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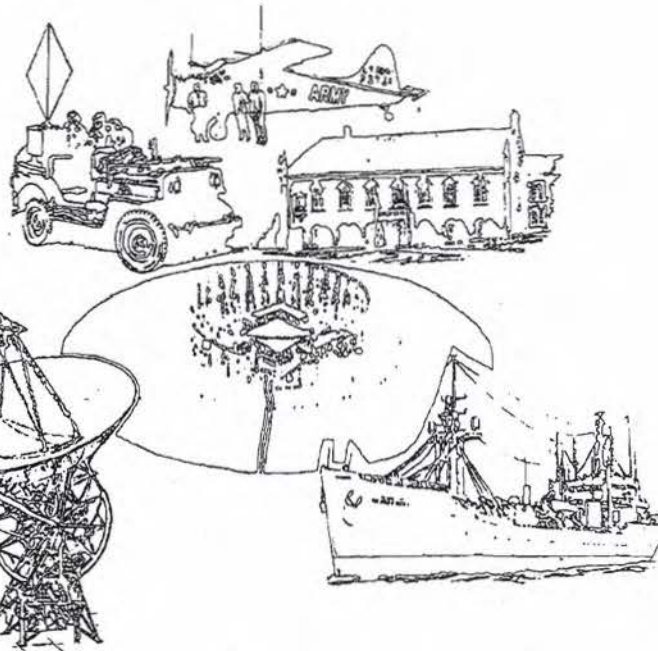
UNITED STATES CRYPTOLOGIC HISTORY

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American Cryptology during the Cold War, 1945-1989 - Book III

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national security agency  
central security service



# (U) American Cryptology during the Cold War, 1945-1989

(U) Book III: Retrenchment and Reform, 1972-1980



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**UNITED STATES CRYPTOLOGIC HISTORY**

*Series VI  
The NSA Period  
1952 - Present  
Volume 5*

*(U) American Cryptology during the  
Cold War, 1945-1989*

*(U) Book III: Retrenchment and Reform, 1972-1980*

**Thomas R. Johnson**



**CENTER FOR CRYPTOLOGIC HISTORY  
NATIONAL SECURITY AGENCY**

**1998**

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## Foreword

(U) The publication in 1995 of Books I and II of *American Cryptology during the Cold War* by Dr. Thomas Johnson created the NSA equivalent of a "best seller." Books I and II were distributed widely to offices and individuals and have been used as textbooks in courses at the National Cryptologic School. These two volumes filled a great need in the U.S. intelligence community for a comprehensive treatment of cryptologic history.

(U) The first book in the projected four-volume series dealt with the origins of modern American cryptology, particularly its organizational struggles in the 1940s and the great debates over centralization. The second book resumed the narrative in 1960, showing how the great strides in communications and overhead technology changed, renewed, and energized the cryptologic organizations. In both volumes, Dr. Johnson analyzed the successes and failures of cryptologic activities as well as support to national decision makers. Book II also gave an overview of cryptologic operations during the Vietnam War.

(U) Book III, which discusses and analyzes cryptologic operations from the fall of Vietnam through 1980, promises to have an impact on our knowledge and cryptologic education equal to its predecessors. This was a period of retrenchment in budgets and personnel, a period of shocking public revelation of improper intelligence activities, the beginnings of declassification about intelligence activities, and a period of technology changes that rivaled those of the previous eras.

(U) This is to say, Book III deals with the period of cryptologic history that, as much or more than previous times, determined the shape and capabilities of the cryptologic organizations of our own day. For this reason, the Center for Cryptologic History recommends Book III, *American Cryptology in the Cold War: Retrenchment and Reform, 1972-1980*, as especially important professional reading for all members of the intelligence community today. Plus, it's a darn good story.

DAVIDA HATCH  
Director,  
Center for Cryptologic History

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Preface

~~(TS-CCO)~~ Expansion and centralization dominated American cryptologic history from the end of World War II to the end of the first Nixon administration. From 1945 through at least 1970, cryptology forged ahead in a virtually unbroken expansion of people, facilities and influence in the halls of government.

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The paradox (true in general but not in particular instances) resulted from the exploitation of everything else that was important about adversary communications, and from the enforced centralization and modernization of the cryptologic system to milk everything possible from that which was exploitable. Successes were most pronounced on the SIGINT side but were also noteworthy in COMSEC.

~~(C)~~ The decade of the 1970s is remembered by most cryptologists as a scarcely mitigated disaster. Expansion came to a halt, beginning with the withdrawal from Vietnam from 1970 to 1975. The cryptologic system contracted in every way possible: people, facilities and money. Through the administration of three presidents - Nixon, Ford and Carter - the downsizing continued.

(U) Nixon's resignation in August of 1974 was followed only five months later by exposure of CIA operations by journalist Seymour Hersh. The result was a thorough airing of intelligence operations, including some by NSA, before two congressional committees, and further ignominy and public suspicion of intelligence and cryptology. Jimmy Carter came to the White House with a mandate to clean out the intelligence closet and a predisposition to do so. He set to it with a will.

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~~(S-CCO)~~ But the days were not as dark as they seemed.

Even with decreased money, cryptology was yielding the best information that it had produced since World War II. Two strong directors, Lew Allen and Bobby Inman, ably steered NSA through the post-Watergate mire. In the end, Jimmy Carter became a believer in intelligence, especially what was called in the White House "technical intelligence." It was he, rather than Ronald Reagan, who first arrested the decline in the fortunes of American intelligence.

(U) Reagan, who never understood intelligence as well as Jimmy Carter came to understand it, still had his heart in the right place. He directed an intelligence rebirth that resulted in a bonanza of money. The new dollars were shoveled into highly sophisticated technical systems rather than into more people (although cryptology did add



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some billets). By the end of the Cold War in 1989 the cryptologic system had lots of shiny new toys, and was using them to very telling effect. The decade of the 1980s marked the high-water mark of a cryptologic system that had been in evolution since 1945. And it had a presidential administration that believed in it.

THOMAS R. JOHNSON

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### Acknowledgments

(U) A work of this size cannot be produced without the labors of many people whose names are not on the title page. Among them are NSA's archival and records management staff, with whom I have worked closely over the past ten years to find the needed files of material. Two research assistants, Yolande Dickerson and Rowena Clough, helped ferret out materials. My thanks also go to the librarians and archivists at the presidential libraries who spent long hours in dingy basement vaults while I toiled through the national security files looking for reflections of cryptologic information. I especially want to thank Donna Dillon at the Reagan Library, Leesa Tobin at the Ford Library, and Martin Elzy at the Carter Library, but others on their staffs also assisted.

(U) The mapmaking was handled by [ ] and [ ]. Numerous people in NSA's photo lab helped get the pictures ready for final publication. The Center for Cryptologic History's editorial staff of Barry Carleen, Barbara Vendemia, and Jeannette Gannaway probably spent more time than anyone getting the book ready for publication.

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(U) The book had many readers and consultants. Most important were Milton Zaslow, Eugene Becker, and Richard Bernard, all retired NSA officials who volunteered their time to read, correct, and advise.

(U) Countless people agreed to oral history interviews to further the progress of the book. I especially want to thank four former directors: General Lew Allen, Admiral Bobby Inman, Lieutenant General Lincoln D. Faurer, and Lieutenant General William Odom, all of whom were willing to dedicate their time to set the record straight on important issues with which they were concerned. (Admiral Inman has sat for no fewer than four interviews over the years.) George Cotter and Robert Hermann provided unique information and seasoned judgments. John Devine and Marlin Wagner both gave important testimony on Bauded Signals Upgrade. The list of interviewees in the bibliography section is filled with the names of people who have provided detailed information on a host of projects and organizations. Much of these two books could not have been written without oral histories.

(S-~~COO~~) Finally, I was given access to two special collections which provided information of unique value. [ ] the last incumbent in the old Soviet analysis office, A2, provided the executive files accumulated by him and his predecessors over a number of years. Loyd Luna of the Executive Registry loaned executive files of the deputy directors - this was generically the most valuable set of files used in the preparation of the four-book set.

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**(U) Chapter 14**  
**Cryptologic Retreat from Southeast Asia**

~~(C)~~ Direct American involvement in Vietnam ended with the cease-fire of February 1973. The Vietnamese were left to struggle on alone. [redacted]

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**(U) THE WAR IS VIETNAMIZED**

~~(S-CCO)~~ The cease-fire that took effect in February of 1973 required that all U.S. military people be out of the country. The cryptologic infrastructure was already safely in Thailand, but the NSA office in Saigon had to remain to provide support to the ambassador [redacted]. Moreover, NSA was committed to advising the South Vietnamese SIGINT service, renamed the DGTS (Directorate General of Technical Security). There were NSA advisors at each of the major DGTS field sites, and as DoD people, they were technically illegal according to the peace accords. [redacted]

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~~(S-CCO)~~ As soon as Americans were out of South Vietnam, support for the military budget was reduced. The 1974 cryptologic budget almost dropped off the edge of the table, as major field sites as well as small covert operations took huge decrements. The Air Force EC-47 operation was discontinued in May of 1974, replaced by the much smaller remnants of the ASA U-21 program. ACRP programs declined by 50 percent, as many programs were either canceled or reduced. SARACEN, the remoted intercept operation in Laos, was closed in April, and the huge ASA station at Ramasun was ratcheted down by about 40 percent.<sup>2</sup>

~~(S-CCO)~~ The actual effect of the cryptologic drawdown varied by entity. It was most severe on North Vietnamese civil traffic, which could no longer be heard by reduced RC-135 operations forced to fly south of the 17th parallel. NSA also reported substantial reductions in its capability to monitor GDRS (General Directorate of Rear Services, and thus infiltration) traffic. On the other hand, the ability to report on North Vietnamese air defense traffic suffered little or no decline.<sup>3</sup>

(U) In Vietnam, South Vietnamese military capability did not toughen up as fast as the Nixon administration had hoped, but the picture was not entirely dark. With only partial U.S. support (mostly from the air), the 1972 Easter Offensive had been blunted. Once American troops had left Vietnam completely, American arms and supplies bolstered ARVN capabilities. Vast quantities of military hardware arrived at South Vietnamese ports. So many trucks and jeeps sat on the wharves at Cam Ranh and Vung Tau that one

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congressman wondered whether the objective of Vietnamization was to "put every South Vietnamese soldier behind the wheel."<sup>4</sup> The ARVN became, by the end of 1974, one of the largest and best equipped armies in the world, and its air force was the world's fourth largest.

