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Chapter 32

The Evolution of the Institutional Structure of the United States Military Space Program: The History of the National Reconnaissance Office*

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Introduction

The National Reconnaissance Office was born in an era of extreme tension, when the desire to avoid another Pearl Harbor was one of the driving forces behind the growth of the American intelligence bureaucracy. Due to the secrecy of the Soviet Union, overhead reconnaissance, first conducted by U-2 spyplanes and later by photoreconnaissance satellites, represented the primary means of getting information about Soviet capabilities.

The Creation of the NRO

Both the CIA and Air Force had competing satellite reconnaissance programs underway in the late 1950s. The CIA program, code-named CORONA, was based upon the use of film-return capsules. At the time, the technology for

^{*}Presented at the Twenty-Eighth History Symposium of the International Academy of Astronautics, Jerusalem, Israel, 1994. Copyright © 1994 by Dwayne A. Day. Published by the American Astronautical Society with permission.

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this program was being tested on the Discoverer series of satellites. The Air Force program was known as SAMOS and involved the use of radio-relay of satellite imagery. It was far more ambitious than the CIA program and offered far greater returns. But the technology was totally unproven. By early 1960, both programs were in trouble. The Discoverer capsules were failing regularly and it was not clear why. The SAMOS program was running into technical hurdles which it could not overcome.

On February 5, 1960, George Kistiakowsky, head of the President's Science Advisory Committee, met with national security advisor Gordon Gray to discuss the satellite reconnaissance program. Kistiakowsky informed Gray that he felt the Air Force's program was "much too ambitious" and that emphasis should instead be placed upon the CIA's program.¹ On May 26, Kistiakowsky met with Gray, Eisenhower, and Eisenhower's staff secretary, General Andrew Goodpaster, to discuss the problems with both programs. Eisenhower instructed Goodpaster to draft a directive for a study of the issue. Eisenhower clearly wanted Kistiakowsky in charge of the study and told Goodpaster to clear it with Secretary of Defense Thomas Gates, but ignored Kistiakowsky's suggestion that Gates set up such a group. Gray also informed him that the CIA had no authority to establish "military requirements" in the intelligence area.²

On June 2, 1960, Kistiakowsky mentioned to General Bernard Schriever, head of the Air Research and Development Command, that he was seeking a directive from Eisenhower to study the intelligence satellite issue.³ Later, on June 7, General Goodpaster showed Kistiakowsky a draft memo for a study that would be limited to the Air Force's SAMOS project.⁴ Kistiakowsky was unhappy at the restrictive nature of this directive, since it would not allow him to look at the military requirements or the management structure needed to manage space reconnaissance. Apparently, Kistiakowsky was able to obtain a broader mandate and to conduct a more wide-ranging study. But Goodpaster did not want him to look beyond the narrow technical issues.

Little is known about the specifics of the negotiations, but apparently Gates authorized the study group and named Kistiakowsky as its chair, which is what Eisenhower wanted all along. The study included Assistant Secretary of the Air Force Joseph Charyk and John H. Rubel, Deputy Director of the Defense Directorate of Research and Engineering (DDRE).

Because Kistiakowsky's opinion of SAMOS was well known, many in the Air Force feared that the result of the study would be to recommend turning SAMOS over to the CIA entirely. Charyk, in particular, wanted to obtain Air Force control of satellite reconnaissance. But Kistiakowsky assured him that the control of the program would be higher up, at the level of the Office of the Secretary of Defense, and that it would involve CIA participation.

The study itself remains classified, but it is known that the three recommended creation of a joint Air Force-CIA organization to manage U.S. space reconnaissance efforts. It was to be known as the National Reconnaissance Of-

fice. The recommendation was presented to Eisenhower in a National Security Council meeting on August 25, 1960. The committee recommended that the Secretary of the Air Force be placed in charge of the NRO and that the line of authority be straight from him to the officers in charge of the satellite programs.⁵

The following day, Eisenhower issued a presidential directive calling for the establishment of such an office.⁶ Projects then underway in both the Air Force and CIA were to be incorporated into the new organization.

