

SECRET//X1

# (U) Cryptologic Almanac 50<sup>th</sup> Anniversary Series

## (U) A Brief Look at ELINT at NSA

### (U) Background

~~(U//FOUO)~~ Electronic intelligence (ELINT) at NSA did not have an easy start. When NSA was formed in 1952, consideration was given to including ELINT as well as COMINT as part of NSA's mission. It was widely believed that LTG Ralph Canine, USA, director of NSA at that time, felt that managing DoD COMINT efforts would be enough of a challenge for NSA. This negative attitude was matched by the services: none of the DoD Military departments wanted NSA to manage ELINT.

~~(U//FOUO)~~ Department of Defense ELINT, however, was as much in need of coordination and management as COMINT. The effort badly needed a cohesive signal analysis and processing effort.

~~(C)~~ What is ELINT? It is information derived from electronic signals that do not contain speech or text (which is COMINT); it is divided into two major branches.

~~(C)~~ One branch is Technical ELINT (TechELINT), which describes the signal structure, emission characteristics, modes of operation, emitter functions, and weapons systems associations of such emitters as radars, beacons, jammers, and navigational signals.

~~(C)~~ The other major branch is Operational ELINT (OpELINT), which concentrates on locating specific ELINT targets; the results are commonly called Electronic-Order-Of-Battle (EOB). OpELINT also provides threat assessments, often referred to as "tactical ELINT." OpELINT intelligence supports not only military planners but also tactical commanders on the battlefield.

~~(C)~~ ELINT had its start in World War II, with the invention and use of radar by the Allies and the Axis. U.S. Army Air Forces had a keen interest in ELINT and used Germany's own radars to select targets for Allied bombers over Germany. Thus the Air Forces wanted to know as much about them as possible -- including how to evade, "jam" or "spooof" radars. Immediately after WWII, the USAF in Europe (USAFE) embarked on an aggressive TechELINT and OpELINT program, called CREEK ARCH, including establishing cooperative programs with several NATO partners.

~~(U//FOUO)~~ In 1952 DoD set up the Army-Navy Electronics Evaluation Group (ANEEG),

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housed at the Navy's Nebraska Avenue Station -- by coincidence NSA headquarters at the time -- staffed with about thirty people. The ANNEG had only informal coordinating powers on collection, but was a centralized point for processing and analyzing ELINT intercepts, and a focal point for coordination of ELINT "difficult analytic problems."

~~(C)~~ As ELINT processing problems grew, in 1957 ANNEG was redesignated the National Technical Processing Center (NTPC), under the USAF Air Staff at the time, designated AFCIN-Z. In addition to Army and Navy participation, CIA became a full participant. CIA at that time was running the U-2 program, which had ELINT packages as well as photographic sensors.

~~(U//FOUO)~~ Starting in 1954, a number of presidential-level committees recommended that ELINT be brought under NSA's purview. Both the Mark Clark subcommittee of the Hoover Commission in 1954 and the William O. Baker committee in 1957 made such a recommendation. Strongly backed by President Eisenhower, the Baker Committee efforts culminated in the issuance of National Security Council Directive (NSCID) No. 6, "Communications Intelligence and Electronics Intelligence," in early 1958. NSCID 6 gave NSA many ELINT powers.

### **(U) ELINT Starts at NSA**

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~~(U//FOUO)~~ One of the first actions taken by NSA in response to the NSCID and subsequent DoD ELINT directive of 1959 was to incorporate the National Technical Processing Center (NTPC) at Nebraska Avenue into NSA as COSA-5, the Noncommunications Signals Analysis and Processing Division. NTPC at the time had somewhat fewer than 100 people, with John Libbert as chief.

~~(C)~~ Some of the DoD Military departments and combat commands were not greatly enthused about NSA's new responsibilities and many "management" problems and procedures developed. The Strategic Air Command (SAC) was long used to doing ELINT business "my way" but eventually developed a productive and cooperative set of arrangements with NSA.

