

Chapter 11

NSA in Vietnam: Building the Effort – The Early Years

Cochinchina is burning, the French and British are finished here, and we ought to clear out of Southeast Asia.

Lt Col Peter A. Dewey (OSS) writing from Saigon, 1945

Much has been said about the American decision to become involved in Southeast Asia. The decision to intervene was hotly debated and controversial from the first. Intervention resulted ultimately in the nation's most humiliating military debacle (although by no means its first defeat). So many things went wrong that the failures obscured the successes, but successes there were. From both the military and the cryptologic standpoint, it was a learning experience.

VIETNAM – THE COUNTRY

Actually, three countries were involved: Laos, Cambodia, and Vietnam. (Vietnam's political geography is complex, involving as it does three separate areas: Cochinchina (presently known as Cochin China) in the south, Annam in the center, and Tonkin in the north.) But Laos was landlocked and primitive – it hardly counted – and Cambodia was little more than a "Sideshow to War" (to use British writer William Shawcross's phrase). Vietnam became the main show, the country where American lives and national prestige were put on the line.

Vietnam (meaning, literally, "South Viet") had been settled by a Sino-Tibetan group called the Viet, who had been pushed by Mongolian population pressures farther and farther south. They finally wound up in the Red River valley, a broad and fertile plain suitable for wet rice cultivation. As they migrated ever farther south, however, they were hemmed in by mountains, which cascaded, like boiling water, into the South China Sea. The Viets picked their way along the coast, inhabiting isolated valleys, until they finally arrived at the broad Mekong delta. There were no mountains on the delta, and they quickly converted it to rice-growing. As a result, Vietnam became long and thin in the center, averaging no more than fifty miles wide along the Central Highlands, with two large plains attached to each end. It has been compared in shape to a pole across the back of a farmer, with a basket of rice on each end.

Vietnam was a meeting place of disparate cultures – primarily Indian and Chinese. The Vietnamese warred fiercely with the armies of their neighbors, and they acquired a reputation for recalcitrance and military prowess. Chinese sovereignty over the region, strong during the Han dynasty (about a century before Christ), was reduced over time to a

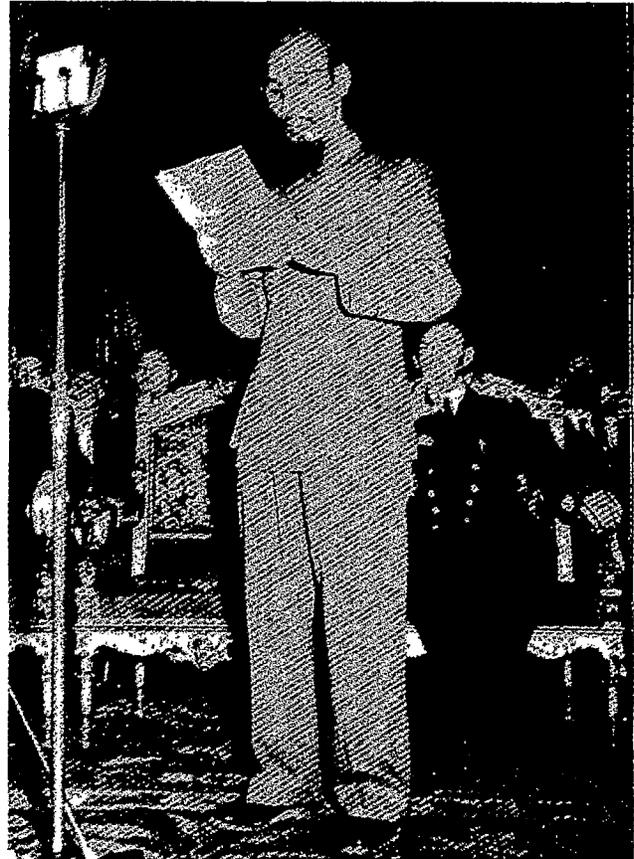
~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

more or less nominal one. This was the situation when the French arrived in the mid-nineteenth century. France established a tenuous hold on the country - solid in Cochinchina, less sure in Annam, very loose in Tonkin.

The French overwhelmed the Vietnamese with technology but had little chance to stay permanently. After all, the Chinese, who lived next door, had never completely subjugated the restive Vietnamese. French efforts were, in the long run, doomed by distance and the stubbornness of the Vietnamese.¹

French colonial rule came to an effective end during World War II. The Japanese retained a French colonial government, but it was only a puppet, and in 1945, faced with defeat, the Japanese extinguished even this shred of French dignity. The Japanese defeat left Vietnam without a government.

What emerged was a government of sorts, effective only in the Red River Valley to the north, under a communist named Ho Chi Minh. The remnants of the Japanese war machine transferred formal power to Ho's organization, the Vietminh, on 18 August. On 2 September Ho declared the independence of Vietnam. The United States, mostly through OSS, maintained distant contact with the Vietminh during the war. The opportunistic Ho, apparently hoping for substantial American aid, even adopted phraseology from the American Declaration of Independence when he declared Vietnam a sovereign country.



Ho Chi Minh in Paris, 1946

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Occupied with larger matters, Allied leaders were not exactly consumed with worry over Vietnam. Roosevelt believed that colonial rule was finished everywhere, and that included Southeast Asia. But what to do with the former French properties was a more difficult question. He toyed with the idea of giving it back to the French under a trusteeship arrangement with independence guaranteed at a future date. He also offered it to Chiang Kai-shek, who did not want it. (He had enough trouble at home.) FDR died without resolving the issue, and Harry Truman had it on his plate.

At the State Department, a stealthy battle was going on between the Asianists, who were promoting independence for all Asian countries, and the Europeanists, who did not want a dispute over the colonies to jeopardize postwar relations with Britain and France. The Europeanists won, and the United States informed France in May 1945 that the U.S. recognized French claims to Indochina. It was decided that British forces would occupy the south of Vietnam, while Chinese forces under Chiang would occupy the north, until France could get some forces together to reoccupy its former colonies.

French troops eventually regained a tenuous hold over much of Vietnam, especially the southern portion. Meanwhile, negotiations continued with Ho, who, it will be remembered, had already proclaimed independence and had effectively occupied much of the north. But negotiations broke down in 1946, and outright warfare began. This period of conflict culminated in the French defeat at Dien Bien Phu in 1954.

Having successfully ejected this latest occupying power from Vietnam, all that remained for the Vietnamese was to formalize a separation. Divorce court was held in Geneva. It resulted in an independent and neutralist Cambodia and Laos and in a Vietnam divided at the waist. The part north of the 17th parallel, effectively controlled by the Communist forces under Ho, would become the Democratic Republic of Vietnam, while the portion below the 17th parallel would establish its own government. At some point the two would theoretically meet to hold elections of national reconciliation and reunite into a single nation.

The United States had by this time become deeply involved in Vietnam's troubles. American aid to the French mounted each year, and by the fall of Dien Bien Phu it came to about 80 percent of French expenditures for the conflict. There were behind-the-scenes talks of American air strikes to bolster the French position at the base, but at the last minute Eisenhower decided not to go ahead. At the peace conference, the Americans, frightened of communist encroachment, did everything they could to hem in Ho's government.

The Americans Enter the Fray

Once the war was over, the United States effectively assumed responsibility for the mess. When Ngo Dinh Diem, the new president in the south, refused to go ahead with elections for fear of losing them, he had full American support. By early 1956 the U.S. had

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

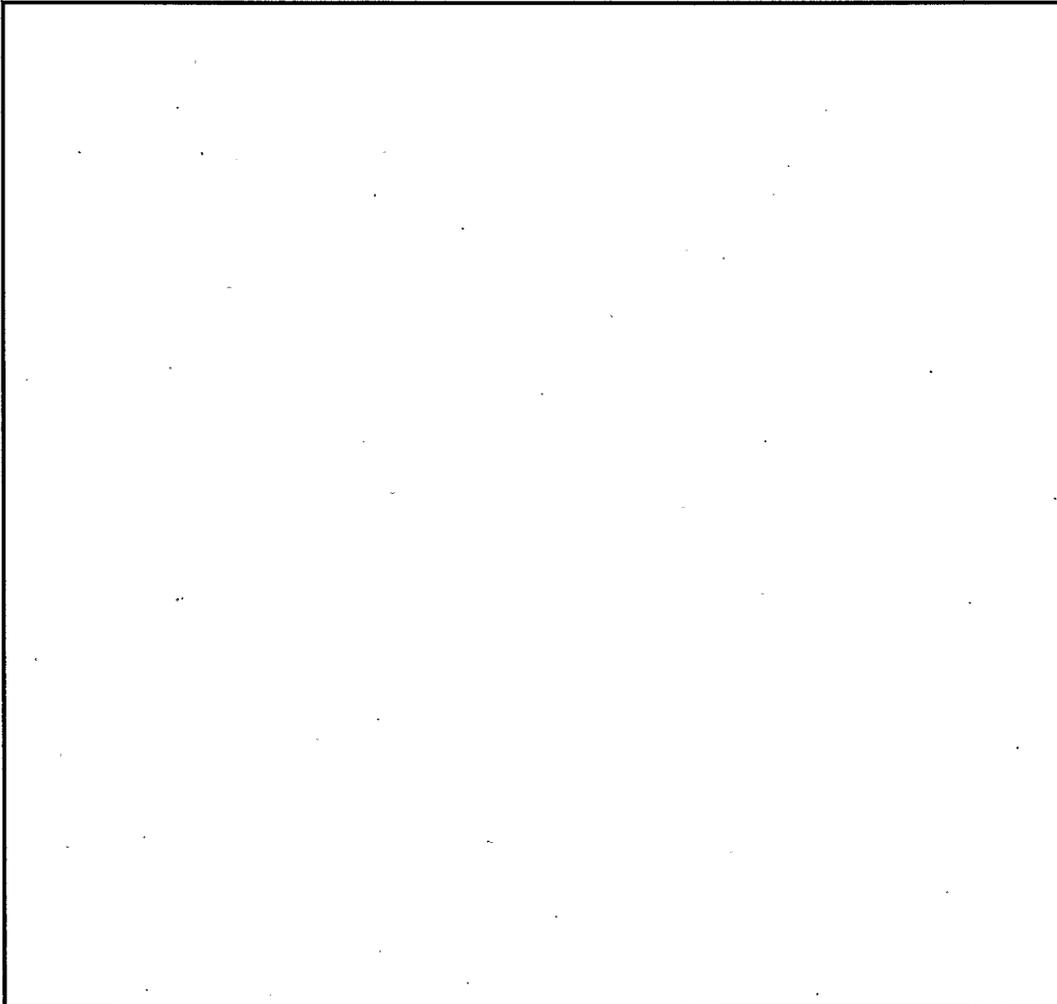
EO
1.4.(c)
EO
1.4.(d)

~~TOP SECRET UMBRA~~

assumed responsibility for arming and training Diem's army. According to historian George Herring,

The United States inherited from France an army of more than 250,000 men, poorly organized, trained, and equipped, lacking in national spirit, suffering from low morale, and deficient in officers and trained specialists...²

A military assistance group in Saigon steadily expanded in surreptitious ways beyond the Geneva-imposed limit of 342 people, until it reached almost 700.



~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

Laos and the Beginnings of Direct American Involvement

When Kennedy arrived in the White House, Laos, rather than Vietnam, seemed like the crisis to watch. The 1954 Geneva settlement had initiated a period of tenuous teetering between pro-Western and pro-communist sympathies, with a neutralist group holding the balance of power. Eisenhower had tried to keep a pro-American party in power through lavish subsidies, but in 1960 a series of coups pushed the government first toward the East, then the West. [redacted]

[redacted] The outgoing Eisenhower administration succeeded in convincing Kennedy that American interest demanded a favorable outcome.⁷

Wanting to appear firm, Kennedy had 500 Marines airlifted to the Thai side of the Mekong, which formed the border with Laos, while the carrier *Midway* moved into the Gulf of Siam.⁸

But the Bay of Pigs fiasco brought Kennedy up short. If American military power could not secure a favorable outcome 90 miles from its shores, what might happen in an obscure, landlocked Asian nation more than 12,000 miles from Washington? The Pentagon estimated that at least 300,000 troops would be needed to maintain the pro-Western government. So in late April Kennedy opted for a negotiated settlement and agreed to U.S. participation in yet another Geneva conference.⁹ A precarious coalition government emerged from the Geneva talks, but none of the three major factions was happy, and within a year the cease-fire was violated by the Pathet Lao. Once again Kennedy mounted a show of force, dispatching 5,000 Marines and infantrymen and two air squadrons to Thailand. Again a coalition government was formed, but its long-term chances for success were not bright.¹⁰

EO
1.4.(c)

[redacted]

The 1954 Geneva accords made it extraordinarily difficult to operate in South Vietnam. The Military Advisory Assistance Group (MAAG) staff was already bloated and obviously in violation of the agreements, [redacted] Thailand was the obvious choice. [redacted]

[redacted] But the Thai, with a long tradition of independence (alone in Southeast Asia, they had never been a European colony), were skittish, and negotiations dragged on inconclusively for years. Then the Laotian crisis served to pry open a crack in the door to Thailand, [redacted]

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

[Redacted]

OGA

[Redacted]

[Redacted]

In 1965 ASA began building a major intercept site at Udorn, a Thai town in the far north, near the Mekong River. Called Ramasun Station, it became the location for an FLR-9 antenna, and at the height of the Vietnam War, it housed over 1,000 ASA and AFSS cryptologists.¹⁴

EO
1.4.(c)
EO
1.4.(d)

Hanoi Decides to Intervene in the South

In 1954 Hanoi had decided to work on the infrastructure in the north and to put off attempted unification to a later date. But by 1959 the leadership decided that it must expand in the south or else its southern cadres would wither and die. In the spring of 1959, the leadership authorized resumption of armed struggle in the south, a decision that was ratified by a Party meeting in September 1960.

At approximately the same time, Hanoi created a new group, MR 559 (so-named because it was created in May 1959), within the General Directorate of Rear Services (GDRS), to control infiltration into the south. Beginning with only 500 people, it eventually expanded into a network of 40,000-50,000 military and civilian workers. It was organized into sixteen units called Binh Trams, battalion-size units in geographical areas, each controlling the infiltration network through its region. This evolved into the Ho Chi Minh Trail, which provided the wherewithal for revolution and invasion.¹⁵

[Redacted]

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~



Ramasun Station, 1968. Consisting of tents
and vans, there were few permanent buildings and as yet no FLR-9.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~



NSA Expands Cryptologic Involvement

The nascent Kennedy administration adopted an initially cautious line toward Vietnam. The U.S. government had troops in the South, but they were still called "advisors," and the numbers were limited. At the time, the only SIGINT involvement was the [redacted] relationship with the South Vietnamese SIGINT service. There were no American cryptologists in the country, [redacted]

OGA

But as the number of American "advisors" expanded, so did the cryptologic presence. In early 1961 the chief of the MAAG in Saigon advised Maxwell Taylor (chairman of the JCS) during one of his trips through Saigon that the ARVN (Army of the Republic of Vietnam) had no SIGINT capability. This touched off a debate back in the United States about the advisability of expanding in Vietnam.¹⁸

At NSA, Admiral Frost directed a complete evaluation of SIGINT in Southeast Asia, and from that came a new plan to expand the cryptologic presence. Essentially, two plans were written. The first was called SABERTOOTH, and it involved noncodeword assistance to the SIGINT services of [redacted] Vietnam. [redacted]

[redacted] The second, called WHITEBIRCH, would involve the establishment of a mobile ASA intercept unit with Morse, voice, and HFDF positions. NSA was skeptical of the voice positions because ASA had few qualified Vietnamese linguists, but the Agency approved the plan despite the reservations.¹⁹

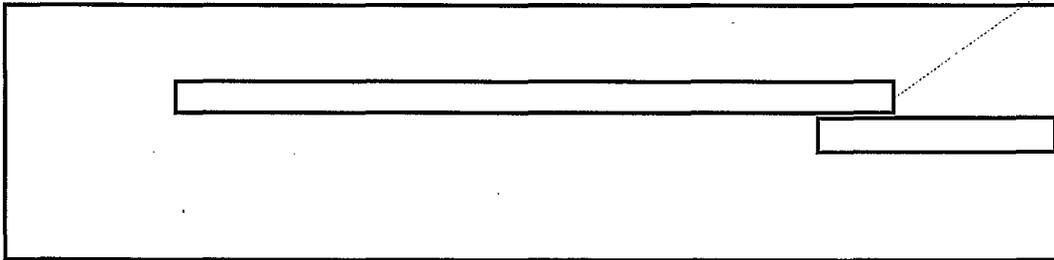
The new NSA plan also envisioned a beefed-up collection posture. In addition to expanding the cryptologic presence in [redacted] ASA would introduce people directly into Vietnam for the first time. The burden of field processing would fall most heavily on the sites in the Philippines. It also called for an "Evaluation Center" in Saigon to integrate SIGINT with other intelligence for the chief of the MAAG. When General Paul Harkins showed up in February 1962 to become the first COMUSMACV (Commander, U.S. Military Assistance Command Vietnam), this became the Current Intelligence and Planning Branch, J2, and was housed in the MACV building, originally located in downtown Saigon.²⁰

Before Harkins arrived, NSA interests had been served by a TDY arrangement. In April 1962, however, the first permanent NSA representative, [redacted] was on board. His arrival was accompanied by vigorous protests by the Army. Secretary of the Army Zuckert sent a scorching letter to Assistant Secretary of Defense John Rubel protesting the assignment. "This action," he said, "would result in removing these SIGINT resources from the control of military commanders in the area. . . . Generally, responsiveness to intelligence requirements of CINCPAC and COMUSMACV would be dependent

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

upon the decisions of a national level agency, far removed from their areas of responsibility. . . ." He proposed that all SIGINT assets in the area be placed under the operational control of MACV. It was the opening shot of a war within a war, the struggle to control SIGINT assets in Southeast Asia.²¹



EO
1.4.(d)

EO
1.4.(c)

The second step was to approve an Army COMINT unit in Vietnam in support of counterinsurgency planning. The National Security Council then required that the results obtained by that unit be shared with the South Vietnamese to the extent needed to launch rapid attacks on the Viet Cong.²³

The Buildup of Cryptologic Assets

The first ASA troops began arriving in May 1961. They were under cover, wore civilian clothes, and were prohibited from carrying military identification cards. They found spaces in an RVNAF hangar on Tan Son Nhut Air Base and lived downtown at the Majestic Hotel. Working areas were set up inside the hangar by piling boxes of C-rations seven feet high to make rooms. A few of the officers had desks, but the analysts worked at tables constructed of plywood and scrap lumber. Since there were few chairs, the tables were hoisted four feet off the ground so analysts could stand. Needless to say, there was no air conditioning, and the troops sweltered in the tropical heat.²⁴

The unit was called the 3rd Radio Research Unit (3rd RRU). Operationally it was called USM-9J, subordinate to USM-9 in the Philippines. The original processing mission consisted mainly of traffic collected by the South Vietnamese SIGINT service, which was at the time composed of only about 100 officers and men. They had two collection sites, at Saigon and Da Nang, and soon established a third site at Can Tho in the Delta. They were operating with equipment left over by the French or provided by CIA. Among the assets that they had inherited from the French were three DF stations and all the equipment, which happened to be of World War II vintage. In 1961 CIA gave them six AN/PRD-1 mobile HFDF sets. When 3rd RRU began processing, the main input was the DF bearings from the South Vietnamese.²⁵

Meanwhile, ASA advisors conducted classes in DF, traffic analysis, and intercept for the Vietnamese under the SABERTOOTH program. They were supposed to hold the classification to noncodeword, but the line between SIGINT and non-SIGINT was very shaky, and it was crossed regularly.²⁶

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

The focus of the operation, though, was DF. ASA set up an HFDF net, called WHITEBIRCH. Because of availability, the AN/TRD-4 was the equipment of choice. Three sets were mounted in vans and positioned at Nha Trang, Can Tho, and Bien Hoa, with control in Saigon. The Third RRU was also receiving bearings from an ASA site in [redacted] sites in Vietnam, and the [redacted] ARVN operated its own three stations at Pleiku, Da Nang, and Ban Me Thuot, and the results were supposed to provide direct support to the South Vietnamese Army.²⁷

The WHITEBIRCH net was a failure. It had the lowest fix rate in the Pacific, and it was constantly short of manpower. This dismal state of affairs was due primarily to the circumstances surrounding its mission. In the dense and humid tropical jungles, the ground wave faded to imperceptibility in only a few miles. The sky wave came down at such a steep angle that the existing DF equipment (the ancient TRD-4s) could not cope with it. Moreover, the skip zone between ground and sky waves was almost ninety miles, meaning that most of the ASA sites were located in a skip zone. When inadequate maintenance and unreliable communications were added to the woes of WHITEBIRCH, it was clear that the system would not do the job.²⁸

Frustrated, ASA turned to the mobile PRD-1s now owned by the ARVN. These were effective, but only if the DF set was within five to fifteen miles of its target. To be that close to a VC transmitter was often a dangerous proposition, but they tried it anyway. On 31 December 1961, they found out how dangerous it was. An ARVN DF operation returning to Saigon from the DF site at Ha Tien (on the southern coast) was ambushed by VC. Nine ARVN soldiers were killed, along with Sp4 James T. Davis, the ASA advisor. Davis was later called by President Johnson the first American soldier to die in Vietnam. The 3rd RRU compound was named Davis Station, thus adding to the immortality of the unfortunate Davis.²⁹ ASA had come to a full stop on the DF problem, and until they solved it, the amount of direct SIGINT assistance that they could provide to the ARVN forces was limited.

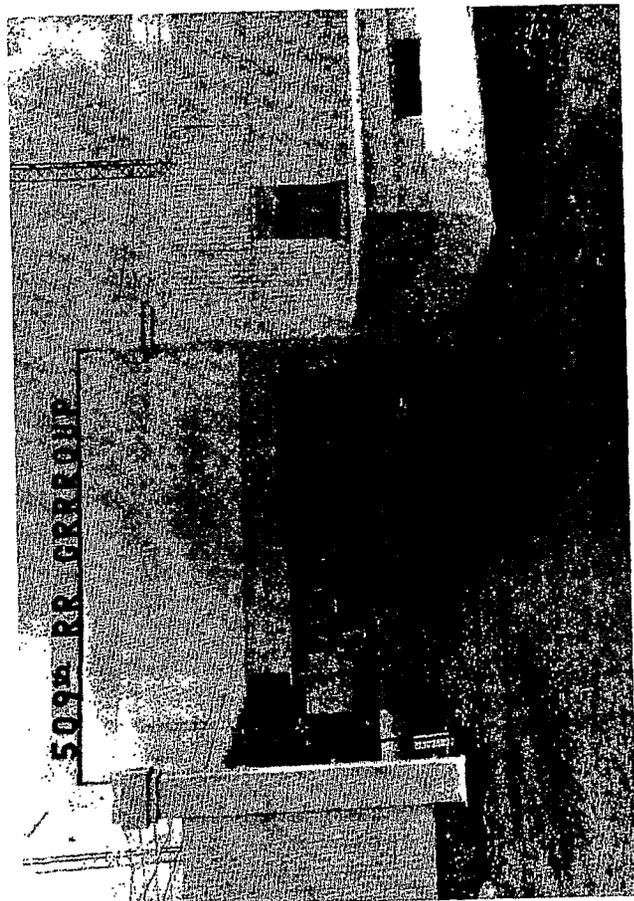
The next group of SIGINTers to arrive in Vietnam were the Marines, who sent a training detachment from Fleet Marine Force in Hawaii. They originally set up next to the ARVN SIGINT operation in Pleiku, and as such were completely cut off from direct contact with other U.S. SIGINT units. This proved unsatisfactory, even for training.³⁰

In 1962, the cryptologic community decided to move its main base of operation to Phu Bai. A large ASA site was constructed, and it became the center of SIGINT operations for Vietnam. The Marines decided to move in with ASA, but the Air Force Security Service was more standoffish. Da Nang was the center of air operations, and AFSS located its principal site there to support the Seventh Air Force.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

~~TOP SECRET UMBRA~~



Entrance to the WHITEBIRCH compound

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

EO
1.4.(c)
EO
1.4.(d)

~~TOP SECRET UMBRA~~

At the time, the Vietnamese problem was entirely manual Morse. Rumors of VC voice swirled about, and in February 1963 the [redacted] intercepted some voice traffic emanating from a low-level [redacted] VHF net in Vietnam. ASA tried but, right up until the Tonkin Gulf incident of 1964, had not intercepted any.³¹

As cryptologic resources expanded, the question of operational control occupied increasing attention both in Saigon and in Washington. The Army continued to insist that MACV should control all cryptologic resources in theater. During Admiral Frost's tenure as DIRNSA, a compromise of sorts was worked out. When the first ASA resources arrived in country, Admiral Frost delegated operational control to ASA and recognized the further delegation of control to the commander of the MAAG (later MACV). This gave MACV a handhold but kept the strings ultimately tied to DIRNSA.³²

In 1963 General Wheeler (chairman of the Joint Chiefs) negotiated directly with General Blake. They arrived at a new compromise whereby NSA would continue to control major, fixed sites like Phu Bai, while operational control of ASA's direct support units (DSUs) would be delegated to ASA, and thence to the supported Army commander. This was actually more restrictive than the original decision, and it was made more onerous by the edict that when MACV wanted additional units under its control it would have to submit the request through the lengthy and cumbersome chain of command which ran through Hawaii.³³

DF Goes Airborne

The ambush of Davis and the ARVN DF team in December 1961 brought about a scramble for a better system. The safest thing would be to put the mobile DF sets on airplanes. This technique had been tried as early as World War I, and the French had employed ARDF aircraft in their struggle with the Vietminh, with good results. But the technical barriers were serious. The problem was in the interference of ground and sky waves. Aircraft were up high enough to receive both, and the accuracy of the bearing was degraded because, while the on-board system tried to read the direction of the signal from the ground wave, the aircraft itself acted as a huge antenna for the sky wave, which arrived from a different direction.³⁴

An ASA engineer, Herbert S. Hovey Jr., went to work on the problem and was joined by a team from the Army's laboratory at Ft. Monmouth, New Jersey. Knowing of the French ARDF effort but not knowing what technique they used, Hovey experimented with different techniques and various aircraft. He tried rotary-wing options, but found that the rotor blades created too much turbulence. Hovey finally settled on the U-6A, a single-engine fixed-wing aircraft widely available in Vietnam. Instead of using the almost universal (in DF arrangements) loop antenna, he used antennas fixed on the leading

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

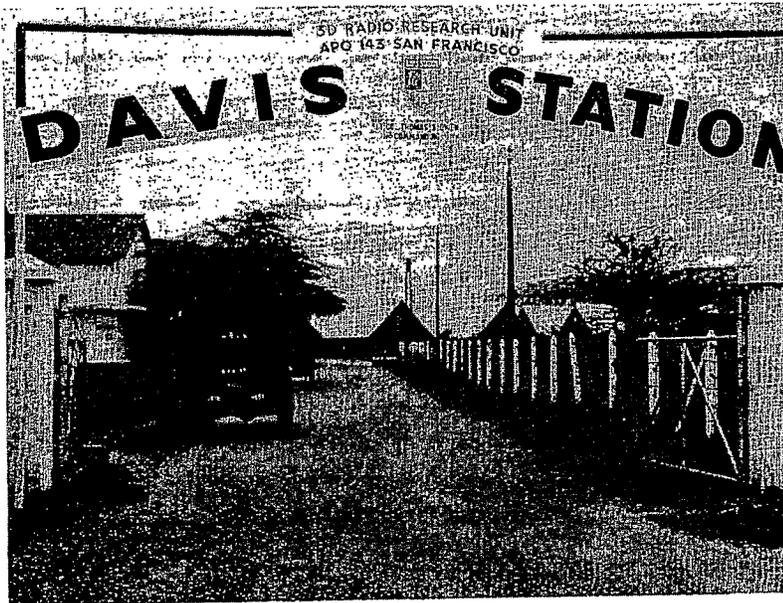


Herbert S. Hovey (second from right) and an early U-6 ARDF-configured aircraft



A 3rd RRU AN/PRD-1 short-range DF set

**HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS**



Entrance to Davis Station, Saigon

edge of each wing, about forty feet apart, with the receiver in the center. This turned the aircraft itself into a large HF antenna. The aircraft had to be pointed directly at the signal, thus creating an aural null on the pilot's gyrocompass. To create the aural null, the pilot fishtailed the aircraft back and forth, going into and out of the maximum signal strength. He would then fly at the signal from three different angles, the three lines of bearing thus constituting a fix. This peculiar flying technique solved the problem.⁸⁵

ASA sent the first DF-equipped U-6 to Vietnam in March 1962. It was an instant success. In May 1962 the ARVN successfully struck a VC unit based on ARDF fixes.⁸⁶ In December of that year, when an ASA ARDF fix located a VC radio transmitter in the northern Delta, American advisors under General Harkins used the intelligence to plan an assault on what they thought would be a communist unit of no more than 120 men. The ARVN 7th Infantry Division was employed in the action and swooped into the area by helicopter early on the morning of 3 January 1963. Instead, they ran into a unit of more than three times that many, which stood and fought. The resulting battle of Ap Bac was a turning point in the war for both the VC (which found that it could confront and defeat a main ARVN force) and for the Americans, who concluded that they would have to become more directly involved. The battle was initiated based on an ARDF fix.⁸⁷

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
NOT RELEASABLE TO FOREIGN NATIONALS

The value of ARDF was quickly recognized. It became the most important advance in the employment of SIGINT for tactical applications in the war and the principal targetting tool for MACV. NSA boxed up this valuable technique within its own sphere of control by declaring that the ARDF aircraft were simply outstations of the WHITEBIRCH net, which was already a CCP resource. ARDF was to become the battleground on which the JCS and NSA fought for ultimate control of SIGINT in Southeast Asia. It was easily the most divisive issue in the entire intelligence community.³⁸

INTO THE MIRE

The troops will march in; the bands will play; the crowds will cheer; . . . and in four days everyone will have forgotten. Then we will be told we have to send in more troops. It's like taking a drink. The effect wears off, and you have to take another.

John F. Kennedy, 1961

While all this was going on, the Kennedy administration was assessing its chances in Southeast Asia. The first thing Kennedy did was to gather information, using the time-honored technique of a fact-finding team. In the spring of 1961 he sent Walt Rostow and his personal military advisor, Maxwell Taylor, to Saigon. They came back very pessimistic. The Diem regime was crumbling and would require a large infusion of American troops and material. They recommended that some 8,000 American "advisors" be sent to Vietnam under the cloak of providing "flood relief." Averell Harriman, the long-time advisor to Democratic presidents, and Chester Bowles, a senior diplomat, both doubted that the corrupt and repressive Diem regime could be adequately shored up, and he urged Kennedy to call a new Geneva conference and negotiate a settlement. But Kennedy had just emerged from the disgraceful Bay of Pigs incident and was in no mood to be perceived by either the Soviets or the American public as a "negotiator."³⁹

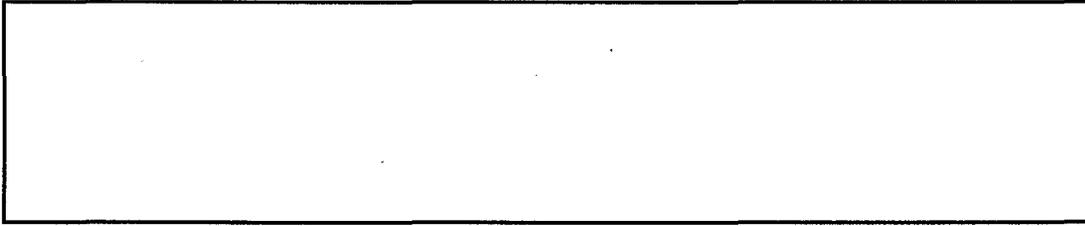
But he also rejected the Taylor-Rostow proposal as transparent. Instead, he compromised, increasing the size of the aid mission but failing to increase it enough to make a big difference. All the while he was disturbed by the narrowness and inflexibility of the Diem regime. To have a happy ending in Vietnam, it would be necessary to obtain a more reasonable and competent government.⁴⁰

EO
1.4.(c)

[redacted] the Crisis in Third Party Relations

~~HANDLE VIA TALENT KEYHOLE.COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~



USIB decided to back away from SIGINT collaboration with the ARVN, and USM-626 (the former USM-9J in Saigon) was instructed to stop providing certain technical data. At the same time, NSA made plans to move most SIGINT operations to Phu Bai and to make it a U.S.-only site.⁴³

The USIB decision, prompted by NSA, created an uproar in the field. Harkins protested and was backed up by Huntington Sheldon, the CIA official who watched over SIGINT for the intelligence community. Moreover, General Khanh, the RVNAF chief of staff, refused to authorize a solely American operation at Phu Bai, thus holding the super-SIGINT site at Phu Bai hostage to a continued close SIGINT relationship. In the end, Khanh, Harkins, and Sheldon won. Admiral Frost issued a revised and liberalized interpretation of the USIB edict, and the Americans exited the controversy with as much grace as possible.⁴⁴

The Diem Coup

Riven by internal dissent, the Diem regime was tottering by 1963. The regime was controlled by Diem and his corrupt family, and no reform appeared possible. The last straw was a Buddhist revolt against the strongly Catholic Diem regime. The uprising began in May 1963 and became marked by self-immolations by Buddhist monks. When confronted by such opposition, no regime could last.⁴⁵

Even Diem knew it and began exploring a negotiated settlement with the north. To the Kennedy administration, this looked like a way out. The JCS prepared a plan for a phased military withdrawal beginning later in 1963. The first 1,000 troops were actually withdrawn before the plan came to a halt.⁴⁶

But negotiations were never begun. In early November the generals in Saigon rose against Diem, with the knowledge, if not the active connivance, of the American embassy. Diem and his brother Nhu were captured and, in a twist which was not in the original script, executed, apparently on the orders of General "Big" Minh. Minh took over the government, beginning a series of revolving door regimes, each weaker and less popular than the previous one. The JCS withdrawal plans were shelved. Later in the month Kennedy was dead, and a new president had to look again at the morass in Vietnam.⁴⁷

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
~~NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

The Cryptologic Expansion of 1964

With withdrawal plans on hold, the new DIRNSA, General Blake, directed a relook at the American cryptologic posture in Southeast Asia. Blake decided to accept Phu Bai as the super-site for Vietnam, with major resource additions there and at other sites in the Philippines and Vietnam. Collection from Thailand would also increase, and Udorn was selected as the Thailand super-site. In early summer, with Maxwell Taylor (the new ambassador in Saigon) lining up behind it, Blake took the plan to Fubini. They agreed that most resources for the new effort would be transferred from existing SIGINT problems [redacted] except for some assets already targetted on Southeast Asia that would be moved to the mainland [redacted]

SIGINT resources would also be needed for a major new operation, under the general rubric of OPLAN (Operation Plan) 34A. This was a JCS plan to support South Vietnamese infiltration and unconventional warfare operations. The SIGINT support for OPLAN 34A, called KIT KAT, would come mainly from vans flown in [redacted] and the Philippines and located at Phu Bai. A new SIGINT Support Group in Saigon would provide MACV with direct support to OPLAN 34A.⁴⁹

Communications still represented a sore point. SIGINT exited Vietnam through an Army communications center in Saigon that was known for its cramped quarters and ancient equipment. Worse, it was an HF shot to the Philippines, and in the heavy tropical atmosphere HF was even less reliable than usual. Reliability ranged from 30-75 percent, an unacceptable figure.⁵⁰

EO
1.4.(c)
EO
1.4.(d)

DCA came up with a solution. A submarine cable was installed between Nha Trang and the Philippines, and by the mid-60s all cryptologic communications were being routed through the cable (dubbed "Wetwash"). Circuit reliability leaped upward.⁵¹

This development had a major impact on SIGINT operations in Vietnam. The submarine cable could take higher circuit speeds, and it was possible to ship much more SIGINT back and forth. This led to the feasibility of sending encrypted traffic back to a central processing center - at first in the Pacific (Clark AB and [redacted] and later all the way back to NSA. It changed the way SIGINT was done in the theater, but it also increased the suspicion of tactical commanders who preferred to rely on their own people from ASA rather than on some unseen computer far away.