As one would expect, it took many months for the details of such an organization to be worked out. The NRO apparently did not formally enter into existence until September 6, 1961, when Joseph Charyk, promoted to the position of Under Secretary of the Air Force, was named its first director. The decision to name the Under Secretary of the Air Force as head of the NRO was made sometime between the NSC meeting and the formal establishment of the office. The CIA's Deputy Director of Research (soon changed to the Deputy Director of Science and Technology) was assigned the task of Deputy Director of the NRO.8

The Struggle for Control of the NRO

The creation of the organization was an uneasy alliance between the CIA and the Air Force, and fights over control of programs ensued. These fights occurred on many levels—over control of individual satellite projects as well as larger organizational issues over how the product would be treated.

The struggle for control of satellite imagery between the CIA and the Air Force was more than simply a turf battle. Both organizations had legitimate interests in controlling this newly developing field. The Air Force, led by General Bernard Schriever, argued strongly that satellite intelligence should serve the interests of the war-fighter and that the military needed to be in control to define these interests. The CIA, on the other hand, argued that satellite intelligence provided the primary, and often the only, means of obtaining information from the Soviet Union. In this argument the CIA was somewhat assisted by its own misfortune, since U-2 overflights of the Soviet Union ended after Gary Powers was shot down on May 1, 1960. The sudden stop in photographic intelligence coming out of the Soviet Union, coupled with the continuing Soviet attacks on reconnaissance flights on the periphery of the U.S.S.R., strengthened the CIA's case that satellite intelligence had to be jealously guarded.

But the success of this argument had a cost and that cost was that the extensive secrecy erected around the intelligence satellite program meant that its products often did not reach people who would benefit from them. For instance, General John Keegan, who was in charge of Air Force Intelligence in the early 1970s, was stunned to learn that Strategic Air Command bomber crews were not

cleared to view photographs of targets they were assigned to attack in the event of a nuclear war. Keegan did much to open up the product of overhead intelligence to more users, but this still remained quite limited until the late 1970s, when it was apparently once again opened up to more users.

By late 1989, apparently as a result of the creation of the position of Deputy Director for Military Support, third in command under the Deputy Director, even greater access was granted to satellite imagery. By the end of the war, the products were available on a far wider scale than they had been before the war, to the point where anyone with a "Secret" clearance and the need to know could gain access to satellite photographs. Much of the compartmentalization of the products of satellite imagery has now been eliminated.

But while the products were opened up to the war-fighter, control of the systems was still primarily determined by strategic intelligence concerns. Most of the requirements and the programs themselves were designed and developed within the CIA, and the Air Force remained the lesser partner, despite the fact that the NRO was officially headed by the Under Secretary of the Air Force.

The NRO Charter

The original charter of the organization, which probably went into effect with Charyk's assumption of the Directorship, remains classified. The responsibilities of the NRO were again formally established in June 14, 1962 in a still-classified Department of Defense Directive. They were rewritten in March 1964. This Directive, dated March 27, 1964, outlines the general organization and responsibility of the NRO, and describes its relationships with other government agencies. This directive apparently remained in place for at least the next fifteen years, since an October 3, 1979 amendment refers to the original DoD Directive of March 27, 1964.9 A 1992 Freedom of Information Act request for the current charter of the NRO produced this document, so it is apparently still in effect. The charter is included as Appendix A.¹⁰

Organizational Structure of the NRO

It is not clear how the early NRO was laid out. From the beginning it may have simply been the Under Secretary of the Air Force and the CIA Deputy Director for Science and Technology and below them the individual satellite program heads. However, at some point the NRO developed its rather unique "Program" structure. These consisted of "Program A," the Air Force program office, and "Program B," the CIA program office. Program A was the Air Force Office of Special Programs, which had developed out of the SAMOS program office. Program B was officially headed by the CIA's Deputy Director of Sci-

ence and Technology, who was also the Deputy Director of the NRO. But apparently in day-to-day operations Program B was really run by the CIA's Director of Development and Engineering. 11

