescue

LAS VEGAS, Nev., Nov. 19 (AP). —An Arctic rescue team may require two more days to climb the final three miles up steep, wind-lashed Charleston Peak to the wreckage of an Air Force transport carrying 14 men, all presumed dead.

Five paratroop medical technicians camped during the night on the precipitous ice-clad mountain in temperatures under 20 below zero. Using snowshoes and skis, they clambered four miles the first long day after leaving a four-wheel drive Arctic truck.

The rescue group, from the 42d Air Rescue Squadron at March Air Force Base, Calif., radioed they might reach the crash scene late today, but probably not until tomorrow.

It may be a week before rescue crews bring down from the 11,910-foot mountain the bodies of five Air Force men, five Air Force civilian employees, two aviation engineers and two Air Force consultants.

The four-engine C54, en route from Norton Air Force Base, Calif., to the Nevada Atomic Bombing Range, crashed Thursday near the peak at an elevation of 11,300 feet.

Planes from nearby Nellis Air Force Base will drop food for the rescue team.

Aboard the C54 were:

William Marr, University Park, Md.; James F. Bray, Houston, Tex.; James W. Brown, Savannah, Ga.; Frederick F. Hanks, Pasadena, Calif.; Rodney H. Kreimendahl, Burbank, Calif.; Terrance O'Donnell, New York; Harold C. Silent, Los Angeles; Edwin J. Urolatis, Brockton, Mass.; Richard Hruda, Hollywood, Calif.

1st Lt. George F. Pappas, San Antonio, Tex.; 2d Lt. Paul E. Winham, San Antonio; Airman 2/c Guy R. Fasolas, Nephi, Utah; S/Sergt. Clayton Farris, San Antonio, and S/Sergt. John H. Gaines, Ripley, Tenn.

Mr. Silent was a weapons development researcher and physicist. Mr. Hruda and Mr. Kreimendahl were engineers for Lockheed Aircraft Corp.

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ANNEX 57

~~TOP SECRET~~MAJOR U-2 ACCIDENT CHRONOLOGY - 1956-19681. 15 May 1956 - U-2 No. 345:

Both pogos failed to release after take-off. The pilot followed established procedures to release pogos. The left pogo released on the first attempt. On the second attempt to release the right one, the pilot failed to maintain adequate airspeed and altitude. The aircraft stalled in a right turn and hit the ground, fatally injuring the pilot and demolishing the aircraft. Most probable cause was pilot error. (Wilburn Rose)

2. 31 August 1956 - U-2 No. 354:

The pilot made his initial climb after take-off in a nose-high, low-air-speed attitude. At approximately 40-50 feet the left wing dropped and the aircraft stalled into the ground. The aircraft was destroyed and the pilot fatally injured. Probable cause of this accident was pilot error with possible loss of night vision as a contributing factor. (Frank G. Grace)

3. 17 September 1956 - U-2 No. 346:

Approximately eight minutes after take-off the aircraft was seen by two pilots in a T-33 and four pilots in a flight of RCAF F-86's at 35,000 feet. About five seconds after passing the F-86's and 500 feet above them, the U-2 disintegrated and fell. The pilot was fatally injured. The cause of this accident could not be definitely determined beyond an initial failure of the right wing. Metal fatigue, overstress, or high internal wing pressures were suggested as possible causes of the wing failure. The possibility of sabotage was thoroughly investigated and ruled out as a cause. (Howard Carey)

4. 19 December 1956 - U-2 No. 357:

Excessive oxygen consumption was noted in the first hour by the pilot. After approximately four and one-half hours of flight he made an emergency descent and allowed the airspeed to exceed the

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the placard limit, causing buffet and loss of control. The pilot was blown out as the aircraft disintegrated. The primary cause of the accident was pilot error; the contributing cause was a leak in the oxygen system. The pilot failed to take corrective action and return to base prior to becoming hypoxic at altitude. (Robert Ericson)

5. 4 April 1957 - U-2 No. 341:

A Lockheed pilot on a test flight planned to fly one hour at normal operating temperature and then one hour at 20° Centigrade above normal. Radio communication was lost. The fatally injured pilot and demolished aircraft were found 72 hours later. The official accident investigation concluded that the cause of the accident was hypoxia of the pilot from an undetermined cause. Engine flameout due to hydraulic system failure and subsequent loss of cabin pressurization, malfunctioning cockpit seals, oxygen system and/or personal equipment were considered the most probable causes for the hypoxia. (Robert Sieker)

6. 24 September 1959 - U-2 No. 360:

On GCA final approach to NAS Atsugi, Japan, the aircraft flamed out due to fuel starvation and made an emergency landing on a prepared dirt strip. The pilot was not injured and the aircraft was reparable. This was one of the first fuel consumption profiles flown with the J-75 equipped U-2 at Detachment C. The primary cause of the accident was supervisory and pilot error in not maintaining the fuel profile.

7. 5 April 1960 - U-2 No. 349:

On return from an overflight of China the pilot lost radio beacon reception at 20,000 feet. He descended through haze and smoke to 6,000 feet, but was unable to find the base. While attempting a climb out towards his alternate, the engine flamed out due to fuel starvation and a successful crash landing was made. The pilot was not injured and the aircraft was reparable (at the factory). Primary cause of the accident was pilot error; contributing factor was failure of radio aids.

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8. 1 May 1960 - U-2 No. 360:

During an overflight of the USSR, the aircraft experienced difficulty and was "downed" in the Sverdlovsk area. The pilot was captured and the aircraft destroyed. There are two basic hypotheses for the accident: One, engine malfunction which resulted from climbing the aircraft to excessive altitude (damage sustained to the aircraft probably occurred at lower altitudes); and two, SAM damage at altitude to the engine turbine blade which resulted in engine overheating and finally flameout.

(The above was corrected when the pilot, Frank Powers, was finally released by the Russians on 10 February 1962, and gave his own story -- see Annex 101, following Chapter XIV.)

9. 19 March 1961 - U-2C No. 351:

While making a night transition landing, the pilot, a Chinese Nationalist Air Force officer, attempted a "go around". The pilot permitted the wing to drop and the aircraft struck the ground inverted and was demolished by fire. The pilot was fatally injured. Primary cause was believed to be pilot error, in that he lost control of his aircraft. (Maj. Chih)

10. 14 September 1961 - U-2 No. 353:

After a normal air sampling mission, the aircraft stalled on final approach and struck the ground short of the runway at Edwards Air Force Base. As it came to rest on the runway the aircraft burned beyond repair, but the pilot escaped uninjured. The primary cause was pilot error; contributing causes were pilot fatigue and possible abnormal turbulence off the approach end of the runway. (Edens)

11. 1 March 1962 - U-2 No. 344:

Structural failure resulted from an aerial refueling training flight. Fatal to pilot (Capt. Campbell, SAC).

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