(U) Cryptologic Almanac 50th Anniversary Series

(U) QUIS CUSTODIET IPSOS CUSTODES?

(U) Traditionally, the United States never had civilian or national intelligence organizations. The intelligence community as we now know it originated in the experiences of World War II. The organizations which comprise the community were established in the immediate postwar years, but have evolved considerably in function and methodology.

~~(U//FOUO)~~ NSA and the American cryptologic effort, both communications intelligence (COMINT) and communications security (COMSEC), evolved under many influences or pressures -- target changes, technological challenges, customer requirements and feedback, and a mosaic composed of the experiences of thousands of talented cryptologists. Some changes on specific issues were induced by official committees or boards.

(U) The origins of NSA may be traced to two important government studies. In 1948-49, the Stone Board, convened by the secretary of defense and chaired by RADM Earl Stone, resulted in the first centralized cryptologic organization, the Armed Forces Security Agency (AFSA). The Brownell Committee of 1952, led by New York lawyer George Brownell at the request of President Harry Truman, identified flaws in AFSA's structure and processes, and recommended changes that transformed the organization into NSA.

~~(U//FOUO)~~ The situation was not static. Once NSA was established, there were questions about its successes and failures, and its potential. As technology changed, officials and scientists alike questioned whether the Agency was making the best use of new discoveries or responding adequately to new developments in its targets. NSA, therefore, was examined directly by high-level boards and committees from outside, and changed in response to their recommendations.

(U) President Dwight Eisenhower, after taking office in 1953, had to deal with the growing Cold War confrontation with the USSR. In shaping the U.S. response to this ideological, political, and military conflict, Eisenhower drew on his inside knowledge of government workings, acquired as a military officer with considerable time at high Washington levels. He was also concerned with the intelligence community, and here drew on his experience as an astute user of intelligence during World War II.

(U) In many ways, the legacy of committees from the Eisenhower presidency is still with

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us. The adoption of many of their recommendations changed both structure and function at NSA. Some results are still with us directly; others only began a process of evolution, so that NSA still lives with their descendants.

(U) H. P. ROBERTSON

~~(S//SI)~~ In 1953, not long after assuming the presidency and as confrontation with the Soviet Union deepened in the Cold War, Dwight Eisenhower appointed a committee to look into America's strategic vulnerabilities and to assess intelligence warning against the USSR.

~~(S//SI)~~ Despite the fact that the committee had received its charge from the highest levels of government, the director of NSA, LTG Ralph Canine, strongly opposed allowing committee members access to COMINT. However, given this high-level concern about warning, Canine established his own committee to study the same issue, but composed of people who already held COMINT clearances. The committee chairman, Dr. H. P. Robertson from the California Institute of Technology, sat on the NSA Scientific Advisory Board (NSASAB). Other committee members also served on NSASAB or were cleared individuals from the Department of Defense.

~~(TS//SI)~~ Robertson's committee found that NSA [redacted] major cipher systems used by the Soviet Union. [redacted] immediately following World War II, early cryptologic breakthroughs on Soviet machine systems had been betrayed to Moscow by an insider, William Weisband. He had worked in the Army COMINT organization from World War II to the 1950s, prompting Soviet adoption of more sophisticated systems.

~~(TS//SI)~~ [redacted] the Robertson Committee recommended more effort against Soviet voice systems, along with better fusion of COMINT and ELINT. [redacted]

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(b)(3)-50 USC 403
(b)(3)-18 USC 798
(b)(3)-P.L. 86-36

(U) HOOVER

(U) In the presidential campaign of 1952, Eisenhower had charged the previous two administrations with inefficiency and outright corruption. Therefore, in 1954 he commissioned former president Herbert C. Hoover to study U.S. government operations as a whole and make recommendations for improved, more efficient operations.

(U) Hoover delegated the study of the intelligence community to a subcommittee under retired general Mark Clark. He had directed the Italian campaign during World War II, had

been the U.S./UN commander in the Korean War, and had been a user of COMINT in both positions.

~~(U//FOUO)~~ Clark's subcommittee made numerous recommendations, including increased authority for the director, NSA, and enhanced status within the military departments for the Service Cryptologic Agencies (the title "Agency" was changed to "Element" in the 1970s). The subcommittee also proposed better pay for NSA employees, including creation of "supergrades." General Canine, then DIRNSA, supported all these.