At some point in the early to mid 1960s, a third program office was added to the NRO's structure. Labeled "Program C," this was the Navy's attempt to get into the satellite intelligence game. But the Navy program apparently never really advanced for quite some time. Various Navy proposals, including a space-based radar system for locating enemy ships at sea, were struck down. Program C continued to exist, first housed apparently in a branch of the Navy known as the Navy Space Project of the Naval Electronics System Command, or "NAVA-LEX," and later in the Space and Naval Warfare Systems Command, under the Space Technical Directorate at the Naval Research Laboratory. But it wasn't until the second half of the 1960s when the Navy was finally successful in arguing in favor of developing a passive ocean surveillance system. For many years this remained a limited mission for the service and the CIA and Air Force continued to dominate the NRO structure. 12

The NRO and Airborne Reconnaissance

By the mid 1960s the NRO was restructured again and a fourth program office was added. This was appropriately enough labeled "Program D" and was run by the Air Force. ¹³ Program D had responsibility for U-2 and SR-71 Blackbird reconnaissance. The other classified airborne reconnaissance platform, the A-12 (which had actually predated the SR-71 program), was operated by the CIA until 1968 and probably fell under the control of Program B. The NRO had been responsible for U-2 overflights during the Cuban missile crisis in 1962, but it wasn't until at least several years later that Program D was created to control Air Force airborne reconnaissance. ¹⁴ In 1969, a decision was made to turn airborne reconnaissance over to the Strategic Air Command and thus Program D was disbanded.

When the NRO was finally declassified in 1992, the press release which announced it stated "The mission of the NRO is to ensure that the U.S. has the technology and spaceborne and *airborne* assets needed to acquire intelligence world-wide, including to support such functions as monitoring of arms control agreements, indications and warning and the planning and conduct of military operations." (emphasis added). During the 1980s there was much speculation that the United States was developing a new hypersonic reconnaissance aircraft to replace the SR-71 Blackbird. No such aircraft has appeared and reports of mysterious sonic booms and unusual contrails have diminished in recent years. It is more likely that the NRO was responsible at least in part for the CIA's unmanned aerial vehicle program before the creation of the Defense Airborne Reconnaissance Office in November 1993. This program consists of different

types of UAV's classified as "Tier I," "Tier 2," "Tier 2+," etc. "Tier 3," also called the Advanced Airborne Reconnaissance System, referred to a large stealth UAV with a long loiter time over its target. The Tier 3 UAV was originally supposed to have a wingspan of 150 feet and be capable of loitering over its target for up to eight hours. It was cancelled due to its price tag some time in either 1991 or 1992 and has now been replaced by a smaller version known as "Tier 3-." It is likely that the NRO had some hand in the development of this vehicle as well as the other programs since the most likely place to manage this procurement in the CIA is within the NRO.

NRO Restructuring After the Cold War

Most of the early photoreconnaissance satellite programs developed by the NRO were apparently handled within Program B at the CIA. In fact, the Air Force apparently did not make strong inroads into the satellite reconnaissance field until it developed the close-look satellite series which was first launched in July 1963. The Air Force also apparently managed many of the early signals intelligence satellites fielded by the NRO. The two programs constantly competed for the development and management of satellite programs throughout their history.

No information exists on the NRO's organization for the next two decades. However, several recently declassified documents do indicate that the NRO came under increasing criticism in the late 1980s. On July 3, 1989, Director of Central Intelligence William H. Webster, and Secretary of Defense Richard B. Cheney, sent a letter to Senator David L. Boren, Chairman of the Senate Select Committee on Intelligence. In the letter they detailed a number of changes they planned on making to the NRO. These changes included: forming a Joint Senior Advisory Board (later renamed the National Reconnaissance Review Board) to advise the DCI, Secretary of Defense, and Director of NRO on NRO issues; designating the CIA's Director of Development and Engineering as Director of Program B (essentially formalizing the command structure that already existed); and establishing within the NRO a Deputy Director for Command Support (later renamed the Deputy Director for Military Support) to improve NRO support to the military.¹⁸

In February 1990, Webster and Cheney sent Boren a report, completed in January, concerning a restructuring of the NRO. This report included recommendations from the Director of the NRO, Martin Faga, that at least part of the NRO's wide-ranging facilities be collocated at the same site, but that no major reorganization take place. Webster and Cheney stated:

"Additionally, we reaffirm our previous conviction, supported by the DNRO's current reassessment, that a business-line structure, that would attempt to give each Program Office the responsibility for a unique mission area, is neither a viable or effective restructure alternative. We want to pre-

serve a beneficial degree of competition between the Program Offices and the ability to apply the resources of all three Program Offices, as appropriate, to a problem. Competition is also vital to sustaining the motivation of the Program Offices and our ability to develop creative solutions to intelligence requirements." ¹⁹

The overall NRO management structure, consisting of Programs A, B and C remained unchanged until 1992, when, apparently bowing to continuing Congressional pressure, the organization was overhauled and reorganized, possibly giving each of the Program Offices responsibility for a unique mission, as mentioned in Webster and Cheney's letter. An outline of the changes in the NRO's organizational structure is included as Appendix B. The officially declassified organizational structure of the NRO today is included as Appendix C.

Conclusion

Despite the declassification of the NRO, little information has been revealed of its early history. The number of documents released as a result of Freedom of Information Act requests can be counted on two hands. To date, the original charter of the NRO has yet to be declassified. Hopefully, with continued effort by historians, more will be revealed of the early history of this extremely important organization.²⁰

Acknowledgement

The author would like to acknowledge the assistance of Jeffrey Richelson, who provided some of the information on the organizational structure of the NRO included in this paper.

Reference Notes

¹George Kistiakowsky, A Scientist in the White House, Harvard University Press, 1976, p. 245.

²*Ibid.*, p. 336.

³*Ibid.*, p. 344.

⁴*Ibid.*, p. 347. Kistiakowsky may also be referring to the CIA's satellite program when discussing the SAMOS program, since he makes no separate mention of the CIA program by name.

⁵*Ibid.*, pp. 387-388.

⁶Presidential Directive/NSC-55, "Intelligence Special Access Programs: Establishment of the APEX Program," January 10, 1980. This document was intended to end the special access system for classified information and replace it with a new system known as APEX. It refers to a document establishing special access programs as a "Presidential memorandum of August 26, 1960."

⁷Vincent Kiernan, "Faga: Cutting Defense Threatens Crucial Spy Satellite Capabilities," Space News, March 8-14, 1993, p. 10.

⁸Usually, the Under Secretary of the Air Force was also the Director of NRO, but this was not always the case. Charyk served from September 6, 1961 to March 1, 1963. He was succeeded by Brockway McMillian, who served until October 1, 1965. McMillian was followed by Alexander H. Flax, who served until March 11, 1969 and held the title of Assistant Secretary of the Air Force for Research and Development. On March 17, 1969, John L. McLucas took over the position and served until December 20, 1973, James W. Plummer then served until June 28, 1976. Thomas C. Reed took the position on August 9, 1976 and served until April 7, 1977. All held the position of Under Secretary of the Air Force. For almost three months the NRO lacked a Director until the Under Secretary of the Air Force. Hans Mark, took over on August 3, 1977 and served until October 8, 1979. Mark was later promoted to Secretary of the Air Force and took the Directorship with him. He was followed by Robert J. Hermann, who was Assistant Secretary of the Air Force for Research. Development, and Logistics, who served until August 2, 1981. The Under Secretary of the Air Force, Antonia Chayes, either knew little of reconnaissance satellites or was denied the position because she was female. Hermann was replaced by Edward C. Aldridge Jr., who served from August 3, 1981, to December 16, 1988—the longest time of any single director. Aldridge also started out as Under Secretary of the Air Force, but later became Secretary of the Air Force, and like Mark, taking the Directorship of the NRO with him. Martin Faga took over Directorship of the NRO on September 26, 1989, serving until March 5, 1993. Faga was the first person to be given the unclassified title of Assistant Secretary of the Air Force for Space. What followed then was an extended period during which the NRO was without a Director. The longtime Deputy Director, Jimmie Hill, took over responsibilities of the Director until a new person could be found. In May 1994, Jeffrey K. Harris, who had risen up through the ranks of the NRO and headed one of its major satellite projects, took over as head of the secretive organization.