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(S) The SIGINT situation was very complex. Although confronted with major deficiencies in manpower and equipment, General Nhon's DGTS had developed at least the rudiments of what NSA had hoped for when the Vietnamization program began. It did a good job of collecting [redacted]

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[redacted] Its performance in traffic analysis was spotty, mainly because the DGTS often did not see the value. It had an outstanding ARDF capability on paper, although that program was hindered to some degree by the reluctance of Vietnamese pilots to fly in areas of hostile fire. The EC-47 fleet that NSA bequeathed to Vietnam was aging and prone to mechanical failure, which drove aircraft downtime to unacceptable levels. The DGTS used ARDF results primarily for order-of-battle rather than for tactical targeting.<sup>5</sup>



(U) General Nhon at NSA with John Harney, then commandant of the National Cryptologic School

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~~(S,CCO)~~ General Nhon had picked his SIGINTers carefully, and DGTS dedication was very high. It was hindered by a corrupt and inefficient government and by declining American financial support. Moreover, NSA had been very slow to recognize the need to give DGTS first-class SIGINT training. The philosophy in the early years had been to "buy off" the government in order to develop political support in Saigon for the build-up of American cryptologic capabilities. NSA never permitted a level of SIGINT exchange with the ARVN SIGINT organization that the wartime situation demanded, and its lack of technical expertise was consequently low. When the Americans left, DGTS had a long way to go.<sup>6</sup>

(U) The improvements in overall ARVN capabilities had resulted in at least a marginal improvement in the situation in the countryside. Village security was better in many areas, and the government, still corrupt and oppressive, had nonetheless announced a new land reform program. At year's end, a shaky stalemate existed between the ARVN (Army of the Republic of Vietnam) and the NVA (North Vietnamese Army). Little had changed in the government's ability to control geographical areas since the cease-fire.<sup>7</sup>

~~(SC)~~ But trouble was afoot. NSA reporting since the cease-fire documented huge NVA shipments to the South. Unhindered by American bombing, they brought in engineers and road-builders, and turned the Ho Chi Minh Trail into the "Ho Chi Minh Road," an all-weather highway suitable for heavy transport. By early 1975, NVA forces were better equipped than at any time in the past.<sup>8</sup> They were obviously waiting for the opportunity to renew conventional warfare.

## (U) THE FALL OF SAIGON

### (U) Hanoi's Final Campaign

(U) The final round of the Vietnam War was apparently planned by Hanoi as early as August of 1974. With American support for the government in South Vietnam beginning to weaken, victory appeared to be just a matter of time. But the timetable was not 1975 - it was 1976. No one in Hanoi really envisioned the imminent collapse of the opposition.<sup>9</sup>

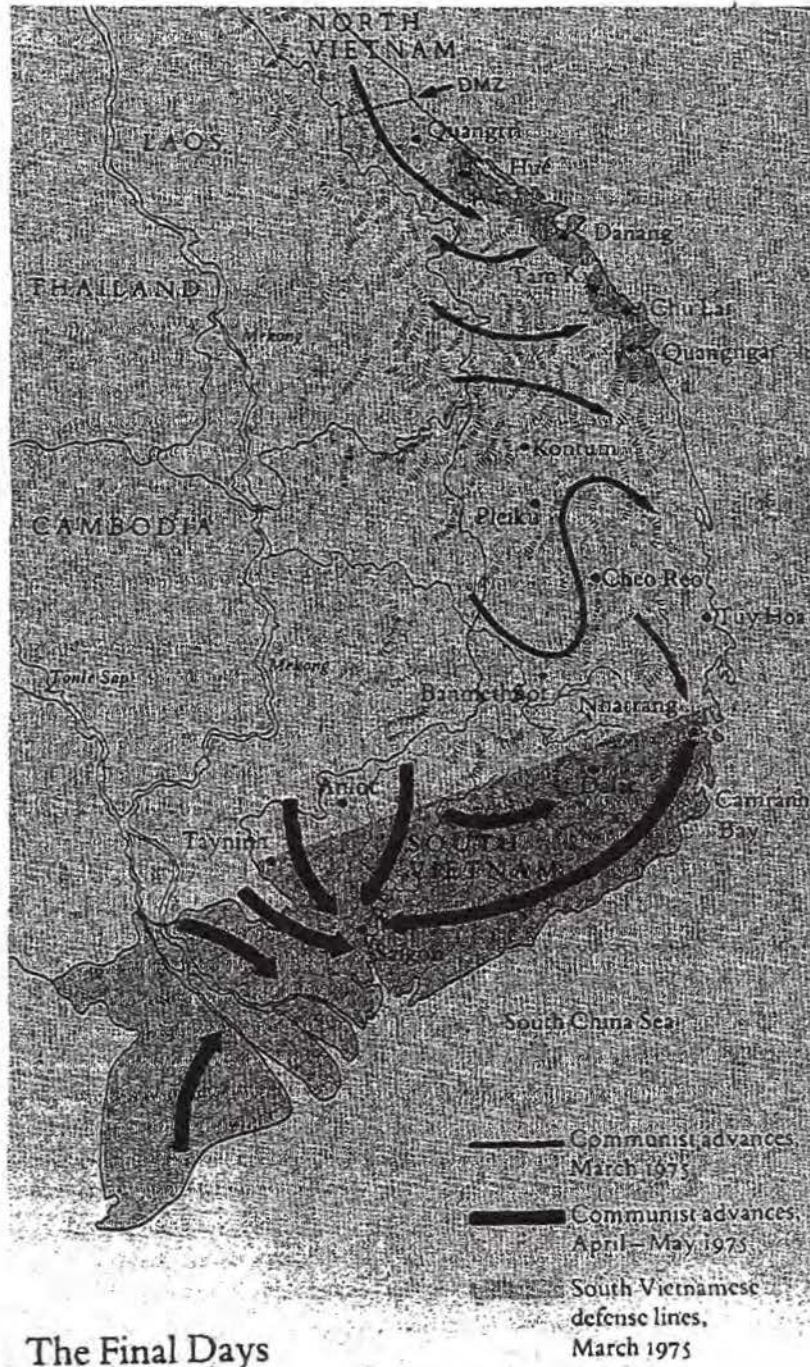
~~(SC)~~ Through the fall, NSA was reporting infiltration figures unheard of except prior to the 1972 Easter Offensive. The NVA launched the first attack shortly after the first of the year against Phuoc Long Province in MR 3. After the seizure of the province, Hanoi sat back to judge the American reaction. There was none, so the NVA renewed the offensive in MR 1 and 2 in March.

~~(SC)~~ About the first of March, SIGINT indicators pointed to a strong NVA attack on Ban Me Thout in the Central Highlands. The NSA office in Saigon, however, believed that the real objective was Pleiku, and that Ban Me Thout was a diversion, albeit a significant one. [redacted], the NSA representative, accompanied by General Nhon, the DGTS commander, briefed the ARVN MR 2 commander, who refused to believe them. The

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The Final Days

(U) Vietnam

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commander reinforced Ban Me Thout, but it wasn't enough, and he still lost it. Meanwhile, just as SIGINT had indicated, NVA forces fell on Pleiku.<sup>10</sup>

(U) On March 15, President Thieu made the "tactical" decision to abandon the Central Highlands. ARVN troops at Pleiku abruptly abandoned the city, and it was in NVA hands within two days.

(U) This began one of the most awesome and tragic civilian evacuations in modern times. Spurred by the military abandonment and the advancing NVA forces, hundreds of thousands of refugees jammed the single road from Pleiku to the sea, Route 14. About a third of the way to their objective of Tuy Hoa, Route 14 met with Route 7B at a town called Cheo Reo. There, streams of refugees from other towns intermixed, creating gridlock. In the vicinity of the town, NVA forces attacked retreating ARVN forces, creating a bloodbath in which thousands of refugees and soldiers were killed. NVA harassment continued the length of the road, but Cheo Reo was the worst.<sup>11</sup>

~~(S-CCO)~~ The DGTS center in Pleiku kept operating until the final day, and then the center's people joined the fleeing refugees. Of the 87 men and 120 dependents who took to Route 14, no more than half ever reached the coast. The rest remained unaccounted for.<sup>12</sup>

~~(S)~~ NSA was picking up indications that the North Vietnamese were moving reserve divisions south. The 968th, which had remained in Laos for its entire existence, showed up in the Kontum-Pleiku area, and there were indicators that divisions in the Hanoi area, which had never done more than train men for combat in other organizations, might be moving out. Still, CIA predicted that the South would hold through the dry season.<sup>13</sup>

(U) But military analysts in the Pacific were not so optimistic. USSAG (United States Support Activities Group), which was really MACV in Thailand under a different name, pointed ominously to the movement of reserve divisions, and predicted an all-out effort to take Saigon during the dry season. IPAC (Intelligence Center Pacific) hinted on March 17 that the entire country could fall.<sup>14</sup>

(U) There was no let-up. Quang Tri City, defended with such high casualties in 1968, fell to the NVA on March 20. At the same time, NVA units were besieging Hue. On March 22 they severed the coastal road between Hue and Da Nang. The old imperial capital was a captive.<sup>15</sup>

#### **(U) The Fall of Da Nang**

(U) With Hue cut off and withering, refugees poured into Da Nang, the last important city in MR I still held by the government. By March 25 the city was choked with pedestrian and cart traffic. ARVN units had turned into an armed mob and were commandeering any form of transportation available to get out of the city. Mobs swarmed

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across the airport runway, and each successive World Airways 727 landing there found it more difficult to take off.<sup>16</sup>

(S) On the 26th, Al Cameron, the NSA advisor to the DGTS unit at Da Nang, received a call from the CIA station chief. It was time to get out. Cameron drove his jeep to the air strip, leaving his personal goods behind, and squeezed aboard a jammed 727. He rode the overloaded plane to Saigon with a Vietnamese child on his lap.<sup>17</sup>

(U) The next day the Shell Oil personnel departed, closing the airfield refueling operation. Mobs on the runway made it impossible to land, and that morning an American embassy cargo flight was completely stripped by the mob after it landed. At that point World Airways ceased service to Da Nang.<sup>18</sup>

(U) The next day the last Americans got out of Da Nang via ships in the harbor. On March 29 the owner of World Airways took three 727s from Saigon to Da Nang without authorization from either the Americans or Vietnamese. According to the CIA description:

At Da Nang one 727 landed and was immediately mobbed, surrounded by trucks and was forceably boarded by GVN military on the airstrip. The plane made emergency takeoff procedures and was rammed by a truck at the left wing or hit a truck on takeoff. The plane was unable to take off from the normal runway as the VN military had it completely blocked with trucks or other vehicles. Accordingly, the plane took off on a taxiway. The pilot stated that once airborne he was unable to retract the wheels and assumed he had major hydraulic casualty. However, one of the other planes that took off (from Saigon) after him came alongside and reported that he had a body in the left wheel well that was jamming the wheel doors.<sup>19</sup>

The World Airways flight (the only one of the three that was actually able to land) arrived in Saigon with 385 passengers (about the right complement for a 747), of whom four were women, three were children, and the rest were ARVN soldiers.