AFSS Comes to Vietnam

The Air Force Security Service did not actually start its Southeast Asian operations in Vietnam. Like the Army, it arrived in Thailand in early 1961 to provide SIGINT support for the Laotian crisis. [redacted]

EO 1.4.(c)

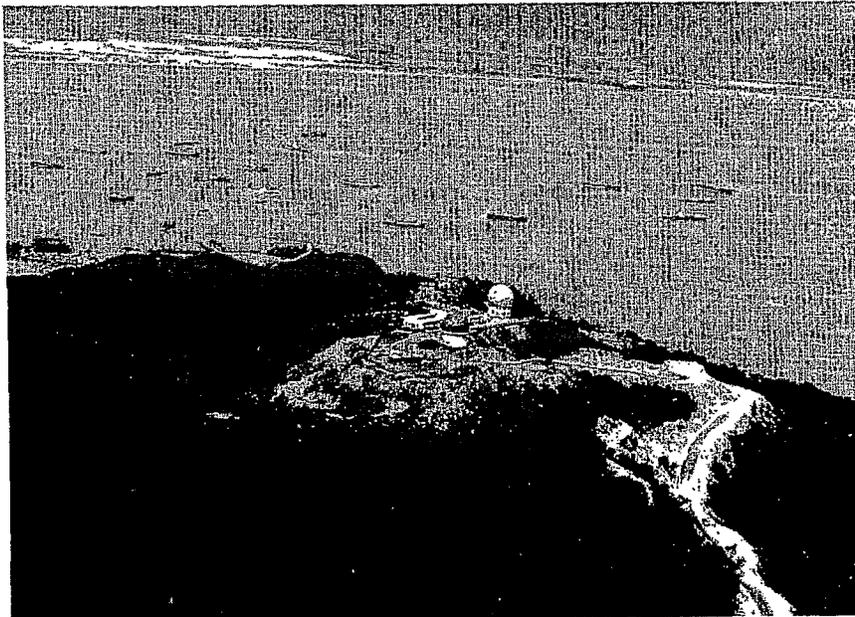
~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

[redacted] The processing was done on the ground in spaces occupied by the tiny AFSS intercept unit that had been there since the summer of 1960. Spaces were so cramped that at one point a Russian linguist wound up transcribing his intercepted tapes in the shower room. But like the Laotian crisis itself, the SIGINT support operation lost steam, and by spring NSA had cancelled the deployment.⁵²

Vietnam was a ground war, and the U.S. Air Force did not get involved in a big way until 1964. The Air Force did, however, set up a tactical air control system beginning in January 1962. The unit was located atop Monkey Mountain near Da Nang, which would give American radars the longest possible reach.

Along with the Air Force contingent of 350 people came an AFSS CCU (COMINT Contingency Unit), consisting of two H-1 vans airlifted from Clark Air Base and a mobile AFSSO, also in a van. A smaller intercept and SSO effort was located at Tan Son Nhut, but the hearability was bad, and the intercept unit was soon relocated to Da Nang. The next year AFSS reorganized its Southeast Asian assets, designating Tan Son Nhut as the headquarters, with subordinates at Da Nang [redacted]



Monkey Mountain

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

Da Nang remained the only AFSS unit of any size in the war zone. By 1964 USAFSS had two Da Nang sites, one atop Monkey Mountain and one at the air base below. Security Service successfully resisted an NSA master plan to move the unit to Phu Bai, arguing that hearability was better at Da Nang and that they should be closer to the supported commander.⁵⁴

In March of the same year, the ACRP returned to Southeast Asia. It arrived on the heels of reports that PRC-North Vietnamese military relations were becoming closer.

[redacted] NSA initiated ACRP collection to follow this activity, and a new program, called QUEEN BEE CHARLIE, [redacted] began flying missions out of [redacted]. In July a follow-on operation, QUEEN BEE DELTA, consisting of two RC-130s, began flying missions over Thailand every other day. Initially processing was done at [redacted] but plans were being drawn up to transfer the entire effort to Da Nang. That same year, the Navy began flying EC-121 and EA3B collectors in the Gulf of Tonkin.⁵⁵

Air Force ARDF trailed ASA into Southeast Asia. In 1962 AFSS tried out HFDF programs using two different platforms, a B-26 and a C-47. The ARDF effort had the strong personal support of General LeMay, then the Air Force chief of staff. From the beginning, however, the program was engulfed in controversy.

EO
1.4.(c)

The first problem was control. The Air Force wanted the ARDF program to be purely tactical, unattached to NSA, operating in a noncodeword environment. NSA, however, insisted that it come under the direct control of USM-626, as outstations of the WHITEBIRCH net. The program was thus placed under double ignominy - within the cryptologic system and under the thumb of the Army.

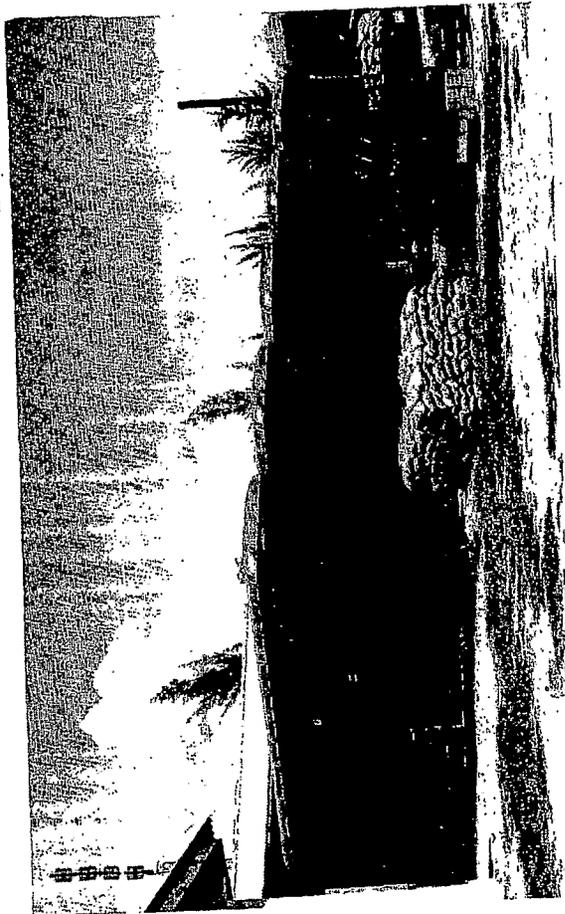
Moreover, the Air Force insistence that it be noncodeword resulted in non-SI-indoctrinated people being assigned to it. USM-626 was at first prohibited from passing technical data to support the AFSS effort. This was soon straightened out, and all the Air Force people were SI cleared, but it was a bad start for a program.

Finally, the system did not work. It used larger aircraft but did not do well against low-power signals. The Air Force Security Service left the theater to do more research.⁵⁶

The next year AFSS was back, this time with a second ARDF system produced under a Navy contract and installed on an Air Force plane under Project HAWKEYE. It was more sophisticated than the Army system, using computers and larger, more capable aircraft. But it, too, did not work, and at the end of the year ASA continued to have the only effective ARDF system in Southeast Asia.⁵⁷

The small AFSS effort in Vietnam betokened the lack of an air war. They were not engaged in war - they were just waiting in case an air war happened. They hadn't long to wait.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~



USA-32 operations vans, 1964.
This complex was located on the plains at the foot of Monkey Mountain.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

THE CRISIS IN THE GULF

Well, I am the guy who rose from the ashes, and twenty years later telling you I saw it, and there were no boats.

Adm. James B. Stockdale, Navy pilot, concerning the 4 August attack

In the many years of conflict in Vietnam, no single incident stands out as more controversial than the 4 August 1964 incident in the Gulf of Tonkin. In it, two American destroyers patrolling in international waters were supposedly shot at by North Vietnamese gunboats. In retaliation, an angry president launched the first air raids on the North, and a few days later Congress passed the Tonkin Gulf Resolution, giving Lyndon Johnson a free hand to deal with North Vietnam in whatever manner he felt best suited the situation. For America, it was the beginning of an apparently irrevocable descent into the maelstrom.

The Desoto Patrols

EO
1.4.(c)

The attack on the destroyers originated with the Desoto patrols. These were begun in 1962 as patrolling operations along the Chinese coast. There were three objectives: intelligence collection, realistic training, and assertion of freedom of the seas. Naval Security Group detachments on board pursued the collection of ELINT and naval COMINT. However, to naval authorities the mission of freedom of the seas clearly stood first, and training second; intelligence was the third priority. By December, the patrols had been extended to the coasts of Korea and North Vietnam.⁵⁸ The rationale was to support special operations under OPLAN 34A.

OPLAN 34A stemmed from CIA covert operations which had been going on since the early 1960s under various names. Most of these involved the nighttime coastal insertion of ARVN commando forces, whose mission was sabotage. By early 1964 the Army had taken over most of the operations, under OPLAN 34A. The Desoto patrols were extended to North Vietnam primarily to provide SIGINT support to the commando raids.⁵⁹ In addition to NSG afloat detachments on board Desoto craft, the Army was tasked with SIGINT support from positions at Phu Bai.⁶⁰

The operations got off to a very bumpy start in February 1964, but they eventually smoothed out. Although there was considerable behind-the-curtains controversy about their effectiveness, the raids were having at least harassment value by July 1964. The tiny North Vietnamese navy was beginning to pay them close attention.⁶¹

North Vietnam could mount only a modest defensive threat. Their first-line combatants were twenty-four *Swatow* motor gunboats acquired from the Chinese over a

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

period of years. More threatening, however, were twelve Soviet-built motor torpedo boats delivered to Haiphong in late 1961, capable of fifty-two-knot speeds. These, in addition to a few minesweepers, subchaser and district patrol craft, represented the North Vietnamese navy.⁶²

The 2 August *Maddox* Patrol

The increasing harassment value of OPLAN 34A was certain to make the North Vietnamese more belligerent. On 1 August NSA went on record as warning the Navy that their own Desoto patrols might be in danger of attack.⁶³ A day earlier, the destroyer *Maddox* had begun a patrol in the Gulf of Tonkin.⁶⁴

On 2 August the North Vietnamese decided to attack the *Maddox*. During the morning hours, two SIGINT units, a Navy intercept unit in the Philippines (USN-27) and a Marine detachment collocated with ASA at Phu Bai (USN-414T), reported that North Vietnam's naval headquarters had directed preparations for attack. This series of reports was flashed to Captain Herrick, the task force commander on board the *Maddox*, as the morning wore on. The information was sufficiently unsettling that Herrick questioned the day's patrol, considering it to be an "unacceptable risk."⁶⁵

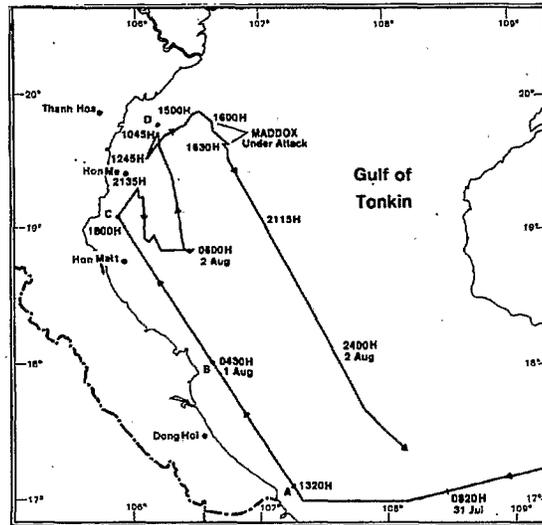
Just after noon, USN-27 intercepted a message from one of the coastal control authority at Port Wallut to one of the *Swatows*: "Use high speed to go together with the enemy following to launch torpedoes." USN-27 issued a Critic on this inflammatory declaration, and Herrick had it in hand almost an hour before the attack was launched. It was preceded and followed by other North Vietnamese messages leaving no doubt that they were headed for a major engagement. It could, of course, have referred to the 34A operations that had been going on earlier, but Herrick knew nothing of those operations. He had to assume that the North Vietnamese meant him - and he was right.⁶⁶

At about 1600 local, three PT boats launched a high-speed attack on the *Maddox*. Herrick replied with surface fire, and within half an hour the torpedo boats withdrew. About that time air cover showed up, commanded by Admiral (then Commander) Stockdale from the carrier *Ticonderoga*. Stockdale's crew shot up the fleeing torpedo boats, sinking one and putting another out of action.⁶⁷

Meanwhile, the two SIGINT stations continued to monitor North Vietnamese communications, keeping Herrick informed of what was happening on the other side. The patrol made for the mouth of the Gulf and withdrew. Back at Fort Meade, NSA declared a SIGINT Readiness Bravo.⁶⁸

There was no doubt of the attack. Not only was it launched in broad daylight, but it was preceded and followed by communications (intercepted by the Navy and Marines)

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~



Track of the Maddox, 31 July-2 August 1964



**Captain John J. Herrick, commander of Destroyer Div 192,
with Captain Herbert L. Ogier, commander of the Maddox**

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

making the entire attack procedure and objectives crystal clear. SIGINT gave impeccable warning, and Herrick came to rely on it almost implicitly.

The Johnson administration chose not to reply militarily to the attack. But at the White House the mood was grim, and there was a feeling that they could not let another such attack pass unnoticed.

The 4 August Patrol

After assessing the 2 August attack, the administration decided to keep the *Maddox* in the Gulf at least through the 7th to assert freedom of the seas and to add a second destroyer, the *Turner Joy*, which had been part of the *Ticonderoga* task force. With two vessels, Herrick headed back to the Gulf on the 3rd.⁶⁹

After spending the day near the coast of North Vietnam, Herrick withdrew both vessels to the central Gulf of Tonkin for the night. Through intercepts of Vietnamese radar transmissions, he knew that he was being silently shadowed by at least one North Vietnamese PT boat. Moreover, this tended to be confirmed by reporting from San Miguel that one of the *Swatows* involved in the previous day's activity (T-142) had been ordered by a naval authority to "shadow closely." During the night a 34A task force shelled a radar station and a security post, fleeing to Da Nang at daylight.⁷⁰

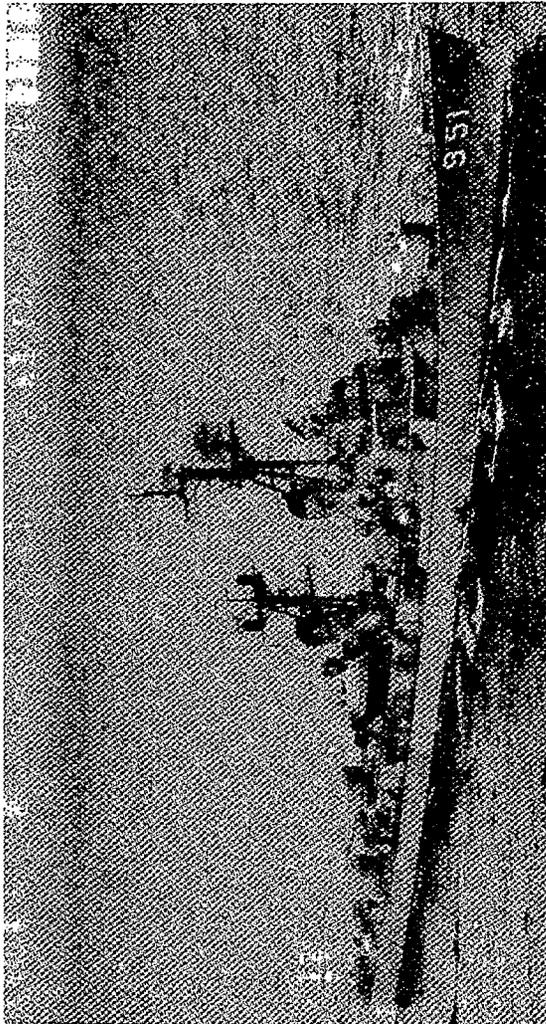
Herrick believed his vessels were in imminent danger, but the next morning he was nonetheless ordered back to the area of the previous two days' patrol. The *Maddox* and *Turner Joy* loitered in the general area where the 2 August attack had taken place. At about 1700 they turned back toward the central Gulf to spend the night.⁷¹

At about the same time that Herrick was ordering his two-vessel task force back to the central Gulf, the Marine detachment at Phu Bai issued a Critic on an intercepted message from Haiphong ordering three of the boats involved in the 2 August attack to make ready for military operations that night. To Herrick this was very ominous, since he had been shadowed by a North Vietnamese vessel or vessels the night before. Based on this and follow-up messages from Phu Bai, he sent a message stating that he believed that the Vietnamese were preparing to attack.⁷²

At 2041, the *Maddox* appeared to pick up radar contacts on North Vietnamese PT boats. For the next four hours, the *Maddox* and *Turner Joy* zigzagged through the central Gulf, apparently pursued and attacked by unknown and unseen vessels. The crews of the two vessels claimed to have had radar and sonar contacts, torpedo wakes, gun flashes, and searchlights, and fired repeatedly at whatever seemed to be attacking them. When air cover showed up from the *Ticonderoga* task force (led by Stockdale), the pilots could not see any boats, but it was an unusually murky night with very low overcast and poor visibility.⁷³

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~



The American destroyer *Turner Joy*

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

TOP SECRET UMBRA

After the engagement, San Miguel reported that T-142 claimed to have shot down two "enemy planes" and that "We sacrificed two comrades but are brave and recognize our obligations."⁷⁴

Back in Washington, the events in the Gulf grabbed everyone's attention. The initial indication that something was afoot was the Critic and follow-up from Phu Bai. These were called over to DIA from NSA just after 8 A.M. By 0900 copies of the reports were distributed to McNamara and Wheeler, and McNamara called the president at 0912. This kicked off a long train of actions that spanned the entire day.⁷⁵

Thus forewarned, the president had no trouble believing that an attack had actually taken place once he received the first news at 1100. McNamara convened a meeting to discuss possible retaliation. At a lunch with Rusk, McNamara, Vance, McGeorge Bundy, and John McCone, Johnson authorized an aerial strike on North Vietnamese targets. But soon thereafter, the White House was looking at a message from Herrick casting doubts about the attack. Adverse weather conditions and "overeager sonarmen" may have accounted for many of the alleged contacts. Based on this, Admiral Sharp in Hawaii (CINCPAC) phoned McNamara to recommend that the air strike be delayed until they received more definitive information. At that time a retaliatory air strike, scheduled for 0700 Vietnam time, was only three hours away.⁷⁶

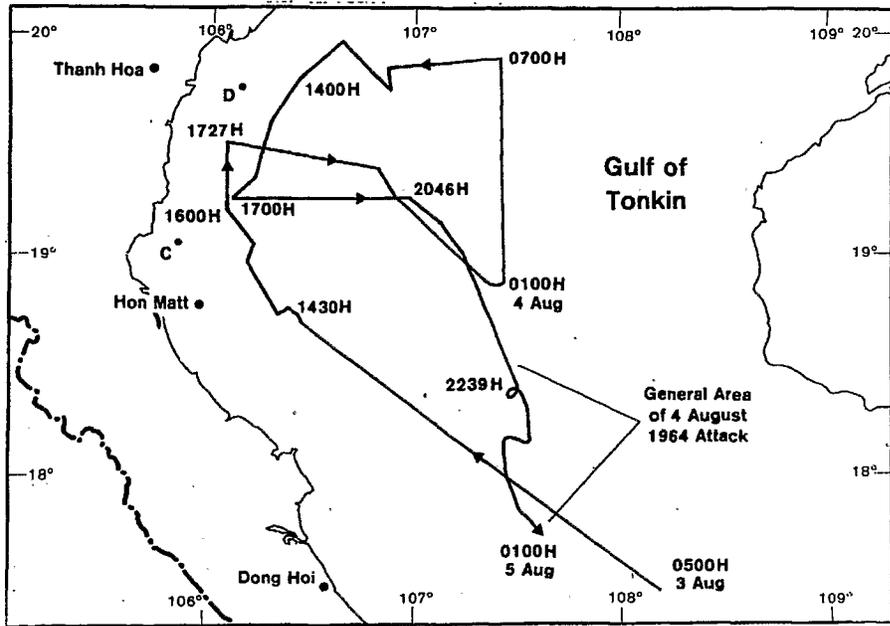
Soon after, Sharp received the new information about the supposed shooting down of enemy aircraft and the sacrifice of two vessels. Sharp, Admiral Moorer (CNO), and Johnson all became convinced that an attack had taken place, and Johnson authorized Pierce Arrow (the bombing attack on North Vietnam) to proceed. It was delayed almost three hours, though, and came very close to preceding Johnson's televised address to the nation announcing the Gulf incident and the American response.⁷⁷

The sequence of events at the White House was driven largely by SIGINT. The reliance on SIGINT even went to the extent of overruling the commander on the scene. It was obvious to the president and his advisors that there really had been an attack - they had the North Vietnamese messages to prove it.

But to the analysts working the problem at NSA, things did not appear to be so obvious. The preplanning messages could, after all, have been referring to reactions to the Desoto patrols. Or the entire series of messages might have been old traffic referring to the attack on the 2nd. NSA sent out frantic requests to the units involved (Phu Bai and San Miguel) to forward their raw traffic. NSA also requested verification from SIGINT intercept operators on the *Maddox* and *Turner Joy*. The ships' operators had nothing - their intercept capability (all VHF voice) was completely blocked by the ships' radios during the period of the incident. As for the mainland intercept, it took hours to obtain, and the first NSA follow-up was issued without the benefit of the messages intercepted in the field.⁷⁸

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
NOT RELEASABLE TO FOREIGN NATIONALS

TOP SECRET UMBRA



Track of the Maddox and Turner Joy, 4-5 Aug 1964

HANDLE VIA FALLING KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
 NOT RELEASABLE TO FOREIGN NATIONALS

821

TOP SECRET UMBRA

TOP SECRET UMBRA

The first NSA report indicated that the vessels supposedly planning for operations on the night of the 4th apparently did not participate in the events regarding the *Maddox* and *Turner Joy*. A subsequent wrap-up on 6 August homed in on the 2 August attack (easy to substantiate), conveniently avoiding the direct issue regarding the 4 August incident.⁷⁹

The NSA analyst who looked at the traffic believed that the whole thing was a mistake. The messages almost certainly referred to other activity – the 2 August attack and the Desoto patrols. The White House had started a war on the basis of unconfirmed (and later-to-be-determined probably invalid) information.⁸⁰

There had been no dissembling in the White House. The messages looked valid, and Lyndon Johnson had come to be a believer in SIGINT. When he ordered the attacks, he was sure he was right. He wasn't, and it was not until NSA analysts laboriously pieced together the SIGINT information over a period of days that it became obvious how big a mistake had been made. The Johnson administration defended its actions in public for years, but the reality eventually sank in. Even the president was heard to say in later years, "Hell, those dumb stupid sailors were just shooting at flying fish."⁸¹

Some months previously, William Bundy (deputy secretary of defense) concluded that Johnson would need some sort of congressional endorsement for the expanding American role in Vietnam. He felt that a declaration of war was too blunt an instrument, and its chances in Congress were slim. What was needed, he believed, was a joint resolution, similar to that which Congress had given to Eisenhower during the Quemoy and Matsuo crisis in 1955. Bundy drafted a resolution that gave the president the right to commit forces to the defense of any nation in Southeast Asia menaced by communism.⁸²

The resolution was ready by June 1964, and the Pentagon had already identified some ninety-four targets in North Vietnam, in case the president should direct military retaliation. Everything was ready but was put on hold. Some sort of provocation would be needed. The Tonkin Gulf crisis was just such a provocation. The administration hustled the resolution through Congress with only two dissenting votes. It was shepherded through the Senate by the chairman of the Foreign Relations Committee, William Fulbright.⁸³

The Tonkin Gulf Resolution did not become a political issue until three years had passed. In July 1967, with antiwar passions heating, a reporter for the *Arkansas Gazette* quoted a former radarman on the *Maddox* as saying that North Vietnamese vessels had not been in the Gulf that night and that he believed his radar contacts had actually been reflections of the *Turner Joy*. This article came to Fulbright's attention. This appeared to wipe out the rationale for the resolution, and Fulbright, who was being gradually converted to the antiwar cause, felt that he had been hoodwinked, perhaps deliberately, by the White House in 1964. He began gathering the relevant material, including SIGINT reports obtained from the Department of Defense. When he felt he had enough, he convened a hearing on the Gulf crisis.⁸⁴

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

The hearings, held in February 1968, made the Gulf of Tonkin Resolution infamous and converted it into a weapon in the hands of the antiwar activists. During the proceedings, Fulbright managed to cast considerable doubt that the 4 August attack ever took place. Inconclusive radar and sonar hits, mysterious weather conditions, the lack of a single verifiable ship sighting – all were used to beat down the Johnson administration's contention that the retaliatory action and the resolution itself were justified.

But the central contention of the hearings became the SIGINT. When Fulbright brought McNamara to the stand, the secretary of defense kept referring to "intelligence reports of a highly classified and unimpeachable nature. . . ." He meant, of course, the SIGINT reports that, first, indicated that the *Swatows* should prepare for nighttime operations, and, second, contained the after-action reports alleging that aircraft were shot down and the loss of the two boats. The committee kept pressing McNamara and eventually dragged out of him virtually the full texts of the messages involved. McNamara resisted, but it was very hard to defend his actions without resorting again and again to his most convincing pieces of evidence.⁸⁵

These public disclosures damaged the SIGINT source – all the messages had been from decrypted North Vietnamese naval codes which were still in use in 1968. But it did not sell the case to the disbelieving committee, despite McNamara's contention that "No one within the Department of Defense has reviewed all of this information without arriving at the unqualified conclusion that a determined attack was made on the *Maddox* and *Turner Joy* in the Tonkin Gulf on the night of 4 August 1964."⁸⁶

In fact, not all DoD people were sold on this contention. NSA, for one, had failed to fully support the administration's position. It had confirmed the 2 August attack but had never confirmed the 4 August engagement. The Agency had concluded that the two *Swatows* instructed to make ready for action that night had never participated in the action with the *Maddox* and *Turner Joy*. The after-action reports could have referred to the 2 August engagement.

But it didn't really matter. The administration had decided that expansion of American involvement in Vietnam would be necessary. Had the 4 August incident not occurred, something else would have. Another expansion of the war occurred the following February, following the mortaring of an American installation at Pleiku. McGeorge Bundy said at the time, "Pleikus are like street cars. If you miss one, another will come along." He could have been talking about the Gulf of Tonkin crisis.

HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS

Notes

1. Histories of Vietnam and Southeast Asia abound. Three of the better ones, which were used in compiling this history, are Joseph Buttinger, *Vietnam: A Political History* (New York: Frederick A. Praeger, 1968); Stanley Karnow, *Vietnam: A History* (New York: Penguin Books, 1983); and George Herring, *America's Longest War: The United States and Vietnam, 1950-1975* (Philadelphia: Temple University Press, 1986).
2. Herring, 58.
3. Historical Study of U.S. Cryptologic Activities in Southeast Asia, 1960-1963, 1964, CCH Gerhard collection; William D. Gerhard, *In the Shadow of War*, Cryptologic History Series - Southeast Asia (Ft. Meade: NSA, 1969).
4. CCH Series VI.HH.12.10.
5. VI.H.H.12.10.
6. Ibid.; oral interview with [redacted] 23 January 1986, by Robert D. Farley and Tom Johnson, NSA OH 4-86.
7. Herring, Kennedy Library papers.
8. Beschloss, *The Crisis Years*.
9. Herring, Beschloss.
10. Beschloss.
11. Gerhard Collection.
12. William D. Gerhard, *In the Shadow of War*.
13. NSA Retired Records, 28515, 84-245; Gerhard, *In the Shadow of War*; oral interview with [redacted] 23 December 1992, by Charles Baker and Tom Johnson, NSA OH 08-92.
14. NSA Retired Records, 28515, 84-245; [redacted] and William D. Gerhard, *SIGINT Applications in U.S. Air Operations*, Cryptologic History Series, Southeast Asia, Part I: Collecting the Enemy's Signals (Ft. Meade: NSA, 1972).
15. CCH Series VI.H.H.23.2-23.5.
16. Ibid.
17. Ibid.; VI.H.H.12.10 [redacted] "NSA in Vietnam: Proud and Bitter Memories," *Cryptolog*, Oct. 1975, 3-6; [redacted] interview: Gerhard Collection; *Essential Matters: A History of the Cryptographic Branch of the People's Army of Viet-Nam, 1945-1975*, United States Cryptologic History, Special Series, Number 5, translated by David W. Gaddy (Ft. Meade: NSA, 1994), 98-111.
18. Herring; MSgt William E. Fleischauer, "History of Project 78," in ASA annual history, 1959, available at Hq INSCOM.
19. CCH Series VI.H.H.12.10.
20. Gerhard Collection.
21. Ibid.; CCH Series VI.H.H.6.22.
22. CCH Series VI.HH.6.22.; VI.HH.12.10; Gerhard Collection; Gerhard, *In the Shadow of War*.

P. L.
86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

23. Ibid.
24. CCH Series VI.H.H.18.9.
25. [redacted] "Deployment of the First ASA Unit to Vietnam," *Cryptologic Quarterly*, Fall/Winter 1991, 77-93.
26. CCH Series VI.HH.1.10.
27. Gerhard Collection.
28. Gerhard, *In the Shadow of War*.
29. CCH Series VI.HH.15.12; Gerhard Collection.
30. James Gilbert, "The Beginnings of Airborne Radio Direction-Finding" in U.S. Army Intelligence and Security Command, Historical Monographs, 1983 Series Vol. 1.
31. Gerhard Collection; CCH Series VI.HH.12.10.
32. Gerhard, *In the Shadow of War*; CCH Series VI.HH.12.10.
33. CCH Series VI.HH.15.1.
34. Ibid.
35. Interview with David Gaddy, February 1993; Jules Roy, *La Bataille de Dien Bien Phu* (Paris: Rene Julliard, 1963); Gilbert.
36. Gilbert; Gerhard, *In the Shadow of War*.
37. CCH Series VI.HH.12.10.
38. Neil Sheehan, *A Bright Shining Lie: John Paul Vann and America in Vietnam* (New York: Random House, 1988), 201 ff.
39. CCH Series VI.HH.12.10; Gerhard Collection.
40. Herring.
41. VI.HH.12.19 [redacted] interview; Gen. Pham Van Nhon, Manuscript history of DGTS, available in CCH.
42. Nhon, Manuscript history of DGTS; [redacted] interview.
43. CCH Series VI.HH.12.10.
44. Ibid.
45. Gerhard collection; CCH Series VI. HH.12.10.
46. Karnow.
47. Herring.
48. Karnow, Herring.
49. Gerhard, *In the Shadow of War*; Brown; "The CCP"; Gerhard collection.
50. Gerhard, *In the Shadow of War*.
51. CCH Series VI.HH.12.10.

P. L.
86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

52. Morrison interview.
53. CCH Series VI.HH.1.40.
54. Gerhard, *In the Shadow of War*; Gerhard Collection.
55. [redacted] et al., *SIGINT Applications*.
56. Gerhard, *In the Shadow of War*.
57. Gerhard Collection.
58. Ibid.
59. Edward J. Marolda and Oscar P. Fitzgerald, *The United States Navy and the Vietnam Conflict, Vol. II: From Military Assistance to Combat, 1959-1965* (Washington: Naval Historical Center, 1986).
60. Ibid.
61. Gerhard, *In the Shadow of War*, Gerhard Collection; Marolda.
62. Ibid.
63. Ibid.
64. CCH Series VI.HH.24.10.
65. Marolda.
66. Marolda; CCH Series VIII.13.
67. CCH Series CIII. 13.
68. Marolda.
69. Marolda; CCH Series VI.HH.24.10.
70. Marolda.
71. Ibid.
72. Ibid.
73. Marolda; CCH Series VI.HH.24.10.; VIII.13.
74. Marolda.
75. CCH Series VIII.13.
76. Ibid.
77. Marolda.
78. Marolda; CCH Series VIII.13.
79. CCH Series VIII.13; oral interview with [redacted] 22 Dec 1987, by Robert Farley and Tom Johnson, NSA OH 33-87.
80. CCH Series VIII.13.
81. [redacted] interview.
82. Karnow, 374.

P. L.
86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

83. Karnow.

84. Ibid.

85. David Wise, "Remember the Maddox!", *Esquire*, April 1968; NSA oral history with Lt Gen Gordon Blake, by William Gerhard and Renee Jones, 5 June 1972, unnumbered.

86. CCH Series VIII.13, contains a full text of the hearings.

87. U.S. Congress, Senate, Committee on Foreign Relations, The Gulf of Tonkin, the 1964 Incidents, Hearings, 90th Cong, 2nd sess., with Hon. Robert S. McNamara, Secretary of Defense, on 20 Feb.1968, in CCH Series VIII.13.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
~~NOT RELEASABLE TO FOREIGN NATIONALS~~

Chapter 12

From Tonkin to Tet - The Heart of the War

THE PRESIDENT EXPANDS THE WAR

Retaliation during the Gulf of Tonkin crisis was a one-shot affair, but it indicated that the administration was edging toward more active involvement. It did not, of course, dissuade the North Vietnamese. In November the Viet Cong (VC) mortared the air base at Bien Hoa, only two days before the U.S. elections. Johnson regarded this as a bald affront. Then, on Christmas Eve, they bombed an American officers' billet in downtown Saigon in broad daylight, killing two and wounding sixty-three. This further hardened American attitudes and made direct intervention the following year more likely.¹

Late in 1964, SIGINT began noting a strange communications pattern for the North Vietnamese 325th Infantry Division. The division headquarters at Dong Hoi opened communications with entities that controlled the infiltration routes into South Vietnam. Sometime thereafter, SIGINT (together with ARDF fixes) showed the 325th moving south, first into Quang Tri Province (just below the DMZ) and later all the way to the Central Highlands. It was the first move of a regular NVA division into the South, and it pointed to a new and considerably more dangerous phase of the war. No longer were the ARVN facing an insurgent Viet Cong movement - they were up against North Vietnamese regulars.² The 325th was in South Vietnam to prepare for the rainy season offensive, and it would create a bloody hell for the unlucky ARVN units in its path.

