THIS FILE IS MADE AVAILABLE THROUGH THE DECLASSIFICATION EFFORTS AND RESEARCH OF:

THE BLACK VAULT

THE BLACK VAULT IS THE LARGEST ONLINE FREEDOM OF INFORMATION ACT / GOVERNMENT RECORD CLEARING HOUSE IN THE WORLD. THE RESEARCH EFFORTS HERE ARE RESPONSIBLE FOR THE DECLASSIFICATION OF THOUSANDS OF DOCUMENTS THROUGHOUT THE U.S. GOVERNMENT, AND ALL CAN BE DOWNLOADED BY VISITING:

HTTP://WWW.BLACKVAULT.COM

YOU ARE ENCOURAGED TO FORWARD THIS DOCUMENT TO YOUR FRIENDS, BUT PLEASE KEEP THIS IDENTIFYING IMAGE AT THE TOP OF THE .PDF SO OTHERS CAN DOWNLOAD MORE!

(U)Cryptologic Almanac 50th Anniversary Series

(U)Did Anyone Tell the President?
Establishing the CRITICOMM System

(b)(1)
(b)(3)-50 USC 403
(b)(3)-18 USC 798
(b)(3)-P.L. 86-36

(TS//SI) On 4 October 1957, Russia launched Sputnik, the first man-madesatellite the earth. This launch was a complete surprise to NSA andthe rest of the intelligei community. President Eisenhower learned of thelaunch 24 hours after it occurred, and it was one of several events thatconvinced him to push the intelligence community to develop a warningsystem.

(TS//SI) In 1956 two crises erupted within six days that served as harshlearning experiences for NSA.On 29 October Israel attacked Egypt in the Sinai in response to Egypt'snationalizing of the Suez Canal. On 4 November Russia violently seizedcontrol of Budapest to crush the Hungarian revolution. NSA was in chaos. TheDIRNSA issued an alert on 30 October that did not leave the building forseven hours.

(TS//SI) Lebanon was the last straw for Eisenhower. In July 1958 Lebanonturned to the U. S. for protection from threats by the United Arab Republicto take over its government. One day after Eisenhower received this request,U. S. Marines were landing on the beaches of Lebanon. NSA, however, lackedthe flexibility for a quick response to this crisis. The

[redacted]

tomerely clean up rather than provide crisis support. Eisenhower responded tothese four failures by establishing several committees to reform theintelligence community. The president's primary concern was to make surethat he had warning of impending crises.

(TS//SI) Timely warning could be achieved only through timely communication.Therefore, one of the reform committees that Eisenhower established was theCritical Communications Committee. First, this committee defined criticalinformation as that information "indicating a situation or pertaining to asituation which affects the security or interests of the United States tosuch an extent that it may require the immediate attention of the presidentand other members of the National Security Council." Next, the committeerecommended that critical information should get to the president within tenminutes of recognition that it meets Critic criteria as defined above. InAugust 1958, President Eisenhower accepted this recommendation, and NSCID(National Security Council Intelligence Directive) 7 was promulgated.

Approved for Release by NSA on 06-12-2009, FOIA Case # 52567

~~(TS//SI)~~ This committee recommendation was bold because no communicationsystem existed that could meet the ten-minute deadline. According toinformation furnished to the Robertson committee, which was charged withstudying NSA performance, in 1953 the fastest possible handling time on themost critical information was not less than five or six hours from time ofintercept. Further, this new system was supposed to be operational by 1961.NSA was in charge of creating this new system because the new deputydirector of NSA, Louis Tordella, told the president that 90 percent of theexpected warnings would come from COMINT. NSA also had a plan, the COMINTCOMNET proposal, which was the closest model for such a system.