⁹This amendment, originally classified "Top Secret," states that the NRO shall: "Work directly with the Defense Space Operations Committee (DSOC) on policy, budgets, requirements and programs. The Defense Space Operations Committee is the principal advisory body to the Secretary of Defense for the National Reconnaissance Program. (its members include the Deputy Under Secretary of Defense for Policy Review; the Assistant Secretary of Defense for Communications, Command, Control and Intelligence; and the Secretary of the Air Force who will be the Chairman of the Committee.) The Director shall respond to tasks approved by the Defense Space Operations Committee and will keep the DSOC informed, on a regular basis, on the status of projects of the National Reconnaissance Office." Harold Brown, Secretary of Defense, Memorandum for Distribution, "National Reconnaissance Office," October 3, 1979. Contained in the Documentary History Collection at the Space Policy Institute.

¹⁰Department of Defense Directive, Number TS 5105.23, "National Reconnaissance Office," March 27, 1964. Contained in the Documentary History Collection at the Space Policy Institute

¹¹Originally this was the Office of Special Activities, then the Deputy Director of Research and then the Deputy Director of Science and Technology. Jeffrey Richelson, *The U.S. Intelligence Community, 2nd Edition*, Ballinger Publishing Company, Cambridge, Massachusetts, 1989, pp. 26-29.

¹² Ibid

¹³National Reconnaissance Office, "NRO Management Restructure - 1960's," n.d. (declassified in September 1994).

- ¹⁴Memorandum of MONGOOSE Meeting Held on Thursday, October 4, 1962, October 4, 1962, contained in: *The Cuban Missile Crisis*, 1962, Project Editor: Laurence Chang, National Security Archive & Chadwyck-Healey, Alexandria, VA, 1990.
- ¹⁵U.S. Department of Defense, "Memorandum for Correspondents," No 264-M. September 18, 1992.
- 16 The code-name "Aurora" has been applied to this aircraft. However, it has now been revealed that this code-name was actually applied to the funding for the competition for the B-2 bomber. See Ben R. Rich and Leo Janos, Skunk Works: A Personal Memoir of My Years at Lockheed, Little, Brown and Company, Boston, 1994, pp. 309-310.
- ¹⁷Neil Munro, "Taking Off: A New Airborne Reconnaissance Office Hits the Pentagon," Armed Forces Journal International, June 1994, p. 46. Also: David A. Fulghum, "Secret Flying Wing Stated for Rollout," Aviation Week & Space Technology, September 19, 1994, p. 27.
- ¹⁸William H. Webster, Director of Central Intelligence, and Richard B. Cheney, Secretary of Defense, to the Honorable David L. Boren, Chairman, Select Committee on Intelligence, United States Senate, February 26, 1990. This letter was declassified in August 1994 as a result of the controversy surrounding the declassification of the Westfields NRO headquarters complex.
- ¹⁹*Ibid.*, p. 2.
- ²⁰Another of the new revelations to emerge from the Congressional hearings in August 1994 was the NRO's seal. This seal was developed after the decision was made to declassify the organization in 1992. It was approved by former NRO Director Martin Faga in February or March 1993 and registered with the Institute of Heraldry. It is not clear if there was another, classified. NRO seal before this one.







. / March 27, 1964 - NUMBER TS 5105. 29

Department of Defense Directive

SUBJECT

(S) National Recommissance Office

Reference (a): DoD Directive (78 5705, 23% subject as above, dated June 14, 1962 (hereby cancelled)

L GENERAL

Pursuant to the authority vested in the Secretary of Defense and the provisions of the National Security Act of 1947, as amended, including the Department of Defense Reorganization Act of 1958, a [6] National Recommaissance Office is hereby established as an operating agency of the Department of Defense, under the direction and supervision of the Secretary of Defense.

IL . ORGANIZATION AND RESPONSIBILITY

The (A) National Reconnaissance Office will be organized separately within the Department of Defense under a (A) Director, National Recomaissance Office, appointed by the Secretary of Defense. The Director will be responsible for consolidation of all Department of Defense satellite and air vehicle overflight projects for intelligence.

into a single program, defined as the (XS) National Recomnaissance Program, and for the complete management and conduct of this Program in accordance with policy guidance and decisions of the Secretary of Defense.