The president now knew what the American people did not - that North Vietnamese regulars were in the South. All that remained was for another provocation to take place. He had not long to wait. On 6 February 1965, the Viet Cong rocketed the American and South Vietnamese facilities at Pleiku, killing 8 Americans and wounding 108, bringing newspaper headlines and extensive television coverage. At the time, press coverage had the effect of pushing the administration into retaliation. (A few years later it would have the opposite effect.) Twelve hours later American A-4 Skyhawks and F-8 Crusaders were launched from the 7th Fleet against Dong Hoi (whence the 325th and other units had staged on their way south).

Twenty-one days later President Johnson institutionalized the pattern of isolated retaliation by starting daily bombings of the North and the Ho Chi Minh Trail in Laos. The operation, called Rolling Thunder, was planned to last eight weeks, but in April Earl Wheeler, JCS chairman, informed the president that it had had no effect at all on the North. So Johnson directed that it continue until it had an effect.³

The attack on Pleiku almost shouted out the vulnerability of American troops and equipment. With the initiation of Rolling Thunder, U.S. aircraft were at Da Nang almost

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

constantly, and they required protection. The U.S. commander, General William C. Westmoreland, asked Johnson for a defensive force, and the president obliged. On 8 March the first Marines splashed ashore at Da Nang, beginning the American deployment of ground combat troops to the theater.⁴

The commitment of ground forces, once begun, became an inexorable upward spiral. In May, Westmoreland asked for a total of 185,000 by the end of the year, and 100,000 in 1966. Johnson sent Secretary of Defense McNamara to Saigon to find out what was happening. The secretary returned with a gloomy assessment - Westmoreland was actually understating the need, and the U.S. would need an additional 200,000 in 1966.⁵

Operation Starlight and the Ia Drang Campaign

P.L. 86-36

SIGINT was still small-time in Vietnam, but it was growing. In August 1965, with new American troops swarming ashore almost every day, ASA SIGINT and ARDF located a new enemy communications terminal near the Marine base at Chu Lai. In Saigon, the NSA representative [redacted] took the item to Brigadier General Joseph A. McChristian, the J2, who passed it to Lieutenant General Lewis Walt, who commanded the Marines in Vietnam. Walt discussed it directly with his SIGINT people at Phu Bai and became convinced of its validity. He began planning a major entrapping operation. The VC forces, who had hoped to surprise the Marines, became themselves surprised and overcome in the operation, called Starlight. Starlight was a turning point in the direct employment of SIGINT and ARDF in operational planning.⁶

Ia Drang, the first significant campaign by a large force of NVA regulars, began as an attempt by the NVA 325th Division to cut Vietnam in half in the Central Highlands. In the process, the 325th attacked a Special Forces camp at Plei Me, about twenty-five miles south of Pleiku. ARVN forces attempted to rescue the troops trapped inside but were ambushed by two NVA regiments of the 325th, the 32nd, and 33rd, with heavy casualties.⁷

Following the engagement, the NVA retreated up the Ia Drang Valley, with the First Cavalry (Airmobile) in pursuit. Owing to the recent success in Starlight, the American forces had five ARDF aircraft in support. Moreover, for the first time the ARDF crew had the capability to pass fixes directly to the ASA Direct Support Unit (DSU) supporting the ground forces. ARDF fixes followed the 325th elements retreating up the valley until they were cornered at the Chu Pong Massif. The 1st Cavalry, employing helicopters in pursuit for the first time, and supported by B-52 air strikes, devastated the NVA. The two regiments suffered up to 60 percent casualties and were no longer an effective fighting force. The remnants retreated into Cambodia. During the action, the 33rd was so concerned about the Americans appearing to know their location that they concluded that they had spies in their ranks.⁸

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

The SIGINT Deployment

To support American ground forces, ASA built Phu Bai into the largest ASA field site in the world, almost 100 positions. Together with the 3rd RRU in Saigon and the 9th in the Philippines, ASA had substantial fixed site assets.⁹

The fixed sites were augmented by SIGINT tactical assets. ASA tactical units began to arrive with each incoming Army organization. Each unit normally had five manual Morse positions along with short-range DF and VHF intercept equipment.¹⁰

NSA's concept of direct support was that, since the problem was centrally controlled from Hanoi, the SIGINT effort should remain centralized. NSA continued to exercise overall control from Fort Meade. In Vietnam, collection management authority (CMA) was divided into three areas, roughly corresponding to the division of American forces. USM-626 at Tan Son Nhut was CMA for the southern part of the country, USM-808 at Phu Bai for the northern portion, and USM-604 at Pleiku for the central area.¹¹

Following its relocation to Phu Bai, the Marine SIGINT detachment became the DSU in support of the III MAF (Marine Amphibious Force) in the north. Eventually the Marines established DSUs like the Army and wound up with the same sort of a decentralized SIGINT support arrangement, with small detachments composed of only a few positions each collocating with combat units. Lacking their own ARDF assets, the Marines received ASA ARDF support.¹²

Air Force Security Service SIGINT collection from Vietnam itself was more limited. The unit at Da Nang expanded quickly once Rolling Thunder began, but it never equalled the huge ASA contingent. This was not true, however, of the ACRP effort. USAFSS had a contingent of four RC-130s at Da Nang, which expanded to six in 1967, by the device of raiding airborne assets in Europe [redacted]

Beginning in 1967, a new ACRP program began flying in Southeast Asia. This program consisted of the far larger and more capable RC-135s belonging to a new unit at [redacted] With SAC front-end crews and USAFSS collectors, the RC-135s flew very long (often in excess of seventeen-hour) missions into the Gulf of Tonkin. The RC-130s continued to fly out of Da Nang until the end of the year, when the [redacted] unit took over the entire mission.¹⁴

Operational control arrangements continued to cause friction. NSA opposed fragmentation, while the Army insisted that field commanders should directly control all cryptologic assets supporting them. This became a critical issue when Army units began independent operations.

In mid-1965 a new arrangement was hammered out between Rear Admiral Schulz of NSA and Brigadier General Eddy, deputy commander of ASA. Under this Schulz-Eddy agreement, when DSUs were in active support of an ongoing tactical operation the field

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
NOT RELEASABLE TO FOREIGN NATIONALS

EO
1.4.(c)

~~TOP SECRET UMBRA~~

commander would control them. When they were back in garrison, control would revert to ASA's designated field site (either Saigon, Pleiku, or Phu Bai). NSA continued to control all fixed field sites, to the loud disapproval of MACV.¹⁵

The second control issue to arise in 1965 concerned the air problem. Brigadier General Rocle "Rocky" Triantafellu, the deputy chief of staff for intelligence at 7th Air Force, proposed that an organization be established in Saigon which would produce a daily recap of the status of North Vietnamese air and air defense systems. But what Triantafellu wanted and what NSA was prepared to deliver were very different. Triantafellu had in mind an Air Force Security Service organization, all blue-suiters working for 7th Air Force. NSA countered by proposing an NSA unit, manned only partly by uniformed Air Force people. This nasty scrap continued until NSA won in March 1966. The resulting organization, called the SIGINT Support Group (SSG), consisted primarily of Air Force people, but was under NRV control.¹⁶

The very next year, MACV itself got into a struggle with NSA over the positioning of cryptologic assets. In this case, MACV requested that a SIGINT processing center be established in Vietnam, to bring processing closer to the fighting. By 1967, however, MACV was swimming against the tide. NSA had moved processing back to [redacted] Fort Meade and was not about to change directions. SIGINT centralization was "in," and MACV did not get its processing center.¹⁷

EO
1.4.(c)
EO
1.4.(d)

ARDF and the Two-Front War

In the beginning, ARDF was the exclusive domain of the Army. Starlight and the Ia Drang campaign had demonstrated the benefits of close ARDF support, and ASA expanded its assets rapidly. By the end of the year, there were four aviation companies in Saigon, Da Nang, Nha Trang, and Can Tho. The first two supported I FFV (First Field Force Vietnam) in the north, while the second supported II FFV. ARDF had clearly become a coveted asset.¹⁸

In 1966 the ARDF picture became suddenly complicated. The Air Force deployed a new ARDF program, called PHYLLIS ANN. The Air Force considered ARDF to be an EW asset, and even in the test phase in 1962 had refused to submit to any sort of central control from the SIGINT system. The Air Force eventually conceded to bring its ARDF testing under cryptologic control, with USAFSS back-end operators and ASA technical support. (At the time, an ASA unit, USM-626 at Tan Son Nhut, was the tasking and technical support authority for Vietnam, and this made the pill doubly bitter.) But since the equipment was unsatisfactory technically, the issue of command and control became moot with the departure of the test aircraft.¹⁹

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~



PHYLLIS ANN EC-47 ARDF aircraft

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

PHYLLIS ANN was different. The equipment, mounted in C-47s, was good - just as accurate as the ASA systems, but because of technical factors, the C-47s (now called EC-47s) could shoot more DF shots in an hour than the Army aircraft. The Air Force Security Service activated the 6994th SS on 15 April 1966, at Tan Son Nhut, to man the ARDF positions. Soon they had detachments at Da Nang, Nha Trang, and Pleiku. A total of forty-seven EC-47s were deployed to the theater.²⁰

When PHYLLIS ANN aircraft arrived in theater, the issue of control and tasking of ARDF assets erupted into a three-cornered donnybrook. Seventh Air Force continued to regard them as EW assets and demanded complete tasking control. Westmoreland was equally insistent that all ARDF assets should be tasked centrally (i.e., by MACV). NSA was willing to see central tasking in theater, but insisted that ARDF was a cryptologic asset whose ultimate owner was itself. In the Agency's opinion, it had simply delegated temporary operational control to the commanding general of ASA in 1961.²¹

By June of 1966, MACV had won the fight for in-theater control. EC-47s would be tasked by a central ARDF tasking center called the ACC (ARDF Coordination Center), collocated with Westmoreland's J2 in Saigon. Seventh Air Force continued the struggle throughout the war, but it could not get support from even PACAF (Pacific Air Force) for its position.²²

The struggle for control went all the way to the deputy secretary of defense. In 1966, Cyrus Vance ruled that ARDF was an EW asset and would be controlled by Westmoreland through his J2. The victory was only temporary, however. Two years later, Deputy Secretary Paul Nitze reversed Vance, holding that ARDF was actually a cryptologic technique and that it would be placed in the CCP. In the meantime, the ARDF controversy had spawned a compromise document, MJCS 506-67, an effort to cut the SIGINT Gordian knot (see p. 475).²³

Search and Destroy

Westmoreland's strategy was to get American troops out of a defensive posture and out into the countryside on search and destroy missions. This placed a premium on unit mobility. The SIGINT support for these sweep operations consisted basically of ASA tactical units with small numbers of Morse positions, supplemented by low-level voice and short-range DF. To this mix was added the ARDF fixes flashed from aircraft to the ASA units on the ground and intercept from major SIGINT stations like Pleiku and Phu Bai. This pattern, initiated in 1965 during the Ia Drang campaign, became the dominant system in 1966 and 1967, during the height of tactical operations.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~



The ARDF control center in Saigon.
Shown in 1969, it was a joint Army-Air Force facility.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

ASA tactical SIGINT units provided direct support for a bewildering number of military operations during 1966. They came in all flavors: Masher/White Wing, Paul Revere, Nathan Hale, John Paul Jones, Geronimo, Attleboro, and many more. One was like the next.

An example was Paul Revere II, an operation in the Central Highlands in July and August. SIGINT support consisted largely of ARDF fixes from aircraft that were, for the first time, allocated, based, and flown in a direct reporting, close support role from the command post of the supported commander.²⁴ The historical debate over the effectiveness of Westmoreland's strategy should not obscure the significant contributions of SIGINT. Some of the tactical operations were initiated based on SIGINT information, and most were prosecuted using updated SIGINT.

A second type was the riverine operation. Used primarily in the Mekong Delta and other low, marshy areas of the country, it was basically a waterborne search and destroy mission. But the difficult terrain, and lack of large-unit VC operations, made riverine operations frustrating and largely ineffective. This went as well for the SIGINT support. Working with the Navy and Marines, ASA would deploy low-level voice intercept (LLVI) and short-range direction finding (SRDF) teams on boats. Because of a lack of good linguists, the LLVI teams were generally ineffective. The SRDF operations proved to be no more successful on water than on dry land. Bearings were divergent and frequently produced no intersection at all.²⁵

Army Security Agency was willing to go wherever it was necessary to collect and support. Sometimes units would be choppered to the tops of mountains. One such operation placed an intercept team on top of Black Widow Mountain, an aptly named peak in a remote corner of Tay Ninh Province at the Cambodian border. This was VC territory, and it turned out to be one of ASA's most dangerous operations. As if enemy operations were not enough, the weather was atrocious - winds as high as eighty knots, heavy rain, low ceilings (which prevented helicopters from landing most of the time), and high humidity that would destroy intercept equipment in short order. But after only a four-day test cut short by hostile fire, NSA concluded that it was the only way to get Cambodian VHF air/ground communications aside from leaving a TRS in the South China Sea. Since TRSs were on the way out, Black Widow Mountain was on the way in. So in May 1968 the ASA team was back, this time supposedly permanently.

EO
1.4.(c)

The second time around the team lasted two weeks. At that point, a VC attack killed one ASA operator and wounded another, and caused numerous casualties to the collocated Special Forces unit. The operation was withdrawn by helicopter at the first break in the weather.²⁶

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

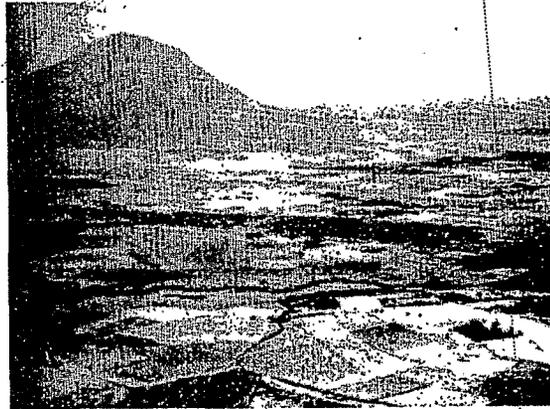


A riverine operation with an AN/PRD-1 SRDF set

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
~~NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

However, the value of operations like Black Widow Mountain spawned an effort to locate intercept equipment on mountain tops and to remote the signal to a safer location. That way, only the equipment would be exposed. The effort, called EXPLORER, was developed at NSA in only three months, with [redacted] Donald Oliver, and [redacted] being the key players. The first EXPLORER operation lasted for almost a year before it was destroyed. But during its lifespan it was highly effective. In ideal conditions ASA could intercept the traffic from the EXPLORER system, forward it to NSA for decryption, and have the decrypted text back in country in some four hours.²⁷

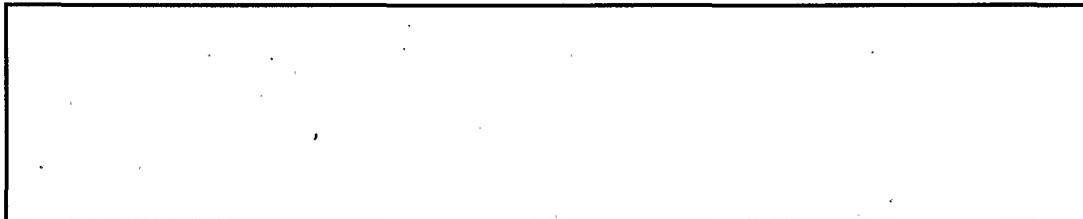


Black Widow Mountain

Another successful technique was wiretap. NSA developed various wiretap systems, but they were uniformly dangerous to install. American or ARVN soldiers had to penetrate VC territory (especially risky in Laos, where most of the landlines were), find the landline, attach the tap to the line, and get out of the way. The VC would periodically sweep the line, and early wiretap systems required the Americans or ARVN to stay in the vicinity and, when a sweep came by, hurriedly detach the tap and get back into the bush. Later versions did not require a stay-behind person. Some taps looked like Vietnamese insulators and thus would not be viewed as possible taps. Still later, the U.S. developed poles that could be dropped by helicopter into the jungle near a landline.²⁸

Predictions

The highest intelligence art form is prediction. One of the most intensive activities in the war was the attempt to predict VC and NVA offensives - when, where, and how many.



~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

But in 1964, concurrent with increased NVA involvement in the south, ASA began to intercept Morse communications pertaining to VC military operations. As the Morse nets expanded, NSA began to recover the VC/NVA military structure through traffic analysis. The Agency identified the formation of five new organizations: MR TTH (Military Region Tri-Thien-Hue), NVA 3rd Division, B3 Front, Headquarters Southern Subregion, and VC 9th Division. The Binh Gia campaign at the end of 1964 showed the first extensive use of Morse to set up and coordinate a local campaign.³⁰

From then on, through painstaking traffic analysis and DF, the cryptologic community was able to discover communications patterns that indicated attacks. By 1967 it had become an art form, and many NSA seniors contend that past a point (probably in 1965 or 1966), the SIGINT system predicted every major VC or NVA offensive. This included date, point of attack, and units involved.

Indicators varied from battle to battle but almost always included the activation of a "watch net," contingency communications which indicated that the headquarters would soon deploy to a different location. Concurrently, a forward element would be activated, and would establish communications with the headquarters, which, until it moved, would become the rear element. It became important to locate the forward element and to track the movement of the headquarters. At a point in the operation, it would disappear from communications. When it reappeared, it would be in the area of the battle, and it would then be critical to locate it, usually through ARDF.

Other indicators would usually be present, including the use of unusual cipher systems, changes in message volume, the appearance of operational planning messages [redacted] indications of increased intelligence collection, and heightened logistics activity. Plain text and the decryption of low-level ciphers were important, but most of the work was done solely through a combination of ARDF and traffic analysis. Greatly aiding this effort was the fact that the VC and NVA used the [redacted] throughout the war. The U.S. had the book completely recovered and used this to identify the units involved.³¹

EO
1.4.(c)

Infiltration

A second resounding SIGINT success was in tracking North Vietnamese infiltration on the Ho Chi Minh Trail. Until the fall of 1967, this was done through a combination of photography, SIGINT (primarily traffic analysis), prisoner interrogations, and the like. It was a complex problem, which admitted of no easy answers. The U.S. did not, in fact, have a good handle on infiltration.

Then, in October 1967 RC-130 intercept operators began picking up LVHF voice [redacted] [redacted] passing logistics information. The messages emanated from Vinh,

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

a key logistics center on the Trail, just above the DMZ. Most of the messages pertained to [redacted] which NSA decided must represent groups of infiltrators on the Trail.

NSA eventually broke out the entire Trail group system and was able to determine with fair accuracy virtually every group moving onto the Trail, where it was headed, and when it would probably arrive. Some of the groups proved to be specialists like medics, while others were simply combat soldiers, augmentees for an offensive or replacements for casualties. Late in the war, infiltration numbers were assigned to integral units rather than individuals. The surprising bonanza came to be called the "Vinh Window."³²

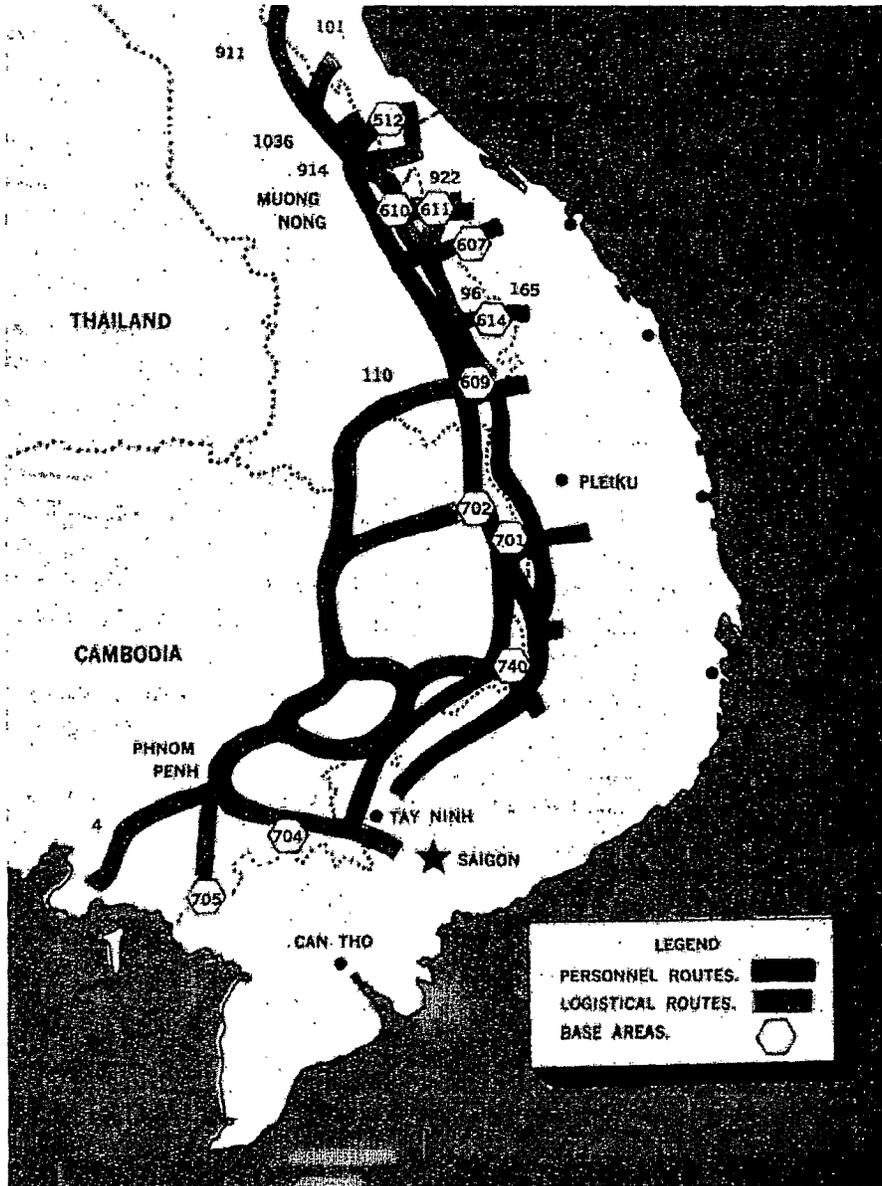
The Vinh Window was very big news. MACV now knew where the biggest strategic push would come based on projected augmentees to a given frontal area or military region. The White House thought it had unlocked the key to the magic door, and David McManis, NSA's representative to the White House Situation Room, spent much of his time explaining the intricacies of trail groups. CIA cast aside much of its methodology of determining infiltration numbers and simply accepted the SIGINT numbers as virtually the final answer.³³

In Asia, the ACRP program was swept up in a tidal wave of requirements relating to the Vinh Window. The RC-135 unit which had only recently formed [redacted] was pressed into premature service. The RC-130 program, which was eliminated in favor of the RC-135s by the end of the year, was replaced in the fall of 1968 by a new program called COMFY LEVI, RC-130s with roll-on SIGINT suites for the back end. The Air Force Security Service received authority to transcribe the most critical tapes in the aircraft and downlink the information to the Security Service unit at Da Nang in midflight. Untranscribed voice tapes began to pile up [redacted] as demands overwhelmed resources.³⁴

The significance of the Vinh Window could not be overemphasized. Every intelligence agency adopted its own interpretation of the figures, and infiltration estimates varied to some degree depending on what agency one listened to. CIA's counts were probably the most accurate, but were not the only ones reaching the White House. The National Indications Center, in a 1968 study of the phenomenon, stated that "... the SIGINT material which is now available is not only of value for estimating the strengths of Communist forces in South Vietnam, but also is a significant factor in assessing their future plans and intentions."³⁵

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~



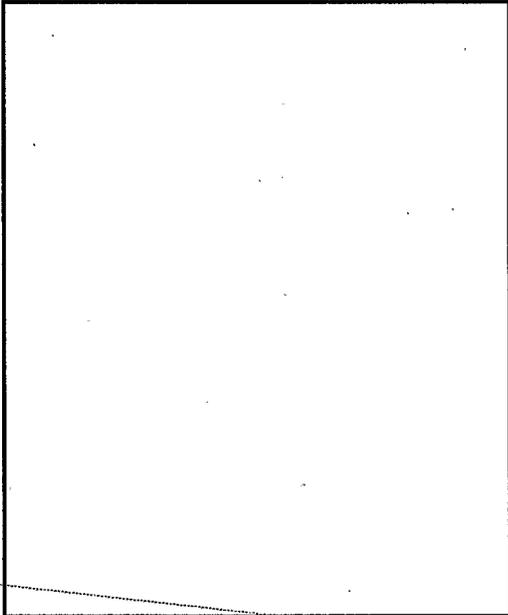
The Ho Chi Minh Trail

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

The Dancers

The cryptologic community in Southeast Asia had been overwhelmed with Vietnamese voice long before the Vinh Window. The problem began in late 1964, when the first voice intercepts began to flood the SIGINT system. What had been entirely a Morse problem suddenly had a new dimension to it.

The services had very few Vietnamese linguists, and those they had were little better than school trained. In 1964 USAFSS requested authority to establish native-born South Vietnamese as linguists to transcribe voice tapes to be collected at Da Nang in support of 34A operations. After studying the problem, NSA concurred with a Vietnamese transcription operation, but established it, not at Da Nang, but in Saigon. The DANCER project (as it was called) was established in January 1965, using 3rd RRU SABERTOOTH spaces, with three South Vietnamese linguists.³⁶



By May 1965, USAFSS was processing Vietnamese voice off [redacted] nets being collected by the ACRP program at Da Nang. The program in Saigon was [redacted] the only female Dancer not productive, partly because ASA could hear no Vietnamese voice from that location. Since Da Nang was the ground processing point for ACRP intercept, it was decided to move the DANCER program north - ultimately it wound up at both Da Nang and Phu Bai (selected because NSA believed [redacted] communications could be heard from that location). DANCER recruits came from the SABERTOOTH program and were vetted by [redacted] South Vietnamese SIGINT organization.³⁷

EO 1.4.(c)
EO 1.4.(d)

Originally employed to transcribe voice tapes, DANCERS eventually became qualified in a wide variety of skills. They proved to be skilled at various traffic analytic recoveries, and they were soon an absolutely essential asset to any SIGINT operation in South Vietnam. By 1966, ASA units were intercepting LLVI communications and needed DANCERS to go to the field with them. This effort became Project SHORTHAND. Because the U.S. had run through the supply of linguists available from the South Vietnamese SIGINT Service, ASA, under SHORTHAND, obtained authority to recruit from other sources within the South Vietnamese government.³⁸

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

The SIGINT Role in the American War

During the period of maximum American involvement on the ground, SIGINT developed from an arcane art form to a day-to-day bulletin on enemy dispositions. Most commanders interviewed after the fact estimated that SIGINT comprised anywhere from 40 to 90 percent of their intelligence, depending on the availability of POWs. Every sizeable unit deployment had its ASA Direct Support Unit (DSU), which gave it access to ARDF and a pipeline into the national SIGINT system. Many commanders used the information for daily battle planning.³⁹

A properly employed DSU thus became an essential resource. But it had warts. As in Korea, the LLVI effort was sometimes fruitless because of the difficulty of getting good linguistic support; an insufficiently trained linguist was sometimes worse than no linguist at all. South Vietnamese linguists under the DANCER and SHORTHAND programs were spread very thin and were often not available.

Moreover, short-range DF proved a dubious asset, especially in the Delta, where there were fewer targets. To the extent that DF was successful, it was generally ARDF.

ARDF sometimes overwhelmed other intelligence sources. Tactical commanders used it for daily targetting, and it became the primary source for targetting information in the entire war. Used effectively, it was irreplaceable. But sometimes a commander would blast a patch of jungle just because a transmitter had been heard there. The VC and NVA eventually became skilled at remoting their transmitters, just because of such American tendencies. There was still no substitute for understanding the source.

And much of the difficulty that the SIGINTers found themselves in stemmed from an unappreciative audience. Very few commanders had any training in SIGINT. In the 1950s it had been kept closeted, a strategic resource suitable only for following such esoteric problems as [redacted] Now that it was "coming out of the closet," a generation of officers received OJT under fire.

Some did well; some not so well. For every example of the proper use of tactical SIGINT, there was the opposite instance, where the source was either not believed or not used properly. No intelligence source was so technically complex or so difficult for the layman to understand. The lessons from the "American War" (1964-1968) were still being absorbed more than twenty years later.

The Air War

The air war began with the daily bombing of the North in March 1965. Like the ground war, the air war was a messy business organizationally. It involved three different air elements.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

EO
1.4.(c)

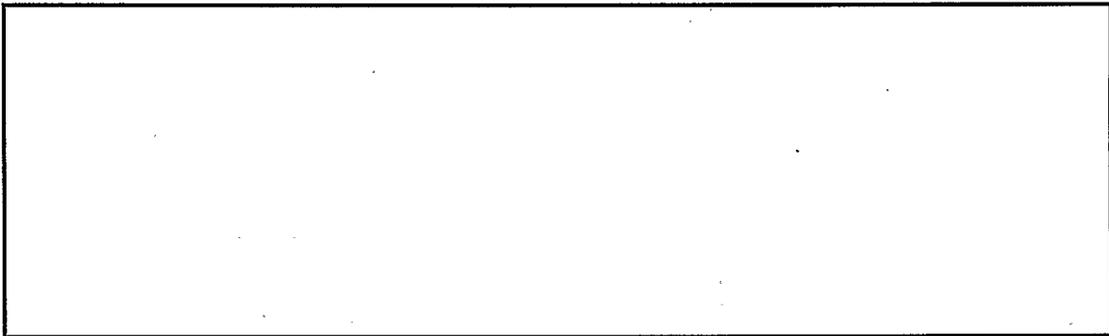
Seventh Air Force was the largest component. It had six tactical fighter wings and a tactical reconnaissance wing spread around Southeast Asia. Headquartered at Tan Son Nhut, 7th AF had a Control and Reporting Post on a hilltop called Monkey Mountain, near Da Nang. This was where command and control of tactical missions were executed, and this was where Air Force Security Service chose to set up shop.⁴⁰

In the Gulf was Task Force 77, a carrier task force belonging to 7th Fleet. The Navy launched Rolling Thunder missions from the carrier decks, and it had its own control authority, called Red Crown.⁴¹

The First Marine Air Wing, under III MAF, operated out of airfields in northern South Vietnam. Although used almost exclusively for close air support in South Vietnam, they also flew some missions over the North.⁴²

Finally there was SAC. The Strategic Air Command launched B-52 strikes over both North and South Vietnam, flying out of Andersen Air Force Base, Guam; U-Tapao, Thailand; and Kadena, Okinawa.⁴³

In response, the North Vietnamese, with a third-rate air force and practically no technological sophistication, had fashioned a competent if not overwhelming defense. Proceeding from the visual observer stage in the late 1950s, North Vietnam had introduced Soviet radar systems, and by the mid-1960s it had some 150 radar sites and 40 radar reporting stations. The North Vietnamese navy also had radar sites along the coast, primarily to keep track of enemy ships. They had a small group of MIG-17s and MIG-21s which they carefully husbanded. They also introduced hundreds of AAA sites across the country and in late 1965 began installing SA-2 sites. American air strikes by no means went unimpeded.⁴⁴



Fashioning the SIGINT Warning System - HAMMOCK

Following the Gulf of Tonkin crisis, 7th AF (then called 2nd Air Division) requested SIGINT support for air missions north of the DMZ. Security Service began planning an

EO 1.4.(c)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

expansion of its unit at Da Nang (6924th SS, or USA-32) to provide some sort of Tactical Report (TACREP) service.⁴⁶

What developed initially was a system called HAMMOCK, which became operational in December 1965. HAMMOCK consisted of five manual Morse intercept positions at USA-32, copying North Vietnamese air defense communications which reflected MIG activity. USA-32 could pass warning information to 7th AF when, and only when, the tracking fell within the theoretical range of American radar. (There did not actually have to be a radar located at the hypothetical point; the postulated existence of such a radar was enough.) The information was supposed to be validated at the Tactical Air Control Center (TACC) at Tan Son Nhut, which would convert the SIGINT plot to a geographical coordinate and then send it on to the Control and Reporting Post (CRP) at Monkey Mountain. The CRP could warn the aircraft in jeopardy and would also pass the information via KW-26-secured circuit to Red Crown in the Gulf.

If communications were down, USA-32 could go directly to a Security Service detachment at the CRP, where the information was converted from the grid system and passed to an uncleared CRP controller. This was much faster, but everyone was nervous about security because there were so many uncleared people in the facility.⁴⁷

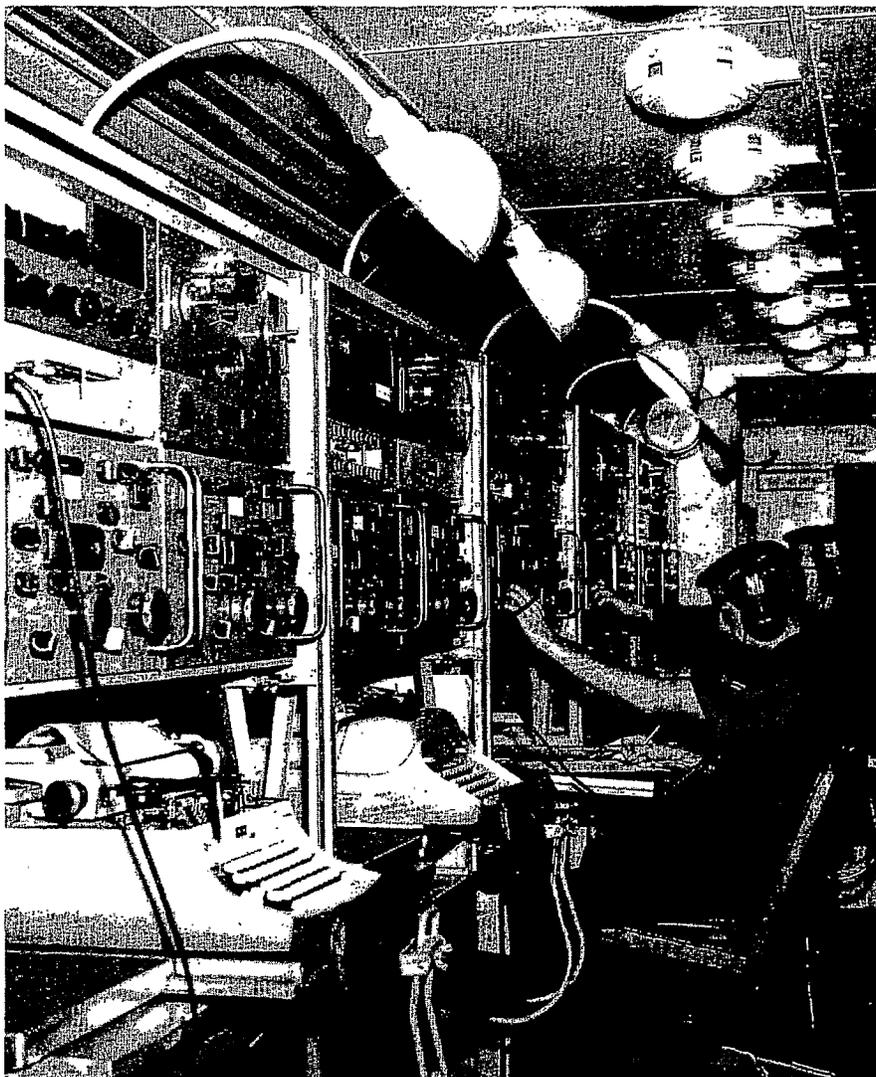
Needless to say, this convoluted system was less than satisfactory. It relied, in the first instance, on manual Morse tracking passed within the North Vietnamese air defense system, which introduced a delay of several minutes. It was burdened by so many communications relays and authorization authorities that it had little chance to get anywhere in time. HAMMOCK plots generally reached someone who could warn a fighter pilot anywhere from twelve to thirty minutes after the fact. The average time of receipt to Red Crown was nineteen minutes. The Navy was profoundly unimpressed and chose to rely on its on-board cryptologic detachments. The Navy operators had little experience with North Vietnamese air defense systems, but at least they could warn within a few minutes of real time.⁴⁸

Despite this, HAMMOCK was better than nothing. On 27 April 1966, the U.S. got its first confirmed MIG shutdown based on warning information provided by HAMMOCK. But the requirement to check everything with the TACC in Tan Son Nhut got the Air Force Security Service in the middle of a jurisdictional dispute between 7th AF and its subordinate CRP on Monkey Mountain. It was not the right way to run a war.⁴⁹

The ultimate answer was not manual Morse tracking, anyway - it was intercept of VHF air/ground communications by the RC-130 QUEEN BEE DELTA aircraft flying in the Gulf of Tonkin. The ACRP often had the information that pilots needed to avoid being shot down, or to do some shooting down themselves. Security restrictions, however, prevented its use.