~~(C)~~ At that time there were theater ELINT processing centers [redacted] that became integral parts of the overall DoD ELINT structure as developed by NSA. In 1974 the USAFE CREEK ARCH program was fully integrated into the NSA system, then combined with the NSA engineering support office in [redacted]

~~(S)~~ With the advent of satellite collection systems in the early 1960s as major producers of ELINT data, NSA established an ELINT processing and analysis center [redacted]

[redacted] in connection with the National Reconnaissance Office. The facility operated [redacted] satellites. This effort gave significant support to U.S. forces throughout the war in Vietnam. [redacted]

~~(S)~~ Overhead ELINT collection, when it became available in the 1960s, gave extensive support to U.S. forces fighting in Vietnam. [redacted]

~~(S)~~ In the early 1970s, overhead ELINT [redacted]

EO 1.4.(c)

~~(U//FOUO)~~ COSA and elements of NSA's R&D organization were merged to form W Group in 1971, with Dr. Robert Hermann as chief; the formal name was the Electronic Intelligence and Systems Management Group." This provided a good institutional base for NSA to manage ELINT, including development of new systems for ELINT use. Similarly it made for a cohesive way to develop the ELINT portion of the Combined Cryptologic Program (CCP) program and budgets with the DoD military departments.

~~(S)~~ In the early 1970s, an NRO/NSA ELINT processing center was opened [redacted]

~~(S)~~ Initially telemetry intelligence (TELINT) was a branch of ELINT; it attained its status as a separate "INT" in DoD in 1971 with the publication of DoD Directive 5100.20, which gave NSA its updated charter. TELINT, closely related to ELINT, was focused in W1, the Advanced Weapons and Space Systems Office.

~~(U//FOUO)~~ NSCID 6 was updated in 1972 and retitled "Signals Intelligence (SIGINT)"; it gave NSA even more ELINT powers. Based on NSCID 6 concepts, SIGINT within DoD was implemented by Directive 5100.20, issued in 1971 and commonly referred to as the "NSA Charter". The DoD directive charged NSA with responsibility of managing SIGINT, specifically defined as COMINT, ELINT, and TELINT. The term TELINT has fallen into disuse and has been replaced by FISINT -- foreign instrumentation signals intelligence -- which includes telemetry, missile and satellite command signals, beacons, and PROFORMA (generally computer-based data).

~~(C)~~ By 1996 it was clear that fiscal and personnel reductions in the intelligence community had severely affected the community's capability to conduct Tech ELINT. A DoD-CIA study for the Weapons and Space SIGINT Advisory Group (WASSAG) of the National SIGINT Committee showed that the community had reduced the ELINT budget [redacted]

~~(S)~~ LTGEN Gordon, USAF, the assistant DCI for military support, and Ambassador Lynn Hansen, National Intelligence Council vice chairman for evaluation, co-chaired a TechELINT and FISINT review in 1997. The Technical Weapons Intelligence Meeting called for action on the budget and personnel fronts and on community ELINT management and processes. Nevertheless, the situation continued to deteriorate. EO 1.4.(c)

### **(U) A New Community Approach**

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~~(U//FOUO)~~ In April 1998 Congress directed an ELINT study. The A/DCI for Collection, Charles Allen, conducted the study with DCI and SecDEF staff. The resulting study directed NSA to prepare an ELINT Business Plan, which was accomplished in October 2000. Declaring that "Electronic Intelligence (ELINT) is a major cornerstone of America's Information Superiority," in January 2001, the OASDI and DDCI directed the formation of a Community ELINT Management Organization (CEMO) under the leadership of NSA. One of several CEMO functions was to ensure that ELINT architecture was consistent with the Unified Cryptologic Architecture (UCA) and integrated into Cryptologic Mission Management (CMM) activities and actions.

~~(S)~~ The NSA Office of Weapons and Space, now designated PIW [redacted] as the chief) was also restructured to be better aligned to the ELINT business plan and the TechELINT process.

~~(S)~~ In January 2002, after several months of study and analysis, culminated by a community meeting, it was decided to focus portions of ELINT at a new facility [redacted] Other portions [redacted] were to remain at NSA W.

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