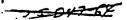
III. RELATIONSHIPS

A. In carrying out his responsibilities for the (TS)

National Recommunistance Program, the (S) Director,

National Recommunistance Office shall:







- L Keep the Director of Defense Research and Engineering and the Assistant Secretary of Defense (Comptroller) personally informed on a regular basis on the status of projects of the (TS) National Reconnaissance Program.
- 2. Similarly inform other Department of Defense personnel as he may determine necessary in the course of carrying out specific project matters.
- 3. Establish appropriate interfaces between the (M) National Reconnaissance Office and the United States Intelligence Board, the Joint Chiefs of Staff, the Defense Intelligence Agency, and the National Security Agency.
- 4. Where appropriate, make use of qualified personnel of services and agencies of the Department of Defense as full time members of the (5) National Reconnaissance Office.
- B. Officials of the Office of the Secretary of Defense, military departments, and other DoD agencies shall provide support within their respective fields of responsibility, to the (S) Director, National Reconnaissance Office as may be necessary for the Director to carry out his assigned responsibilities and functions.

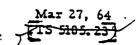
Office. The (5) Director, National Reconnaissance
Office will be given support as required from normal
staff elements of the military departments and agencies
concerned, although these staff elements will not
participate in these project matters except as he
specifically requests,

IV. AUTHORITIES

.A. The (6) Director, National Reconnaissance Office, in connection with his assigned responsibilities for the



TOP SECRET



(A) National Reconnaissance Office and the (TS)
National Reconnaissance Program, is hereby specific-ally delegated authority to:

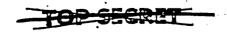
- L Organize, staff, and supervise the (%) National Reconnaissance Office.
- 2. Establish, manage and conduct the (TS) National Reconnaissance Program.
- 3. Assist the Secretary of Defense in the supervision of aircraft, and satellite reconnaissance, photographic projects, and be his direct representative on these matters both within and outside the Department of Defense.
- 4. Review all Department of Defense budget requests and expenditures for any items falling within the definition of the (KS) National Reconnaissance Program, including studies and preliminary research and development of components and techniques to support such existing or future projects.
- B. Other authorities specifically delegated to the (5)
 Director, National Reconnaissance Office by the Secretary of Defense will be referenced in numbered enclosures to this directive.

V. PROJECT ASSIGNMENTS

All projects falling within the definition of the (PS)

National Recommaissance Program are assigned to that program and will be managed as outlined herein unless specific /exception is made by the (N) Director, National Recommaissance of Confice.

Announcements of any such exceptions will be made by numbered enclosures to this directive.



TOP SECRET

VL SECURITY

- A. The (A) Director, National Recommaissance Office will establish the security procedures to be followed for all matters of the (TS) National Recommaissance Program, to protect all elements of the (S) National Recommaissance Office.
- B. All communications pertaining to matters under the (75) National Reconnaissance Program will be subject to special systems of security control under the cognizance of the Director, Defense Intelligence Agency, except in those instances specifically exempted by either (5) Director, National Reconnaissance Office or the Secretary of Defense.
- C. With the single exception of this directive, no mention will be made of the following titles or their abbreviations in any document which is not controlled under the special security control system(s) referred to in B. above: (%) National Reconnaissance Program; (%) National Reconnaissance Office. Where absolutely necessary to refer to the (TS) National Reconnaissance Program in communications not controlled under the prescribed special security systems, such reference will be made by use of the terminology: "Matters under the purview of DoD TS-5105. 23."

VIL EFFECTIVE DATE

This Directive is effective upon publication.

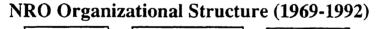
VIIL CANCELLATION

Reference (a) is hereby cancelled.

Deputy Secretary of Defense

TOP SECRET

NRO Organizational Structure (early 1960s) **DCI SecDef NRO** Program C Program A Program B (Air Force) (CIA) (Navy) **CORONA SAMOS** Proposals only NRO Organizational Structure (mid-1960s) **DCI SecDef NRO** Program A Program B Program C Program D (Air Force) (CIA) (Navy) (Air Force) Close look satellites Area surveillance Proposals only 11-2 Signals intelligence A-12 SR-71 Blackbird



DCI SecDef NRO Program A Program B Program C (Air Force) (CIA) (Navy) Signals intelligence Photoreconnaissance Ocean surveillance Photoreconnaissance Signals intelligence Satellite Data System Satellite Data System

(SDS-1980s) Tier 3

(SDS-until late 70s)

Appendix C