The cropper came in April 1965, when two F-105s were shot down by MIGs. The orbiting ACRP had had information that would have been useful, and it was obviously

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~



Voice intercept operators at work, USA-32

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

imperative that a system be devised to incorporate their intelligence.

Pacific Security Region (the region headquarters for the Air Force Security Service) had devised a brevity code that could be used by the ACRP back-end crew to warn pilots in imminent danger, but it did not withstand COMSEC scrutiny. The only solution appeared to be a secure link between the ACRP and USA-32. A device called a URC-53 already existed. Priority was so high that the installation and use of the URC-53 at Da Nang was approved the same day it was requested, and the circuit was installed and operational within a month.⁵⁰

But this was still not fast enough. General Moore, commander of 7th AF, proposed putting his own controllers on the QUEEN BEE aircraft, clearing them, and having them pass MIG alerts directly to Rolling Thunder aircraft, using the callsign of another aircraft in the Gulf (COLLEGE EYE, an EC-121) as cover. Reversing the normal procedure, Morse tracking would be passed uplink from Da Nang to the ACRP, where it would be integrated with the voice data. Moore's weapons controllers were flown to Bangkok (whence QUEEN BEE flights then originated), and three days later the ACRP issued its first MIG alert.⁵¹

Then Moore tried to get control of the ACRPs themselves. He felt this was necessary to insure that there was always an ACRP aloft during Rolling Thunder missions. Here Moore ran into a buzzsaw. The aircraft he wanted control of were national assets. NSA successfully opposed 7th AF on this issue. Even PACAF refused to back 7th AF, stating at one point that there had never been an instance when the ACRP had failed to respond to a 7th AF request.⁵²

The autumn of 1965 brought a new threat - the appearance of SA-2 surface-to-air missiles (SAMs) in North Vietnam. The North Vietnamese began employing SAMs against high-flying, nonmaneuverable targets like B-52s, while using AAA for the lower-flying Rolling Thunder aircraft. To counter SAMs, 7th AF introduced a procedure in which SAM activations acquired by the ACRP aircraft (now renamed SILVER DAWN) would be passed to 7th AF (through USA-32), which would direct Iron Hand (SAM suppression missions) against the offending SAM.

At this point Security Service ran into an Air Force mind-set regarding the use of intelligence that proved to be destructive of its own interests. Air Force doctrine was to launch suppression only if the SAM site had been documented by photography, and 7th AF refused to launch Iron Hand in cases where this had not been done.⁵³

The Border Violation Incident

On 8 May 1966, a flight of RB-66s escorted by F4Cs strayed over the border into Communist China and was attacked by four MIG-17s. One of the MIGs was shot down in the engagement, which occasioned an impassioned diplomatic protest from the PRC. The communists released photos of the downed MIG well north of the international barrier.⁵⁴

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

The off-course Americans should have been warned. [redacted]

[redacted] None, unfortunately, reached the American pilots. The Navy EC-121 that was supposed to act as a communications relay had aborted, and the warnings from Monkey Mountain went off into the ether.⁵⁵

This incident led to a full-scale Pentagon investigation of command and control procedures in Southeast Asia. The "Pearl Harbor question" kept coming up - why, if SIGINT was available, wasn't it used? The proceedings, headed by Marine brigadier general Robert G. Owens Jr. were marred by mutual recriminations between the SIGINTers, who were sure of their facts, and the operations people, who were determined to defend their pilots. [redacted]

[redacted] This claim was rejected by the full panel. In the end, Secretary of Defense McNamara reported to the president that "this account, derived from communications intelligence, is unequivocal. A thorough review of [redacted] [redacted] North Vietnamese messages reveals no significant discrepancies. . . . I am convinced that our aircraft penetrated Chinese airspace before they were attacked by the MIGs."⁵⁶

EO
1.4.(c)

The Owens report laid bare the inadequacies of command and control and the disjointed way that SIGINT was introduced into the operational system. Owens demanded, and got, a thorough reorganization of the system in Vietnam. Authority to control operations was summarily removed from 7th AF in Saigon and placed where it should have been all along, on Monkey Mountain. The Tactical Air Control Center (TACC) at Tan Son Nhut was cloned on the mountain and called TACC/NS (North Sector). The control facility on the mountain was upgraded from a CRP to a CRC (Control and Reporting Center) and was given two subordinate CRPs at Udorn and [redacted]

The Owens report also recommended that 7th AF have operational control over the ACRPs. This occasioned another huge fracas between the Air Force and NSA. The Agency won again, partly because it could certify that the ACRPs were already as responsive to 7th AF as they would be under that organization's direct control.⁵⁸

During the Owens deliberations, it became clear that factors other than operational control affected ACRP capabilities. The biggest problem was fighter CAP (Combat Air Patrol). Many ACRP missions were scrubbed because of lack of fighter CAP, or had to abort in midmission because the fighters went home early. Following the Owens report, JCS approved unescorted missions in the gulf at night (because of known North Vietnamese reluctance to fly at night). As time went on, the rules were relaxed even more.⁵⁹

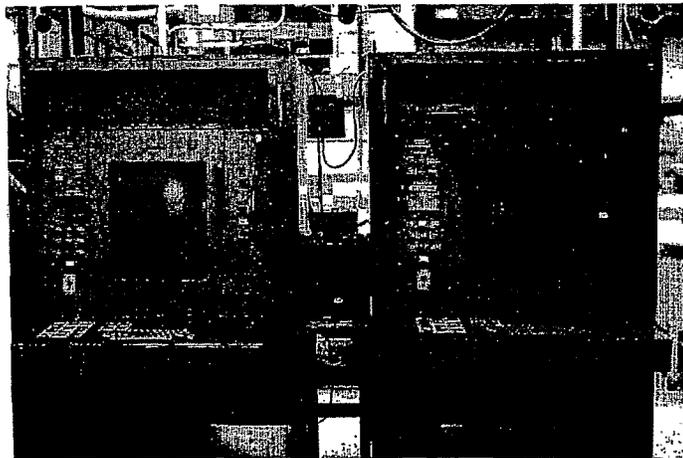
~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

The reforms permitted SIGINT to focus its input at one geographical point - Monkey Mountain. This shortened the chain of organizations through which a warning had to pass and simplified the task of the SIGINTers in Southeast Asia. It did not, however, provide a direct link-up between SIGINT and the operations people. That necessary step would not come for another five years.

IRON HORSE

In 1967 the SIGINT system improved the speed of its support to air operations by a quantum leap. The creaky manual system, HAMMOCK, was replaced by IRON HORSE, a flashy new automated system which could deliver information in seconds rather than minutes. Designed by NSA, IRON HORSE simply linked the electronic output of an AG-22 intercept position, through a computer, to a radar scope. Instead of using a plot-tell system for calling aircraft positions to the TACC or CRC, the computer would convert the grid plot to a geographical coordinate and display it on a radar scope. An Air Force Security Service analyst carefully selected the plots that were sent to 7th AF. Those that were passed went into the BUIC II air defense computer at TACC/NS and were integrated with radar plots from the U.S. system. Plots from SIGINT that went to the CRC, Task Force 77, and the Marines had a unique signature that identified them as not derived from American radar. USAFSS put a team of SIGINT experts in the collocated TACC and called it the Support Coordination Advisory Team (SCAT) - in effect, a CSG to help 7th AF interpret the data. SCAT integrated manual Morse data as well as VHF reflections from the ACRP, the Navy's EC-121, and a variety of other sensors.⁶⁰

IRON HORSE decreased throughput time from twelve to thirty minutes to anywhere from eight seconds to three minutes.⁶¹ It was state-of-the-art and about as fast as Morse tracking could be displayed.



IRON HORSE consoles, USA-32

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

BIG LOOK

The introduction of SAMs into Vietnam complicated the air warning picture. Special airborne warning systems to detect the SAM-associated Fan Song radars were thwarted when the North Vietnamese introduced the tactic of putting the Fan Songs on lower power except when they went into a track and destroy mode. Navy engineers devised a counter for this, a system that could intercept and DF very low power signals. They mounted these systems on EC-121 airframes allocated to VQ-1 for fleet support. The ELINT crews came from the home squadron [redacted] while the four voice intercept operators were supplied by USN-27 at San Miguel, Philippines.⁶²

BIG LOOK was supplemented by WEE LOOK, an EA-3B fleet support aircraft outfitted with ELINT positions. WEE LOOK was also used for threat emitter warning. Although the EA3B was designed to operate from carriers, WEE LOOK did not because of aircraft weight. Like BIGLOOK, it launched from land bases.⁶³

Weather and SAR Warnings

One obscure but vital SIGINT contribution was weather. Early in the war, 7th AF flew weather reconnaissance missions prior to operational launches, but it was an Operational Security (OPSEC) nightmare. Weather reconnaissance was the surest indicator that the North Vietnamese could have that a strike was imminent.

In 1965 NRV proposed to 7th AF that USA-32 at Da Nang begin furnishing "special weather" information intercepted on North Vietnamese nets. Da Nang initiated a two-week test and within a month had become the sole source of COMINT-derived weather information on North Vietnam. Special weather was relayed to Task Force 77 as well as 7th AF, and an Air Force historian, with pardonable exaggeration, called this perhaps the "premier contribution" of SIGINT in Southeast Asia.⁶⁴

When the Air Force and Navy began losing pilots over Vietnam, SIGINT was once more called in. A special program was designed for reporting indications (through VC or NVA communications) of downed pilot locations and capture attempts. The reports, called SONGBIRDS, were actually TACREPs, which went out at the noncodeword level to a wide group of organizations. Security Service averaged about ten SONGBIRD reports per month. There was very little feedback on SONGBIRD effectiveness, although one historian estimated that, because of the time required to translate the Vietnamese voice transmissions, most SONGBIRDS did not arrive in time.⁶⁵

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

PURPLE DRAGON

President Johnson . . . expressed concerns over the number of aircraft being lost on Rolling Thunder missions. Between January and September 1966, a total of 228 fixed-wing combat and support aircraft had been lost during missions against North Vietnam. The question in Washington was, did the enemy have prior warning of U.S. raids against North Vietnam? . . . The answer was yes, they did.

Stephen J. Kelley in *PURPLE DRAGON: The Origin and Development of the United States OPSEC Program*

On Christmas Day 1969, a team of the First Infantry Division, on a sweep in Binh Duong Province near Saigon (part of Operation Touchdown), stumbled on an NVA COMINT unit. They captured twelve of the eighteen people assigned along with some 2,000 documents and the unit's intercept equipment. It was the COMINT "find" of the war.

NSA sent in a TAREX team to evaluate what the soldiers had found. The result confirmed an earlier, and generally ignored, Agency assessment - that the NVA employed 4,000 to 5,000 COMINTers and that this was their chief source of intelligence. Their intercept effort was targetted at ARVN and American communications, from which they could do fairly sophisticated traffic analysis, DF, and even some cryptanalysis. Brevity codes were especially vulnerable. But their main target was unenciphered tactical voice, and the easiest pickings were from the U.S. Air Force.⁶⁶

It was obvious from studying the Touchdown material that NVA COMINTers were a source, probably *the* source, of predictive information on SAC Arc Light (B-52) strikes. But the Defense Department knew that already.⁶⁷

The story had begun in 1965. NSA had uncovered a communications net supporting Chinese forces in Vietnam. [redacted] analysts noticed that some of the messages contained an unusual Morse character - a barred echo. They remembered that [redacted] used this character to flag uncommonly urgent messages. On a hunch, the division chief, [redacted] suggested that they might compare barred echo messages with Rolling Thunder operations. The result was a direct hit. The barred echo message appeared almost every time a Rolling Thunder mission was flown over the northeast quadrant of North Vietnam. The PRC appeared to be obtaining predictive alerts on 80-90 percent of the missions in the northeast quadrant.⁶⁸

At about the same time, NSA found that ground control stations [redacted] were alerting air defense forces [redacted] as much as twenty-four hours in advance of SAC photo drone missions, called (at the time) Blue Springs. As a result, approximately 70 percent of the drones were being lost to hostile fire. A check of existing traffic showed

EO 1.4.(c)
P.L. 86-36

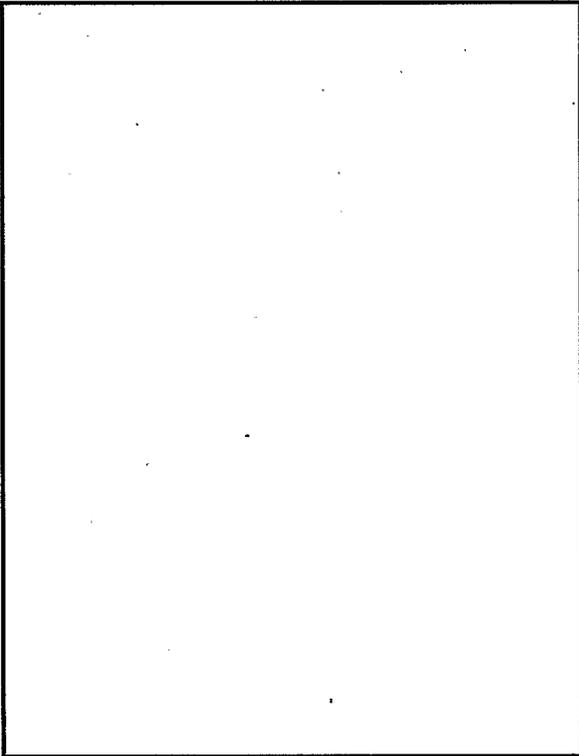
~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
~~NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

that [redacted] had been issuing alerts on SAC reconnaissance missions as early as mid-1965, and on Arc Light strikes, by late 1965.⁶⁹

NSA released its report in May 1966. The effect was immediate and dramatic. Within days, NSA analysts found themselves standing in the Pentagon briefing four-star generals. In August, after pulling together the full story (including indications of foreknowledge of SAC operations), General Marshall Carter briefed the JCS and, later in the month, the PFIAB.⁷⁰

As a result, DIA was tasked to find the problems and correct them. The director, General Carroll, named Rear Admiral Donald M. (Mac) Showers to head the effort. Showers put together an interagency committee which included NSA, the JCS staff, and the SCAs. The group was divided into two subcommittees, counterintelligence and communications security.⁷¹



The counterintelligence group quickly concluded that the problem was enemy infiltration, but they could come up with no good way to stem the outflow of information. The COMSEC committee concluded that communications were the problem and that they were probably closer to the truth. But in addition, the COMSEC group came up with a methodology for investigating the problem and plugging the holes.⁷²

The COMSEC committee adopted a multidisciplinary methodology for looking at the problem in which all facets, including communications, would be studied. NSA had been working on the methodology for several years, and the Navy had already tried it with some success in surveying maritime operations in the Gulf of Tonkin (called Market Time).⁷³

The committee also borrowed from a COMSEC study of Arc Light operations done in 1965, called the Guam Area Study. Although the Guam study looked at the communications of all three services, it concluded that most of the insecurities came from SAC communications. Traffic analysis of encrypted messages yielded much pre-operations information, including probable launch times. They also discovered voluminous plaintext voice by logistics people an hour before the launch. Finally, they

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

found that prestrike weather flights twenty hours before launch were dead giveaways (as they had been in World War II). In July 1966, Admiral Sharp (CINCPAC) ordered a broader COMSEC study of the problem, encompassing operations throughout the Pacific.⁷⁴

The PURPLE DRAGON Task Force

The CINCPAC and DIA studies joined in September. Sharp agreed to adopt the broader DIA multidisciplinary approach, and he named his J3 to head the effort. The new study, called PURPLE DRAGON, would encompass Rolling Thunder, Arc Light, and Blue Springs. Teams of experts would be dispatched throughout the theater. They would first interview all people involved in the three operations. They would then observe the operations, following that up with observations of support activities, including logistics and intelligence. They would build a database for their information and would build three profiles: operations, communications, and counterintelligence. An NSA person, Robert Fisher, served on the CINCPAC PURPLE DRAGON staff, and there was heavy infusion from the SCAs, primarily for COMSEC monitoring.⁷⁵

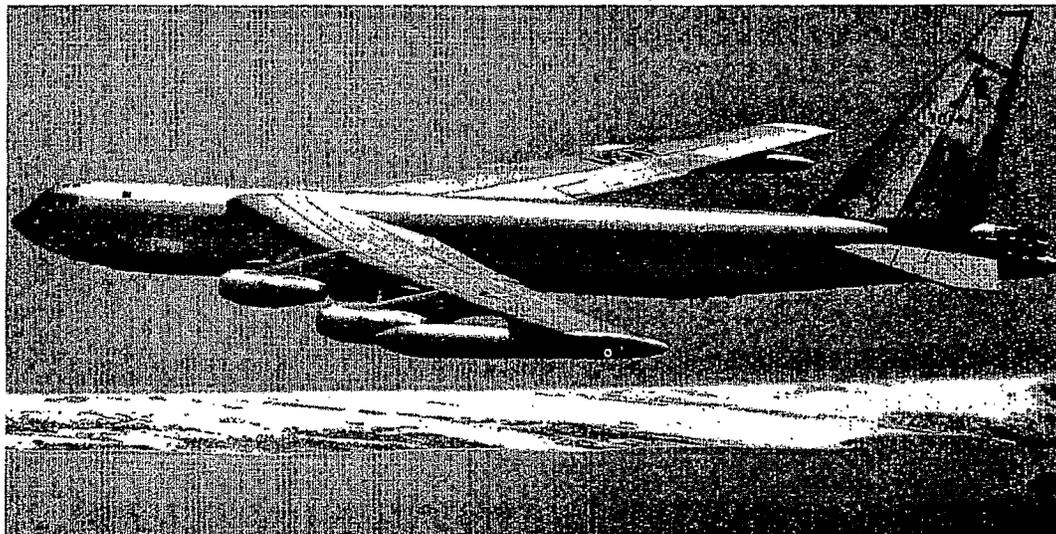
The first PURPLE DRAGON study concluded in April 1967. It had a big impact on operations in Southeast Asia, none more significant than Blue Springs. They discovered that the major leak was the encrypted single sideband messages from Bien Hoa to Da Nang prior to every mission. Using traffic analysis of that link alone, the team was able to predict eighteen of the twenty-four missions. As an almost direct result of introducing communications security on the link, drone recovery increased from 35 percent to 70 percent by November 1977.⁷⁶

Arc Light was much more complex and harder to solve. One of the main culprits proved to be the information fed to the Manila and Saigon air control centers. This information was released all over Southeast Asia as NOTAMs (Notice to Airmen) giving flight routes, altitude reservations, and the estimated time of arrival at Point Juliette, the aerial refueling spot, hours in advance of the mission. SAC tightened up by curtailing much of the information in the NOTAMs and by delaying that which was passed until a time closer to takeoff.⁷⁷

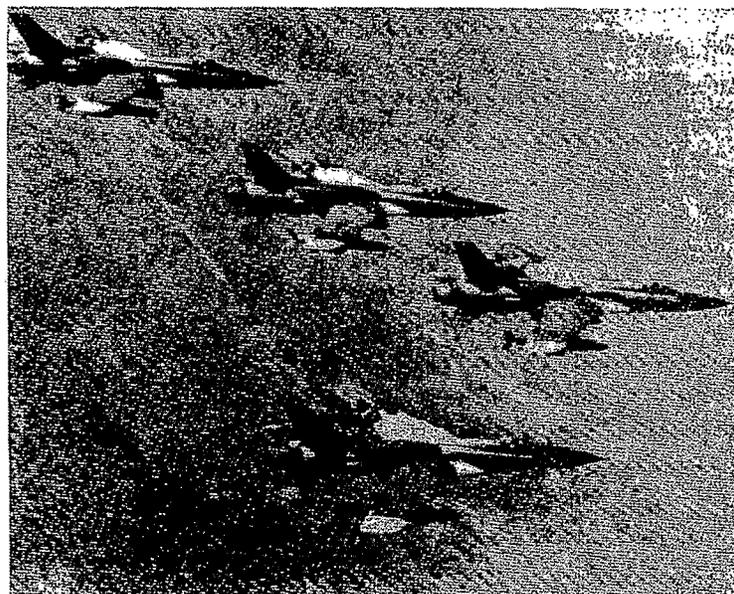
MACV had been passing warnings to villagers in the targetted area. This procedure was modified by simply declaring certain areas as free fire zones and discontinuing the advance notification program.⁷⁸

Of the three, Rolling Thunder was the most difficult to plug. PURPLE DRAGON investigators found that many of the enemy's sources of warning consisted of tactical information obtained after the planes were launched. They determined that between 80 and 90 percent of the missions were being alerted, with an average warning time of thirty minutes for Navy missions off the carriers and forty-five minutes for Air Force missions

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~



B-52



Air Force F-105 fighter-bombers on a Rolling Thunder mission

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

from airfields in South Vietnam. EB-66s accompanied many of the missions (those expecting hostile fire in particular), and those aircraft used distinctive callsigns. Rolling Thunder frag (read "operations") orders were distributed to 120 different organizations, and those in turn often issued information that could be tied to the takeoff of bombing missions. MACV cut down on the number of organizations getting gratuitous copies of the operations orders, and the Air Force changed callsigns for some of their operations.⁷⁹

Much of what needed to be done simply could not be because of outside factors. MACV never did alter stereotyped operations (such as takeoff times, refueling points, and ingress routes) sufficiently to confuse the North Vietnamese. Tanker operations remained highly stereotyped throughout the war and in fact represented the most vulnerable aspect of Rolling Thunder.⁸⁰

The Permanent Staff

Following the initial blush of success, Admiral Sharp made a permanent place on his staff for the PURPLE DRAGON operation. He placed it in the J3 (operations) directorate, and NSA assigned a permanent representative (once again, Robert Fisher).⁸¹

There was obviously a need to educate people about the concept and about the methodology and specific information that PURPLE DRAGON uncovered. This generated the first worldwide OPSEC conference, hosted by DIA at Arlington Hall Station in May 1968. Following the conference, General Wheeler directed that all Unified and Specified commands establish OPSEC organizations. He also created an OPSEC organization on the Joint Staff. Meanwhile, OPSEC conferences continued annually and helped to focus activity for the U&S commands. Cryptology continued to be a major player, and in 1988 NSA was given the job of worldwide OPSEC training under the newly published NSDD (National Security Decision Directive) 298.⁸²

The OPSEC concept in use in the defense department of the 1990s was largely an outgrowth of the PURPLE DRAGON study. It was a significant factor in prosecuting the air war in Vietnam, although neither it, nor anything else the United States tried in Vietnam, was a panacea. The CINCPAC OPSEC team would periodically resurvey operations in Southeast Asia, and they found that, as the U.S. tightened up procedures, the North Vietnamese would find another leak, and their warning time would float back up to where it had been. Like cryptology in general, OPSEC proved to be a constant struggle to stay ahead.⁸³

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
~~NOT RELEASABLE TO FOREIGN NATIONALS~~

Notes

1. Eric F. Goldman, *The Tragedy of Lyndon Johnson* (New York: Alfred A. Knopf, 1969), 402.
2. CCH Series VI.HH.15.1.
3. Goldman, 404; Karnow, 415.
4. Karnow, 415-18.
5. Karnow, 420-22.
6. CCH Series VI.HH.15.1.
7. Karnow, 479-80; CCH Series VI.HH.15.1 & 2.
8. CCH Series VI.HH.15.1 & 2.
9. CCH Series VI.HH.15.1.
10. Ibid.
11. CCH Series VI.HH.15.1.
12. Ibid.
13. [redacted] and William D. Gerhard, *SIGINT Applications in U.S. Air Operations, Part I: Collecting the Enemy's Signals*, Cryptologic History Series, Southeast Asia (Ft. Meade: NSA, 1972).
14. [redacted] et al., *SIGINT Applications...*
15. CCH Series VI.HH.15.1.
16. [redacted] et al., *SIGINT Applications ...*, VI.HH.11.3.
17. CCH Series VI.HH.12.1.
18. CCH Series VI.HH.12.2.
19. Gerhard Collection.
20. CCH Series VI.HH.15.12.2; ESC oral interview with [redacted] San Antonio, Tx, 1 Aug 1986.
21. VI.HH. 15.12.2.; VI.HH.11.1-11.5; SMSgt Frank Whitacre, "A Historical Study of the Drawdown of USAFSS Operations in Southeast Asia (SEA)" (San Antonio: USAFSS, 1974).
22. Whitacre, VI.HH.15.12.2.
23. VI.HH.11.1.
24. CCH Series VI.HH.15.12.2.
25. CCH Series VI.HH.15.1.
26. [redacted] *Focus on Cambodia*, Cryptologic History Series, Southeast Asia (Ft. Meade: NSA, 1974).
27. Gaddy interview.

P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

28. Gaddy interview.
29. CCH Series VI.HH.9.6.
30. Ibid.
31. Ibid. [redacted] interview, Johnson Library, NSF.
32. "A History of the USAFSS Airborne SIGINT Reconnaissance Program (ASRP), 1950-1977," USAFSS history dated 20 September 1977, available at AIA, Kelly AFB, San Antonio; CCH Series VI.HH.23.2-23.5.
33. McManis interview, Johnson Library, NSF.
34. "A History of the USAFSS Airborne Reconnaissance Program . . .," interview with Major General (USAF, Ret.) Doyle Larson, 15 March 1994, by Charles Baker and Tom Johnson, NSA OH 15-94.
35. CCH Series VI.HH.23.26.
36. CCH Series VI.HH.6.53.
37. Ibid.
38. CCH Series VI.HH.6.38.
39. CCH Series VI.HH.15.1.
40. [redacted] et al.; *SIGINT Applications*. . .
41. Ibid.
42. Ibid.
43. Ibid.
44. Ibid.
45. Ibid.
46. CCH Series VI.HH.11.3.
47. CCH Series VI.HH.11.1; James E. Pierson, "A Historical Study of the Iron Horse System; 1965-1973," USAFSS history available at AIA, Kelly AFB, San Antonio, Texas.
48. Pierson, CCH Series VI.HH.15.9.
49. Pierson.
50. CCH Series VI.HH.11.1.
51. Ibid.
52. Ibid.
53. CCH Series VI.HH.11.1.
54. CCH Series VI.HH.11.1.
55. Ibid.
56. Ibid.; Johnson Library, NSF, in CCH Series XVI.
57. VI.HH.11.1; 11.3.

P. L.
86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
NOT RELEASABLE TO FOREIGN NATIONALS

- 58. VI.HH.11.1.
- 59. [redacted] et al., *SIGINT Applications*. . .
- 60. CCH. Series VI.HH.; Pierson, Iron Horse. . .
- 61. Pierson, Iron Horse. . .
- 62. [redacted] article in *Cryptolog*, 3rd issue, 1987, 7-9.
- 63. [redacted] et al., *SIGINT Applications*. . .
- 64. CCH Series VI.HH.11.3.
- 65. CCH Series VI.HH.
- 66. [redacted] *Deadly Transmissions*
(*COMSEC Monitoring and Analysis*), Cryptologic History Series, Southeast Asia (Ft. Meade: NSA, 1970);
[redacted] *PURPLE DRAGON: The Origin and Development of the United States OPSEC Program*, United
States Cryptologic History, Series VI, Volume 2 (Ft. Meade: NSA, 1993); interviews with David Gaddy and David
Boak, October 1994.
- 67. Ibid.
- 68. [redacted] *PURPLE DRAGON*.
- 69. Ibid.
- 70. Ibid.
- 71. Ibid.
- 72. Ibid.
- 73. Ibid.
- 74. [redacted] et al., *Deadly Transmissions*.
- 75. [redacted]
- 76. [redacted] et al., *Deadly Transmissions*.
- 77. Ibid.
- 78. Ibid.
- 79. [redacted] *PURPLE DRAGON*.
- 80. Ibid.
- 81. [redacted] *PURPLE DRAGON*, [redacted] "The Great Conversation," *Cryptolog*, 1st Issue 1992, 2-6.
- 82. [redacted] "OPSEC as a Management Tool," *Cryptolog*, 1st Issue, 1992, 7-9.
- 83. [redacted] *PURPLE DRAGON*.

P. I. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Chapter 13 The Withdrawal

THE TET OFFENSIVE

Americans do not like long, inconclusive wars - and this is going to be a long, inconclusive war.
Thus we are sure to win in the end.

Pham Van Dong, North Vietnam's chief negotiator at the Paris peace talks

In Vietnamese history there are many Tets. Like the American Christmas, the lunar New Year holiday is celebrated every year - one of the big events in the timeless cycle of Southeast Asian civilization.

In American history there is only one Tet. It has become a synonym for defeat and withdrawal, the beginning of the great unraveling of American power in the region. Like many symbols, the characterization is desperately inaccurate in the military and cryptologic senses, but generally true from the political perspective. That is why Tet 1968 symbolizes the deep fissures about Vietnam within American society.

The Planning

It has become generally recognized that the communist strategy in Tet was to mount a sudden, massive assault, forcing the Americans to recognize the instability of their alliance with the South Vietnamese government and to realize the difficulty of ejecting the communists from their own country. It was to drive home to the Americans the long-range impossibility of surmounting a determined adversary on his own soil. Some say that it was a one-shot affair, but the weight of evidence is against it. Although the North Vietnamese leaders did call for a popular uprising against the Thieu government, there was no sense that, if it failed, they had come to the end. They would simply continue the struggle. Just as there would be lunar new years into the trackless future, there would be other times and other Tets.

The tactic of Tet was to divert American attention to border areas, while building for a major assault on the urban populations. To do this, the North Vietnamese would have to mount a major dry season offensive. By attacking in outlying provinces, Giap, the Vietnamese general, sought to make them magnets for American units, then hit the unguarded cities. He aimed for surprise, but he was confronted with the extreme difficulty of readying so many people for such a herculean task without alerting the enemy.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
NOT RELEASABLE TO FOREIGN NATIONALS

The Beginnings

The winter-spring offensive began, it is now believed, in September 1967 with a surprise attack on a small Marine fire base located on a barren hill south of the DMZ near the town of Con Thien. Westmoreland was delighted that the North Vietnamese appeared at last to be mounting major unit-level assaults. To defend Con Thien, he called in B-52 strikes, artillery, tactical air bombardment -- anything at hand. Con Thien held.¹

The next attack was planned for Dak To, a provincial town northwest of Pleiku in the Central Highlands. But this time it was not a surprise. On 20 October the ASA station at Pleiku picked up indications that the B3 Front had sent a detached element toward Dak To, and two other NVA divisional organizations appeared to be concentrating in the Dak To area. Three days later [redacted] referred to "combat reconnaissance," an almost certain indicator of offensive action. Dak To was immediately reinforced. Aerial bombing in the area of an ARDF fix brought secondary explosions, and American units air-assaulted a hill near the town, encountering heavy enemy resistance. The resulting battle was one of the biggest of the war. It came to involve nine American battalions, an airborne brigade, and over 2,000 air sorties. Roughly 1,600 NVA troops were killed by ground action, and 500 more by aerial bombardment.²

EO 1.4.(c)

SIGINT picked up other indicators of major developments. In Nam Bo, the southern part of the country, changes to signal plans, accompanied by military reorganizations, long-distance unit moves, and the use of tactical signal plans appeared to presage some larger, undefined development.³

The SIGINT indicators were accompanied by similar indications in captured documents and rallier interrogations. Something was afoot, and U.S. military authorities in Saigon had divined it by early January 1968. On the 7th, Westmoreland cabled the White House that

We think that the enemy made a major decision in September 1967 to launch an all-out effort to alter the course of the war . . . the Winter-Spring campaign which began in late October is offensive in nature and exhibits a disregard for casualties heretofore unseen. It calls for continuous military offensives by large and small units, and concurrent political efforts to stir up popular revolt against the GVN [Government of South Vietnam].⁴

But then, in one of the most infamous miscalculations in American military history, Westmoreland focused his attention on the border areas. There, he believed, was where the major blow would fall, with attacks in the cities serving primarily as a diversion to military assaults on the exposed periphery.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

His assessment was supported by SIGINT indicators of a major buildup in the Central Highlands (witness the assault on Dak To and the significant NVA concentrations still in that area) and far to the north, in Quang Tri Province. One of his area commanders, General Fredrick Weyand, did predict on 10 January that the main assault would come in the urban areas. Weyand was in charge of III CTZ (III Corp Tactical Zone), which included Saigon, so his warnings seemed to have something to do with his own responsibilities. Westmoreland did not disagree with him; indeed, he made major changes in his defensive and offensive deployments to support Weyand's defense of the Saigon area. Still, Westmoreland continued to be concerned primarily about the north and west.⁵

Khe Sanh

The largest diversion was at Khe Sanh. Located on the Khe Sanh Plateau in Quang Tri, the northernmost province of South Vietnam, Khe Sanh was a key point if one were to defend the area immediately south of the DMZ. Located astride major transportation links in the interior, some distance from the coast, it bore a superficial resemblance to Dien Bien Phu.

Beginning in November 1967, SIGINT began tracking the concentration of NVA units in the Khe Sanh area. Two divisions began moving from the North into South Vietnam, the first time two NVA divisions had ever moved simultaneously. This caught everyone's attention and clearly pointed to Khe Sanh as the major battleground for the upcoming offensive. Everyone believed it, most of all Westmoreland. He began building up forces at Khe Sanh in anticipation. Westmoreland believed that Khe Sanh was to be the Dien Bien Phu of the American war, but this time the result would be reversed.⁶

The assault on Khe Sanh began on 21 January and did not end until April. It was defended by the Marines, assisted by a small Marine SIGINT detachment ranging from fourteen to twenty-four men. The Marine detachment had HF Morse, LLVI, short-range direction finding (SRDF), and access to the entire SIGINT system. This included ARDF support from the Air Force (EC-47s from two different programs) and links to the NSG detachment at Da Nang. Technical support was provided from USM-808 at Pleiku, which was collection management authority for the northern area. In addition, the ARVN had a small SIGINT detachment at Khe Sanh which was duplicating what the Marines were doing. When this was discovered, the American and ARVN SIGINT units were physically combined, and the ARVN were employed as linguists to transcribe tapes.⁷

The amalgamation was successful, and Khe Sanh became one of the greatest SIGINT success stories ever. The ground unit intercepted NVA artillery firing orders in time for the Marines to get under cover. They also collected ground assault orders, and one participant estimated that SIGINT predicted some 90 percent of all ground assaults during the siege.⁸

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

Hovering ARDF aircraft passed fixes on NVA units, and artillery fire from Khe Sanh was mostly directed from this source. Under good conditions, the elapsed time between obtaining a fix and "shells-in-the-air" was about ten minutes. At one point ARDF located Hanoi's forward command element for the Khe Sanh action, and tactical air strikes virtually obliterated it. COMINT was either the sole source of targetting information (30 percent of the time) or was married with other sources to produce what 7th AF intelligence chief, Major General George Keegan, characterized as the "best target database in the history [of the war]."⁹

Khe Sanh cost the North Vietnamese about 10,000 killed, as opposed to 500 Marines dead.¹⁰ The level of effort at Khe Sanh, the time period it encompassed, and the casualties the North Vietnamese were willing to endure indicate that it was a military objective that stood on its own. Otherwise, Giap would have broken off the encounter far earlier.