(S-CCO) The Da Nang DGTS station, at 429 people, was one of the largest in the country. The DGTS managed to evacuate two planeloads of equipment and dependents before the city fell. The operators continued operating until the site was overrun. The day before the end, the Da Nang communications operator told Saigon:

Only workers are left at the signal center and we will not be able to get out. We are just waiting to die. We will wait for the VC to come in, hold our hands over our heads for them to cut. We will be here until the last, but the government doesn't think about the workers. Please say something to ease our final hours.<sup>20</sup>

Photos of Da Nang on March 30 (the day the NVA entered the city) showed only a smoking shell of a building where the Da Nang center had been. All the operators were reportedly either killed or captured.<sup>21</sup>

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(U) Fleeing Da Nang

**(U) The Fall of Phnom Penh**

(U) NVA forces raced pell mell down the coast, gobbling up city after city. The advance was dizzying to hunters and hunted alike. Within a week of the fall of Da Nang, all of MR 2 was in NVA hands except for Nha Trang, which was abandoned to the enemy on April 7, but not actually entered until the 9th.<sup>22</sup>

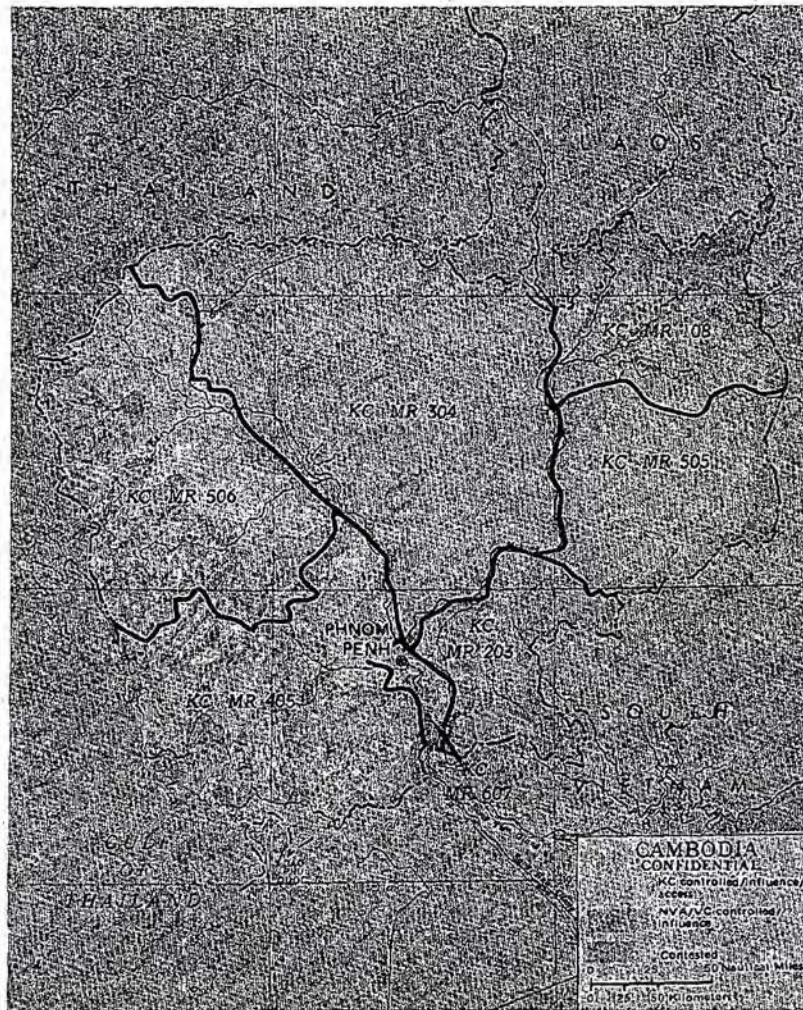
(U) Then a brief quiet descended on the land. NVA forces had outrun their supplies and their military plans. Hanoi began collecting assault forces for the final push to Saigon, and the Saigon government began steeling itself for what had clearly become inevitable.

(U) At that point, American attention refocused on Cambodia. As the NVA advanced down the Vietnamese coast, the Khmer Rouge organization in Cambodia had quietly but effectively squeezed the Lon Nol government into a trap. All that the government held by January of 1975 was a narrow water alley through the center of the country. The

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(U) Cambodia - the Khmer Rouge tighten their grip on Phnom Penh

communist forces held all the countryside, and began pinching off the Mekong waterway through which the capital obtained almost all its supplies. Each year the KC (Khmer Rouge) had done the same thing, but like a bulldog tightening its grip, each year they choked the river closer to the city.

(S) The American mission there was very small, only 140 people. It was well organized under an experienced ambassador, John Gunther Dean. Moreover, it had outstanding intelligence support, almost all of it SIGINT.

[Redacted]

Moreover, the small

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ASA ARDF effort out of Thailand showed the tightening of the vise as the various KC headquarters moved closer to the city. But without American commanders to act on the information, there was little the U.S. could do. [redacted]

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[redacted]. But, as it was New Year's Eve, they were all at parties, and the army made no preparations whatever. Gas tanks weren't filled, guns weren't even loaded.<sup>23</sup>

(S) On April 11, the AFSS unit at NKP (Nakhon Phanom air base in Thailand) intercepted KC plans for an all-out assault on the city. Admiral Gayler, by then CINCPAC, called Ambassador Dean to say it was time to leave. Dean agreed with him, and Gayler implemented Eagle Pull, the dramatic rescue of embassy personnel by helicopter from a sport field in downtown Phnom Penh. By the end of the day on April 12 the entire operation was over, and Phnom Penh waited for the KC to march in. Most of the cabinet refused evacuation and waited for the doom that would befall them. They were all executed.<sup>24</sup>

#### (U) The Fall of Saigon

(S) As the NVA repositioned and refurbished for the final assault, an air of unreality settled on the American embassy. Ambassador Graham Martin believed that the government could somehow hold out until the rains began in June. SIGINT, both from the DGTS station in Saigon and from the U.S. SIGINT system, showed the NVA massing around the city. Thieu, who knew the end was near, resigned. In Washington, the White House understood what was happening. But Martin refused to heed the signs. He and his CIA chief of station, Thomas Polgar, believed that the SIGINT was NVA deception. A bill was pending in Congress to send an additional \$700 million in military aid to the government in Saigon, and they held out the hope that this would pass and that it would come in time. The regime in Hanoi, Martin thought, was really getting in position to impose a coalition government, not a military victory.<sup>25</sup>

(S) NSA station chief [redacted] main concern was his people. When the country began falling apart, he had forty-three employees and twenty-two dependents. The dependents he began evacuating on civilian commercial flights, along with the thousands of Vietnamese fleeing the country. Ambassador Martin put the evacuation of the government employees on hold. He feared that the SIGINT system would not support him if they left, and that the DGTS would not work without NSA assistance.<sup>26</sup>

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(S) The signs of collapse became more ominous, and [redacted] made almost daily trips to the ambassador's office, pleading for permission to get people out of the country. The exchanges became angry, and [redacted] went to the director of NSA, Lieutenant General Allen, for help. In mid-April, Allen sent a distressed cable to the DCI:

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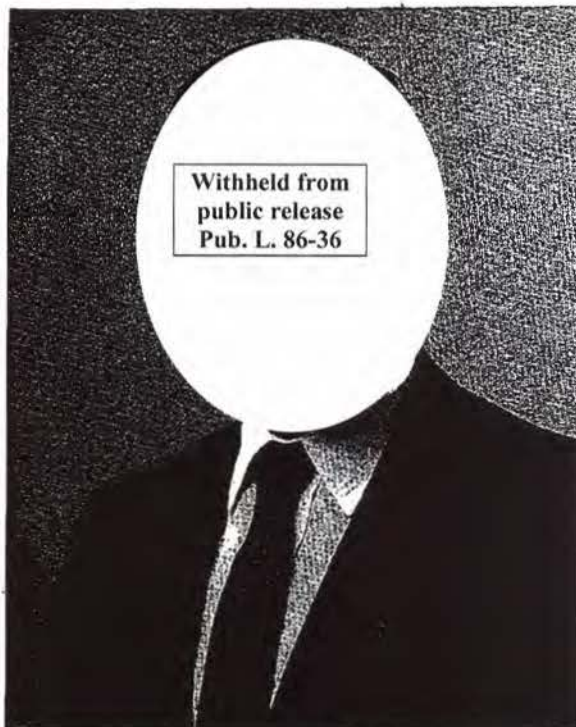
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I am fully aware of the complex political issues involved in any withdrawal of U.S. Government personnel from the RVN. I wish to reiterate, however, that the safety of the cryptologic personnel in the RVN is my paramount concern.<sup>27</sup>

Not even this was sufficient to change minds in the embassy. [redacted] "smuggled" people out of the country by buying them commercial tickets, and his staff gradually shrank to just a few. Those who remained spent almost all their time at work, often sleeping in the office rather than returning to the hotel where they were billeted.<sup>28</sup>

(C) The final assault began on April 26 with the attack and capture of Bien Hoa. On the 28th, [redacted] made a final visit to Martin, with a message from Allen directing him to secure his communications and depart. Still, Martin refused. The next morning, the NVA began rocketing Tan Son Nhut, and the airfield was closed to even military aircraft. The embassy and its people were now caught in a trap, and the only escape possible was by helicopter.<sup>29</sup>



(U) Tom Glenn, the last NSA representative in Saigon

(S-CCO) The evacuation plan was called Talon Vise (later changed to Frequent Wind). It envisioned the evacuation of all Americans and almost 200,000 of their Vietnamese allies. Evacuees would be airlifted by fixed-wing transport from Tan Son Nhut or picked up at the port of Vung Tau on the coast. Helicopters would be employed to ferry pockets of people from exposed locations to Tan Son Nhut. Politically sensitive Vietnamese, such as those who had participated in the Phoenix program, or SIGINT transcribers (the Dancers), and their families would be afforded special evacuation priority.<sup>30</sup>

(U) But with the ambassador bewitched by clouds of intelligence opiates, there was no time left to implement such an orderly departure. All that was left was to use the helicopter option to try to get the Americans out. Martin, debilitated further by walking pneumonia, stood alone. With shells landing on Tan Son Nhut, the president gave the order, and Admiral Noel Gayler directed the evacuation. Martin was obdurate to the end.

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(U) Graham Martin

(U) Gayler had been assembling a vast armada in the South China Sea. It contained seventy-seven vessels, including five aircraft carriers. On the morning of the 29th, the principal carrier to be involved in the operation, the *Hancock*, downloaded fighters and uploaded choppers.<sup>31</sup>

~~(S-CCO)~~ At NSA, Director Lew Allen had been putting together a SIGINT support effort since mid-April. Most important was the monitoring of North Vietnamese communications to provide warning to the evacuation aircraft, since the NVA had brought SAMs into the vicinity of Saigon. A special AFSS SIGINT support team was flown to Clark Air Base to brief MAC (Military Airlift Command) crews on warning measures, should they be targeted by NVA anti-aircraft units. As it turned out, MAC aircraft were not used in Talon Vise, although they did continue to fly into Tan Son Nhut until the morning of the 29th.<sup>32</sup>

~~(S-CCO)~~ The Olympic Torch U-2 collection (downlinked to NKP) served as the primary monitoring system for NVA communications, and also monitored U.S. communications to keep tabs on the progress of the evacuation. This information was passed to Gayler and on to the White House. In addition, RC-135 missions were tasked with both NVA and U.S. communications.<sup>33</sup>

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(U) When, on April 29, President Ford directed the implementation of the evacuation plan, military planes had already evacuated almost 40,000 Americans and South Vietnamese over the preceding eight days. But since the plan called for over 200,000 to be evacuated, this was just a start.<sup>34</sup>

(U) The helicopters began flying from the deck of the *Hancock* on the afternoon of April 29. All through the night, the heavy thump of chopper blades was heard above the embassy. The operators at NKP monitored the voice frequencies used by the chopper pilots, and sent their reports to Gayler in Hawaii.