~~(S//SI)~~ The subcommittee also recommended a major effort against Soviet high-grade ciphers, with people and funding equivalent to the atomic bomb project in World War II. General Canine supported this item as well, but argued for more deliberate speed than "all-out attack."

~~(S)~~ One other recommendation was more controversial, however. The Clark subcommittee proposed that NSA assume additional authority over electronic intelligence (ELINT), which was then under control of the military departments. General Canine, who had constant struggles with the military over his existing authorities, was less than enthusiastic about a new struggle over ELINT. The issue would return.

(U) KILLIAN

~~(U//FOUO)~~ Another Eisenhower group of 1954 was chaired by Dr. James Killian, president of the Massachusetts Institute of Technology; the chairman had good credentials with the president -- Killian later became Ike's science advisor. Like the Robertson Committee, Killian's was charged with studying America's strategic warning in case of Soviet nuclear attack, and was nicknamed the "Surprise Attack Committee." Killian delegated intelligence matters to a subcommittee led by Edward Land, inventor of the Polaroid Camera.

~~(S//SI)~~ Land and his colleagues were interested primarily in long-range reconnaissance. They supported the CIA in developing a high-altitude recon aircraft, which eventually became the U-2 project. Another important recommendation was that the United States make greater efforts to do reconnaissance by space satellites. Although many committee members thought first in terms of photoreconnaissance, they also recommended collection of ELINT and COMINT by satellite.

~~(S//SI)~~ The Killian Committee's recommendations helped direct U.S. intelligence technical collection toward more sophisticated operations. Over time, NSA became a major beneficiary of its vision.

(U) BAKER

(U) As commander-in-chief in Europe during World War II, General Dwight Eisenhower had learned the value of COMINT. He, his staff, and his generals in the field used it in planning and combat. As president, Ike again read COMINT; further, he supported expensive enhancements to COMINT communications and research on computers. Besides a number of formal committees, he directed a senior official, William H. Jackson, a member of the Brownell Committee that created NSA, to report to him periodically on NSA's circumstances.

~~(TS//SI)~~ In 1957, early in his second term, Eisenhower established another group to look into cryptology. William O. Baker, vice president for research at Bell Laboratory, was charged with examining [redacted] The Baker Panel went far beyond its original purpose and took a look at the broad range of American cryptology. The panel's conclusions were as far-reaching as its examination was broad.

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(b)(3)-18 USC 798
(b)(3)-P.L. 86-36

~~(TS//SI)~~ After intensive study, the panel -- like the Robertson Committee before it -- concluded that COMSEC [redacted] NSA still had much to contribute against the Soviet Union and other targets.

~~(TS//SI)~~ First of all, [redacted] Finally, a more controversial recommendation, the Baker group said ELINT should be placed under NSA's aegis, echoing the findings of earlier panels.

~~(S//SI)~~ Finally, the Baker Panel recommended that cryptanalytic research be removed from NSA and reorganized into a specialized "think tank." This would keep long-term studies and daily tasks separate, freeing up the best cryptanalytic minds for research.

~~(TS//SI)~~ The Baker Panel's recommendations regarding redirection of internal NSA assets were adopted in essence. Although the military services were loath to give up control over ELINT, Eisenhower forced the issue before he left office. (As a side note, the addition of ELINT to NSA's mission led to the U.S. adoption of the term "SIGINT" as a generic word to replace "COMINT.")

~~(S//SI)~~ The idea of a cryptologic think tank was attractive to many, but had pitfalls. DoD and NSA officials believed the creation of separate CA centers would cause morale problems. NSA officials also knew that cryptanalytic success against high-grade systems

often depended upon clues from low-level systems and related disciplines such as traffic analysis. It would be difficult to take advantage of this help if cryptanalysis were split into two tracks. As a compromise, the government established a cryptologic division in the Institute for Defense Analysis, which would permit the government to draw upon the mathematics and cryptologic talent from a number of universities.