NSA and the Impending Storm

By mid-January, NSA analysts were becoming concerned by NVA communications trends. This agitation began to show up in items in the Southeast Asia SIGINT Summary. One after another, the indications of a major assault bobbed to the surface. Never before had the indicators been so ubiquitous and unmistakable. A storm was about to break over South Vietnam.¹¹

Then on 25 January, NSA published a baldly predictive report. Titled "Coordinated Vietnamese Communist Offensive Evidenced in South Vietnam," it began in unambiguous language:

During the past week, SIGINT has provided evidence of a coordinated attack to occur in the near future in several areas of South Vietnam. While the bulk of SIGINT evidence indicates the most critical areas to be in the northern half of the country, there is some additional evidence that Communist units in Nam Bo may also be involved. The major target areas of enemy offensive operations include the Western Highlands, the coastal provinces of Military Region (MR) 5, and the Khe Sanh and Hue areas.

Details were most profuse in the northern areas, while Nam Bo got relatively short shrift. This appears to have been because SIGINT was more voluminous in the north, rather than an attempt to steer the reader toward the idea that the north would be the major objective. American SIGINT attention had always been focused on the northern provinces, where the largest concentration of American troops was. Moreover, like the party organization itself, communist communications structures in the south had always been looser and less susceptible to intercept and analysis.¹²

The report was succeeded by a series of follow-ups providing additional details as they unfolded. The reports grabbed a lot of attention at MACV, and by all accounts, deeply influenced Westmoreland's counterassault strategy. He continued to beef up American

HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS

~~TOP SECRET UMBRA~~

units in the north and the Central Highlands. He also cabled the White House to recommend cancellation of the Tet truce which was scheduled to take effect for the duration of the holidays. He got a reduction in the number of days, but the truce itself was in effect when the offensive began. According to political scientist James Wirtz, the failure of the Johnson administration to cancel the truce in the face of overwhelming evidence that a conflagration was imminent was one of the major miscalculations of the war.¹³

SIGINT product reports began referring to "N-day" and "G-hour," never-before-seen terms which seemed to refer to attacks of unprecedented magnitude. On 28 January, an NSA product report detailed the N-day for the Central Highlands - it was 0300 (local) on 30 January. The commonality of terms throughout the country clearly pointed to massive, coordinated attacks. (This was the first of the NSA report series to be addressed to the White House.)

MACV was ready, but the ARVN were not. They took the Tet holidays quite seriously, and when the blow fell, were generally in a holiday mood and a holiday deployment. The White House, too, seemed unprepared for what was about to happen. There was no mood of crisis at 1600 Pennsylvania Avenue.¹⁴

The Storm

The difficulty of coordinating such an unprecedented offensive proved insurmountable for the NVA. Some units in the Central Highlands attacked a day early, on 29 January. Pleiku and Kontum City, as well as smaller provincial towns, were assaulted in the early morning hours, and the attackers were not finally thrown back until four days had passed.¹⁵

The blow fell on the rest of the country twenty-four hours later. The coastal areas were hammered with coordinated attacks on 30 January. The major provincial capital of Nha Trang was occupied by the NVA for several days before being ejected with heavy losses. Quang Tri City was also attacked, but the most devastating blow fell on Hue. On 30 January, ARDF showed major NVA units clustering outside the city, and the next day the forces stormed into the city. American Marines finally completed the retaking of Hue on 24 February after a bloody struggle that left more than 2,000 NVA dead. The North Vietnamese captured and executed many of the leading politicians in the city, a tactic which caused them so much ill will that they pointedly avoided it in 1975. More than 3,000 civilian corpses were exhumed after the battle. It was one of the sorriest episodes of the war.¹⁶

In the III Corps area (including the Saigon environs), attacks opened on 31 January. The largest assaults were against Saigon and the Bien Hoa-Long Binh complex, but attacks also included Tay Ninh City, An Loc, and many others. Vietnamese Communist forces entered Cholon (the old Chinese quarter) from the west, and a sapper battalion

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

assaulted the presidential palace and the American embassy. Though costly and unsuccessful, these attacks produced camera footage that horrified a nation and undoubtedly produced the turning point in American attitudes that Giap was after.¹⁷

The Assessments

The postmortems began even before the last NVA troops were routed from Hue and Saigon. CIA put together a study group, at PFIAB request, which included representatives from NSA and all the other Washington area agencies. Maxwell Taylor, the new PFIAB chair, requested that the DCI "ascertain to what extent, if any, our intelligence services and those of our allies were at fault in failing to alert our military and political leaders of the impending large-scale attack on the cities and towns of South Vietnam."¹⁸

The resulting study stated that

... communications intelligence was able to provide clear warning that attacks, probably on a larger scale than ever before, were in the offing. Considerable numbers of [redacted] enemy messages were read. These messages appeared in many areas of South Vietnam. They included references to impending attacks, more widespread and numerous than seen before. Moreover, they indicated a sense of urgency, along with an emphasis on thorough planning and secrecy not previously seen in such communications. . . . The indicators, however, were not sufficient to predict the exact timing of the attack.¹⁹

EO
1.4.(c)

Aside from the last statement (invalidated by the N-day, G-hour warning that NSA issued on 28 January), the DCI assessment seemed pretty accurate. COMINT did indeed serve as the main predictive element in the intelligence puzzle preceding Tet. The sense of foreboding that cryptologists felt throughout January 1968 was transferred to MACV and Westmoreland's staff.

That was about as good a prediction as could have been advanced. There was no precedent for the scope and ferocity of Tet, because it was a unique event in the war. But the military authorities in Saigon were as ready as they could have been under the circumstances.

The sense of urgency did not appear to have penetrated the White House. This was unusual in Lyndon Johnson's administration. He and his staff were avid consumers of intelligence in general and SIGINT in particular. But they did not seem to have been ready.

What SIGINT was criticized for was not the fault of the cryptologists. Owing to the concentration of SIGINT resources on the central and northern parts of the country, and to the historical ineffectiveness of SIGINT in the south, the product reporting drew the customer toward the northern and border areas. There were fewer SIGINT indicators in the south, and SIGINT cannot report what it does not hear.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

What occurred was a phenomenon that became famous after the Battle of the Bulge in World War II. SIGINT had only part of the picture, and intelligence analysts relied too heavily on the single source. In hindsight, it is clear that too little attempt was made to flesh out the rest of the picture through rallier interrogations, captured documents, and the like. SIGINT became the victim of its own success. The lesson was a moral in all-source analysis.

In a far greater sense, however, it did not really matter. Westmoreland was ready for the major attacks, and he successfully countered them. The NVA lost 30,000 dead, an immense military blow from which it recovered very slowly. The structure of the VC insurgency in the south was shattered forever.

The White House, however, had the job of countering the political blows. It did a poor job of it, and the sense of panic and disorganization was palpable.

THE WAR IS VIETNAMIZED

In the previous administration, we Americanized the war; in this administration, we are Vietnamizing the search for peace....

Richard Nixon, 1969

The President Pulls Out

Following Tet, the Pentagon decided that the time to win the war was now or never. General Wheeler, chairman of the JCS, sent Johnson a request for 206,000 more troops. This demand created a crisis within the Johnson administration's inner circle. It would require the call-up of reserves and would place the American people on an all or nothing track in Southeast Asia.²⁰

Clark Clifford, the new secretary of defense, suggested that he form a group which had become known as the "Wise Men," long-time advisors to Democratic presidents. Reporting in March, ten out of the fourteen recommended against an increase in troop strength, and many felt it was time to begin a gradual disengagement.²¹

The Wheeler troop demands, and the resulting debates within the Johnson administration, leaked to the press. The story played all through March, and toward the end of the month Robert Kennedy announced his candidacy for president. Johnson announced that he would go on television March 31 to make an announcement.²²

In a historic speech delivered to television viewers from the Oval Office, Johnson announced a halt to the bombing above the 20th parallel and the beginning of formal negotiations with the North Vietnamese. Long-time Democratic stalwart Averell

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

Harriman was named to head the negotiating team. And in a surprise announcement at the end of the speech, the president stated that he would not run again in 1968.²³

For Americans, the war was only half over from a chronological standpoint, and more American soldiers were killed after Tet than before it. But the 31 March speech began a new phase. The United States was beginning a military withdrawal and would henceforth rely on negotiations to reach a peace accord.²⁴

Vietnamization

Almost immediately, the JCS set to work on a plan to gradually turn over military operations to the ARVN. When President Nixon took over, with the avowed goal of Vietnamizing the war, the JCS was already moving in that direction.

A formal plan to support Nixon's version of Vietnamization was first drafted in late 1969, following his Vietnamization speech. Called JCSM 42-70, it contained a cryptologic tab written by NSA in collaboration with the SCAs. It was coordinated with the Vietnamese SIGINT service (then called the SSTB, or Special Security Technical Branch), but it was never offered for the approval or disapproval of the South Vietnamese government.²⁵

NSA planned to turn over much of the SIGINT mission to the SSTB. In order to do this, it would be necessary to both augment its numbers and increase its competence. It had a long-range goal: "The RVNAF eventually will be capable of providing COMINT in satisfaction of its military requirements generated by the ground war in RVN."²⁶

At the time, SSTB consisted of about 1,000 people, three fixed sites (Saigon, Can Tho, and Da Nang), a small ARDF effort using U-6s, and a four-station DF net. It had no ELINT mission. It had plans for a major expansion of its tactical capability, modeled after the ASA DSU concept, but as yet only one of the ten planned units was in existence.²⁷

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~



Richard M. Nixon

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

In 1970, at the inception of the Vietnamization program, Admiral Gayler characterized the organization as "fairly effective" but in need of certain managerial and technical improvements. The ARDF effort was "considerably less than satisfactory" and the medium-range direction finding (MRDF) net was "not accurate." Still, he concluded that "it is considered feasible for RVNAF to be able within the next three years to cover all Vietnamese Communist communications. . . ." Gayler felt the job was difficult but doable.²⁸

The South Vietnamese SIGINT system had been headed by [redacted] since 1963. [redacted] was considered by CIA to be a strong point, especially in the area of security. He ran a "tight ship," according to a CIA evaluation, and as a result, the SIGINT organization was a bulwark of security, especially when compared with the porous South Vietnamese government. [redacted] reported directly to the J7 element of the ARVN Joint General Staff. COMINT was considered to be highly sensitive, and SIGINT matters would sometimes wind up in President Thieu's office.²⁹

To support the Vietnamese military structure as NSA understood it in 1970, SSTB strength would have to climb from about 1,000 to approximately 1,500 bodies. It would add one fixed site at Pleiku, collocated with the ASA unit there. This would bring the SSTB fixed sites to a total of four: Saigon, Can Tho, Da Nang, and Pleiku. In places like Can Tho, SSTB operators would sit side by side with ASA operators in order to enhance training.³⁰

NSA maintained overall control of Vietnamization and established the training plan. NSA instructors taught some of the higher-level training courses, but the execution of the plan was decentralized. ASA and AFSS both got major training responsibilities.³¹

ASA was given responsibility for training the SSTB ground COMINT effort, including the ten tactical units. A team of advisors was attached to each of the units, called DARR (Division) and CARR (Corps) Advisory Radio Research units.³² Regarding ARDF, NSA decided to turn over twenty EC-47 ARDF aircraft to the ARVN. Thus, to AFSS would fall the responsibility for ARDF training.³³

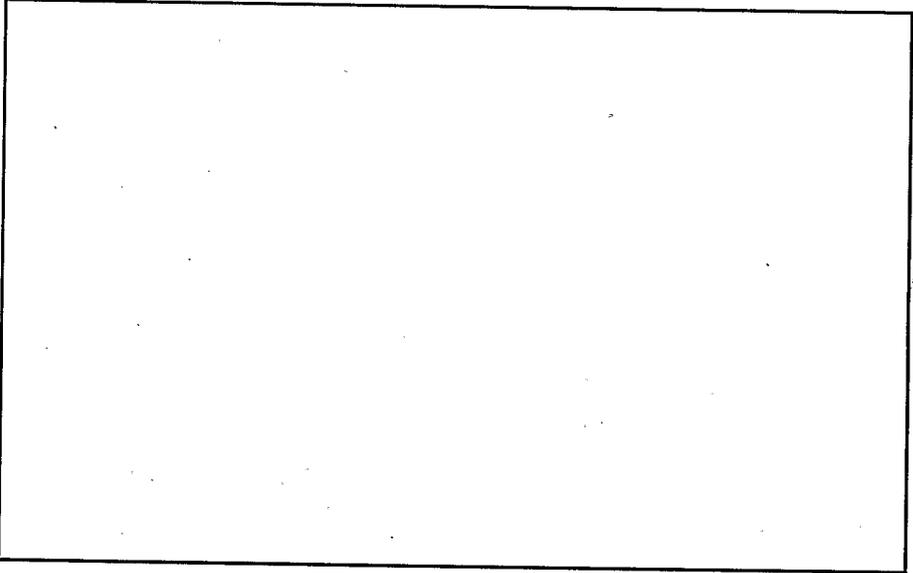
Vietnamese SIGINT communications security had to be improved. NSA initiated Project LACEBARK, which would upgrade crypto gear. The new COMINT network would internet the four fixed sites, EC-47 unit, and the tactical units.³⁴

This was part of a larger project to upgrade South Vietnamese military communications in general. NSA intended to get rid of the obsolete Python tape system. The KL-7 off-line crypto equipment would be provided to RVNAF crypto nets. M-209s, of World War II vintage, affording minimal security, would be provided to the National Military Police, while NESTOR secure voice equipment would be provided to selected RVNAF combat units.³⁵

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

EO
1.4.(d)

~~TOP SECRET UMBRA~~



Vietnamese operators in training

~~HANDLING INFORMATION CONTROLS SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

569

~~TOP SECRET UMBRA~~

~~TOP SECRET UMBRA~~

Nixon did not wait to see the results of the Vietnamization program. In March 1970 he announced a phased withdrawal of 150,000 U.S. troops over the course of the next year, despite the anguished protests of General Abrams, who had succeeded Westmoreland at MACV. The next year the president ordered the removal of another 100,000, and this continued until, by the beginning of the 1972 Easter Offensive, there were only 95,000 American troops in Vietnam, of whom only 6,000 were combat troops.³⁶

This rapid withdrawal schedule was not reflected in the SIGINT plan. The 1970 cryptologic Vietnamization plan showed a phasedown from 8,500 cryptologic spaces in Vietnam in 1970, to 6,654 in 1973. The secretary of defense commented to the JCS that the cryptologic levels did not seem in concert with the president's ideas about the pace of Vietnamization. It became characteristic of the cryptologic posture that it trailed rather badly behind the removal of combat troops. This undoubtedly reflected the long lead time required to get SSTB up to speed, in people, equipment, and expertise. Despite Admiral Gayler's initial guarded optimism, NSA and the SCA's all expressed ambivalence about the long-range capability of SSTB to do the job.³⁷

American Special Operations

The slowness of the cryptologists to depart was reflected in the continuing vitality of American SIGINT operations in the theater. One manifestation was SIGINT support for Task Force Alpha.

Task Force Alpha, or TFA, was organized by 7th AF in the spring of 1968 and positioned at [redacted]. Its mission was to gather NVA infiltration data from such sources as IGLOO WHITE (the electronic sensor system in Laos) and SIGINT. A primary source was infiltration communications collected by the RC-135 in the Gulf of Tonkin. This information was downlinked in near-real-time to a special USAFSS unit collocated with TFA. This unit also had available SIGINT collected by EC-47s from the ARDF unit, as well as information from USM-7 at Ramasun Station.³⁸

Task Force Alpha, with its unexcelled access to the key intelligence systems targetted on the Trail network, was very successful. In the summer of 1968 it even directed aerial bombardment of the Trail. Although this authority was pulled back to Tan Son Nhut at the end of the summer, the long-range effect on the cryptologic community in the theater was considerable. It began a shift of cryptologic operations into Thailand and an increased focus on using SIGINT to try to choke off infiltration, rather than on supporting American ground combat forces. It was in line with the direction that the war was going.³⁹

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

TOP SECRET UMBRA

Another special operation was COLLEGE EYE, an EC-121 that flew out of [redacted] [redacted] COLLEGE EYE was an airborne radar station that was used to extend American radar coverage farther north. It was also used as a communications relay so that Monkey Mountain could still talk with its aircraft outside VHF communications range.⁴⁰

Aboard the COLLEGE EYE aircraft were four SIGINT positions, codenamed RIVET GYM. Manned by USAFSS, the positions were used for COMINT tactical voice intercept. SIGINT was passed directly to the on-board controller, who correlated it with the information that he got off his radar scope. Thus he knew not only where the North Vietnamese fighters were, but what they were saying to their ground controller.⁴¹

In the Gulf, the Navy was going its own way on SIGINT. The larger vessels had small afloat detachments for direct SIGINT support. Among other things, they all copied North Vietnamese Air Defense nets, both radar tracking and VHF air/ground voice, to provide support to Task Force 77 air operations. At any given time there were four or five such detachments, each operating independently.⁴²

In 1969 the detachments were internettted under a project called CHARGER HORSE. Through the net they began exchanging information. This allowed them to divide up the responsibility for air defense monitoring so that they weren't all copying the same nets, and to intercept lower level NVA air defense communications to reduce the lag time by several minutes. The information, which included both air defense tracking (considered sanitizable) and VHF voice (not sanitizable), was exchanged over the Naval Tactical Data System.

A second naval operation was called FACTOR, which was an attempt to use SIGINT to stop North Vietnamese maritime infiltration. It had a long history behind it.

FACTOR's story stretched back to 1962. In November of that year NSG first isolated a communications net that supported NVN maritime infiltration. The North Vietnamese called it Group 125, and its mission was to load war material aboard steel-hulled trawlers and run them down the coast to South Vietnam. The trawlers would stand off in international waters until they felt they were not being watched, then dart into the coast to unload the goods.

At the time the cryptologic community was simply following the operation in SIGINT; no attempt was being made to tip off any counterinfiltration operations. But the longer they listened, the less activity they intercepted, and by July 1966 they had completely lost continuity on Group 125 communications. NSA suspected that the vessels had been diverted to other operations, particularly escorting combat vessels to and from China.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

TOP SECRET UMBRA

~~TOP SECRET UMBRA~~

After the 1968 bombing halt, Group 125 went back to maritime infiltration, and by November 1968 NSA had again isolated communications from a net that eventually proved to be continuity of Group 125. By 1970 maritime infiltration represented a significant problem, and NSA decided to see what it could do about designing a SIGINT tip-off system. A special position was designed under a new project, called FACTOR. The equipment maximized intercept of ground waves from the frequency range used by the trawlers, the equipment was sent to Cam Ranh Bay, and from there it was loaded aboard two P-3s being used for "Market Time," an interdiction operation.

Success was immediate, and the P-3s intercepted trawler communications on their first mission. NSA designed a tip-off system to flash the intercepts to Market Time operations. A CIA assessment later in the year waxed poetic about the success that Market Time was having, at least partly a result of improved SIGINT support.⁴³

The Cambodian Incursion

In the long story of the Vietnam War, one military foray stands virtually alone in the extent and consequences of its failure. The Cambodian incursion was an unmitigated disaster.

The seeds of that failure were in the unstable political situation in Cambodia. The Cambodian leader, Prince Norodom Sihanouk, had lacked the political and military will to keep out NVA forces, which used the eastern section of his country virtually at will as a logistics and infiltration base. In March 1970, his chief lieutenant, General Lon Nol, and a coterie of his Army supporters overthrew him.⁴⁴

While all this was going on, Richard Nixon was considering what to do about NVA domination of sanctuary areas in Cambodia. In February 1970 he authorized a secret bombing campaign which would target NVA base areas in Cambodia.⁴⁵ Although supposedly secret, the bombing became known to many American correspondents in Vietnam. In May a *New York Times* reporter, William Beecher, officially revealed it. Nixon's reaction was rage, and he directed that the source of the "leak" be discovered. He ordered wiretaps on suspected journalists and eventually on White House staff members. Thus began a pattern of White House paranoia which led eventually to Watergate. It started with Cambodia.

The pro-Western Lon Nol was no sooner in power than he launched his own campaign to evict the NVA and VC from Cambodian soil, and this was followed by a plea for aid from abroad.⁴⁶ The White House responded almost immediately, announcing in late April that the U.S. would provide military supplies and advisors to the new Cambodian government.⁴⁷

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

On 30 April Nixon announced to a stunned American public that American troops had crossed the border into Cambodia in hot pursuit of NVA forces. The press denounced the move as a virtual renunciation of peace talks begun earlier by President Johnson. Demonstrations erupted, and on 4 May panicked National Guardsmen fired into a group of students at Kent State University.⁴⁸

The incursion took three directions: one in the Central Highlands (Binh Tay, Peace in the West), another in the central border area around the Fishhook and the Parrot's Beak (Toan Thong, Total Victory), and the third in the Delta area (Cuu Long, Mekong River). American forces were heavily involved in the first two, but the only support rendered to ARVN in the Delta was riverine.⁴⁹

The SIGINT capability against Cambodia was good. [redacted]

[redacted] Collection was done from a disparate group of sites ranging from ASA sites at Ramasun Station and Pleiku to [redacted] USM-7 at Ramasun was the principal in-theater processing site.⁵⁰

Unfortunately, the planning for the incursion excluded the SIGINT system, allegedly for security reasons. The first word came to ASA lieutenant colonel James Freeze, commander of ASA's 303rd RRB at Long Binh. Freeze was tipped off on 28 April only two days before the operation began, by the G2 of II Field Force Vietnam (FFV).⁵¹

This began a frantic few days of planning and assembling resources. Ultimately, an extensive network of ASA DSUs deployed, including sixteen intercept teams and various higher-level organizations. Low-level voice intercept was of greatest value, but Morse proved almost worthless. [redacted]

[redacted] ASA instituted a complicated courier service which included helicopters to get the traffic back to Quan Loi, where it could be forwarded electrically to Bien Hoa. In June, ASA deployed a team (with the interesting title RATRACE) to Quan Loi to process the take and return it to the units in Cambodia. This eliminated the requirement to get the material back to Bien Hoa.⁵²

The most famous (or infamous) event of the incursion was the attempt to "get COSVN." Long known as the Central Office, South Vietnam, COSVN served as the VC/NVA headquarters in the south. Situated just across the border from Tay Ninh province, its location was fixed daily by ARDF. It moved occasionally, usually to get out of the way of B-52 strikes (which, as we know, were predicted with great accuracy by the NVA intelligence people), and repeated air strikes over the years had never succeeded in doing any effective damage.⁵³

Creighton Abrams wanted to "get COSVN." He had the ARDF fixes, and now he had the authorization to invade Cambodia. The timing seemed right. Whether the attack on COSVN was a primary objective of the incursion or an afterthought is no longer clear. But the press got hold of the COSVN story, and it became common knowledge to the American

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

EO
1.4.(c)
EO
1.4.(d)

people. At that point, pressure from MACV to locate and overrun (or at least bomb) COSVN became considerable.⁵⁴

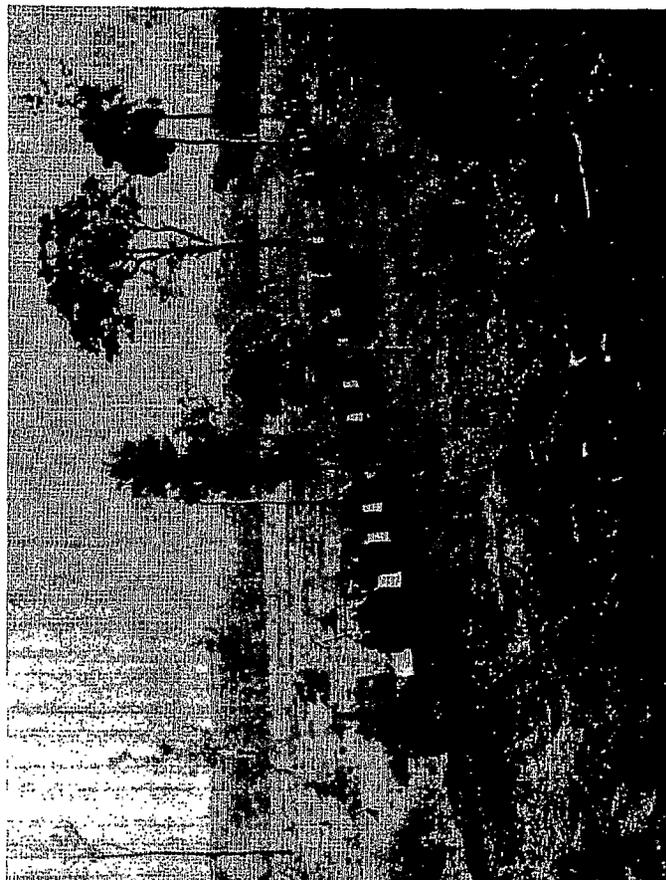
SIGINT was mobilized. Ground positions placed COSVN communications on cast-iron coverage. ARDF flights over Tay Ninh and eastern Cambodia darkened the skies. But the military system moved too slowly. COSVN was able to evade every B-52 strike and every ground maneuver. Abrams complained that he could have gotten COSVN had he not been forced to use the slow-moving ARVN 5th Division instead of an American unit.⁵⁵

But the fact was that MACV still did not fully understand the vagaries of SIGINT. SIGINT advisors explained again and again that they were only fixing an antenna and that the transmitter, to say nothing of the headquarters itself, could be miles away. Moreover, the military targetting system seemed inflexible - SIGINT reports that COSVN had pulled up stakes from location A and was now at location B were not enough to get a strike cancelled or diverted. American bombs tore up miles of jungle, and ARVN troops floundered through a trackless quagmire of Cambodia in pursuit of COSVN. They never caught up with the headquarters, which moved safely to central Cambodia ahead of the advancing Allies.⁵⁶

The best they ever did was to capture supplies. In early May, an ARDF fix located a base area of COSVN known as "The City" because of the extensive logistics depot suspected to exist there. Acting on this intelligence, an ARVN unit struck the complex and captured a vast store of material. It was enough to set back NVA offensive plans for a definable period of time. But it wasn't COSVN.⁵⁷

The incursion was a limited military success. American and ARVN troops proved capable of capturing any territory that they really wanted. But the long-range results were disastrous. The U.S./ARVN forces drove the NVA deep into Cambodia, where the NVA set up shop. By mid-May the major Cambodian provincial capital (and choke point on the Mekong) of Stung Treng fell, and within a month the NVA held every province in northeast Cambodia. Using this as a base of operations, their Khmer Rouge communist allies began an offensive against the Lon Nol government which ultimately led to the fall of Phnom Penh in April 1975, and began the great Pol Pot reign of terror. Few operations in American military history had such dismal consequences.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~



The 25th Infantry Division heads into Cambodia, May 1970.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Lam Son 719

By early 1971 Creighton Abrams was becoming concerned about evidence pointing to a major NVA offensive during the 1972 dry season. The administration, as well, was concerned about the political consequences of a possible ARVN defeat so close to the November 1972 elections. Thus originated Lam Son 719, an attempt to invade Laos and disrupt the NVA logistics system that was being used to funnel record numbers of troops and supplies into South Vietnam.⁵⁸

As the Americans had correctly judged NVA plans, so too the NVA intelligence system sniffed out the American and ARVN plans for a preemptive strike. As early as October 1971, NSA reported that NVA communications were showing a heightened concern for the area that the ARVN planned to invade. Through November and December, NSA reporting showed increased NVA defensive measures along the Trail. Moreover, SIGINT was showing increased infiltration into the areas targeted for invasion.⁵⁹

Lam Son 719 was another disaster. The ARVN troops fought through to their major objective of Tchepone in Laos, but the going had been very tough and the troops were exhausted. Moreover, there was nothing remaining in Tchepone for them to take possession of. In the end they simply retreated. The retreat became a rout as large-scale NVA forces (shown by SIGINT to be massing for a counterattack) descended on unprotected elements of the retreating army.⁶⁰

SIGINT showed once again how flexible the Trail system had become. As the NVA lost sections of the Trail, it simply diverted shipments to other sections not under ARVN control. In the end, Lam Son 719 scarcely interrupted the flow, and the NVA spring offensive of 1972 went off with hardly a hitch.

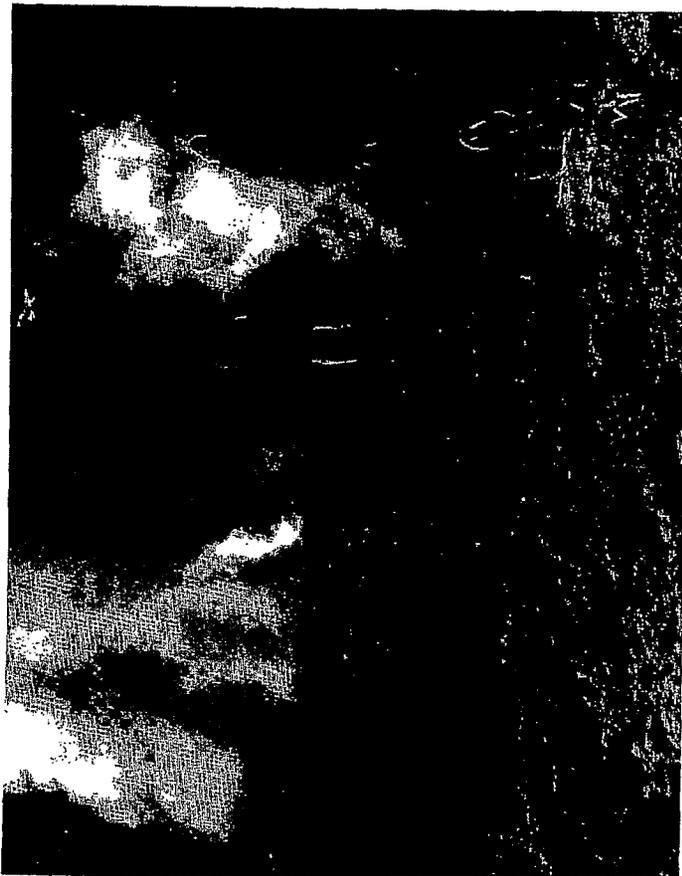
The Son Tay Raid

Son Tay, the infamous attempt to rescue American POWs, rescued no one. As a military operation, however, and as a way to set up SIGINT support, it was exemplary.

Planning for the 1970 raid began in April. The SIGINT system was brought into the picture in August, which gave it time to react (as opposed to the Cambodian incursion, which did not). As briefed to a handful of cryptologists who were initially cleared for the operation, it would involve a wave of helicopters flying at low level to the prison camp at Son Tay, twenty miles northwest of Hanoi. It would also involve the participation of a diversionary attack by a naval force in the Gulf, along with combat air patrols, fire suppression aircraft, and various logistics flights.⁶¹

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~



Triple Canopy Jungle
under aerial fire during the Cambodian incursion

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Brigadier General Manor, the overall operation commander, requested that SIGINT give him the best ingress and egress routes from Takhli AB, Thailand (whence the raiders came), and apprise him of all NVA capabilities to interfere with the operation. The NSA representative to Manor's staff was Lieutenant Colonel [redacted] the chief of Pacific Air Defense Analysis Facility (PADAF) in Hawaii. PADAF's job was to do just that sort of analysis, and [redacted] people wrote a series of reports detailing to Manor the precise route that should be followed. Working with NSA analysts, [redacted] people concluded that if Manor used their suggested route and went in at night, the NVA would have no capability to interfere. [redacted] and his people were right, and the raiders entered and exited virtually undetected.⁶²

[redacted] put together a complex network for SIGINT support. Working with people he could not clear for the project, he assembled RC-135 collection, COLLEGE EYE assets, and monitoring support from units all over the Pacific theater. He took extraordinary OPSEC measures. His biggest problem was that the RC-135 mission would have to fly at night, at a time when SIGINT reconnaissance missions never flew in the Gulf. He solved that by scheduling several nighttime missions in the weeks before the raid so that the North Vietnamese would get used to seeing them there.⁶³

P.L. 86-36

[redacted] himself flew to Da Nang to watch the operation unfold. He had an Opscomm link that began at Da Nang and was routed through NSA and ultimately to the Pentagon. On the other end of the link was Milton Zaslow, the NSA representative who kept the JCS apprised of the raid's progress as reflected in SIGINT.⁶⁴

As the raid unfolded, it was being monitored by a select group in the National Military Command Center headed by the secretary of defense, chairman of the JCS, and certain three- and four-star officers. As Zaslow was briefing the group on NSA activity in support of the raid, an officer broke into the room and announced that General Manor had declared a MIG Alert. Everyone turned to Zaslow, who had just stated that there was no threat from MIGs.