(U) Americans and Vietnamese rush for a waiting helicopter at the DAO compound, 29 April

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(U) The remaining NSA contingent found itself marooned at their offices in the DAO compound at Tan Son Nhut. [ ] found that no provision had been made to get him and his people out. He contacted General Smith, the military attaché, who arranged for cars to take [ ] and his people to the embassy. There they boarded helicopters late on the 29th for the ride to the waiting ships.<sup>35</sup>

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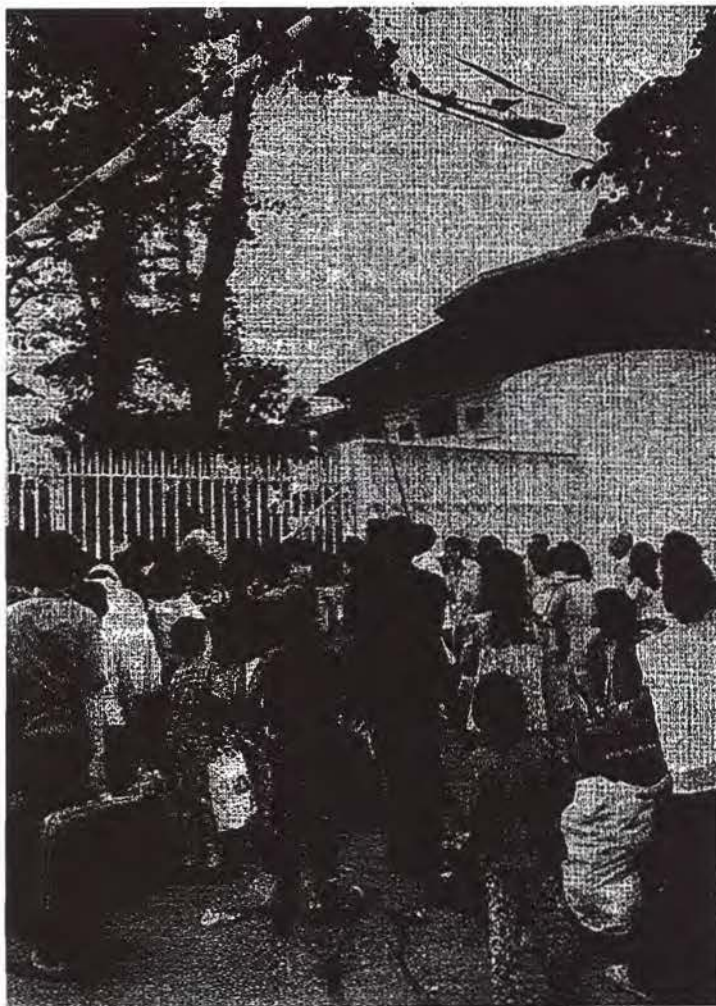
(U) Midnight 29 April - thermitic charges bring down the roof of the DAO compound

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(C) At about midnight, Pineapple 6-1, a chopper pilot in the embassy compound, reported that he was in contact with the ambassador, who still refused to leave until the last Americans were out. Four hours later, intercept operators heard chopper pilot Lady Ace 9 tell Martin that the president had directed Martin to leave forthwith. The chopper hovered above the embassy rooftop as smoke from fires in the building made his landing temporarily impossible. Six minutes later an RC-135 operator heard the pilot broadcast: "Lady Ace 9 this is Tiger Tiger Tiger." This was the codeword indicating that the ambassador was on board.



(U) Vietnamese wait outside the gates of the American embassy as a helicopter approaches the compound.

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(U) The choppers continued to pluck people off the roof of the burning embassy for another three hours. The last to leave was not the ambassador - it was the ground security force.<sup>36</sup>

~~(S-CCO)~~ It had been the largest helicopter evacuation in history. Seventy Marine helicopters had airlifted more than 7,000 Americans and Vietnamese from the embassy and the DAO compound. Among those who did not get out, however, were the DGTS operators. Saigon Center operated to the end, and CIA evacuated only about a dozen high-ranking officers, including General Nhon. The Dancers, DGTS linguists on duty in Thailand, were evacuated from Thailand to the United States. Their families in Saigon had already left South Vietnam and were waiting for them on Guam.<sup>37</sup>

#### (U) THE SUMMING UP

~~(S)~~ Not having time for an orderly departure, the Americans left behind vast stockpiles of military equipment. Along with the runways full of planes and parking lots full of trucks, there were large amounts of crypto gear. Deputy Director Benson Buffham estimated that it was the largest loss of COMSEC equipment ever. In practical terms, however, it was not as great a blow as the capture of the *Pueblo*. The crypto principles of most of the equipment had been compromised earlier, and very little actual key was known to be in Vietnamese hands. Spare parts would be almost unobtainable, and Buffham expected that the U.S. would intercept very few NVA transmissions.<sup>38</sup>

~~(S-CCO)~~ The DGTS organization was captured virtually intact. At the time it consisted of more than 100 manual Morse positions, 2,700 people, and seventeen ARDF aircraft. Many of the South Vietnamese SIGINTers undoubtedly perished; others wound up in reeducation camps. In later years a few began trickling into the United States under the orderly departure program. Their story is yet untold.

~~(S-CCO)~~ Their leader, General Nhon, made his way to Washington, D.C., and was hired as a linguist by NSA. He lived a quiet life in suburban Washington until his retirement in 1994. He now lives with his family in rural Virginia.

#### (U) THE MAYAGUEZ

(U) As if Southeast Asia had not caused America enough heartache, one last chapter remained to be written. The seizure of the *Mayaguez* had a murky beginning and to the end remained unsatisfying. It also had a cryptologic component which remains confused to this day.

~~(S)~~ The Khmer Rouge regime which rolled into Phnom Penh in mid-March 1975 quickly turned vicious. By early May, the White House was receiving SIGINT reports of widespread executions, of forced exodus to grim countryside reeducation camps, of families separated and of retribution on an unbelievable scale. Secretary of State Henry Kissinger,

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commenting on one such [ ] KC message, wrote to President Ford, "The magnitude of the KC liquidation effort has heretofore been unclear. It would appear that if similar efforts are being carried out in other parts of the country, this would involve a slaughter of immense proportions."<sup>39</sup>

NSA 1.4 (c)

(S) The Cambodian government of Pol Pot took a very aggressive approach to foreign relations, too. Among the territories which KC forces invaded were several small offshore islands which Vietnam and Cambodia both claimed. Among those islands was one named Poulo Wai. SIGINT intercepts of KC communications revealed a determination to hold Poulo Wai and to spread out farther into the offshore waters.



(U) U.S. destroyer off Koh Tang Island

(S) Beginning on May 5, NSA began publishing reports of the KC seizure of Thai fishing vessels and attacks on Panamanian and Korean merchantmen plying the waters in the Gulf of Thailand. But the intelligence community focused not on these commercial depredations, but on communist attempts to intercept Vietnamese refugees escaping after the fall of Saigon. Moreover, the U.S. government organization charged with issuing notes to commercial shipping had no links to the intelligence community. No notes were issued.<sup>40</sup>

(U) Into this nest of small-time raiders steamed an American flag container ship, the *Mayaguez*, plying a regular route between Hong Kong, Thailand, and Singapore. The first maydays from the vessel, on May 12, indicated that they were being boarded by Cambodians, and later that they were being towed to an unknown Cambodian port. An

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exploration company based in Jakarta received the broadcasts and notified the American embassy. The embassy issued the initial critic at 0503 EDT on May 12.

(U) The president was briefed on the seizure that morning. It was not a military challenge and was scarcely an impediment to commerce. But the *Mayaguez* seizure clearly represented a political challenge. The evacuation of Saigon had been a profound American defeat in Southeast Asia. Here was a chance to prevent the tiny Cambodian navy from tweaking America's nose. Coming only two weeks after the fall of Saigon, it was an event which found American military forces still in place in Southeast Asia. The president directed that a response force be assembled and the crew recovered. The discussions with the president harked back to the disastrous *Pueblo* seizure. Ford was determined to prevent that scenario at any cost.<sup>41</sup>

(U) Initial Navy aerial reconnaissance ordered by the Pentagon established that the *Mayaguez* itself was anchored a mile off Koh Tang Island, thirty miles off the coast of Cambodia. The central concern of the Ford administration became the location of the crew. If it remained on Koh Tang (where it was, presumably), one sort of rescue operation would be mounted. If the crew was transferred to the mainland, a very different operation would be called for.<sup>42</sup>

~~(S-CO)~~ Here was where good intelligence was required. NSA still had in place virtually all its intelligence assets from the war in Vietnam, and the Agency directed a total focus on Cambodian communications, which were all readable. NSA declared a SIGINT alert. Meanwhile, aerial reconnaissance continued to blanket the area. In the early morning of May 14 (Cambodian time), an American patrol craft spotted a thirty-foot boat, accompanied by escort vessels, making a run for the mainland, with eight or nine Caucasians on the deck. Since the least desirable option was for a mainland rescue, a tactical air strike was called in, and the escort vessels were sunk. But the main vessel continued on, and the attacking A-7s held their fire.<sup>43</sup>

~~(S-C)~~ An early intercepted message indicated that the crew was to be taken to Koh Tang. This caused the administration to focus on the island. But that was it. There were no subsequent messages about the location of the crew, their destination or the intentions of the Cambodian government, until the very end.<sup>44</sup>

~~(S-CO)~~ The fragmentary SIGINT, and the lack of anything more definitive, caused the administration to focus on Koh Tang. A complex rescue operation was hastily arranged, and on the morning of May 14, only three days after the initial seizure, 200 Marines assaulted the island. They were met by heavy resistance. The 150 Cambodians on the island were armed with 75-mm recoilless rifles, claymore mines, and rockets, in addition to small arms. Marine helicopters were cut down on the beach, and eighteen Americans were killed. The Marines were pinned down on the island, and they themselves had to be rescued the next morning.<sup>45</sup>

~~(S-C)~~ Meanwhile, Navy F-4s struck Ream Airfield inside Cambodia, based on SIGINT intercepted by the USAFSS unit at Ramasun Station that the KC planned to move

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Cambodian combat aircraft there. They destroyed seventeen aircraft on the ground and put the airfield out of commission.<sup>46</sup>

~~(S)~~ On May 14, as the Marine assault was going on, there was a flurry of messages from various KC entities referencing response to the American attacks. Early on the 15th (in Cambodia) a message (probably from Phnom Penh) ordered a KC operational authority to let the Americans "take the ship and leave" and to "let the Americans go." Soon thereafter a KC gunboat appeared near the north end of Koh Tang showing a white flag. Four minutes later the destroyer USS *Wilson* scooped up the entire crew, and *l'affaire Mayaguez* was over, except for the extraction of the Marines on the beach, which was difficult and dangerous to the end.<sup>47</sup>

(U) The Ford administration claimed credit for a win. The crew was back safe and sound, although at the cost of eighteen Marines dead. President Ford went on television to explain the American response, and a Gallup poll taken shortly after showed the approval rating for the operation at 51 percent. To an administration which had been badly battered by its handling of the pardon of President Nixon, this was good news.