(U) REUBEN ROBERTSON

(U) Another Robertson committee, named for a different Robertson, failed in its primary mission but still caused far-reaching changes to the cryptologic community.

~~(U//FOUO)~~ Eisenhower's secretary of defense, Charles ("What's good for General Motors is good for the United States") Wilson, sought to bring the Pentagon budget under control and reduce costs. Wilson believed he could achieve major savings in cryptology, so he directed Deputy Secretary Reuben Robertson to form a committee and find ways to keep the cryptologic budget [redacted] -- still big money in the 1950s.

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~~(C)~~ Reuben Robertson discovered that the cryptologic budget was spread across many areas of Pentagon accounting and was difficult to track. After considerable work, his committee concluded that the cryptologic budget amounted to [redacted] and it would be impossible to go below that figure without causing harm to American intelligence production.

~~(C)~~ Although it could not get the overall budget figure reduced to the SecDef's desired level, the Robertson committee recommended closures and consolidations of some field sites, which resulted in savings. Also, on committee recommendation, the Service Cryptologic Elements began the practice of unifying field stations where more than one service was represented, with one SCA serving as "host."

~~(C)~~ More importantly, the second Robertson Committee recommended that the cryptologic budget for NSA and the SCAs be centralized under the director, NSA. This recommendation was immediately adopted, with a start date for the Consolidated Cryptologic Program (CCP) to be Fiscal Year 1959. NSA and the (now) SCEs still live with the CCP.

(U) KIRKPATRICK

(U) The Kirkpatrick Committee was convened to study the question of centralizing the intelligence community. Eisenhower felt the community was fragmenting and that intelligence was not getting to consumers who needed it. The committee began work in early 1960, charged with completing its tasks before Eisenhower would leave office in January 1961; the chairman was Lyman Kirkpatrick, inspector general at the CIA.

~~(U//FOUO)~~ The Kirkpatrick Committee made 43 major recommendations. Its major point affecting all agencies was radical reorganization of the U.S. Intelligence Board and creation of an intelligence community staff, subordinate to the Director of Central Intelligence.

~~(C)~~ Many recommendations affected NSA indirectly as part of the intelligence community, but one recommendation specifically altered NSA's way of doing business. The Kirkpatrick Committee concluded that the then method of distributing COMINT to military commands or civilian agencies, the SSO system, was outmoded and tended to restrict use of a valuable national resource.

~~(U//FOUO)~~ The SSO system, in fact, was World War II vintage and had been modeled on the way the British handled COMINT. The production group forwarded COMINT product to a Special Security Officer in response to standing requirements at a particular command; the SSO would distribute the product to those cleared for it at his location.

~~(C)~~ As a result of the Kirkpatrick recommendations, NSA established the first Cryptologic Support Groups. The CSGs were intended to be active and interactive with their commands or agencies, both in obtaining the COMINT their host needed and helping the recipients interpret product. This began a revolutionary evolutionary process improving ways in which NSA dealt with its customers.

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(U) Who Watches the Watchers?

~~(U//FOUO)~~ Although the U.S. government had had large COMINT production organizations during World War II, essentially they were merely greatly expanded version of their prewar groups in the Army and Navy. After the war, the first major task for the cryptologic community was centralization, to eliminate duplication and create an economy of scale.

~~(U//FOUO)~~ Once a dependable central organization had been established, President Dwight Eisenhower called into existence a great number of official studies of its structure, operations, and effectiveness in using new technologies. Eisenhower was an experienced consumer of intelligence as well arguably the most knowledgeable figure in government on national defense structure and resources. He knew what the president needed from intelligence, and knew that in critical areas he was not getting the quality of material he had received during the war. His formal studies of all intelligence organizations were established to tell him why there were intelligence shortfalls and to make recommendations to remedy the situation.

~~(U//FOUO)~~ The committees, boards, and panels of the Eisenhower years changed NSA in many fundamental ways -- in targeting, budgeting, and customer relations.

(U) SOURCES:

(U) Thomas Johnson, *American Cryptology in the Cold War* (CCH: 1995)
Paul Lashmar, *Spy Flights of the Cold War* (Sutton Publishing, 1996)
Harry Rowe Ransom, *The Intelligence Establishment* (Harvard University Press, 1970)

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