Zaslow stood his ground. "No MIGs," he said. He spent a very uncomfortable five minutes as the assembled Pentagon generals stared at him, wondering how he could be so sure. Zaslow knew that intensive SIGINT analysis had identified all North Vietnamese night-qualified MIG pilots and at what airfield they were spending the night. Moreover, Zaslow's communications with [redacted] were the fastest at the Pentagon, and [redacted] was reporting no MIGs, based on continuous monitoring of those airfields. Zaslow stuck to his story. A few minutes later another courier burst into the room crying, "Cancel MIG alert." Zaslow had been vindicated, and everyone breathed easier.⁶⁵

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

NSA's assessment was confirmed completely, and the SIGINT system worked as well as it ever had. No one ever found out for sure why the prisoners had been moved before the raid, but one HUMINT report said that about a month before the raid a Caucasian journalist had visited the camp and stated that the prisoners were moved immediately afterwards. Perhaps the North Vietnamese were "spooked" by the visit.⁶⁶

The Easter Offensive

Lam Son 719 did little to slow down NVA plans for a great spring offensive in 1972. NSA infiltration figures from the Vinh Window showed an unprecedented flow of supplies and a massing of forces in the border areas such as had never before been seen. For the first time, intelligence showed NVA tank concentrations in the south, pointing to the employment of conventional forces in an attempt to overthrow the Thieu regime.⁶⁷

As the classic SIGINT indicators mounted, NSA reporting became more and more specific about the timing and objectives. When, at the end of March, the offensive finally broke, it had been more than seven months in the offing. This only increased its fury. The NVA concentrated on the areas thought vulnerable prior to Tet 1968 - the Central Highlands, Quang Tri Province, and the border areas near Cambodia in MR3. There was no comparable assault on the cities, no appeal for mass revolution. This was a conventional attack with tanks and artillery. The ARVN barely held, but in the end it looked like another Pyrrhic victory for the NVA. They lost 50,000 troops, almost as many as did the United States during the entire war. The attack failed all around.⁶⁸

Nonetheless, it appears to have fallen on an unprepared Nixon administration. Several knowledgeable historians claimed afterwards that it was an intelligence failure. George Herring was extreme, stating that "American intelligence completely misjudged the timing, magnitude, and location of the invasion." Seymour Hersh, who is usually right, wrote that the offensive was so long delayed that the White House was focused on other things, and that Nixon claimed that the Pentagon withheld information from them. There is no SIGINT evidence to support the "surprise" hypothesis - perhaps there is other evidence.⁶⁹

TEABALL

One result of the Easter Offensive was the resumption of the air war. In early May 1972, Nixon ordered the bombing of Hanoi and Haiphong in an operation the Pentagon called Linebacker. Immediately, waves of B-52s roared over the North. It was the most intensive air bombardment of the war.⁷⁰

But the operation proved costly. The North Vietnamese adopted a new defensive strategy. Eschewing SAMs (which had proved ineffective and fratricidal in the face of

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

American countermeasures), they launched pairs of MIGs. The MIG pilots would home in on one of the flights of B-52s, would execute a single high-speed pass, launch missiles, and turn tail for home. By the first of July, the U.S. had already lost eighteen aircraft to such tactics, with "only" twenty-four MIGs destroyed. The virtually one-to-one kill ratio had General Vogt, commander of 7th Air Force, looking for new tactics.⁷¹

It had long been the desire of the cryptologic community to pass MIG warnings directly to threatened pilots. The Air Force Security Service had set up a variety of operations over the years, but all the warnings had had to pass through the filter of TACC/NS, unless extraordinary circumstances intervened. Every request to pass warnings directly to operations people had encountered the implacability of the director of Air Force intelligence, General Keegan.

In 1967, Security Service had informally suggested a mechanism for passing warnings directly to operations, but Keegan would not hear of "raw SIGINT" going to a pilot. Two years later, the NSA representative to the Pentagon proposed a similar operation, only to have the idea die in staffing channels, once again a victim of turf protection. It appeared that direct warnings would never get through the bureaucratic thicket and that the Air Force would not get anything similar to what the Army already had from ARDF - tactical warnings passed directly to operations people.⁷²

The Linebacker losses proved the undoing of the intelligence empire. In early July, General Vogt appealed to General Ryan, the Air Force chief of staff, for a new approach to the intelligence warning system. Ryan called Admiral Gayler, who already had the solution in his pocket. (It was the same solution that had died in staffing a year earlier.) He sent a team of SIGINT experts to Saigon, headed by Delmar Lang, who had been instrumental in devising a solution to a similar problem during the Korean War (see p. 49).

Lang knew that Vietnamese voice communications revealed the takeoff of the MIGs and that the North Vietnamese controller revealed which B-52 sortie would be targeted (the so-called "Queen for a Day," after a 1950s radio quiz show of the same name). He also knew that the SIGINT U-2, called the [redacted] was intercepting those communications and that the intercept operators were sitting at the [redacted]

[redacted] He recommended that the takeoff and targetting information be passed to a collocated 7th Air Force controller, who would alert the Air Force defensive patrol in the Gulf. When the MIGs arrived, theoretically the F-4s would be waiting for them.⁷³ He called the operation "TEABALL."

Vogt established a new Weapons Control Center (WCC) in a van at [redacted] right next to the vans housing the downlink for the [redacted] operations. Security Service operators had a hotline from their intercept van to the WCC, where the information would be melded with other sources. In practice, SIGINT was virtually the only source of information, and AFSS linguists populated the WCC, sometimes passing information to

EO
1.4.(c)

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

the pilots when weapons controllers were not available. It was the kind of direct involvement in the air war that the SIGINTers had wanted.⁷⁴

The TEABALL operation got off to a slow start because of communications problems and lack of manning on the 7th AF side. But on 28 August, eighteen days after being declared operational, TEABALL got its first MIG kill. By the time Linebacker was cancelled on 15 October, American pilots had shot down nineteen MIGs while losing only five of their own. TEABALL was given credit for helping to vector U.S. pilots on thirteen of those nineteen kills.⁷⁵

TEABALL became caught up in interservice rivalry. The Navy had its own control operation in the Gulf, a ground-controlled intercept (GCI) ship known as Red Crown (for its VHF callsign). Red Crown was supported by NSG afloat detachments, which claimed to be able to intercept MIG voice tracking on a more timely basis. Some of the MIG CAP operations got tangled up in jurisdictional disputes between the WCC and Red Crown, and it was not clear which could provide the more timely warning information. The dispute was untangled in a joint 7th Air Force - TF 77 meeting in mid-September, at which a compromise over control of fighter CAP in the Gulf was worked out. The WCC/TEABALL operation relinquished control authority in certain situations, but not in others.⁷⁶

When, on 13 December 1972, Le Duc Tho, the North Vietnamese negotiator, walked out of the peace talks, Nixon turned to the B-52 operation again. This time the raids, under the name Linebacker II, were not confronted with MIGs, which had been chastened by the new American tactics. The North Vietnamese went back to using the less-than-effective SAMs. One B-52 was lost, but it has never been shown that it was a SAM kill. Lacking MIGs, TEABALL wasn't needed.⁷⁷

Linebacker II was the most intensive aerial bombardment of the war. More than 36,000 tons of bombs were dropped, and though American pilots went to extraordinary lengths to avoid population centers, as many as 1,600 civilians may have died. Nixon and Kissinger claimed that it forced Le Duc Tho to return to the negotiating table. Soon thereafter the truce agreement was signed.⁷⁸

The U.S. Moves out of Vietnam

The cryptologists were still very active in Vietnam. There had been some changing around of people and positions; as some cryptologic operations got bigger, others got smaller. One technique that prospered late in the war was remoting. After the early trials on Black Widow Mountain and others (see p. 536), NSA brought in permanent gear in a remoting system called EXPLORER. EXPLORER I, consisting of four VHF receivers, was placed on a hill near Phu Bai in June 1970. A year later it was destroyed to prevent capture and was succeeded by EXPLORER III, destroyed under similar circumstances.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
NOT RELEASABLE TO FOREIGN NATIONALS

~~TOP SECRET UMBRA~~

EXPLORER II was located on a remote hilltop [redacted]. It was controlled by USM-604 at Pleiku and was withdrawn when U.S. forces left Vietnam in December 1972.⁷⁹

The last such operation in Southeast Asia was called SARACEN. Established in late 1972, SARACEN provided unique VHF collection primarily on GDRS communications. The remote location, on a hill south of [redacted] was almost inaccessible except by helicopter, and the security situation remained precarious throughout its existence, sitting as it did virtually overlooking the Ho Chi Minh Trail. Its collection station was the AFSS site at [redacted] which also collected GDRS communications from the [redacted] U-2, until U.S. cryptologists were withdrawn [redacted].

As diplomatic negotiations proceeded, the Nixon administration stepped up the pace of troop withdrawal. Status reports on cryptologic Vietnamization indicated that the SSTB was not yet ready to take on the load. The organization lacked people, needed more training in processing and reporting, and was short on good communications. NSA hurried the provision of communications and stepped up the training pace. NSA offered ten more EC-47 ARDF aircraft to help SSTB cope with the burden of supporting ARVN operations.⁸¹

In the fall of 1972, Nixon announced that American troops would be out of Vietnam by year's end. ASA operations were moved to Ramasun Station, while AFSS collection and processing were hastily removed from Da Nang to [redacted] to be collocated with 7th Air Force command and control facilities. AFSS ARDF operations moved to [redacted] while the Army flight section transferred to [redacted]. The Dancer Vietnamese linguist operation moved to [redacted] to provide assistance to 6908th linguists at the downlink end of the [redacted].

As with the negotiations in Korea prior to the 1953 armistice, NSA provided SIGINT support to the Kissinger-Le Duc Tho peace talks. [redacted]

The cease-fire that took effect in February 1973 required that all U.S. military people be out of the country. The cryptologic withdrawal that had begun with the Vietnamization program proceeded very quickly. [redacted]

EO 1.4.(c)

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

The Summing Up

Vietnam was a rude education for the American military. It was also an education for cryptologists.

Cryptologists had forgotten how to do direct tactical support in an effective manner. It took the cryptologic system most of the war to relearn the lessons of World War II and the Korean War. The cryptologic community paid a high price for dismantling its tactical support system.

Meanwhile, a skeptical military, by then unlettered in cryptology, tried to pry the SIGINT system into pieces and fragment the effort. The struggle for control of cryptologic assets lasted the entire war, and the effects remained for years afterward. The SIGINT system was kept generally intact (with some significant exceptions), but it was not the same one that entered the war.

No one truly knowledgeable of U.S. intelligence could quarrel with the value of SIGINT. It became the number one source of targeting information. An Air Force historian estimated that SIGINT provided 55 percent of all targeting information in Vietnam.⁸⁴

It was the best method of predicting NVA offensives. Beginning with the VC offensive at Ap Bac in 1963 (made famous by Neil Sheehan's book *A Bright Shining Lie*, a biography of John Paul Vann), SIGINT tipped off virtually every VC or NVA offensive.⁸⁵

It was the predominant source of information on infiltration. Especially after the opening of the Vinh Window in 1967, SIGINT overwhelmed all other sources of intelligence on the subject.

Its use, however, was very spotty. Some commanders, never having been exposed to it, did not know how to use it and either ignored it or misinterpreted it. Others, like Westmoreland, understood the source and used it to good effect.

It was often misused, especially by intelligence people who did not understand it. ARDF fixes were especially prone to errant analysis. According to [redacted] the last NSA chief in Saigon,

P.L. 86-36

G2 and J2 briefings all over South Vietnam blossomed with graphs, charts, plotting systems, and mathematicians trying to find the magic relationship between message flow and the number of ARDF locations which, like the secret of the pyramids, could somehow shed divine light on the thinking of the Communists.⁸⁶

Generally, the higher the echelon, the greater the dominance of SIGINT in the intelligence picture. Sometimes, like just before Tet 1968, the SIGINT signals drowned out other sources. Sometimes, as in the Gulf of Tonkin crisis, it was flat wrong.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

What came out of the war was a better SIGINT system, more attuned to the needs of field commanders, better able to render support. On their side, military people began to appreciate how the information could be best employed, how it fit in with their war.

The fifteen years following the war represented, for the American military, a long slow road back to respectability and, eventually, dominance. As the military system went, so went cryptology. The ultimate payoff, Desert Shield and Desert Storm, was a model of what the new system was and how effective it had become.

The Turn of the Wheel

Though cryptologists did not know it at the time, the end of the first Nixon administration would mark the end of an era and the beginning of another. Behind them was a period of almost unbroken expansion. The cryptologic system peaked in 1969 and by 1972 had begun a retrenchment the outlines of which could be only dimly perceived.

The heyday of centralization, too, was over. The desperate in-fighting that marked the latter years of the war would contribute to a limited reversal of the engines of centralization. The wave was about to wash the other way.

Ahead was a period of "downsizing," intensified by the Watergate crisis. The scandal that led to the president's resignation in 1974 would tar the intelligence system. It would not begin to recover until the last days of the Carter administration in 1979.

Notes

1. Karnow.
2. [redacted] "Uncertain Origins," *Dragon Seeds*, Dec. 1972. P. L. 86-36
3. CCH Series VI.HH.9.6.
4. CCH Series VIII.19.
5. James J. Wirtz, *The Tet Offensive: Intelligence Failure in War*, Cornell Studies in Security Affairs (Ithaca: Cornell Univ. Press, 1991).
6. CCH Series VI.HH.9.3; Wirtz; Johnson Library, NSF.
7. CCH Series VI.HH.9.3.
8. Ibid.
9. [redacted] "A Special Historical Study of SIGINT Support to Air Operations in SEA, 1965-1971," San Antonio, Texas, USAFSS, November 1972.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

10. Karnow.
11. CCH Series VIII.19.
12. Ibid; Johnson Library, NSF.
13. Wirtz.
14. Wirtz; S. D. Breckenridge, *The CIA and the U.S. Intelligence System* (Boulder: Westview Press, 1986).
15. CCH Series VIII.19.
16. CCH Series VIII.19.; Karnow.
17. CCH Series VIII.19.; Karnow.
18. CCH Series VIII.19.
19. Ibid.
20. Karnow.
21. Ibid.
22. Ibid.
23. Ibid.
24. Ibid.
25. CCH Series VI.HH.18.9.
26. CCH Series VI.HH.1.10.
27. CCH Series VI.HH.18.9.
28. Ibid.
29. Ibid.
30. CCH Series VI.HH.1.11.
31. Ibid.
32. CCH Series VI.HH.18.9.
33. CCH Series VI.HH.11.1.
34. CCH Series VI.HH.1.10.
35. Ibid.
36. Herring.
37. CCH Series VI.HH.1.10; 18.9.
38. [redacted] "Special Historical Study...."
39. Ibid.
40. [redacted] et al., *SIGINT Applications....*

P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

41. "A Historical Study of USAFSS SIGINT Support to the TEABALL Weapons Control Center," historical study available at AIA, Kelly AFB, Texas.
42. CCH Series VI.P.2.5.
43. CCH Series VI.HH.23.2-23.4.
44. Karnow.
45. Ibid.
46. [redacted] *Focus on Cambodia*, Cryptologic History Series, Southeast Asia (Ft. Meade: NSA, 1974).
47. Ibid.
48. Karnow.
49. [redacted]
50. [redacted] *Gerhard, In the Shadow of War*.
51. [redacted]
52. Ibid.
53. Ibid.
54. Ibid.
55. Ibid.
56. Ibid.
57. Ibid.
58. Karnow.
59. CCH, NDU collection, box 210.
60. Karnow; CCH Series VI.HH.23.2-23.5.
61. CCH Series VIII.21.
62. Ibid.
63. Ibid.
64. Ibid.
65. Zaslow interview.
66. Ibid.
67. CCH series VI.HH.9.2; 9.6; [redacted] "Things that Go Clank in the Night," *Dragon Seeds*, Sept. 1972.
68. CCH Series VI.HH.9.2-9.6; Karnow.
69. Herring, 246; Seymour Hersh, *The Price of Power: Kissinger in the Nixon White House* (New York: Summit Books, 1983), 503-504.
70. Herring, Karnow.
71. "Historical Study of TEABALL...."

P.L.: 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

72. Oral Interview with Doyle Larson, 15 March 1994, by Charles Baker and Tom Johnson, NSA OH 15-94.
73. "Historical Study of TEABALL . . ." ; Larson interview; Chancel T. French, *Deadly Advantage: Signals Intelligence in Combat*, V. II, Air University Research Report # AU-RRI-84-1 (Maxwell AFB: Air University Press, 1984).
74. Ibid.
75. "Historical Study of TEABALL . . ." ; Lang [redacted] "A Historical Study of the Closure of the Pacific Security Region. . . ."
76. [redacted]
77. Karnow; [redacted] P. L. 86-36
78. Herring.
79. ACC 16512, CBRG 35; "A Historical Study of TEABALL."
80. ACC 16512, CBRG 35 [redacted]
81. CCH Series VI.HH.1.10.
82. CCH Series VI.HH.6.54; 12.11; [redacted]
83. CCH Series VI.HH.26.5.
84. Ltr, Subj: Project Corona Harvest End-of-Tour Report, 1 August 1971.
85. [redacted] "NSA in Vietnam. . . ."
86. Ibid.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
~~NOT RELEASABLE TO FOREIGN NATIONALS~~

Glossary of Abbreviations

ABM - Antibalistic missile
ACC - ARDF Control Center
AC&W - Air Control and Warning
ACRP - Airborne Communications Reconnaissance Program (or Platform)
AFEWC - Air Force Electronic Warfare Center
AFSA - Air Force Security Agency
AFSAC - Armed Forces Security Advisory Committee
AFSAFE - AFSA Far East office
AFSCC - Air Force Special Communications Center
AFSS - Air Force Security Service (See USAFSS)
AGER - Auxiliary General Environmental Reserach
AMPS - Automated Message Processing System
ANCIB - Army-Navy Communications Intelligence Board
ANCICC - Army-Navy Communications Intelligence Coordinating Committee
ANEEG - Army-Navy Electronic Evaluation Group
ARDF - Airborne radio direction finding
ARVN - Army of the Republic of Vietnam
ASA - Army Security Agency
ASAE - ASA Europe
ASAEUR - ASA Europe
ASAPAC - ASA Pacific
AFSSO - Air Force Special Security Office (or Officer)
AFSSOP - Air Force Security Service Office of Production
ARVN - Army of the Republic of Vietnam
ATIC - Air Force Technical Intelligence Center
BIX - Binary Information Exchange
BRUSA - British-U.S.
CAP - Combat air patrol
CBNRC - Communications Branch, National Research Council
CCC - Critical Communications Committee

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

CCP - Consolidated Cryptologic Program

CCU - COMINT Contingency Unit

CDA - Circularly disposed antenna array

[REDACTED]

EO
1.4.(c)
EO
1.4.(d)

CHICOM - Chinese Communist

CHINAT - Chinese Nationalist

CIA - Central Intelligence Agency

CIG - Central Intelligence Group

CINCEUR - Commander in Chief, Europe

CINCPAC - Commander in Chief, Pacific Command

CINCPACFLT - CINCPAC Fleet

CJO - Coordinator of Joint Operations

CMA - Collection Management Authority

CNO - Chief of Naval Operations

COMIREX - Committee on Imagery Requirements and Exploitation

COMOR - Committee on Overhead Reconnaissance

COMRADPAR - Combined Radio Printer Party

COMUSMACV - Commander Military Assistance Command Vietnam

COC - Collection Operations Center

CONAD - Continental Air Defense Command

COSVN - Central Office South Vietnam

CPC - COMINT Processing Center

CRC - Control and Reporting Center

CRD - Communications Research Division

CRP - Control and Reporting Post

CSG - Cryptologic Support Group

CSOC - Current SIGINT Operations Center

CTAK - Cipher Text Autokey

DCA - Defense Communications Agency

DCI - Director of Central Intelligence

DDI - Delivery Distribution Indicator

DDR&E - Deputy Director for Research and Engineering (DoD)

HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS

~~TOP SECRET UMBRA~~

DEFSMAC - Defense Special Missile and Astronautics Center

DF - Direction finding

DIA - Defense Intelligence Agency

DIRNSA - Director, NSA

DMZ - Demilitarized zone

[REDACTED]

EO 1.4.(c)

EO 1.4.(d)

DSB - Defence Signals Branch

DSD - Defence Signals Division

DSU - Direct support unit

EAM - Electronic Accounting Machine

ERA - Electronic Research Associates

ESV - Earth satellite vehicle

EUCOM - European Command

EW - Electronic warfare

FANX - Friendship Annex

FBI - Federal Bureau of Investigation

FBIS - Foreign Broadcast Information Service

FCC - Federal Communications Commission

FFV - Field Force Vietnam

FMSAC - Foreign Missile and Space Analysis Center

FOIA - Freedom of Information Act

FRUMEL - Fleet Radio Unit, Melbourne

FRUPAC - Fleet Radio Unit, Pacific

GCI - Ground-controlled intercept

GDRS - General Directorate of Rear Services

GMAIC - Guided Missile and Astronautics Intelligence Committee

GSFG - Group of Soviet Forces, Germany

IAC - Intelligence Advisory Committee

IATS - Improved AG-22 Terminal System

IDA - Institutes for Defense Analyses

IDDF - Internal Data Distribution Facility

IFFV - First Field Force Vietnam

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
NOT RELEASABLE TO FOREIGN NATIONALS

II FFV - Second Field Force Vietnam

IG - Inspector General

[Redacted]

IRBM - Intermediate-range ballistic missile

ISS - Intelligence Support Staff

JCEC - Joint Communications Electronics Committee

JCIC - Joint Counter Intelligence Committee

JDA/E - Joint Development Activity/Europe

JMG - Joint Mechanization Group

JNACC - Joint Non-Morse Coordination Center

[Redacted]

EO
1.4.(c)
EO
1.4.(d)

LLVI - Low-level voice intercept

LSIB - London Signals Intelligence Board

LSIC - London SIGINT Centre

MAAG - Military Advisory Assistance Group

MACV - Military Assistance Command Vietnam

MAF - Marine Amphibious Force

MGS - Mission Ground Station

MOU - Memorandum of Understanding

MPU - Main Processing Unit

MRBM - Medium-range ballistic missile

MRDF - Medium-range direction findings

MSTS - Military Sea Transport Service

MUSCO - Manual of U.S. COMINT Operations

MUSSO - Manual of U.S. SIGINT Operations

NBS - National Bureau of Standards

NCML - National Computing Machine Laboratory

NCS - National Cryptologic School

NEP - National ELINT Plan

NIPE - National Intelligence Programs Evaluations

NIRB - National Intelligence Resources Board

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

NKP - Nakhon Phanom
NORAD - North American Air Defense Command
NPIC - National Photographic Interpretation Center
NRL - Naval Research Laboratory
NRO - National Reconnaissance Office
NRP - National Reconnaissance Program
NRV - NSA Representative Vietnam
NSAAL - NSA Alaska
NSAEUR - NSA Europe
NSAEUR/ISS - NSA Europe Intelligence Support Section
NSAEUR OG - NSA Europe Office Germany
NSAFE - NSA Far East
NSAPAC - NSA Pacific
NSAPAC NOG - NSA Pacific Operations Group
NSASAB - NSA Scientific Advisory Board
NSAUK - NSA Office United Kingdom
NSC - National Security Council
NSCID - National Security Council Intelligence Directive
NSG - Naval Security Group
NSOC - National SIGINT Operations Center
NSS - Naval Security Station
NTPC - National Technical Processing Center
NVA - North Vietnamese Army
NVN - North Vietnam or North Vietnamese
OASD - Office of the Assistant Secretary of Defense
OJT - On-the-job training
ONI - Office of Naval Intelligence
OPC - Office of Policy Coordination
OPCONCEN - Operations Center
OPSEC - Operational security
OSD - Office of the Secretary of Defense
OSO - Office of Special Operations

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

OSS - Office of Strategic Services
OTP - One-time pad
PACAF - Pacific Air Force
PACEFAC - Pacific Experimental Facility
PARPRO - Peacetime Aerial Reconnaissance Program
PFIAB - President's Foreign Intelligence Advisory Board
PIWO - Prod Intelligence Watch Office
PLO - Palestine Liberation Organization
PPBS - Planning, programming and budgeting system
PWO - Prod Watch Office
RAGFOR - Radio Analysis Group, Forward
RAM - Rapid analytic machine
RGM - Radio Group Mobile
ROK - Republic of Korea
RRB - Radio Research Battalion
RRU - Radio Research Unit
RSM - Radio Squadron Mobile
RVNAF - Republic of Vietnam Air Force
SAC - Strategic Air Command
SACEUR - Supreme Allied Commander, Europe
SAM - Surface-to-air missile
SAR - Search and rescue
SARC - Surveillance and Reporting Center
SCA - Service Cryptologic Agency
SCAT - Support Coordination Advisory Team
SCOCE - Subcommittee On Compromising Emanations
SEATO - Southeast Asia Treaty Organization
SIOP - Single Integrated Operational Plan
SMAC - Space and Missile Analysis Center
SMTIG - Soviet Missile Technical Intelligence Group
SNOO - Senior NSA Operations Officer
SOO - Senior Operations Officer

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

SPACOL - Space collection
SORS - SIGINT Overhead Reconnaissance Subcommittee
SRB - Special Research Branch
SRDF - Short-range direction finding
SSG - SIGINT Support Group
SSO - Special Security Office (or Officer)
SSSC - SIGINT Satellite System Control
SSSPB - Space Surveillance SIGINT Planning Board
SSTB - Special Security Technical Branch
STANCIB - State-Army-Navy Communications Intelligence Board
STANCICC - State-Army-Navy Communications Intelligence Coordinating Committee

[Redacted]

TACC - Tactical Air Control Center
TACREP - Tactical report
TAREX - Target Exploitation
TDS - Teletype Distribution System
TEBAC - Telemetry and Beacon Analysis Committee
TECHINS - Technical Instructions
TECSUM - Technical Summary
TF - Task force
TFA - Task Force Alpha

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

[Redacted]

TICOM - Target Intelligence Committee
TRO - Technical Research Office
TRS - Technical Research Ship
TRSSCOM - TRS Special Communications System
U&S - Unified and Specified (Command)
UKUSA - United Kingdom-USA
USAFSS - United States Air Force Security Service
USCIB - United States Communications Intelligence Committee
USCICC - United States Communications Intelligence Coordinating Committee
USCSB - United States Communications Security Board

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

USIA - United States Information Agency

USIB - United States Intelligence Board

VC - Viet Cong

VOA - Voice of America

WAVES - Women Accepted for Volunteer Emergency Service

WRC - Washington REGAL Center

ZICON - Zone of Interior Communications Net

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

Sources

Most of this history was written from classified cryptologic records of one sort or another. The most useful document collections are as follows:

1. The NSA Archives. This organization (currently E321) acts as the repository for retired NSA records. It is located in [] at NSA-Ft. Meade. Retired records remain the property of the donating office until they are screened and formally archived, at which time they become the property of the Archives organization. Thus, the organization has two collections: L. 86-36

a. Retired records. Because these are still property of the originating office, a researcher needs written permission to access the documents. Retired records are identified by a five-digit number representing the box number, followed by a shelf location. An example is 43852, 73-252.

b. Archived records. Documents in this area may be accessed by any qualified researcher without the permission of the originating organization. The collection is indexed by key words, and trained archivists can search the collection for records responding to the query. Records are stored by Accession Number (ACC) and a location. An example would be ACC39471, HO3-0311-4.

2. The historical collection of the Center for Cryptologic History (CCH), E322. This collection of historical documents actually predates the archived collections, and it contains records going back to the earliest days of cryptology. Records in this collection generally duplicate those in the Archives, but they are maintained as a separate file for ease of access by historians. The CCH collection is organized in series as follows:

- I. Pre-1915
- II. 1915-1918 (World War I)
- III. 1919-1939 (Interwar period)
- IV. 1939-1945 (World War II)
- V. 1946-1952 (pre-AFSA and AFSA period)
- VI. 1952-present (NSA period)
- VII. Special and miscellaneous collections
- VIII. Crisis files
- X. References
- XI. Papers collected by NSA and pre-NSA officials
- XII. Papers collected by NSA historians
- XIV. COMSEC documents
- XVI. Cryptologic papers from presidential libraries

Citations from this collection are by series number, followed by subseries designations, for instance, VI.A.1.9. Most of the CCH documents used for this history (not surprisingly) were from Series VI.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
~~NOT RELEASABLE TO FOREIGN NATIONALS~~

In addition, the CCH maintains the formerly DIA Vietnam document collection. For Vietnam, the DIA collection (which came to NSA through the National Defense University in serpentine fashion and is thus called the NDU collection) combines with CCH's own collection of mainly cryptologic documents collected by William Gerhard in the 1970s to form perhaps the best collection of its kind in existence.

3. Oral histories. Compiled over a period of many years by various NSA organizations and individuals, the oral history effort has come to rest in the CCH, and the great preponderance of taped reminiscences were done by that organization and its predecessors. In addition, the CCH now has copies of most of the oral histories that were done before its time. Most are designated by an oral history number, e.g., NSA OH 12-86. All are held in the CCH unless otherwise indicated. Oral histories which proved especially useful in this study were these:

Transcripts taken from videotaped discussions involving five NSA directors and their associates (1969-1970 taping, no number)

- [redacted] 29-94
- [redacted] 25-94
- [redacted] 31-87
- Gordon A. Blake, 7-84
- David G. Boak, 17-86
- [redacted] 6-92
- Howard Campaigne, 14-83
- Ralph J. Canine, no number
- Marshall S. Carter, 15-88
- Herbert L. Conley, 1-84
- Harold E. Daniels, 10-88 (videotape)
- [redacted] 8-85
- Robert E. Drake, 18-83.
- [redacted] 4-83
- [redacted] 3-87
- Henry R. Fenech, 8-81
- Laurence H. Frost, by and held at JFK Library, Boston
- [redacted] 19-86
- [redacted] 7-92
- [redacted] 4-86
- [redacted] 2-82
- Oliver R. Kirby, 20-93
- Doyle E. Larson, 15-94
- David D. Lowman, 13-80
- [redacted] 2-93
- David Y. McManis, 34-86
- [redacted] 8-92
- [redacted] 33-87
- John E. Morrison, Jr., 24-93
- Helen O'Rourke, 11-81
- Cecil J. Phillips and [redacted] 14-93
- Cecil J. Phillips, 23-93

P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

- [redacted] 1-93
- Howard E. Rosenblum, 3-91
- [redacted] no number
- John W. Saadi, 29-87
- [redacted] 16-84
- Eugene Sheck, 26-82
- Abraham Sinkov, 2-79 through 4-79
- [redacted] 8-86
- Kermit H. Speierman, 2-86
- Earl E. Stone, 3-83
- Louis W. Tordella, 8-90
- Charles C. Tevis, 21-87
- [redacted] 10-80
- [redacted] 27-93
- Milton Zaslow, 17-93

EO 1.4.(c)
 EO 1.4.(d)
 P.L. 86-36

4. Internally published historical books and articles represented a significant source. The most valuable were as follows:

[redacted] "The Gulf of Tonkin Incident." *Cryptolog*, Feb-Mar (no year), 8-10. (Located in CCH Series VIII.13.)

Benson, Robert Louis, and Cecil James Phillips. *History of Venona*. Ft. Meade: NSA, 1995.

Boak, David G. *A History of U.S. Communications Security: (The David G. Boak Lectures.)* Ft. Meade: NSA, 1973.

Boucher, Melville J. "Talomatry and How it Grew." *Cryptologic Spectrum*, Fall 1971, Winter 1972.

Burns, Thomas L. *The Origins of the National Security Agency, 1940-1952*. U.S. Cryptologic History, Series V, Vol. 1., Ft. Meade: NSA, 1990.

Campaigne, Howard H. "Lightning." *NSA Technical Journal*, July 1959.

Davidson, Max L. "The CRITICOMM System." *Cryptologic Spectrum*, Spring 1975.

[redacted] "The National SIGINT Operations Center." *Cryptologic Spectrum*, Summer 1979.

[redacted] U.S. Cryptologic History Series - Special Series. Ft. Meade: NSA, n.d.

[redacted] "BRANFLAKE." *Cryptologic Quarterly*, Winter 1994, Vol. 13, No. 4.

[redacted] "Glimpses of a Man: The Life of Ralph J. Canine." *Cryptologic Quarterly*, Summer 1987, 31-39.

William D. Gerhard served as the general editor for a mid-1970s project to write the cryptologic history of the Vietnam War. The following volumes were published (all of them by NSA in the Cryptologic History Series - Southeast Asia) before the project expired:

HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
 NOT RELEASABLE TO FOREIGN NATIONALS

[redacted] *Deadly Transmissions (COMSEC Monitoring and Analysis)*. 1970.

Gerhard, William D. *In the Shadow of War*. 1969.

[redacted] *Focus on Cambodia*. 1974

[redacted] and William D. Gerhard, *SIGINT Applications in U.S. Air Operations*. 1972.

Gerhard, William D., and Henry W. Millington. *Attack on a SIGINT Collector, the U.S.S. Liberty*. U.S. Cryptologic History Series, Crisis Collection. Ft. Meade: NSA, 1981.

[redacted] "NSA in Vietnam: Proud and Bitter Memories." *Cryptolog*, October 1975.

[redacted] Henry F. Schorreck, and Donald C. Wigglesworth. *A Reference Guide to the Selected Historical Documents Relating to the National Security Agency/Central Security Service, 1931-1985*. Ft. Meade: NSA, 1986.

Howe, George F. *Technical Research Ships, 1956-1969; An Historical Study*. U.S. Cryptologic History, Special Series, No. 2. Ft. Meade: NSA, n.d.

—. "A History of U.S. Civilians in Field COMINT Operations, 1953-1970." *Cryptologic Spectrum*, Summer 1973.

[redacted] "OPSEC as a Management Tool." *Cryptolog*, 1st issue, 1992.

[redacted] "Things That Go Clank in the Night." *Dragon Seeds*, September 1972.

[redacted] "Reflections on the Soviet Missile Threat of 1960." *Cryptologic Spectrum*, Summer 1981.

[redacted] *PURPLE DRAGON: The Origin and Development of the United States OPSEC Program*. U.S. Cryptologic History, Series VI, the NSA Period, Vol. 2. Ft. Meade: NSA, 1993.

Kirby, Oliver R. "The Origins of the Soviet Problem: A Personal View." *Cryptologic Quarterly*, Winter 1992, Vol. 11, No. 4.

[redacted] *NSA's Involvement in U.S. Foreign SIGINT Relationships through 1993*. U.S. Cryptologic History, Series VI, Vol. 4. Ft. Meade: NSA, 1995.

Moore, Elizabeth. *As We Were: An Informal History of Bad Aibling Station, 1936-1988*. Bad Aibling: Englemaier Druckner, 1988.

Newton, Robert E. *The Capture of the USS Pueblo and Its Effect on SIGINT Operations*. U.S. Cryptologic History, Special Series, Crisis Collection, Vol. 7. Ft. Meade: NSA, 1992.

[redacted] "Deployment of the First ASA Unit to Vietnam." *Cryptologic Quarterly*, Fall/Winter 1991, Vol. 10, Nos. 3-4.

P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

[redacted] "Before BOURBON: American and British COMINT Efforts against Russia and the Soviet Union Before 1945." *Cryptologic Quarterly*, Fall/Winter 1993.

_____. "Early BOURBON - 1945: The First Year of Allied Collaborative COMINT Effort against the Soviet Union." *Cryptologic Quarterly*, Spring 1994, Vol 13, No. 1.

_____. "Middle BOURBON - 1946: The Second Year of Allied Collaborative Effort against the Soviet Union." *Cryptologic Quarterly*, Summer 1994, Vol. 13, No. 2.

_____. "Old BOURBON - 1947: The Third Year of Allied Collaborative COMINT Effort against the Soviet Union." *Cryptologic Quarterly*, Fall 1994, Vol. 13, No.3.

[redacted]

[redacted] "Early History of the Soviet Missile Program (1945-1953)." *Cryptologic Spectrum*, Summer 1975.

[redacted] "The Great Conversation." *Cryptolog*, 1st issue 1992.

Snyder, Samuel S. "Influence of the U.S. Cryptologic Organizations on the Digital Computer Industry." *Cryptologic Spectrum*, Fall 1977.

_____. "History of NSA General-Purpose Electronic Digital Computers." NSA Technical Literature Series. Ft. Meade: NSA, 1964.

[Wiley, Edward S.] *On Watch: Profiles from the National Security Agency's Past 40 Years* (Ft. Meade: NSA, 1986).

[redacted]

[redacted] "AG-22/IATS: A View from the Bridge." *Cryptolog*, June 1977.

Wigglesworth, Donald. "Cuban Missile Crisis: A SIGINT Prespective." *Cryptologic Quarterly*, Spring 1994, Vol. 13, No. 1.