~~(S)~~ A month later the Vietnamese completed what the Americans had started. Intercepts revealed that the Vietnamese had wiped out the Cambodian garrison on Poulou Wai.<sup>48</sup>

~~(S-CCO)~~ Although the crew was recovered and the vessel released, the *Mayaguez* incident has been counted as an intelligence failure. DIA and IPAC intelligence estimates of KC strength on Koh Tang were accurate but did not reach the deployed forces. Although this deficiency was cited in report after report, no one seemed to know why the information did not reach the users.<sup>49</sup> But since the only reliable information on Cambodia at the time was SIGINT, classification difficulties are readily suspect.

~~(S-CCO)~~ There were other problems relating to the affair. The response of intelligence agencies in Washington was slow, and the NOIWON system was not used. While SIGINT classification undoubtedly hampered the dissemination of critical intelligence, in the opposite direction tactical commanders refused to share details of the military operation with NSA - details which would have improved intelligence responsiveness.<sup>50</sup>

~~(S)~~ Why didn't SIGINT reveal the location of the crew? Reviewing the action some weeks later, an NSA analyst came up with the answer. Simply put, the operation was carried out by a local commander, without checking with higher authority. Khmer Rouge local commanders had long exercised such authority, and it is reasonable to suppose that it did not halt simply because peace had broken out in Southeast Asia. The first high-level SIGINT came from Phnom Penh on the 15th and was passed to Ta Mok, the regional commander, directing that the crew be released. There was no prior direction from higher headquarters because headquarters had not directed the action in the first place, and it got involved only when the military consequences had become serious. In a radio broadcast the following September, Ieng Sary, the Cambodian deputy premier, admitted as much.<sup>51</sup> So in the end SIGINT, the only good source on Cambodia, came up short.

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## Notes

1. (U) Interview with [redacted], 2 December 1992, by Charles Baker and Tom Johnson, OH 6-92, NSA.
2. (U) CCH Series VI.HH.26.1
3. (U) Ibid.
4. (U) George Herring, *America's Longest War: The United States and Vietnam, 1950-1975* (Philadelphia: Temple University Press, 1986), 231.
5. (U) Pham Van Nhon, Reminiscences about DGTS, CCH Series XI.S. Robert J. Hanyok, "The Relevant Truths: SIGINT Issues of the Indochina War, 1950-75," Part 2, *Cryptologic Quarterly* (Fall 1997) 16:3, 1-50.
6. (U) Interview [redacted] 23 January 1986, by Robert D. Farley and Tom Johnson, OH 4-86, NSA; [redacted], "NSA in Vietnam: Proud and Bitter Memories," *Cryptolog* (October 1975), 3-6. Hanyok, "The Relevant Truths."
7. (U) Herring, *America's Longest War*.
8. (U) CCH, National Defense University collection on Vietnam, box 301.
9. (U) CCH Series VIII.30.
10. (U) [redacted] interview.
11. (U) Stanley Karnow, *Vietnam: A History* (New York: Penguin Books, 1983).
12. (U) CCH Series VI.HH.9.1; Hanyok, "Relevant Truths," 41.
13. (U) CCH Series VI.HH.26.2.
14. (U) Ibid.
15. (U) CCH Series VIII.30.
16. (U) Ibid.
17. (U) [redacted], et al., interview.
18. (U) CCH NDU collection, Box 320.
19. (U) CCH NDU collection, Box 323.
20. (U) CCH Series VI.HH.11.19.
21. (U) Ibid. [redacted], et al., interview; Hanyok, "Relevant Truths," 41.
22. (U) CCH Series VIII.30.
23. (U) [redacted] et al., interview; CCH Series VI.HH.26.10; NSA Archives, Accession Number 23500, Loc. CBOG 36.
24. (U) CCH Series VI.HH.27.10; 26.4.
25. (U) [redacted] interview; Karnow.
26. (U) [redacted] interview; CCH Series VI.HH.9.1.
27. (U) CCH Series VI.HH.9.1.
28. (U) [redacted] interview.

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29. (U) CCH Series VI.HH.9.1; Karnow.
30. (U) CCH Series VIII.30.
31. (U) CCH Series VI.HH.26.11.
32. (U) CCH Series VIII.30.
33. (U) CCH Series VIII.30; VLHH.26.11; 26.9.
34. (U) CCH Series VIII.30.
35. (U) [ ] interview.
36. (U) CCH Series VIII.30.
37. (U) [ ] interview; B-WAR, 6-12 May 1975. Karnow.
38. (U) CCH Series VIII.30.
39. (U) National Security Files, Gerald R. Ford Presidential Library, Ann Arbor, Michigan; "Southeast Asia/Vietnam/Cambodia," CCH Series XVI.
40. (U) CCH Series VIII.25.
41. (U) CCH Series VIII.25; John F. Guilmartin, Jr., *A Very Short War: The Mayaguez and the Battle of Koh Tang* (College Station, Texas: Texas A and M Press, 1995), 36-37.
42. (U) CCH Series 25, "USAFSS Support to the Recovery of the SS Mayaguez."
43. (U) CCH Series VIII.25; Guilmartin, *A Very Short War*.
44. (U) Ibid.
45. (U) Guilmartin, *A Very Short War*.
46. (U) CCH Series VIII.25.
47. (U) Ibid.
48. (U) Ibid.
49. (U) Guilmartin, *A Very Short War*; CCH Series VIII.25, GAO report entitled "The Seizure of the Mayaguez - A Case Study in Crisis Management."
50. (U) CCH Series VIII.25, CIA postmortem.
51. (U) CCH Series VIII.25; Guilmartin, *A Very Short War*.

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(U) Chapter 15

Downsizing

(S) Cryptology had waxed fat during the war years. It did not seem so to those who struggled for dollars and manpower to help fight the war in Vietnam, nor to those in other parts of the cryptologic system who desperately tried to maintain their hold on resources that seemed inexorably to slip into the pit of Vietnam. But in fact, the peak of the cryptologic system was reached in the late war years. After that, there came the reckoning.

E.O. 13526, section 1.4(c)

(S) The peak years in overall field deployment came from 1967 to 1970. After that, it looked like the cryptologic system was going off a ski jump (see Table 1). The downslide lasted for a decade - field site deployment did not finally level out until 1981 - and the loss of field sites was matched by an overall decline in manpower. The cryptologic system began the 1970s at approximately 89,000 people; it ended at about 50,000, a drop of 44 percent. The funding profile, unlike that of personnel and field sites, remained fairly steady over the period and was actually higher in 1975 [redacted] than it had been in 1969 [redacted]. But the decade was one of runaway inflation, so a steady stream of dollars did not equate to the same level of resources as before.<sup>1</sup>

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(U) THE GREAT RIF SCARE

(E) At NSA, the work force shrank from 19,290 in fiscal year 1970 to 16,542 in fiscal year 1979, a reduction of 14 percent.<sup>2</sup> Looking back, this doesn't seem so drastic, but in 1971 no one knew how far the cutbacks would go, just that Congress had decreed a huge cutback in the federal work force, called the General Austerity in Government Expenditures Act, and that the Department of Defense would absorb the brunt. To maintain some sort of fairness, cuts would be across the board, and NSA would give up its "fair share" of manpower, regardless of mission or need.

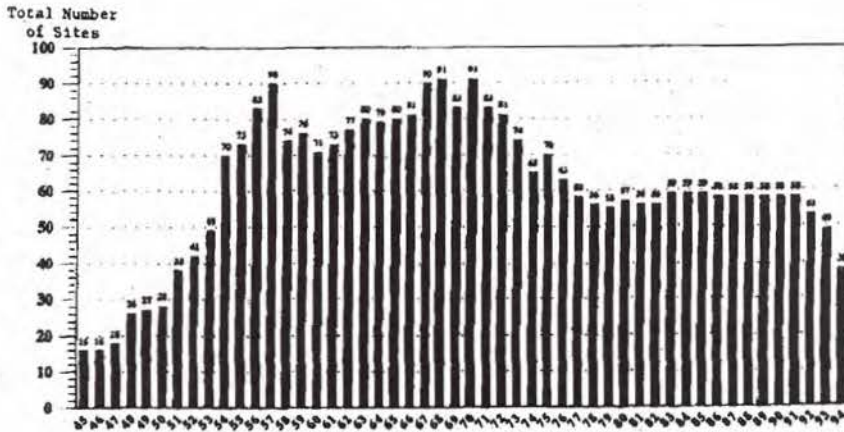
(E) Soon after Congress levied the cuts, in September of 1971 Admiral Gayler, the DIRNSA, issued a memorandum to the work force confronting the rumors swirling through the halls. Yes, a RIF (reduction in force) might be necessary, and it was certain that promotions would get scarce. But a RIF would be an absolute last-gasp measure. He hoped that retirements and attrition would turn the trick. This was suspect, however, because NSA's attrition was notoriously low - about one-third of the federal average. With a closed-loop personnel system and unique, nontransferrable skills, NSA employees could not go out and look for other federal jobs. (By the same token, employees of other agencies could not come looking for jobs at NSA.) What finally forestalled the RIF, however, was a device called "discontinued service retirements." NSA began offering these immediately, and they were hugely successful. In 1972 the retirement rate doubled that of the previous



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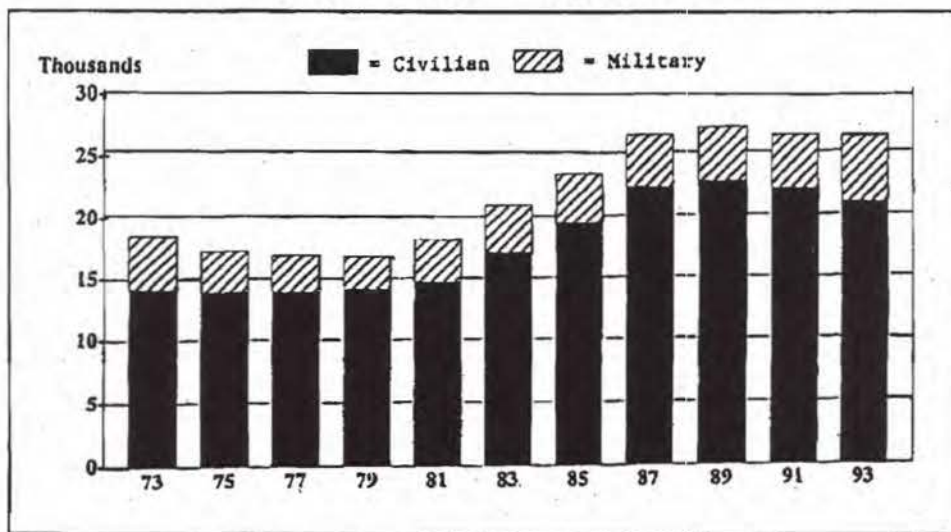


Fixed Field Sites: 1945-1994  
Table 1

year. In June of 1973, moreover, the Civil Service Commission authorized DoD to offer immediate annuities to individuals with twenty-five years of experience, regardless of age, or who were at least fifty years old with twenty years of service. In addition, a 6.1 percent cost-of-living increase was offered to those retiring before July 1. This did it - retirements in 1973 increased by 45 percent over the already-high level of the previous year. In the end, the RIF was never necessary.<sup>3</sup>

(C) NSA's manpower bottomed out in 1975, as Table 2 shows, and remained steady through the remainder of the decade, except for the military component, which continued to shrink slightly. It began its upward swoop in 1981 and topped out in 1989, the nominal end of the Cold War.