~~(TS//SI)~~ Lieutenant General Ralph Canine began to improve communicationswhen he directed AFSA (Armed Forces Security Agency), the predecessor toNSA. AFSA, when created, had no indigenous communications at all. Theorganization depended entirely on communication paths and facilitiesprovided by the services. By July 1952, Canine had succeeded in establishinga separate communications center for processing traffic that was destinedfor AFSA organizations. As the first director of NSA, Canine continued topush for more timely communications; he stated that his ultimate objectivewas to be able to return priority traffic through the communications systemwithin five to ten minutes, while routine traffic would flow through in nomore than an hour. Through Canine's impetus, NSA developed the COMINT COMNETproposal.

~~(TS//SI)~~ The COMINT COMNET proposal, devised in 1952, called for theestablishment of a separate worldwide communications system consisting ofdedicated circuits that would be networked into a series of relay stations.Intercept sites would feed into these relay centers, which wouldbulk-forward the traffic back to NSA. One immediate benefit of this systemwould be that it would improve delivery time because the centers were to bemanned by people cleared for SIGINT. Thus, once a message entered thesystem, it would never have to be reencrypted. The relay centers wouldoperate initially using torn-tape relays, but would eventually transition toautomated relay systems. Automated relay switches would dramatically reducehandling time. The major flaw in this plan was that each military servicewas required to fund relay centers near its intercept sites. The serviceshad other funding priorities, and money never seemed to be available for theCOMNET.

~~(TS//SI)~~ In 1958, when NSA was charged with putting a CRITICOMM system inplace by 1961, they had not found an automated relay switch that wouldsatisfy all parties, and the relay centers did not exist. NSA had to findsolutions quickly.

(b)(3)-P.L. 86-36

~~(TS//SI)~~ Two technical achievements enabled NSA to meet its goal. The firsttechnical achievement was the introduction of the KW-26 in 1957. The KW-26was an online encryption device which speeded up transmissions because itcould encrypt 100 words per minute. The second achievement concerned relayswitches. NSA's communicators, headed by Arthur Enderlin, Max Davidson, and [redacted] began tinkering with off-the-shelf commercial hardware thatwould permit a Critic to steam through the system untouched by

DOCID: 3575738
(b)(1)
(b)(3)-50 USC 403
(b)(3)-P.L. 86-36

(b)(1)
(b)(3)-50 USC 403
(b)(3)-P.L. 86-36

human hands.A key element in their search was the shunt box, a device developed byTeletype Corporation that could recognize a unique combination of lettersand open up the circuitry all the way to Washington. Nothing else would flowin that path until the Critic had passed through.

(TS//SI) CRITICOMM needed relay centers, and in 1959 NSA directed that theArmy operate centers in Europe, [redacted] The Navy would do the job in Hawaii, while the Air Force would takeon the same responsibilities in [redacted] and Alaska. NSA wouldoperate the central hub at Fort Meade. This time the services cooperatedbecause of the presidential mandate. NSA was able to meet the 1961 deadline.

(TS//SI) Thanks to the leadership of President Eisenhower, the vision ofGeneral Canine, and the technical expertise of NSA communicators, the Criticsystem used today was placed on a firm foundation. Critics are sent not onlyto the president, but also to military commands, other elements of theintelligence community, and others in the executive branch with securityresponsibilities. Thanks to the CRITICOMM system, every president sinceEisenhower has been warned of impending crises or dangerous situations in atimely fashion.

Source:

- (U) Johnson, Thomas R. *American Cryptology during the Cold War 1945-1989; Volume I: The Struggle for Centralization*, chapters 5-7.

[(U//FOUO) Sharon A. Maneki, Center for Cryptologic History, 972-2893s,samanek@nsa]

Almanac 50th Anniversary Series

Content Owner: Feedback
Web POC: Feedback

Last Modified: by nsr
Last Reviewed: February 28, 2003
Next Review: 365 days

TOP SECRET//COMINT//X1

DERIVED FROM: NSA/CSS MANUAL 123-2
DATED: 24 FEB 1998
DECLASSIFY ON: X1