[redacted]

Wagoner, H.D. *Space Surveillance SIGINT Program*. U.S. Cryptologic History, Special Series, No.3. Ft. Meade: NSA, 1980.

[redacted]

Ziehm, Thomas P. *The National Security Agency and the EC-121 Shootdown*. U.S. Cryptologic History, Special Series, Crisis Collection, Vol. 3.

5. Another collection is the vast array of informal, unpublished histories and summaries of historical events. Most of these are held in both the CCH collection and in the NSA Archives.

[redacted] "Historical Study: The Security Program of AFSA and NSA, 1949-1962." 1963.

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

——. "Training in AFSA/NSA, 1949-1960." 1961.

Benson, Robert L. "A History of U.S. Communications Intelligence during World War II." Available in CCH.

[redacted] "The History of the NSA SIGINT Command Center and Its Predecessors, 1949-1969." 1970.

——. "The National Security Agency Scientific Advisory Board, 1952-1963." n.d.

——. "The Consolidated Cryptologic Program and Its Predecessors, 1957-1965." 1971.

——. "NSA's Participation in the Research and Development of the 466-L System, 1957-1964." 1968.

[redacted]

[Drake, Robert and others.] "The COMINT Role in the Korean War."

Enderlin, Arthur. "NSA's Telecommunications Problems, 1952-1968." 1969.

[Enderlin.] "Telecommunications Problems, 1968-1972." 1974.

[redacted]

Fitzgerald, Edward. "A History of U.S. Communications Security: Post-World War II." n.d.

[redacted] "The U.S. COMINT Effort during the Korean Conflict - June 1950-August 1953." 1954.

[redacted] "Collected Writings on NSA's R&D Effort."

[redacted] "The Early Structure of the National Security Agency, 1952-1960."

[redacted]

"Historical Study of NSA Telecommunications, Annual, 1973-1975."

[redacted]

Hogan, Douglas. "General and Special-Purpose Computers: A Historical Look and Some Lessons Learned." 1986.

Howe, George F. "The Narrative History of AFSA/NSA, Parts I-V."

——. "COMINT Production in the Korean War: The AFSA/NSA Contribution." n.d.

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

_____. "Centralized COMINT Communications Centers: The Historical Record." 1956.

[Redacted]

"Radio Direction Finding in the U.S.

Navy: The First Fifty Years." n.d.

[Redacted]

EO 1.4.(c)
P.L. 86-36

NSASAB. "Technology for Special Purpose Processors." 1978.

Page, Ryon A. "The Wired Rotor in U.S. Communications Security." 1980.

[Redacted]

"History of Menwith Hill Station." n.d.

[Redacted]

"Summary of Statutes Which Relate Specifically to NSA and the Cryptologic Activities of the Government."

[Redacted]

"DEFSMAC - A Community Asset (1964-1989)." n.d.

[Redacted]

"Consumer Liaison Units, 1949-1957." 1957.

Williams, Joseph L. "The National Security Agency's Gray Telephone System: Present and Future." 1982.

6. Certain documents are so important that they deserve separate mention, even though contained in the CCH and Archives collections above. Among them (in chronological order) are these :

"Report to the Secretary of State and the Secretary of Defense by a Special Committee Appointed Pursuant to Letter of 28 December 1951." [Brownell Report]. CCH Series V.F.7.13.

"Report on Intelligence Activities in the Federal Government, Prepared for the Commission on Organization of the Executive Branch of the Government by the Task Force on Intelligence Activities, App. 1, Part 1: The National Security Agency." [The Hoover Commission report.] CCH Series VI.C.1.8.

"The Baker Panel Report and Associated Correspondence, 1957." CCH Series VI.X.1.9.

"Report of the Secretary's Ad Hoc Committee on COMINT/COMSEC, June 1958. [Robertson Report.] CCH Series VI.C.1.11.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

TOP SECRET UMBRA

"Precis of the Bissell Report (Review of Selected NSA Cryptanalytic Efforts, 18 February 1965)." NSA/CSS Archives, ACC 290Z, 199104.

"Report of the Eaton Committee, 1968." CCH Series VI.C.1.24.

EO 1.4.(c)



7. Service cryptologic organizations all have collected a certain amount of material:

a. Air Intelligence Agency, formerly Electronic Security Command, Air Force Intelligence Service, and U.S. Air Force Security Service, has the best collection of official histories. All are held at AIA headquarters at Kelly AFB, San Antonio; in addition, the CCH holds copies of many, if not most. Used in this study were the following:

"AFSS-NSA Relations, October 1952-September 1954, V. I." n.d.

"An Oral History Interview: The Electronic Security Command - Its Roots; Featuring the Founder of USAFSS/ESC, Lt Gen Richard P. Klocko (USAF, Ret.)" Hqs ESC, 20 October 1989.

"Analysis of AFSS Effort in the Korean Action." n.d.

Ferry, Richard R. "A Special Historical Study of the Organizational Development of United States Air Force Security Service from 1948-1963." 1963.

French, Maj Chancel T. "Deadly Advantage: Signals Intelligence in Combat." Vol. II, Air University Research Report #AU-RR1-84-1. Maxwell AFB: Air University Press, 1984. Available at both AIA and Air University.

[Harriger, Hop] "A Historical Study of the Air Force Security Service and Korea, June 1950-October 1952." 1952.

"A History of the USAFSS Airborne SIGINT Reconnaissance Program (ASRP), 1950-1977." 1977.

"Historical Data Report for the 6920 SG, 1 January 1953-30 June 1953." n.d.

"History of the USAF Security Service; Fiscal Year 1955." n.d.

"Historical Data Report for the 6901 SCG, 1956-1964."

"A Historical Study of USAFSS SIGINT Support to the TEABALL Weapons Control Center." 1974.

"Historical Resumé: Development and Expansion of USAFSS Capability in the Pacific Area, 1949." 1957.

"Historical Report: The Development of the U.S. ELINT Effort." n.d.

Holub, Mary V., Jo Ann Himes, Joyce M. Homs and Ssgt Kay B. Grice. "A Chronology of Significant Events in the History of Electronic Security Command, 1948-1988." 1990.

Larson Doyle E. ESC Oral History Collection interview, 1987.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

TOP SECRET UMBRA

[redacted] "History of the United States Air Force Security Service Fiscal Years 1960-1961," Part IV, Systems Development. 1962.

———. "A Historical Study of the Iron Horse System; 1965-1973." 1974.

[redacted] Oral History, 1986.

"Review of Reactions to Reconnaissance Flights Since 31 October 1958." 1960.

Rush, Robert. "AFSCC Tasking: The Development of the Three-Echelon Reporting Concept, 1949-1952." n.d.

Sommers Gordon W. Oral History. 1990.

"A Special Historical Study of the Advisory Warning Program, July 1961-December 1964." 1965.

EO 1.4.(c)
P.L. 86-36

[redacted] "A Special Historical Study of SIGINT Support to Air Operations in SEA, 1964-1971." 1972.

———. "A Historical Study of the Closure of the Pacific Security Region and the Impact Upon USAFSS Operations in SEA." 1974.

USA-36 Unit History, January-June 1967.

Whitacre, SMSGT Frank. "A Historical Study of the Drawdown of USAFSS Operations in Southeast Asia (SEA)." 1974.

b. Compared with AIA, INSCOM has very little in the way of official histories, but its archives are more extensive. The most useful items found in the archives were the unit histories, especially those of [redacted]. Also used were unit histories of both ASAEUR, ASAPAC and ASAFE, the regional headquarters for ASA, as well as various individual unit histories. Official histories included the following:

Assistant Chief of Staff, G-2, "COMINT Operations of the Army Security Agency during the Korean Conflict, June 1950-December 1953." 1956.

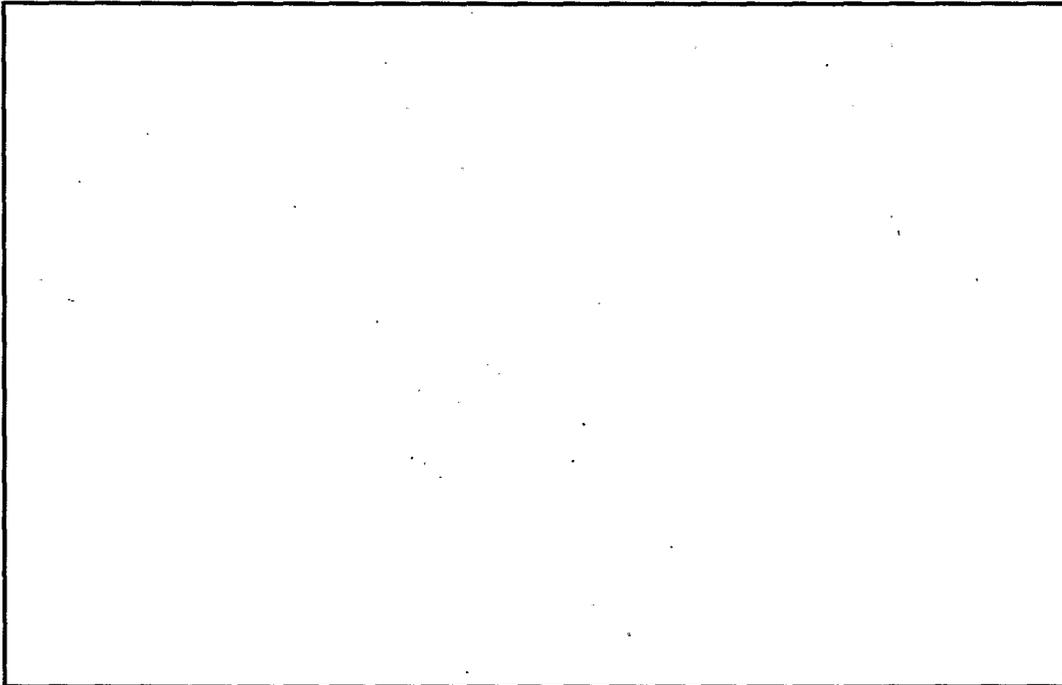
Finnegan, John P. "The Structure of Army Intelligence: 1946-1965" and "Beginnings of ARDF." INSCOM Historical Monographs. 1983.

c. Naval Security Group has the smallest historical program. There is a collection of archived documents that has recently been transferred from Crane, Indiana, to the new National Archives building (Archives II) in College Park, MD. There is also a collection of NSG command histories stored at the Naval Historical Center in Washington, D.C., which was consulted. However, since NSG did not become a "command" until 1968, there are no command histories prior to that date. The command has not had a program of preparing operational histories since shortly after World War II, and there is thus nothing similar to what AIA has available. The only "history" unearthed was "U.S. Naval Communication Supplementary Activities in the Korean Conflict, June 1950-August 1953," contained in CCH Series V.M.3.1.

8. CIA has an active history program and a large collection of official (classified) histories on various aspects of its operations. These histories can be consulted only at the CIA history office in Rosslyn, Virginia, and then only with permission of the CIA Historian.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~



In addition, there were three oral histories of interest:

Richard M. Bissell, Jr. (separate interviews in 1976 and 1984).

John A. McCone. 1989.

James R. Schlesinger. 1982.

9. Unclassified publications by outside scholars generally do not contain significant information about modern (post-1945) cryptologic history, but there are a number of exceptions. In addition, outside sources must be consulted to give context and meaning to cryptologic events. The following list contains a few of the more relevant and useful outside sources used in this study.

Ambrose, Stephen E. *Eisenhower: Soldier and President*. New York: Simon and Schuster, 1990.

Andrew, Christopher. "The Growth of the Australian Intelligence Community and the Anglo-American Connection." *Intelligence and National Security* 4:2 (April 1989) 213-256.

Appleman, Roy E. *Disaster in Korea: The Chinese Confront MacArthur*. College Station, Texas: Texas A and M Press, 1989.

Bamford, James. *The Puzzle Palace. A Report on America's Most Secret Agency*. Boston: Houghton Mifflin, 1982.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

Barker, Wayne G., and Rodney E. Coffman. *The Anatomy of Two Traitors: The Defection of Bernon F. Mitchell and William H. Martin*. Laguna Hills, CA: Aegean Park Press, 1981.

Ball, Desmond, and David Horner. "To Catch a Spy: Signals Intelligence and Counterespionage in Australia, 1944-1949." Pending publication from Canberra: Strategic and Defence Studies Centre, Australian National University.

Bechloss, Michael. *Mayday: Eisenhower, Khrushchev and the U-2 Affair*. New York: Harper and Row, 1986.

———. *The Crisis Years: Kennedy and Khrushchev, 1960-1963*. New York: Edward Burlingame Books, 1991.

Blair, Clay. *The Forgotten War: Americans in Korea, 1950-1953*. New York: Times Books, 1987.

Breckinridge, S. D. *The CIA and the U.S. Intelligence System*. Boulder: Westview Press, 1986.

Brugioni, Dino. *Eyeball to Eyeball: The Inside Story of the Cuban Missile Crisis*. Edited by Robert F. McCort. New York: Random House, 1990.

Bucher, Lloyd M. (with Mark Rascovich). *Bucher: My Story*. Garden City, New York: Doubleday, 1970.

Burrows, William E. *Deep Black: Space Espionage and National Security*. New York: Random House, 1986.

Buttinger, Joseph. *Vietnam: A Political History*. New York: Frederick A. Praeger, 1968.

Cline, Ray S. *The CIA Under Reagan, Bush and Casey*. Washington: Acropolis Books, 1981.

Ennes, James M. Jr. *Assault on the Liberty: The True Story of the Israeli Attack on an American Intelligence Ship*. New York: Random House, 1979.

Goldschmidt, Arthur. *A Concise History of the Middle East*. Boulder, CO.: Westview Press, 1979.

Goodman, Hirsh, and Zeev Schiff. "The Attack on the *Liberty*." *Atlantic Monthly*, September 1984.

Goulden, Joseph C. *Truth is the First Casualty: the Gulf of Tonkin Affair - Illusion and Reality*. Chicago: Rand McNally, 1969.

———. *Korea: The Untold Story of the War*. New York: Times Books, 1982.

Harris, George. *Troubled Alliance: Turkish-American Problems in Historical Perspective, 1945-1971*. Washington: American Enterprise Institute for Public Policy Research, 1972.

Hermes, Walter G. *Truce Tent and Fighting Front: United States Army in the Korean War*. Washington: Office of the Chief of Military History, United States Army, 1966.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

- Herring, George. *America's Longest War: The United States and Vietnam, 1950-1975*. Philadelphia: Temple University Press, 1986.
- Hersh, Seymour. *The Price of Power: Kissinger in the Nixon White House*. New York: Summit Books, 1983.
- Herzog, Chaim. *The Arab-Israeli Wars: War and Peace in the Middle East*. New York: Random House, 1982.
- Kahn, David. *The Codebreakers: The Story of Secret Writing*. New York: MacMillan, 1967.
- Karnow, Stanley. *Vietnam: A History*. New York: Penguin Books, 1983.
- Kramer, Mark. "Tactical Nuclear Weapons, Soviet Command Authority, and the Cuban Missile Crisis." Cold War International History Project Bulletin, Fall 1993.
- . "Archival Research in Moscow, Progress and Pitfalls." Cold War International History Project Bulletin, Fall 1993.
- Lamphere, R. J., and T. Schachtman. *The FBI-KGB War, a Special Agent's Story*. New York: Random House, 1986.
- Laqueur, Walter. *A World of Secrets: The Uses and Limits of Intelligence*. New York: Basic Books, 1985.
- Lewin, Ronald. *The American Magic: Codes, Ciphers and the Defeat of Japan*. New York: Farrar, Straus and Giroux, 1982.
- Lewy, Gunter. *The Federal Loyalty - Security Program: The Need for Reform*. Washington: American Enterprise Institute for Public Policy Research, 1983.
- Manne, Robert. *The Petrov Affair: Politics and Espionage*. Sydney: Pergamon, 1987.
- Marolda, Edward J., and Oscar P. Fitzgerald. *The United States Navy in the Vietnam Conflict: Vol. II, From Military Assistance to Combat, 1959-1965*. Washington: Naval Historical Center, 1986.
- Martin, David. *Wilderness of Mirrors*. New York: Ballantine Books, 1980.
- McAuliffe, Mary S. (ed.) *CIA Documents on the Cuban Missile Crisis, 1962*. Washington: CIA, 1992.
- Meilinger, Philip S. *Hoyt S. Vandenberg: The Life of a General*. Bloomington, Indiana: University of Indiana Press, 1989.
- O'Neill, William. *American High: The Years of Confidence, 1945-1960*. New York: Free Press, 1986.
- Palmer, Gregory. *The McNamara Strategy and the Vietnam War: Program Budgeting in the Pentagon, 1960-1968*. Westport, Conn.: Greenwood Press, 1978.
- Powers, Thomas. *The Man Who Kept the Secrets: Richard Helms and the CIA*. New York: Alfred A. Knopf, 1979.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

Radosh, Ronald, and Joyce Milton. *The Rosenberg File: A Search for the Truth*. New York: Holt, Rinehart and Winston, 1983.

Randell, Brian (ed.) *The Origins of Digital Computers: Selected Papers*. 2nd ed. New York: Springer-Verlag, 1975.

Ranelagh, John. *The Agency: The Rise and Decline of the CIA*. New York: Simon and Schuster, 1986.

Reese, Mary Ellen. *General Reinhard Gehlen: The CIA Connection*. Fairfax, Va.: George Mason University Press, 1990.

Richelson, Jeffrey T., and Desmond Ball. *The Ties That Bind*. Boston: Allen and Unwin, 1985.

Sheehan, Neil. *A Bright Shining Lie: John Paul Vann and America in Vietnam*. NY: Random House, 1988.

Shurkin, Joel. *Engines of the Mind: A History of the Computer*. New York: W. W. Norton and Company, 1984.

Szulc, Tad. *Czechoslovakia Since World War II*. New York: Viking Press, 1971.

Tahir-Kheli, Shirin. *The United States and Pakistan: The Evolution of an Influence Relationship*. Studies of Influence in Internal Relations; Alvin Z. Rubinstein (ed.). New York: Praeger, 1982.

Thies, Wallace J., and James D. Harris. "An Alliance Unravels: The United States and ANZUS." *Naval War College Review*, Summer 1993.

Willenson, Kim. *The Bad War: An Oral History of the Vietnam War*. New York: New American Library, 1987.

Wirtz, James J. *The Tet Offensive: Intelligence Failure in War*. Cornell Studies in Security Affairs. Ithaca, New York: Cornell University Press, 1991.

Wise, David. "Remember the *Maddox*." *Esquire*, April 1968.

Wright, Peter (with Paul Greengrass). *Spycatcher: The Candid Autobiography of a Senior Intelligence Officer*. New York: Bantam Doubleday Dell Publishing Group, Inc., 1987.

10. Presidential libraries contain key documents and add insights into the cryptologic process at the executive level. All presidential libraries consulted contained highly relevant information. They were

Harry S. Truman Presidential Library, Independence, Missouri.

Dwight D. Eisenhower Presidential Library, Abilene, Kansas.

John F. Kennedy Presidential Library, Boston, Massachusetts.

Lyndon Baines Johnson Presidential Library, Austin, Texas.

The Nixon Library papers, which are presently stored at Archives II in College Park, were not consulted because the National Security Files have not yet been processed and made available for research.

Copies of key documents from the other libraries are available in CCH Series XVI.

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Index

Abel, Rudolph; 183

ABNER; 200

Abrams, Creighton; 570, 573, 576

ACC - see ARDF Coordination Center

Acheson, Dean; 39

[Redacted]

Adams, Sherman; 231

[Redacted]

Advisory Council (CIA); 87, 88

Advisory warning; 143-149, 314, 329

AFEWC - see Air Force Electronics Warfare Center

AFSA Far East (Tokyo; became NSAFE); 67

AFSAM-7 (AKA KL-7); 217-218

AFSAY-816; 220

AFSAC - see Armed Forces Security Advisory Committee

AFSCC - see Air Force Special Communications Center

AFSSOP - see Air Force Security Service Office of Production

[Redacted]

AG-22; 360, 364-365

[Redacted]

Airborne Radio Direction Finding (ARDF); 506-509, 513, 529, 530, 531, 532-534, 536, 539, 543, 560, 561, 562, 563, 568, 570, 574, 582, 583

Air Force Electronics Warfare Center (AFEWC); 360

Air Force Security Service Office of Production (AFSSOP); 76

Air Force Special Communications Center (AFSCC); 26, 30, 79, 82, 83, 258, 297, 360

Air Force Technical Intelligence Center (ATIC); 109, 176

[Redacted]

EO 1.4.(c)
P.L. 86-36

HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS

[Redacted]

Almond, Ned; 45

[Redacted]

AMPS (Automated Message Processing System); 371

AMTORG; 158, 160, 162

[Redacted]

ANCIB - see Army-Navy Communications Intelligence Board

ANCICC - see Army-Navy Communications Intelligence Coordinating Committee

Anderson, George W.; 329

Anderson, Rudolph; 322, 329-330

ANEEG - see Army-Navy Electronic Evaluation Group

AN/FLR-9 - see FLR-9

[Redacted]

Ap Bac; 508, 583

[Redacted]

Arafat, Yasir; 425

Arc Light (SAC bombing program); 551-52, 553

ARDF - see Airborne Radio Direction Finding

ARDF Control Center (ACC); 534, 535

Ardisana, Benjamin; 266-67

Arnold, Henry H. "Hap"; 139

Armed Forces Security Advisory Committee (AFSAC) 30, 35, 67, 68, 102, 241, 243

Army-Navy Communications Intelligence Board (ANCIB); 6, 7, 15, 159

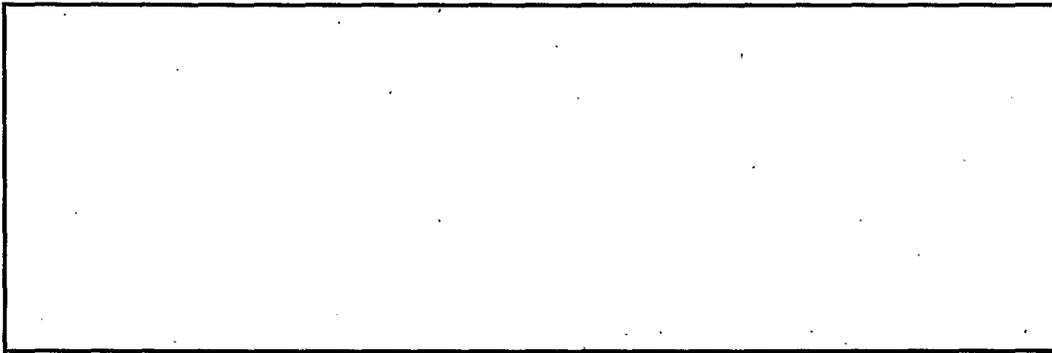
Army-Navy Communications Intelligence Coordinating Committee (ANCICC); 5, 6

Army-Navy Electronic Evaluation Group (ANEEG); 109-110

[Redacted]

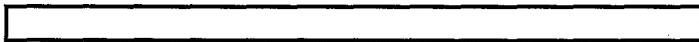
EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~



ATIC - see Air Force Technical Intelligence Center

ATLAS; 198-200



Attlee, Clement; 19

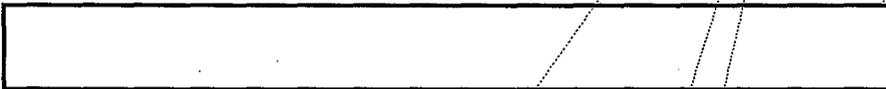


Australian Security Intelligence Organization; 18

Autodin; 370

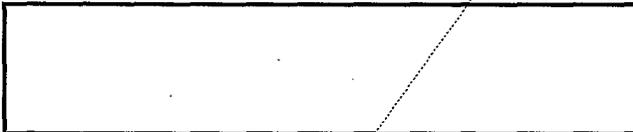
Automated Message Processing System - see AMPS

Autosevocom; 219, 380



Bancroft; 381

Banfill, Charles Y.; 42

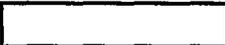


BACCHUS (COMSEC system); 52

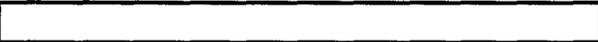
Bainbridge Island (Navy intercept site); 159

Baker, William, and the Baker Panel; 186, 256-257, 260, 374, 376, 481

Ball, George; 449



Bassett, Hunt; 83



EO 1.4.(c)

EO 1.4.(d)

P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

Becker, Loftus; 101

Beecher, William; 572

[REDACTED]

Bell Laboratories; 198, 199, 200, 214, 221, 256

[REDACTED]

Bentley, Elizabeth; 164, 166

[REDACTED]

Berlin Wall [REDACTED] 319

Bien Hoa, ASA tactical unit; 573

Big Look (Navy airborne reconnaissance project); 550

[REDACTED]

Binary Information Exchange (BIX); 366

[REDACTED]

BITTERSWEET (project); 143-144

BIX - see Binary Information Exchange

[REDACTED]

Black Widow Mountain; 536, 538, 581

Black, William; 352

Blake, George; 106

Blake, Gordon; 133, 269, 307, 326, 327, 344, 347, 348, 349, 357, 358, 366, 377, 471, 506, 511
biography, 340-341

[REDACTED]

Bletchley Park; 1, 2

Blue, Allen; 433

BLUE SKY (ACRP project); 140

Blue Springs (SAC photo drone operations); 551, 553

Bohlen, Charles; 33

Bombe; 195-198

Bonesteel, Charles; 464

Bomber gap; 170, 177

EO 1.4.(c)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

[Redacted]

Boucher, Melville; 262

[Redacted]

Bowles, Chester; 509

[Redacted]

Bradley, Omar; 161, 244

[Redacted]

Brezhnev, Leonid; 457

[Redacted]

British Security Coordination (BSC); 13

[Redacted]

Brownell Committee; 33, 34, 35, 54, 61, 62, 89, 168, 185, 231
George A. Brownell; 33, 34

Brown, Harold; 216

[Redacted]

BRUSA (British-US) Agreement (and Conference); 16, 17, 18, 19, 93, 159

Brooks AFB, Texas; 11, 28, 30

Bucher, Lloyd M.; 440-441, 443, 445, 447, 448, 453

Buck, Dudley; 204

[Redacted]

Buffham, Benson; 23, 91, 349

[Redacted]

Bundy, McGeorge; 289, 293, 352, 473, 520, 523

Bundy, William; 522

Burgess, Guy; 19, 165, 169

Burke, Arleigh; 46

Burke, Gerald; 479

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

EO 1.4.(c)

HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS

Burke, Joseph; 176, 262, 345

Burrows, William; 410

[REDACTED]

Bush, Vannevar; 195, 204

[REDACTED]

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

Cabell, C. P.; 18, 29, 109, 183, 358

Callimahos, Lambros D.; 73

Campaigne, Howard; 199

Campbell, William B.; 206, 208

Camp des Loges (Paris); 68

Canine, Ralph J.; 30, 35, 61, 62, 63, 66, 67, 68, 72, 73, 74, 77, 78, 80, 81, 82, 83, 91, 93, 101, 102, 105-107, 109, 135, 204, 206-207, 208, 209, 216, 217, 227, 228, 239, 240, 243-244, 269, 279, 293, 294, 296, 341

[REDACTED]

Carroll, Joseph F.; 468, 552

Carter, Marshall S.; 325, 340, 344, 349, 359-360, 368, 377, 385, 387, 392, 410, 411, 436, 445-446, 447, 448-450, 469, 471, 474, 476-477, 478, 479, 552
biography, 357-358

Castro, Fidel; 318

[REDACTED]

CBNRC (Communications Branch, National Research Council); 17, 208

CCP - see Consolidated Cryptologic Program

[REDACTED]

Central Bureau, Australia; 18

Central Intelligence Group; 87, 162

Central Office, South Vietnam - see COSVN

Chadwell, H. Marshall; 109

Chambers, Whitaker; 164, 166

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Chamoun, Camille; 237

CHARGER HORSE; 571

Charyk, Joseph; 405

[Redacted]

Chiang Kai-shek; 38, 43, 99-100, 178, 497

Chicago Tribune; 275

[Redacted]

Chifley, J. B.; 18

[Redacted]

Cho-Do (island; AFSS intercept site); 50, 51, 140

Chosen Christian College, Seoul (intercept location; AKA Yansei University); 49

Cho Yong Il; 41, 42, 46, 49, 52, 53

Chou En-Lai; 44

Chun, Richard; 40, 41

Church Committee; 474

Churchill, Winston; 1, 13, 157, 214

[Redacted]

Civop program; 69, 268

[Redacted]

Clarke, Arthur C.; 402, 408

Clarke, Carter W.; 4, 10, 23, 25, 159, 161, 163, 278

Clark, Mark, 228-229

Clifford, Clark; 429, 438, 439, 446, 448, 479, 565

Cline, Raymond; 325

COC - see Collection Operations Center

Codevilla, Angelo; 453

[Redacted]

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Coira, Louis; 387

[REDACTED]

Collection Operations Center (COC); 349

COLLEGE EYE; 547, 571, 578

Collins, BGen (Ch NSAEUR); 384

[REDACTED]

Collins, Samuel P.; 29, 215, 384

Colossus; 197

[REDACTED]

COMFY LEVI; 540

COMINT Comnet; 207-211, 236, 253

[REDACTED]

COMIREX - see Committee on Imagery Requirements and Exploitation
Command Center (NSA); 346-348, 350, 482

Committee on Imagery Requirements and Exploitation (COMIREX); 405

Committee on Overhead Reconnaissance (COMOR); 405

[REDACTED]

COMOR - see Committee on Overhead Reconnaissance

[REDACTED]

Conley, Herbert; 23

Connelly, John; 353

Consolidated Cryptologic Program (CCP); 260, 291, 294, 339-340, 341, 479, 480, 534

Control Data Corporation (CDC; successor to ERA); 205

Converter M-229 - see SIGCUM

[REDACTED]

Coordinator of Joint Operations (CJO); 11, 12, 25

[REDACTED]

Corderman, Preston; 12, 159

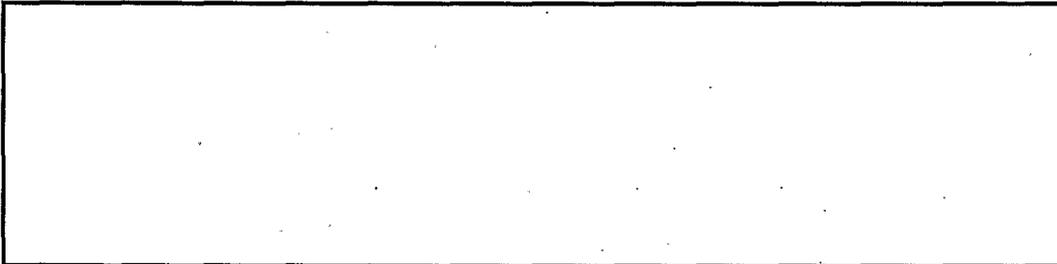
Corderman-Wenger Agreement; 12

Corry, Cecil; 414

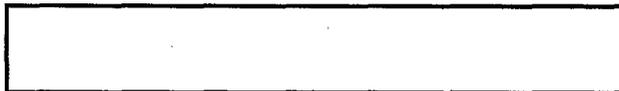
EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

COSVN (Central Office, South Vietnam), SIGINT attack on; 573-574
Coverdale, Garrison B.; 470-471

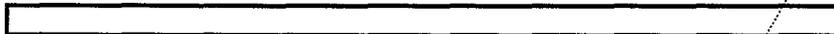


Critic system/report; 253
Criticom; 253-256, 364
Cryptologic career service; 67, 359
Cryptologic Support Group (CSG); 75, 264, 265, 342-343, 461, 475, 483
CSE (Communications Security Establishment); 17
CSG - see Cryptologic Support Group
CSOC - see Current SIGINT Operations Center

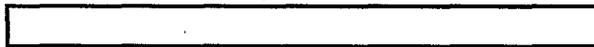


EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

Current SIGINT Operations Center (CSOC); 350-352, 467, 482, 485
Currier, Prescott; 14
Customer liaison detachments; 75-76
CXOF; 373
Czech crisis of 1968; 453-461



DAGER - see Director's Advisory Group on ELINT and Reconnaissance
Dak To (battle of, and SIGINT); 560
Da Nang, South Vietnam (USA-32); 504, 512-514, 531, 540, 542, 544, 545-547, 548, 550, 561, 578, 582
Dancers; 542, 543, 582
Daniels, Harold; 325, 329



Darrigo, Joseph; 40
Davidson, Max; 255

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Davis, James T.; 504, 506

Davis, John; 347

Davis Station, Saigon, South Vietnam (USM-9J, later USM-626, AKA 3rd RRU); 503, 504, 507-508, 513, 531, 532, 542

[REDACTED]

DCA - see Defense Communications Agency

DDI - see Delivery Distribution Indicator

DDR&E - see Defense Director for Research and Engineering

Decentralization plan; 78-80, 135

Deeley, Walter; 217, 350-351, 479, 485

Defence Signals Bureau (DSB); 18, 19

[REDACTED]

Defense Communications Agency (DCA); 292, 364, 366, 370, 511

Defense Intelligence Agency (DIA); 292, 342, 343-346, 359-360, 366, 552, 555

[REDACTED]

Defense Special Missile and Astronautics Center (DEFSMAC); 345-346, 483

Delivery Distribution Indicator (DDI); 209

Delmer, Sefton; 412

Delta classification system; 276

[REDACTED]

Deputy Director for Research and Engineering (DDR&E); 311, 338

Desoto Patrols; 515, 520, 522

[REDACTED]

Dewey, Peter; 495

DIA - see Defense Intelligence Agency

DIANA (COMSEC one-time pads) 52

[REDACTED]

Dien Bien Phu; 497, 561

Dill, Sir John; 15

Director's Advisory Group on ELINT and Reconnaissance (DAGER); 344, 410

[REDACTED]

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS

DiRenzo, Victor; 326

[REDACTED]

Dobrynin, Anatoly; 324, 329, 459, 460, 461

[REDACTED]

Donovan, William; 86-7

Drake, Robert; 292

Driscoll, Agnes; 7, 276

[REDACTED]

DSB - see Defence Signals Bureau

[REDACTED]

Dulles, Allen; 106-107, 177, 178, 180, 233, 337, 340, 341

Dulles, John Foster; 147, 148, 178, 233, 303, 304

Dunlap, Jack E.; 470-471

Dupont, S.C. (USN-18); 29

[REDACTED]

Dyer, Thomas; 73, 241-244

Eachus, Joseph; 14, 211

[REDACTED]

Eamons, Delos; 13

Easter Offensive (1972); 579

[REDACTED]

Eaton, Frederick, and committee; 344, 411, 479-480

Eckert, J. Presper; 198, 200

EC-121 shootdown, 1969; 313, 462-470, 482

Eddy, Dayton W.; 531

[REDACTED]

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Eisenhower, Dwight D.; 35, 87, 144, 147, 148-149, 178, 179-180, 183, 204, 211, 221, 227, 231, 234, 237, 253-254, 256, 258, 259, 260, 264, 283, 289, 292, 298, 303, 304, 361, 385, 403, 404, 497, 499, 522

Eisenhower Doctrine; 237

[Redacted]

Electronic Warfare; 476, 480

ELINT

and the Baker Committee; 258-259
centralization after Cuban Missile Crisis; 337
and CIA; 109
collection; 112, 122, 127, 139
and the Eaton Committee; 479-480
and NSCID 17; 110
and NTPC; 110
organization; 108-109, 228, 343-344
origins and British organization; 108
and overhead satellite collection; 403-408

[Redacted]

transfer to NSA; 260-263

[Redacted]

[Redacted]

Ely, R. B.; 14

Enderlin, Arthur; 206, 208, 241, 255

Electronic Research Associates (ERA); 197-198, 270

Engstrom, Howard; 184-185, 197-199
biography, 270-271

ENIAC; 197-199

ENIGMA; 1-2, 14-15, 135, 195-196, 257, 276

Ennes, James M.; 438

ERA- see Electronic Research Associates

Erskine, Graves B.; 85, 86, 109, 126, 231, 261, 268, 338

Erskine, Hugh; 68

Ervin, Samuel; 359

[Redacted]

Examination Unit, National Research Council; 17

EXPLORER (project); 538, 581

[Redacted]

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

FACTOR (project); 571-572

Fairbanks, Alaska (USM-7); 9, 71, 131

Far East Combined Bureau - (FECB), Singapore; 18

FARMER (projected computer); 202

[Redacted]

FCC - See Federal Communications Commission

FECB - See Far East Combined Bureau

Federal Communications Act of 1934; 272, 273, 274, 474

Federal Communications Commission (FCC); 4, 103, 107-108, 275

FEEDBACK (project); 402

Felfe, Heinz; 412-413

Felt, Harry; 269

Fenech, Henry; 183

Ferret flights; 139

Field Operating Manual; 77

[Redacted]

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

Fisher, Robert; 553, 555

Fish, Hamilton; 158

Fitzgerald, Edward; 353

Fitzpatrick, Joseph; 92

Fleet Radio Unit, Melbourne (FRUMEL); 7

Fleet Radio Unit, Pacific (FRUPAC); 7

Fleming, Ian, 86

[Redacted]

Flexowriter; 381

[Redacted]

FLR-9; 304, 308-312, 86, 387, 500-501

FLR-12 (AKA GLR-1); 308, 310-311

FMSAC - see Foreign Missile and Space Analysis Center

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

[Redacted]

Foreign Missile and Space Analysis Center (FMSAC); 344

Forrestal, James; 23, 25, 289

Fort Knox (move to); 243-244

Fort Lewis, WA. (60th Signal Service Co.); 40

Fort Meade (move to); 27, 73, 241-250
new communications facility; 209
and the Yankee Alert; 236

Foster, John; 338

Foster, William C.; 244

[Redacted]

EO 1.4. (c)
EO 1.4. (d)
P.L. 86-36

Freedom of Information Act (FOIA); 167

Freeze, James; 573

Friedman, William F.; 1, 10, 13, 14, 15, 67, 71, 73, 158, 246, 259, 274, 276, 476

Friendship Annex (FANX); 294-95, 297, 360

[Redacted]

Frost, Laurence; 183, 269, 270, 294, 296, 338, 340-341, 358, 398, 502, 506
biography, 292-293

FRUMEL - see Fleet Radio Unit, Melbourne.