(C) Table 2<sup>4</sup>  
NSA's Manpower History, 1973-1993



(U) However, promotions were difficult to get throughout the decade. The problem was the grade structure. NSA's average grade had marched upward from 8.96 in 1965 to 10.2 in 1972 (see Table 3). NSA was advancing faster than the federal average. In 1965 its average tied it for ninth place, while in 1972 it was in fourth. The grade problem led to a promotion freeze. Though it lasted only a few months, it damaged work force morale almost as much as the talk of RIFs.

E.O. 13526, section 1.4(c)

(C) While NSA experienced a modest downsizing, the Service Cryptologic Agencies (SCA) were devastated. Of the 39,000 cryptologic billets lost, almost 36,000 were military. Some [ ] military billets associated with direct support and training were transferred into non-CCP (Consolidated Cryptologic Program) areas, so the net loss to the cryptologic system was "only" [ ]. The Army was hardest hit, losing [ ] billets from its CCP structure. Security Service lost [ ] percent of its billets, while NSG lost more than [ ] percent.<sup>5</sup>

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~~TOP SECRET UMBRA~~(U) Table 3<sup>6</sup>  
NSA's Average Grade, 1965-1972

Year	NSA's Average	All-Federal Average
1965	8.96	8.3
1966	8.67	8.3
1967	9.0	8.4
1968	9.2	8.5
1969	9.7	8.8
1970	9.9	8.9
1971	10.07	8.9
1972	10.2	8.9

## (U) THE CLEMENTS CUTS

(C) NSA was in the middle of a desperate downsizing effort when, in 1973, it was hit with a round of budget cuts which became known as the "Clements cuts." The real author of the directive was one James Vance, who worked for Dr. Albert Hall, assistant secretary of defense for intelligence and DIRNSA's immediate boss. Vance contended that cryptology was overfed and underworked, and he embarked on a detailed study of the cryptologic system. The upshot was a recommendation to Hall that cryptology be hit with an additional three percent cut. The Vance recommendation wound up in the office of Assistant Secretary of Defense William P. Clements. Clements imposed a total CCP billet reduction of 12,999 to be completed by fiscal year 1978.<sup>7</sup> (Since the cryptologic budget already showed a large reduction during that period, the real additional manpower cut was "only" 5,110 jobs.)

(C) Clements specified that reductions were to come from

1. Management efficiencies. The crux of the problem, as viewed from the DoD level, was a bloated management system with overlapping authorities - basically, "too many bureaucrats." The answer would be to squeeze out the fat, without cutting into bone.

2. Technological efficiencies. As will be seen later, NSA was looking at a raft of modernization proposals, chief of which was remoting (see p. 38), that would reduce manpower without substantial mission reductions.

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3. Mission reductions. This was a last option. At Clements's level, people felt that NSA could cut without reducing the mission.

~~(C)~~ Lieutenant General Sam Phillips, who would soon be leaving NSA, answered that NSA recognized the "bureaucracy problem" and had just completed an internal reorganization that cut 649 spaces. Phillips felt that further efficiencies could be accomplished, especially through technology, but he cautioned Clements not to be too hopeful that NSA could do it without any mission cuts. He convened a panel to work through the reductions and come up with a plan.<sup>8</sup>

(U) The study group had tough sledding. The first reaction was a decree from the production side of NSA that it would not take a reduction until all support billets worldwide had been cut, whereupon the support organizations replied that they could not cut support until they saw the operational reductions. The SCA representatives were similarly obdurate.<sup>9</sup> It was enough to make a budgeteer tear his hair out.

~~(S-CCO)~~ They slugged away during the summer and fall of 1973. When, in October, the results were due to Clements, Lieutenant General Lew Allen had become director. By this time the committee had forged some numbers which sounded a little like a congressional budget-cutting exercise, but which were plausible on paper. Allen told Clements that

1. Managerial efficiencies could absorb some of the needed reductions. The committee recommended cutting all deputy jobs below division level, consolidating some organizations that were split (such as A7 and A8), restricting hiring to one third of projections, virtually eliminating the analytic effort on Southeast Asia, reducing staff functions, and slimming down NSA overseas liaison offices. Overseas, support and managerial billets could be deleted by forcing closer integration of collocated SIGINT sites under the Single Service Executive Agent concept. A new concept in position tasking called COPEs (Collection Operations Position Evaluation Standard) could theoretically reduce manual Morse positions by 25 percent. Since there were more than [ ] Morse positions worldwide, this would have amounted to a significant savings. The SIGINT system would have to rely more on Second and Third Parties. Worldwide logistics would be shaped into a more efficient mechanism, and some logistics operations would be contracted out. Some sites, [ ], could be staffed by contractors. Army Security Agency and USAFSS had both built up theater-level administrative headquarters that could be eliminated without effect on the mission.

2. Technological innovations represented a higher risk option. The remoting program, [ ], was still unproven, but Allen banked heavily on its success to save cryptology from the worst of the Clements cuts. Only the first site, [ ], was far enough along to count on. Other new programs with interesting and obfuscatory names like [ ] offered potential savings, but their contributions remained to be seen.

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3. Despite opposition from Vance, Hall, and Clements, Allen relied on mission reductions to make the mythical Clements's manpower ceilings. Some stations, like the Navy site at Todendorf, West Germany, would be closed outright. The ASA trio of Herzo, Rothwesten and Bad Aibling would be closed and the mission transferred to a new [redacted] The Air Force site at Darmstadt would be cut, the operators moved to [redacted] and Single Service Executive Agent management would be applied to the new triservice station. The border sites in Germany would be closed. Back at Fort Meade, NSA would stop doing Cuban internal, all sub-Saharan internal and Middle East internal communications.<sup>10</sup>

(U) Some economies were logical yet unattainable. The creation of Central Security Service (CSS) the year before had created duplicate staffs at the NSA level. General Phillips had quietly scotched the operational effect of CSS, and the vestigial staffs had quietly taken on dual functions for the sake of economy, but the whole CSS exercise had made it more difficult to slim down because of the perceived need to keep up the appearance of a functioning CSS. The most far-reaching CSS proposal had been to bring the SCA headquarters to Fort Meade and collocate them with NSA, where, it was assumed, economies in the billet structure would be easier to effect. It had not happened and was not likely to happen in the future. The SCAs had successfully fended off collocation with "Mother NSA."<sup>11</sup>

~~(S-CCO)~~ Lew Allen had replied with some well-thought-out planning options. Some, such as the [redacted] Single Service Executive Agency, and heavier reliance on Third Parties, came to pass. The elaborate and expensive remoting option was implemented in later years, although not quite the way Allen envisioned it. But other options like major reductions in the Air Force's Rivet Joint airborne collection program fell to operational reality (and determined opposition within the parent services). Still others, like contractorization, simply transferred the cost to another budget category while yielding only minor savings.

~~(S-CCO)~~ While NSA struggled to protect its resources from the budget axe, its mission emphasis changed dramatically. [redacted] The real cuts had come at the expense of other production elements. The effort on Southeast Asia declined from 13 percent to 5 percent, while G Group positions were down from 15 percent to only 8 percent.<sup>12</sup>

#### (U) THE FIELD SITES

~~(S)~~ In 1970 the collection site system stood at its highest level ever. Ninety-one sites were scattered throughout the world from [redacted] to Ethiopia. But the impending withdrawal from Southeast Asia, and the budgetary pressures that were moving DoD toward contraction, were about to hit.

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(S) The collection site posture went into sudden freefall, and by the end of the decade only fifty-one sites remained. ASA was particularly hard hit, contracting from nineteen sites to nine. The Air Force lost half its sites, while the Navy, with a small-site posture and emphasis on worldwide DF, lost only seven of its thirty-six sites.

(S-CEO) In Japan, each service lost sites to a base consolidation movement. By 1975 all Southeast Asia sites were closed except for Clark Air Base in the Philippines. In Thailand, the closure of Ramasun Station resulted from a political forceout by the nervous Thai government. Farther west, the Turkey sites, with the exception of Sinop, were closed at the request of the Turkish government, while the Stonehouse facility in Asmara was victimized by the fallout from the Ethiopian revolution of 1975. The Navy site at Nicosia was converted to the first overseas remoting operation in the middle of a civil war. Moving round to Germany, a massive base consolidation movement, which hit cryptologic and noncryptologic units with equal fervor, resulted in the closure of Herzo, Rothwesten, Darmstadt, Bremerhaven, and Todendorf, and the collocation of mission at the new Army FLR-9 site at Augsburg.

(S) The closures resulted from a complex of budgetary pressures from Congress and difficulties with the host countries. The period after the Vietnam War was one of exceptional instability in the Third World, and cryptologic sites, long held hostage to foreign aid by host governments, were battered about quite unmercifully. If they survived at all, it was usually in an altered, and less favorable, condition.

(U) Turkey

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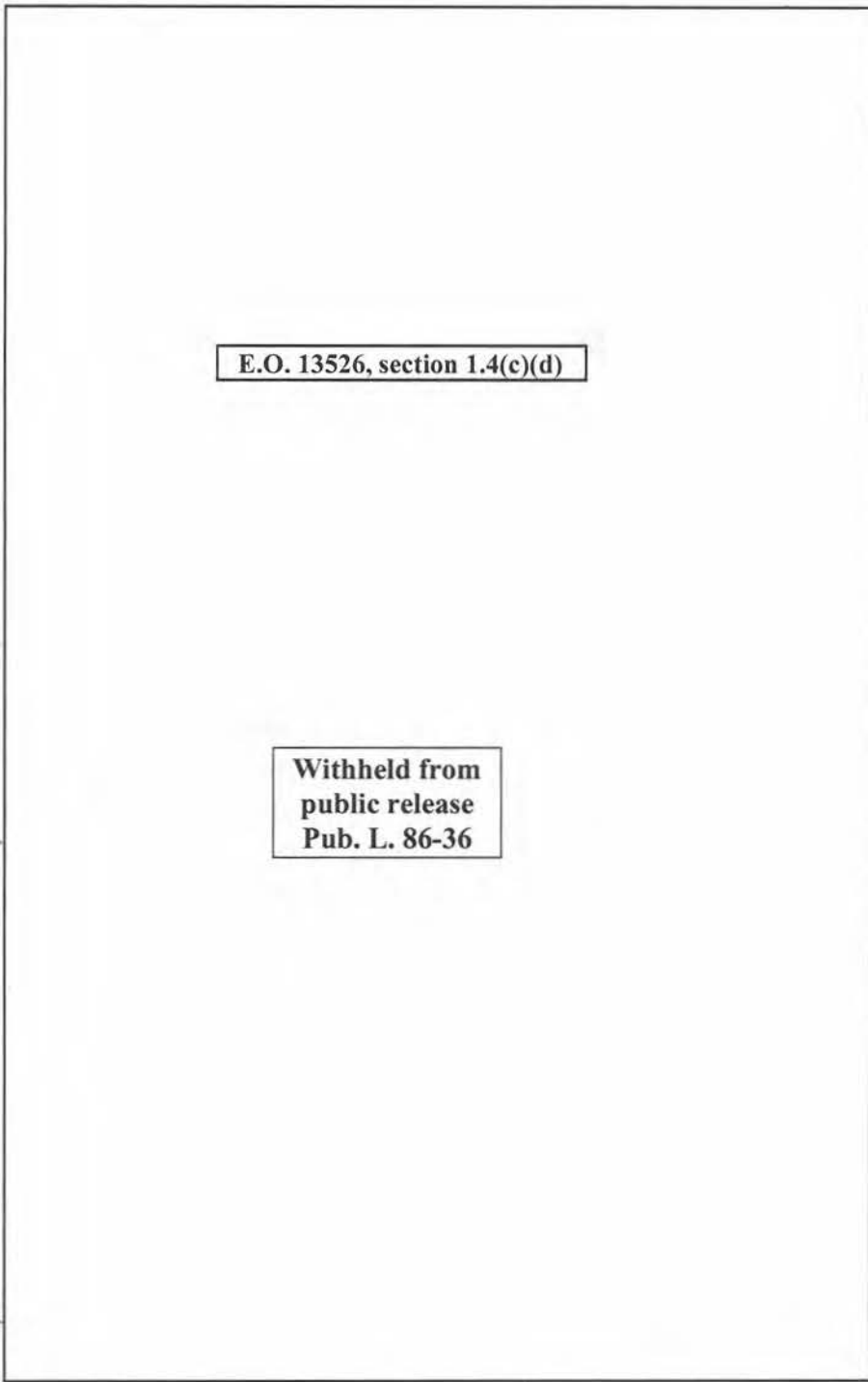
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**(U) Ethiopia**

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(U) Initially threatened by budget cutters, Asmara ultimately fell to a different foe - Third World instability. The Ethiopian regime of Haile Selassie, widely admired for its courageous stand against Mussolini in the 1930s, had been enlightened and progressive, especially by the standards of the area. But as the emperor grew old, his attention wandered from the business of government. Long-suppressed tribal rivalries became more important. In Eritrea, the Eritrean Liberation Front became one of the strongest of the regime's opponents, and warfare broke out. This was compounded by tribal unrest in other parts of the country and by a leftist movement within an increasingly fractured armed forces. In 1973 a devastating famine in Wollo Province killed thousands of people and brought unrest into the streets of Addis Ababa. The students were eventually joined by the rebellious factions in the army, led by a five-foot-three-inch martinet named Mengistu Haile Miriam, known ominously as the "Black Stalin of Africa."

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(U) Ethiopia



(U) His Imperial Majesty Haile Selassie I and Hon. Edward M. Kerry, U.S. ambassador to Ethiopia, January 1967

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(U) The revolution was initially bloodless. Key members of the armed forces, parliament, and the courts were rounded up and taken away. In September of 1974 the ruling Dergue (Amharic for "committee") arrested the emperor himself. After that, Mengistu abandoned all pretense of benevolence. The capital became a bloodbath, and the provinces were roiled in unrest, famine, and fighting.<sup>20</sup>

(U) Even without revolution, Asmara had been under seige. When ASA departed Asmara, base support facilities devolved to the Navy. The Navy stayed for only two years, and when they left, the base lacked a school, a medical facility, PX, commissary, post office, and other necessary logistics. Limited support would continue under a contract with Collins International, but that too would dry up in fiscal year 1976, after which time the base would be unsupportable.

(U) What it did have was a mission, so the people stayed on, improvising as they could. Harris Corporation, one of the STONEHOUSE contractors, accepted a contract add-on to provide a doctor, while the Americans left stranded in Asmara organized a school with support from the consulate. The school was located on Kagnev Station.<sup>21</sup>

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(U) When the decision was made to close, the NSA contingent at STONEHOUSE was down to about 200 people, including dependents. Everyone lived on the economy, but gathered frequently for social events at the base officers club. That was the case the evening of January 31, 1975, when fighting broke out. Trigger-happy Ethiopian Army troops began firing, apparently at rebel forces, and shots ricocheted through the walls of the club, while panicked Americans crawled under tables to get out of the line of fire. They waited through the long night on the floor of the club, the party at an abrupt end.

(U) The next day the site chief, David Williams, and his deputy, Lewis Walls, closed the mission forever. With NSA's blessings, Williams began inauspiciously moving American dependents out of the country on commercial flights. Through February the effort picked up speed, and by mid-February only sixteen Americans were left at STONEHOUSE. They were engaged in packing all mission equipment for shipment on Ethiopian Airlines to Addis Ababa for repacking and shipping out of the country. They burned all the classified documents, and tried in vain to destroy the KG-13 crypto equipment with incendiaries. (Incendiaries were notoriously unreliable, and Williams and his men wound up hacking them apart with fire axes.)<sup>22</sup>

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(U) Back in Washington, a behind-the-scenes struggle raged. Philip Habib at the State Department, with strong support from Secretary of State Henry Kissinger, opposed moving the Americans out of Asmara. Although Kissinger had support within DoD, he did not have the support of NSA's director, Lew Allen. In an angry letter to Kissinger on February 19, Allen said:

I consider that there is no longer any operational need for Stonehouse commensurate with the risk to my personnel. . . . I have directed Chief Stonehouse to further reduce his workforce from 16 people to 8 people. . . . If local Asmara conditions further deteriorate, and in any case when the packing and crating of my equipment is completed, it is my intention to further reduce my personnel in Asmara below the eight noted above. . . . The safety of my people is paramount. The safety of the equipment is secondary.

The State Department authorized the closure of Kagnev Station only two days after Allen's strong letter. After the last piece of equipment was out, David Williams flew to Addis Ababa to supervise the shipment from Ethiopia. He himself departed in April of 1975, the last NSA official out of the country.<sup>24</sup>

(U) Thailand

(U) During the years of war in Southeast Asia, NSA had used Thailand as a principal base of cryptologic operations. The original ceiling of 1,000 cryptologists, while being a nice round number, soon ceased having any relationship to reality, and over the years NSA had brought more SIGINTers into Thailand, taking care of the increases with post-facto authorizations by the Thai government. After the 1973 Vietnam cease-fire, a large slug of displaced SIGINTers entered the country, to be officially authorized by the powerless Thais.<sup>25</sup>

(U) With the fall of Saigon in April of 1975, the end of the American presence in Southeast Asia was only a matter of time. U.S. forces began leaving the country soon after, and the formidable base structure that had come into being during wartime quickly imploded. So where did that leave the cryptologists?

(S) The cryptologic presence in Thailand was only partly related to Vietnam. [redacted]

Moreover, there was still a requirement to monitor the new communist regimes in Vietnam, Cambodia and Laos. [redacted]

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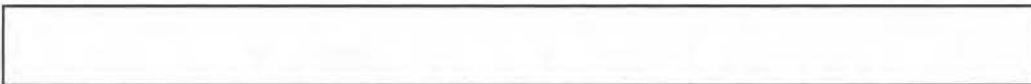
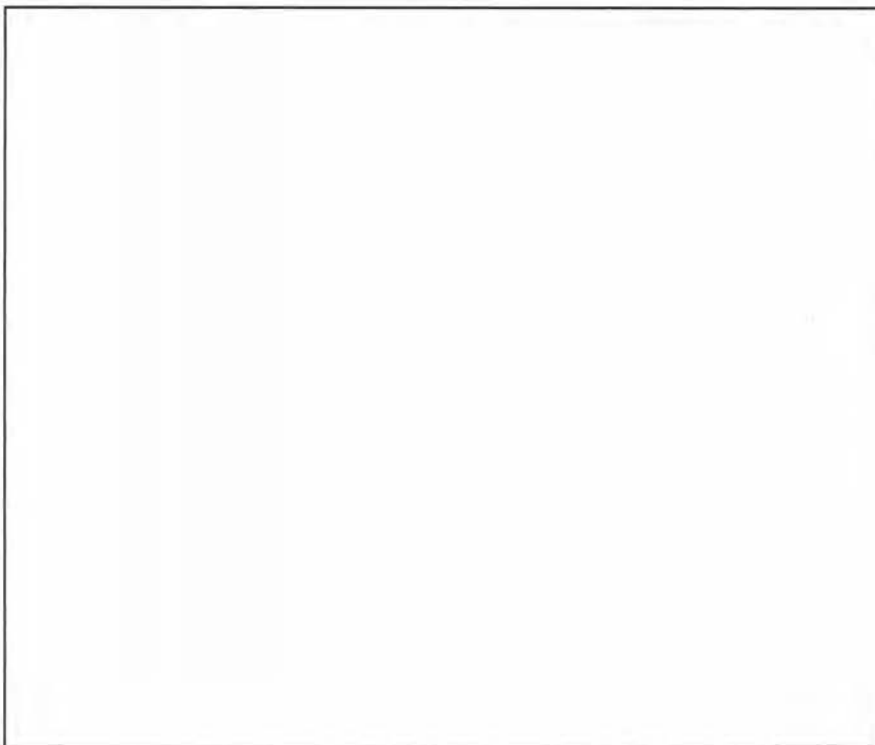
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(U) Negotiations with the Thais consumed the whole of 1975, but with no resolution. The Royal Thai Government would clearly have been relieved to see the last of American forces, which by late in the year was made up of the cryptologists and virtually no one else. The American embassy was on the side of the Thais, since the loss of the last American military forces would remove a thorn in the side of American-Thai relations.



(U) But in the end it wasn't enough. The Thai government was getting fierce diplomatic pressure from the PRC, with whom they were negotiating an improved relationship. Moreover, the Thai military-run government was being squeezed by an internal communist insurgency in the bush and an urban leftist student movement emanating from the universities. With the communists victorious all across Southeast

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Asia, everyone, it seemed, wanted to be on the winning side. America did not appear to be the winning side.

(U) Udorn, the nearest large town to Ramasun Station, had a university, and it was full of restive students. In 1975 they got a cause, the infamous Leuchai incident. Leuchai, who managed the officer's club accounts, got into trouble with the base commander over the disposition of some monies and was summarily fired. But Leuchai had friends, and they brought out the students from the university. The base commander at Ramasun was confronted with daily demonstrations at the main gate. One day the military police, apparently thinking that the base area was sovereign American territory, arrested Leuchai, and the demonstrations got larger. In the end, Leuchai was released, the American ambassador was upset, and the Thai government, with newly stiffened spine, was ready to order the Americans out of Ramasun.<sup>28</sup>

(U) The order to leave did not come until March 20, 1976, but in the intervening months the diplomatic game went back and forth several times. Operations at Ramasun became chaotic, as stop orders were followed by start orders. So when the order finally came to get out in four months, NSA and ASA were ready for a scorched-earth evacuation. The operation was shut down that very day, and the first transports began arriving at Ramasun within eighteen hours of the order. Operators took up wrenches, and the entire operation was torn down, to the last nineteen-inch rack. Everything that could be carried off was loaded aboard C-141 transports which were arriving in waves from Clark Air Base.