FRUPAC - see Fleet Radio Unit, Pacific

Fubini, Eugene; 216, 339, 340, 348, 349, 359, 404, 479, 511

Fuchs, Klaus; 19, 164, 167

Fulbright, William; 449, 522-523

[Redacted]

Gamma classification system; 276

[Redacted]

Garafalo, Caterino; 544

Gardner, Meredith; 161-163

Gayler, Noel; 370, 402, 409, 469, 568, 570, 580

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

biography, 476-477

GDRS - see General Directorate of Rear Services

[Redacted]

General Directorate of Rear Services (GDRS); 500

[Redacted]

Geyer, Hans Joachim; 412

Ghormley, Robert; 13

Giap, Vo Nguyen; 559, 562, 564

[Redacted]

GLR-1 (later changed to FLR-12); 308, 310-311

GMAIC - see Guided Missile and Astronautics Intelligence Committee

[Redacted]

GOLDBERG (rapid analytic machine); 198

Goldberg, Arthur; 447

Gold, Harry; 164

Goodfellow AFB, Texas; 133

[Redacted]

Gouzenko, Igor; 18, 161, 166

Grab program; 407

[Redacted]

Gray phone system; 207, 209

Gribkov, Anatolii; 330

[Redacted]

Gruenther, Alfred; 25

[Redacted]

EO 1.4. (c)
EO 1.4. (d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Guam Area Study; 552-553

Guided Missile and Astronautics Intelligence Committee (GMAIC); 177

Gurin, Jacob; 169

[REDACTED]

Haig, Alexander; 485

[REDACTED]

Hallamaa, Reino; 162

Hallock, Richard T.; 160

Hamilton, Victor Norris; 472-473

HAMMOCK (project); 544-545, 549

[REDACTED]

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

Harkins, Paul; 502, 508

Harriman, Averell; 509, 565-566

[REDACTED]

Harris, Stephen; 440-441

[REDACTED]

Harvest (general-purpose computer); 202-204

Harvey, William; 88, 105

[REDACTED]

HAWKEYE (project); 513

Hayes, Harold G.; 12, 277

Hebern, Edward; 212

Helemano, Hawaii (USM-5); 29

Helms, Richard; 353, 387, 459, 467, 479, 485

Henry, Father Harold; 42

[REDACTED]

Herrick, John J.; 516-518, 520

[REDACTED]

Herring, George; 498, 579

Hersh, Seymour; 330, 467, 487, 579

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

[Redacted]

Higginson, George M.; 294

[Redacted]

Hillenkoetter, Roscoe; 89, 102

[Redacted]

Hirota (Japanese General); 49

Hiss, Alger; 164, 167

Hitch, Charles; 291, 292

Ho Chi Minh; 496, 497

Hodge, John R.; 36

[Redacted]

Holderness, Arthur; 466

Hollis, Harris W. and the Hollis Board; 475-476

Holtwick, Jack; 81, 186

Honeywell 316; 369

Hoover Commission; 64, 71, 228-229, 257, 276

Hoover, J. Edgar; 108, 165, 167

[Redacted]

Horner, Jack; 448

[Redacted]

House Un-American Activities Committee; 283

Hovey, Herbert S. Jr.; 506-507

[Redacted]

Hughes, Thomas; 428

Hungarian revolt (and SIGINT crisis); 234-235, 239, 264, 454

Hyland, John; 469

IAC - see Intelligence Advisory Committee

Ia Drang campaign; 530, 532, 534

IATS (Improved AG-2 Terminal System); 369-370, 371

IBM (International Business Machines); 195, 198-199, 204, 368
700-series machines; 202, 204

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS

1401; 267, 352, 364, 414
Selectric Typewriter, 371

[Redacted]

IDDF (Internal Data Distribution Facility); 371, 372

[Redacted]

IGLOO WHITE; 570

[Redacted]

INFOCON; 77

Inglis, Thomas; 108

[Redacted]

Intelligence Advisory Committee (IAC); 102-103

Intelligence Information Steering Committee; 39

Internal Data Distribution Facility - see IDDF

International Business Machines; see IBM

Intern program (civilian); 359

[Redacted]

Iredell, Milton; 294

Iron Hand (SAM suppression missions); 547

IRON HORSE (project and equipment); 371, 549

[Redacted]

Jackson, William H.; 33, 231

[Redacted]

JCEC - see Joint Communications Electronics Committee

JCIC - see Joint Counter-Intelligence Committee

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

JCS Dir. 2010; 26

JCS Memo 506-67; 343, 448, 475, 534

[Redacted]

JMG - see Joint Mechanization Group

[Redacted]

JN25; 1

John, Otto; 412

[Redacted]

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

Johnson, Harold; 358

Johnson, Kelly; 180

Johnson, Louis A.; 25

Johnson, Lyndon Baines; 231, 273, 303, 353-357, 382, 386, 387, 428, 430, 432, 436, 437, 446, 448, 455, 460, 461, 462, 468, 473, 479, 485-486, 504, 515, 520, 522, 523, 529, 548, 564, 565, 573

Johnson, Nels C.; 476

Johnston, Stanley; 275

Joint Communications-Electronics Committee (JCEC); 13, 32, 208, 215

Joint Counter-Intelligence Center (JCIC); 87

[Redacted]

Joint Mechanization Group (JMG); 362

[Redacted]

Jones, R. V.; 108

[Redacted]

Josephson Junction technology; 368

[Redacted]

Kahn, David; 97, 473

[Redacted]

HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS

[Redacted]

Keating, Kenneth; 323-324

Keegan, George; 562, 580

[Redacted]

Kelly AFB, Texas; 30, 31

Kennan, George F.; 157

Kennedy, Jack; 578

Kennedy, John F. and the Kennedy administration; 149, 178, 289-293, 304, 314, 320, 352, 358, 361, 384, 385, 386, 401, 499, 502, 509, 510
Cuban missile crisis; 324-332

[Redacted]

Kenney, George C.; 48

[Redacted]

KGB cipher traffic; 160, 161-168

KG-13; 219, 366, 380

[Redacted]

Khe Sanh and SIGINT; 561-562

Killian, James R. and the Killian Board; 179-180, 229-230, 403

Kim Il-sung; 38, 439, 463, 470

[Redacted]

Kim Se Won; 41, 42, 52, 53

Kim, Y. P.; 40, 41

King, Earnest J.; 5, 6

[Redacted]

Kirby, Oliver; 83, 183

Kirkpatrick, Lyman; 263-264, 276-277

[Redacted]

Kissinger, Henry; 289, 467, 485-486, 581, 582

Kit Kat; 511

EO
1.4.(c)
EO
1.4.(d)
P.L.
86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Klein, Maurice; 284, 294

[REDACTED]

Klocko, Richard; 370

KL-7; 212, 568

[REDACTED]

Korean War (and SIGINT); 30, 32, 33, 36-56, 61, 63, 64, 69, 77, 78, 140, 227

Kosygin, Aleksey; 431-433, 436

KO-6; 221

Krivitsky, Walter; 164, 166

Khrushchev, Nikita; 148-149, 281, 303, 313, 318, 323, 328, 330

Kullback, Solomon; 10, 67

[REDACTED]

KW-7; 379, 451

KW-26; 209-210, 219, 222, 255, 379

[REDACTED]

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

KY-1; 221

KY-3; 221, 347, 380

KY-8/28/38; 380-381

KY-9; 379

KY-11; 220-221

KY-57/58; 381

KY-67; 381

LACEBARK (project); 568

Lacy, Gene; 443

Ladd, Mickey; 163

Laird, Melvin; 467, 476

Lamphere, Robert; 163-63, 166

Lam Son 719 and SIGINT support; 576, 579

Land, Edwin; 180, 230-231

[REDACTED]

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Lang, Delmar; 50, 51, 580

Lansdale, Edward, 85, 258

Laqueur, Walter; 460

[REDACTED]

Larsen, Finn; 216, 385

[REDACTED]

Le Duc Tho; 581, 582

[REDACTED]

LeMay, Curtis; 402, 513

[REDACTED]

Liberty (TRS); 391, 396, 429, 432-439

[REDACTED]

LIGHTNING (projected computer); 204, 257

Linebacker (operation); 579-581

[REDACTED]

London SIGINT Centre (LSIC); 16

[REDACTED]

Lon Nol, General; 572, 574

Lord, Richard "Dick"; 483, 484

Lothian, Lord (Phillip Kerr, 11th Marques of Lothian); 13

[REDACTED]

Lovett, Robert; 35

Low-level voice intercept (LLVI); 46, 47, 48, 48, 54, 536, 542, 543, 561, 573

Lowman, David; 322

[REDACTED]

LSIC - see London Signals Intelligence Center

Lundahl, Arthur; 326, 403

Lynn, Roy; 29, 30, 72

MacArthur, Douglas; 2, 36, 40, 41, 43, 44, 45, 46, 68, 99, 268

[REDACTED]

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Maclean, Donald; 19, 165, 167, 169

MacMillan, Harold; 237

Maddox (U.S. destroyer); 516-518, 519-523

Magruder, John; 33

[Redacted]

Mao Tse-tung; 38, 43, 44, 178

[Redacted]

Manor, LeRoy J.; 578

Manson, Grant; 16

Manual of U.S. COMINT Operations - see MUSCO

Manual of U.S. SIGINT Operations - see MUSSO

[Redacted]

Marine Guard detachment at NSA; 73, 247

Market Time (Navy maritime operation); 552, 572

[Redacted]

Marr-Johnson, Patrick; 17

[Redacted]

Marshall, George C.; 5, 6, 43, 44, 357

Marshall-King Agreement; 5, 6

Martin, William; 74, 280-284, 294, 296, 470, 473

Martin, William I.; 433

[Redacted]

Mathews, Mitford; 378, 410

Mauchly, John; 198, 200

[Redacted]

OGA

McCarthy, Joseph, and McCarthyism; 167

[Redacted]

McChristian, Joseph A.; 530

McCone, John; 183, 319, 324, 326-329, 340, 358, 409, 520

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

McCormack, Alfred; 4, 15

McGonagle, William L.; 433, 438

McKinsey Study; 239-240, 270, 294

McManis, David; 356, 458, 461, 467-468, 485, 540

McNamara, Robert S.; 291, 292, 330, 338, 340, 341, 342, 343, 348, 352, 355, 361, 364, 382, 404, 432, 436, 446, 479, 520, 523, 530, 548

McNarney, Joseph T.; 25

Meademobile; 248-249

[REDACTED]

Menshikov, Mikhail; 146

[REDACTED]

Menzies, Robert; 19

Menzies, Stewart; 158

Merchant, Livingston; 479

[REDACTED]

MESSINA; 171

[REDACTED]

Mikoyan, Anastas; 147, 317

Minh, General "Big"; 510

[REDACTED]

Missile gap; 170, 177-178, 320

Mitchell, Bernon F.; 74, 280-284, 294, 296, 470, 473

Mitchell, William; 479

MI-8; 8, 99, 158

[REDACTED]

Monkey Mountain - see Da Nang

Moody, Juanita; 322, 325, 330, 361, 362-363

Moore, Joseph H.; 547

EO
1.4.(c)
EO
1.4.(d)
P.L.
86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

Moorer, Thomas; 450, 520

MOP-95; 476

Morrison, John; 82, 232, 343, 445, 467, 468, 469, 482-483

[REDACTED]

Mount Vernon Seminary; 8

[REDACTED]

Murphy, Edward; 440

[REDACTED]

Murphy, Robert; 146

Murray, Edward; 41, 42

MUSCO (Manual of U.S. COMINT Operations); 77

MUSSO (Manual of U.S. SIGINT Operations); 77

M-209; 213, 218, 568

[REDACTED]

Nasser, Gamal Abdel; 232-233, 237, 425-426, 429, 431, 433, 436

National Bureau of Standards (NBS); 199-200

National Cash Register Co.; 195-198

National Cryptologic School (NCS); 27, 294, 360

National ELINT Plan; 337, 343-344

National Intelligence Resources Board (NIRB); 480, 481

[REDACTED]

National Reconnaissance Office (NRO); 405, 407

National Security Council (NSC); 33, 35, 56, 102, 253, 261

National SIGINT Operations Center (NSOC); 176, 267, 314, 350, 469, 482-483

National Technical Processing Center (NTPC); 110, 261

Naval Computing Machine Laboratory (NCML); 195, 197

Naval Research Laboratory (NRL); 138, 222, 396, 407

NRL Mixer; 222

[REDACTED]

Naval Security Station (NSS or "Nebraska Avenue"); 8, 9, 12, 15, 17, 27, 32, 61, 71, 72, 73, 74, 81, 87, 109, 110, 187, 195, 198, 206, 207, 209, 215, 216, 241, 243, 245-246, 294

Nave, T. E.; 18

EO 1.4. (c)
EO 1.4. (d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
NOT RELEASABLE TO FOREIGN NATIONALS

NBS - see National Bureau of Standards

NCML - see Naval Computing Machine Laboratory

Nebraska Avenue - see Naval Security Station

[redacted]
NESTOR; 381, 568

Netherlands and the Petersen case; 279

Newton, Robert; 452

Ngo Dinh Diem; 497, 498, 509, 510

[redacted]
Nichols, Major; 41, 42, 49

[redacted]
Nimitz, Chester; 2, 68, 268

NIRB - see National Intelligence Resources Board

Nitze, Paul; 534

Nixon, Richard M.; 147, 357, 387, 467-468, 485, 565, 566, 567, 570, 572-573, 579, 581, 582, 584

NOMAD (computer); 201-202

[redacted]
Norstad, Lauris; 479

[redacted]
Novaya Zemlya (Soviet nuclear test site); 177

Novotny, Antonin; 454

NRL - see Naval Research Laboratory

NRO - see National Reconnaissance Office

NSAAL (NSA Office Alaska); 68

NSAEUR (NSA Office Europe); 68, 264, 265

NSAEUR/ISS; 265, 342-343

[redacted]
[redacted]
NSAPAC (NSA Office Pacific); 68, 268, 296

NSAPAC NOG (NSAPAC Operations Group), 343

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

NSA Scientific Advisory Board (NSASAB) and predecessors; 184, 227, 382

NSAUK (NSA Office United Kingdom); 68

NSC - see National Security Council

NSCID 5; 53, 90, 93, 107

NSCID 6; 68, 107, 261-262, 263, 310, 337, 405, 476, 478

NSCID 7; 254-255

NSCID 9; 35, 68, 75, 76, 77, 90, 107, 109, 216, 261

NSCID 17; 110, 228

NSC 168; 216

NSOC - see National SIGINT Operations Center

NSS - see Naval Security Station

NTPC - see National Technical Processing Center

[Redacted]

Office of Policy Coordination (OPC); 101

[Redacted]

Office of Special Operations (OSO), 85, 86, 231, 271, 338

[Redacted]

O'Gara, Jack; 339

Ogier, Herbert L.; 517

[Redacted]

Oliver, Donald; 538

[Redacted]

Omnibus Crime Control and Safe Streets Act; 274, 474

[Redacted]

OPC - see Office of Policy Coordination

Operation Plan 34-A; 511, 515, 518, 542

Operations Security (OPSEC); 555

Operation Starlight; 530, 532

EO
1.4.(c)

EO
1.4.(d)

P.L.
86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

[Redacted]

OPSEC - see Operations Security

[Redacted]

OSO - see Office of Special Operations

[Redacted]

Overhead intelligence collection; 179-184, 230-231, 402-411, 479, 480

Owens, Robert G.; 548

Pacific Experimental Facility (PACEXFAC); 268

Packard, David; 453

[Redacted]

Panikkar, K. M.; 44

Park, Chung-hee; 439

PARKHILL; 380

PARPRO (Peacetime Aerial Reconnaissance Program); 468

[Redacted]

PDP-1/10; 368, 369

Peacetime Aerial Reconnaissance Program - see PARPRO

Pearl Harbor hearings; 273

Pendergrass, James T.; 198-199

[Redacted]

Petaluma, California (USM-2, AKA Two Rock Ranch); 29, 306

Petersen, Joseph Sydney; 279-280

Petsamo (Finnish town; locus of captured KGB codebooks); 162

PFIAB - see President's Foreign Intelligence Advisory Board

Pham Van Dong; 559

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Philby, H.A.R. "Kim"; 165-167, 169

Phillips, Cecil; 352, 362, 370

Phu Bai, South Vietnam (USM-808, USN-414T); 504, 506, 511, 513, 515, 516, 518, 520, 530-531, 534, 542

PHYLLIS ANN; 532-534

[REDACTED]

Pike, Otis and the Pike Committee; 449, 468-469, 474

[REDACTED]

Pinkston, Frank; 362

PIWO - see Prod Watch Office

PLANTATION; 202

Pleiku, South Vietnam (USM-604); 504, 531, 534, 560, 561, 568, 573, 581

[REDACTED]

Pliyev, Issa; 330

Pollard, Jonathan Jay; 280

Pol Pot; 574

Polygraph; 73-74, 282, 283, 471

Poppy program; 407

[REDACTED]

Powers, Francis Gary; 175, 177, 180-184

[REDACTED]

President's Foreign Intelligence Advisory Board (PFIAB); 263, 292, 337-338, 344, 412, 564

Prod Watch Office (PWO; later changed to Prod Intelligence Watch Office, PIWO); 346-247

Professionalization program (civilian); 296

Program C; 407-408

[REDACTED]

Public Law 86-36; 272, 273

Public Law 88-290; 473

[REDACTED]

PURPLE and PURPLE Analog; 1, 14

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS

~~TOP SECRET UMBRA~~

PURPLE DRAGON; 551-555

PWO - see Prod Watch Office

Python systems; 213, 568

Pyong-Yong-Do (AFSS tactical voice intercept operations); 49

[REDACTED]

Quarles, Donald; 254, 258, 271

[REDACTED]

QUEEN BEE CHARLIE/DELTA; 513, 545, 547

Raborn, William; 358

[REDACTED]

Radio Analysis Group, Forward (RAGFOR); 7

Radioprinter exploitation; 169-170, 177, 178, 184, 185-186

Radosh, Ronald; 167

RAGFOR - see Radio Analysis Group, Forward

[REDACTED]

RANCHO; 202

Rand Corporation; 402

[REDACTED]

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

Raven, Frank; 362-363, 483

RB-47 shutdown, 1960; 314

RC-130 shutdown, 1958; 144-147, 282, 313, 468

Ream, Joseph; 231, 270

Red Crown; 581

Redman, John; 208

Receivers (radio); 134

[REDACTED]

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

Remington-Rand Corp.; 198
Reporting (SIGINT); 69-71
Requirements (COMINT); 229, 341
Reynolds, Wesley; 163, 278, 284
Rhee, Syngman; 38, 39, 41, 43, 53

[Redacted]

Rice, Kenneth; 297
Rivers, Mendell; 468
RIVET GYM (ACRP project); 571
Robertson, H. P. (committee); 67, 109, 227-228

[Redacted]

[Redacted]

Rogers, William; 467, 485
ROGUE (Remotely Operated General Use Equipment); 200-201
Rolling Thunder (USAF operation); 529, 553-555

[Redacted]

Roosevelt, Franklin D.; 13, 157, 159, 164, 214, 497
Rose Bowl (RC-47); 511
Rosen, Leo; 14
Rosenberg, Julius; 164, 167
Rosenberg, Ethel; 165, 167

[Redacted]

Rostow, Walter; 289, 353, 354, 428, 431-432, 436, 437, 446, 455, 458-459, 461, 462, 479, 485, 509

[Redacted]

Rowlett, Frank; 10, 12, 23, 67, 87, 88, 89, 90, 93, 95, 105, 159, 161, 186, 271, 294, 360
Royall, Kenneth; 23

[Redacted]

Rubel, John; 338, 502

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

[REDACTED]

Rusk, Dean; 325, 446, 520

Russell, Richard; 280

Ryan, John; 580

RYE; 368

Saadi, William; 370

[REDACTED]

Safford, Laurance; 7, 13, 158, 271, 276

Salinger, Pierre; 323

Samford, John A.; 107, 204, 209, 231, 254, 261, 268, 269, 271, 296, 341, 358

[REDACTED]

Sangley Point Naval Station, Philippines; 142

[REDACTED]

SARACEN; 582

[REDACTED]

Satellite Operations Center (SOC); 405, 409

[REDACTED]

SAVILLE; 381

[REDACTED]

SCAT - see Support Coordination Advisory Team

[REDACTED]

Schultz, Charles; 479

Schulz, Lester R. and the Schultz-Eddy Agreement; 531-532

Schukraft, Robert, 87

Scientific Research Institute 88; 171

SCOCE - see Special Committee on Compromising Emanations

[REDACTED]

Security, cryptologic; 73-75
badge, 73

EO 1.4.(c)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

classification system; 275-277
compromise cases; 274, 277-284
destruction of classified waste 74-75
and product dissemination; 229



Semipalatinsk (Soviet nuclear weapons test site); 176



SHAMROCK (Project); 29

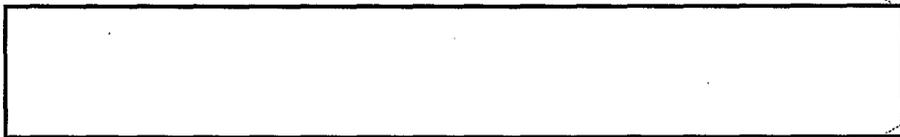
Sharp, Ulysses Grant; 520, 553, 555

Shawcross, William; 495

Shedden, Sir Francis; 19

Sheehan, Neil; 583

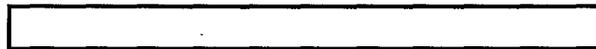
Sheldon, Huntington; 325, 342, 405, 410



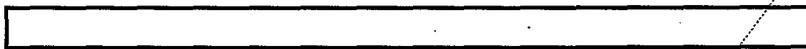
Shockley, William; 200

SHORTHAND (project); 542, 543

Showers, Donald M.; 552



Shukeiri, Ahmed; 425



Sidey, Hugh; 448

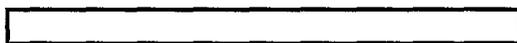
SIGABA; 212

SIGCUM (AKA Converter M228); 213

SIGINT Committee (of USIB); 341

SIGINT Digest (AKA SIGSUM); 332

SIGINT Overhead Reconnaissance Subcommittee (SORS); 405



SIGINT Support Group; 532

EO
1.4.(c)
EO
1.4.(d)

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

SIGINT Working Group of COMOR; 405

SIGSALY; 214, 220

SIGSUM - See SIGINT Digest

SIGTOT; 213

Sihanouk, Prince Norodom; 572

[REDACTED]

Sillitoe, Sir Percy; 18

SILO; 202

[REDACTED]

Silver Dawn (ACRP program); 547

Sinkov, Abraham; 10, 14, 67, 215

[REDACTED]

Skaggs Island, California; 29, 159

[REDACTED]

SMAC - see Space and Missile Analysis Center

[REDACTED]

Smith, Bromley; 479

Smith, Walter Bedell; 33, 87, 89, 90

SMTIG - see Soviet Missile Technical Intelligence Group

Snyder, Samuel; 199-200

[REDACTED]

[REDACTED]

Songbird reports; 550

[REDACTED]

SOLO; 200

Sommers, Gordon; 23, 478

Son Tay Raid and SIGINT; 576-578

SORS - see SIGINT Overhead Reconnaissance Committee

[REDACTED]

South Vietnam as a SIGINT partner; 411, 415, 498, 502, 503, 509, 566, 568-570, 582

Soviet Missile Technical Intelligence Group (SMTIG); 176

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

~~TOP SECRET UMBRA~~

Space and Missile Analysis Center (SMAC); 176, 205, 266, 345

[Redacted]

Spacol (space collection); 296

Special Committee on Compromising Emanations (SCOCE); 216-217, 222-223

Special Research Branch (SRB) 32

Special Security Officer (SSO); 1-2, 82, 96, 264, 342, 366

Special Security Technical Branch (SSTB); 566, 568, 570, 582

Spintcomm; 366

SPIT (project; Special Intercept Typewriter); 361, 362

Sputnik and cryptology; 126, 177, 211, 253, 397

SRB - see Special Research Branch

SSO - see Special Security Officer

[Redacted]

EO 1.4.(c)
P.L. 86-36

SSTB - see Special Security Technical Branch

Stalin, Joseph; 178

State-Army-Navy Communications Intelligence Board (STANCIB); 7, 11, 16, 17, 108

State-Army-Navy Communications Intelligence Committee (STANCICC); 7, 11

Stella Polaris; 162-163

[Redacted]

Stephenson, William; 13

Stern, Sol; 167

Stimson, Henry; 274

[Redacted]

Stockdale, James B.; 515, 518

[Redacted]

Stone, Earl E.; 23, 24, 25, 28, 29, 61, 66, 67, 102, 206, 241, 243, 278

Stone Board; 23, 25

[Redacted]

Strauss, Franz Joseph; 413

[Redacted]

Strong, George V.; 13, 14

[Redacted]

HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS

Subcommittee on Compromising Emanations (SCOCE); 381

[Redacted]

Support Coordination Advisory Team (SCAT); 549

[Redacted]

Sylvania (contractor for 466L system); 310, 311

Symington, Stuart; 170, 177

TABLON; 369

[Redacted]

Taegu (siege of, and SIGINT); 40, 43, 52

[Redacted]

Talent-Keyhole program; 404-405

[Redacted]

Tan Son Nhut AFB, Saigon (AFSS ARDF operations); 534

Target Exploitation (TAREX); 3, 551

[Redacted]

Task Force Alpha (TFA) and SIGINT support; 570

Taylor, Maxwell; 53, 291, 502, 509, 511, 564

Taylor, Telford; 15

TDS - see Teletype Distribution System

TEABALL (operation); 579-581

[Redacted]

Technical Research Ship (TRS) program; 314-316, 391, 395-397, 426, 429, 440, 453
and Cuba; 320-322

Telemetry

[Redacted]

early ELINT mission; 110

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

[redacted]
organization and classification: 262

[redacted]
use with Soviet rockets (AKA Messina); 171

[redacted]

Teletype Corporation; 198, 209, 255
Model 19; 206, 208, 268
Model 28; 268
Model 35, 368

Teletype Distribution System (TDS); 371

TEMPEST (COMSEC project); 106, 217, 221-223, 376, 381-81

Tempo R (Training School); 72, 74

Tempo X (Training School); 72

[redacted]

Tet Offensive; 559-565, 583

[redacted]

Tevis, Charles; 346, 410

TFA - see Task Force Alpha

[redacted]

Thebaud, Hewlett; 159

Thieu, Nguyen Van; 559, 568, 579, 582

TICOM - See Target Intelligence Committee

TIDE; 350, 485

Tiltman, John; 14, 17, 93

Title 18, U.S.C. 798; 273-274, 279

Tizard, Sir Henry; 13

[redacted]

Tonkin Gulf incident; 506, 515-523, 529, 583

Tonkin Gulf Resolution; 515, 522-523

Tordella, Louis; 67, 89, 90, 91, 97, 159, 183, 199, 254, 261, 263, 353, 377, 387, 436, 482

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

biography, 271-272

[Redacted]

Touchdown (military operation); 551

[Redacted]

Training (cryptologic); 71-73, 95

Travis, Sir Edward; 15, 17

Triantafellu, Rockle ("Rocky"); 532

TRS - see Technical Research Ship

TRS Special Communications System (TRSSCOM; AKA Moon Shot); 396

Truman, Harry S.; 16, 19, 33, 36, 40, 45, 56, 87, 102, 157-158, 215, 289, 497

Truman Memorandum; 35, 61, 272, 274

Truman Doctrine; 122, 157

[Redacted]

Tucker, Gardner; 216

[Redacted]

Turing, Alan; 15

[Redacted]

Turner Joy (U.S. destroyer); 518-523

Twining, Nathan; 148, 237

Two Rock Ranch - See Petaluma

[Redacted]

UKUSA (United Kingdom, USA) Agreement; 17, 19, 235

Ultra (codeword); 276

United States Communications Intelligence Board (USCIB); 18, 19, 32, 35, 44, 53, 56, 87, 89, 91, 92, 95, 99, 100, 102, 108, 109, 110, 144, 147, 204, 218, 227-229, 253, 259, 261, 279

United States Communications Intelligence Coordinating Committee (USCICC); 12

United States Intelligence Board (USIB); 255, 262, 331, 341, 381, 405, 413, 499-500, 503

United States Joint Communications Board; 32

United States Communications Security Board (USCSB); 215-216, 222-223, 381-382

[Redacted]

EO
1.4.(c)
EO
1.4.(d)
P.L.
86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Univac Corp. (AKA Sperry Rand Univac); 200, 204
490/494 series; 205, 368, 370, 485

URC-53; 547

USCIB - see U.S. Communications Intelligence Board

USCICC - see U.S. Communications Intelligence Coordinating Committee

USIB - see U.S. Intelligence Board

USCSB - see U.S. Communications Security Board

U Street Facility (Cryptologic School); 27

[Redacted]

Vance, Cyrus; 358, 359, 520, 534

Vandenberg, Hoyt S.; 10, 26, 28, 78, 87

Van Fleet, James A.; 36

Vann, John Paul; 583

VENONA (project); 19, 160-168, 185, 186, 276, 278, 284

Verkhnyaya Salda (Soviet missile site); 178

[Redacted]

Vinh Window; 539-540, 542, 579, 583

VINSON; 381

[Redacted]

Vogt, John; 580

[Redacted]

Voice intercept; 227, 506, 542

VQ-1 and VQ-2; 139, 142, 463-470, 550

[Redacted]

Walker, Walton; 43

Wallace, Henry; 159

Walter, Francis E. and the Walter Committee; 283-284

Walt, Lewis; 530

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY~~
NOT RELEASABLE TO FOREIGN NATIONALS

[Redacted]

Watergate; 474, 487, 572, 584

Water transport code; 1

Weapons Control Center (WCC); 580-581

[Redacted]

Weeks, Robert; 14

WEE LOOK (Navy aerial reconnaissance program); 550

Weisband, William; 169, 177, 277-278, 284

Wenger, Joseph; 6, 12, 29, 63, 93, 158, 243

[Redacted]

Westmoreland, William C.; 530, 534, 536, 560, 561, 562, 564, 565, 570, 583

[Redacted]

"Wetwash" circuit; 511

Weyand, Frederick; 561

Wheeler, Earl; 446, 468, 476, 506, 520, 529, 555, 565

[Redacted]

WHITEBIRCH (project); 502, 504, 505, 513

White, William Carlin; 396

White Horse Mountain; 48

White House Situation Room; 352-354

[Redacted]

and SIGINT during the EC-121 crisis; 467-468
and SIGINT during the *Pueblo* crisis; 446

White Wolf (JCS advisory warning plan); 147, 314, 330, 463, 464

[Redacted]

Wiesner, Jerome; 204

[Redacted]

OGA

Willoughby, Charles; 45, 46, 99

WILLY (Project); 42

EO 1.4.(c)
EO 1.4.(d)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

Wilson, Charles; 259-160

Winchell, Walter; 275

[Redacted]

Winn, Roger; 14

[Redacted]

Wired rotor technology; 211-212

Wirtz, James; 563

[Redacted]

Wood, Robert J.; 391-392

[Redacted]

Wray, William; 294, 325

[Redacted]

Wright, Peter; 235

Wright, Wesley A. ("Ham"); 67, 68

[Redacted]

Yankee Alert; 236-237

Yansei University - see Chosen Christian College

Yardley, Herbert O.; 17, 55, 99, 158, 273, 274

YOKE (tactical voice intercept operation); 48, 49

[Redacted]

Yur'ya (Soviet missile site); 178

Zaslow, Milton; 578

ZICON net; 207, 255

Zuckert, Eugene; 502

Zumwalt, Elmo; 478

[Redacted]

3RD RRU - see Davis Station

[Redacted]

EO 1.4.(c)
P.L. 86-36

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~

5UCO (AKA Secretape); 219

[Redacted]

[Redacted]

60th Signal Service Company, Ft. Lewis, WA; 40

[Redacted]

[Redacted]

6901st Special Communications Center - see Air Force Special Communications Center

[Redacted]

EO
1.4.(c)
EO
1.4.(d)
P.L.
86-36
(b)(1)

~~HANDLE VIA TALENT KEYHOLE COMINT CONTROL SYSTEMS JOINTLY
NOT RELEASABLE TO FOREIGN NATIONALS~~