~~(S-CCO)~~ Within days, 33,000 pounds of equipment had been airlifted to Clark. The FLR-9 was rendered useless, and the station was turned over to Division Six as a gutted shell. The only things salvaged for Division Six were ninety-nine R-390 receivers. Although AFSC officially accepted the station, the idea of using it for SIGINT operations was ludicrous. The bill to run the diesel generators for a month was higher than the entire Division Six annual budget.<sup>29</sup>

~~(S-CCO)~~ The SIGINT redeployment plan specified that the mission of USM-7 would be reconstituted at Clark Air Base, home of USA-57, and that is where the people and equipment went. Unfortunately, no one thought to tell the American ambassador, William Sullivan. When he found out, all hell broke loose in Manila, because the evacuation from Thailand had caused the cryptologic ceiling in the Philippines to go through the roof, so to speak. But Sullivan needn't have worried. There wasn't room for the Ramasun equipment on the operations floor at Clark, nor were there logistics facilities to handle the flood of people. Just as germane, the Ramasun mission could not, by and large, be heard from Clark because of the vagaries of HF propagation. (This had been known for many years by operators.) So the equipment wound up at Vint Hill, Virginia, and the people scattered to various SIGINT sites around the globe. Clark Air Base picked up only fragments of the Ramasun mission. The FLR-9 electronics were never used again.<sup>30</sup>

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**(U) Closures and Consolidations**

~~(S-CCO)~~ In Germany [redacted] base closures all resulted from budget cuts. The [redacted] consolidation plan had actually originated from a study in 1967 which showed the economies that could be achieved by closing the ASA sites at Herzo, Rothwesten, and Bad Aibling and moving the people and mission to a single location. ASA organized the original [redacted] cadre in 1968, and the station was officially up and running in January 1972. Two years later the Security Service site at Darmstadt was closed, and the people and mission joined the triservice operation [redacted]

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(U) The Airborne Communications Reconnaissance Program (ACRP) also slimmed down. In the 1960s it had consisted of a welter of strategic and tactical programs under various jurisdictions and controls. An Air Staff study in 1971 showed clearly that the program could be more economically managed if it were consolidated as a single program under a single manager. The outcome of the study was the RIVET JOINT program. Under it, the worldwide ACRP programs were consolidated into a single airframe, the RC-135. Twelve airframes were modified for both COMINT and ELINT collection by E-Systems in Greenville, Texas. The Air Staff recommended that the new Airborne SIGINT Collection Program - ASRP - be jointly managed by SAC and USAFSS. Moreover, the new program operated under the Air Force's MOB-FOB concept. That is, there would be a main operating base - in this case Offutt in Omaha, SAC headquarters - and forward operating bases in each theater. The crews and airframes would be based at Offutt and would deploy to the forward bases on TDY for missions. The new RIVET JOINT marked the first successful attempt to rationalize and centralize a large number of programs that had grown like weeds during the Cold War.<sup>34</sup>

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**(U) Tactical Systems**

(U) The war in Vietnam had displayed the inadequacies of the tactical SIGINT systems that had rusted away during the era of nuclear dominance. Vietnam produced a spate of development programs to fix the problem.

(C) The Army came up with several entries. CEFIRM LEADER was an airborne communications intercept, DF, and jamming system aboard RU-21 dual-engine aircraft that had proved so useful to the ARDF program. CEFIRM LEADER supported tactical commanders at brigade, division, and corps levels. A second program, CEFLY LANCER, was a modernized version of the ARDF program, designed for deployment to Germany. The Army, being decentralized, fragmented its SIGINT effort.<sup>35</sup>

(C) The Air Force, being farthest behind the curve, had to develop a system from scratch. Their entry was COMPASS EARS, a complete tactical SIGINT support system based in mobile shelters. The collection system, called COMFY LEVI, was mostly airborne - two mobile shelters stuffed into a slightly modified C-130. Processing and reporting were done in tents and shelters located well back of the combat zone. As with Air Force doctrine generally, this system was highly centralized. There would be only one per theater.<sup>36</sup>

(C) The Navy was least affected by the commotion in Vietnam. What was needed was simply an updating of shipboard SIGINT support that had existed since World War II. The new program was called CLASSIC OUTBOARD, an automated system designed to work against mobile naval emitters, [redacted]

(C) Even NSA came up with a "tactical" system. The [redacted] program, an ELINT innovation, permitted NSA to deploy ELINT intercept equipment [redacted] [redacted] This highly successful effort was one of what would become a large number of quick reaction systems to work against specific technical problems.<sup>38</sup>

**(U) REMOTING**

**(U) Tennis**

(S-CCO) The origins of cryptologic remoting were in 1962 and stemmed from an idea attributed to Joseph Horn, an NSA engineer. The first communications satellite, Telstar, had just been launched and, with it, a new era in communications. Horn, in a paper entitled "A Proposal for Utilization of Satellite Relays to Provide an Early Warning and Extended SIGINT Capability within the ZI," proposed that NSA look into the possibility of remoting signals intercepted in one location to another. The technology, he felt, could be developed to send large chunks of the RF spectrum from an overseas location to a location in the United States. Horn justified the effort that would be required on the basis of improved timeliness, reduction of SIGINT people overseas, and cost-cutting.<sup>39</sup>

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(S) The proposal generated interest, and in 1964 NSA conducted experiments to see if what Horn proposed was really possible. [redacted]



(U) Joseph Horn

It worked, and everyone was ecstatic. But for several years, that was it. The idea languished, awaiting sponsorship.<sup>40</sup>

(S-CCO) Horn's idea was revived in 1967 when K Group (which at that time dealt with collection and signals analysis) established a study group headed by Alfred W. Andrews. Andrews named his project "TENNIS," a name evoking a signal, as if a tennis ball, bouncing back and forth between communications satellites. Within a year Andrews had produced a preliminary concept for remoting [redacted] back to a location at NSA.

[redacted] sites were small, and the Andrews group simply discarded them from the study because the expense of installing the operational and communications equipment for such a small site would not be feasible. The group took it as a given that the technology was there - what was needed was practical application.<sup>41</sup>

(S) The TENNIS idea did not have many sponsors in the early days. In particular, Dr. Albert Hall, assistant secretary of defense for intelligence, was known to oppose it as too expensive and technologically risky. But within NSA Dr. Robert Hermann adopted it as his own, and he set out to get sponsors. He created an "Industrial Advisory Board" to study the issue and enlisted important people from private industry to help him. His first ally outside of NSA was William Perry of ESD, who would later become secretary of defense. Within NSA, he had the support of Oliver Kirby, the assistant director for production. With this level of support, Hermann embarked on a major feasibility study.<sup>42</sup>

(S-CCO) The original [redacted] study, published in 1969, proposed to remote [redacted] to collection centers in the United States. Candidate locations were [redacted] Petaluma in California, [redacted] The follow-on system development plan produced the following year planned for an initial system, called PILOT TENNIS, in which [redacted] in the U.S. The presumed success of the pilot would result in a wave of support, and by 1975 some thirteen sites would be part of the TENNIS system. NSA would close seven European and Mideast locations and six in the Far East. A residual force of about 20 percent of the total would remain in theater for tactical support. The savings would be staggering. Overall CCP

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economies would range [redacted] could be eliminated. Some [redacted] cryptologists overseas would come back. But the up-front costs were equally huge [redacted] for the system through 1978 and [redacted] to acquire dedicated communications satellites that were presumed to be required.<sup>43</sup>

(S) TENNIS produced arguments galore. The biggest dispute was over the [redacted] approaches. Horn had originally envisioned remoting large portions of [redacted] to the States, [redacted]

[redacted] and Petaluma.

(C) The competing technology came to be called the long screwdriver approach. In this method, the operator sitting in the U.S. would remotely tune a receiver in an overseas location. [redacted]

[redacted]

(S-CCO) TENNIS also produced arguments over management. Theoretically, every intercepted signal in the world could be collected into a single facility, if not a single room. Where would such a facility be? Was there enough room at Fort Meade? How would it be managed? What would the relationship be between collection and processing? Would operators accept being jerked out of their overseas bases and dumped in the high-cost Washington area? What kind of morale problems would result? Many elements of the Production organization lobbied for a TENNIS simulation facility to test out all these problems - a fly-before-buy approach. The engineering side naturally focused on the technical hurdles and ignored the management implications. A TENNIS simulation center was planned, but was never implemented. NSA bought the technology without testing the management problems first.<sup>44</sup>

(C) Ultimately, NSA succumbed to cost considerations and went for the long screwdriver technology. Even under the [redacted] program, however, communications requirements were stupendous. For instance, remoting the [redacted] [redacted]. This was why NSA became the largest single user of DoD communications satellite capacity.<sup>45</sup>

(S-CCO) Dr. Hall continued to hold onto monies that NSA wanted for TENNIS. Hermann's approach was radical - rather than scale back on the program to reduce the threat, he sent Hall a new proposal expanding TENNIS to include sixteen overseas sites, virtually wiping out the SCE component of the cryptologic system. All CONUS operator billets could be civilianized, less a 25 percent residual for tactical support. Financial

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savings from pulling people out of overseas locations and putting them in a single collection facility would be huge, both in direct operational costs and in logistics and overhead. Hermann's forceful approach finally got a tentative go-ahead from Hall.<sup>46</sup>

~~(C)~~ Table 4<sup>47</sup> - Estimated TENNIS Communications Requirement by Site

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**(U) Drawstring**

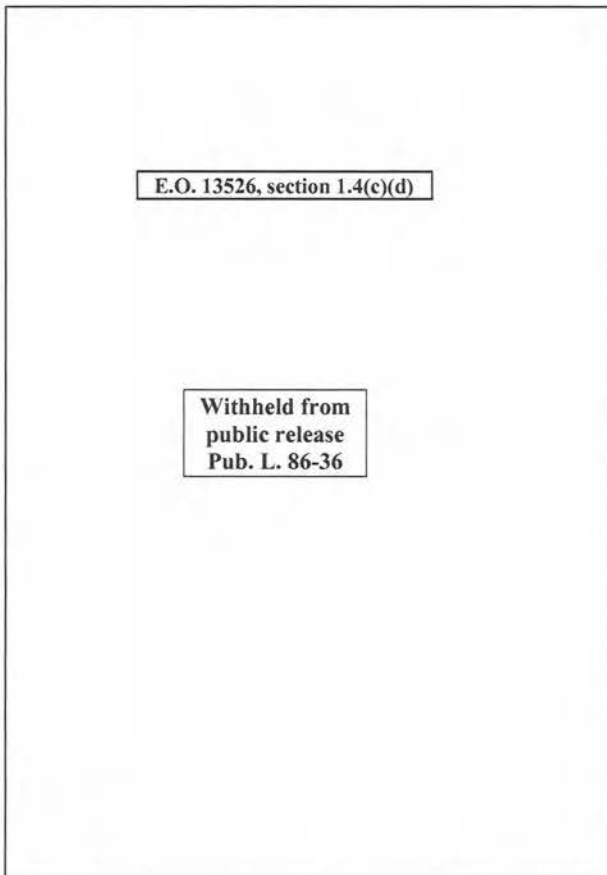
~~(C)~~ When the Clements cuts hit NSA in 1973, the TENNIS concept seemed a heaven-sent solution to the budget crisis. Lew Allen became the director in August 1973, and he barely had time to put his hat down before confronting the issue. Remoting seemed to be the answer, and he promptly convened a panel to consider it. He called it the DRAWSTRING Task Force.

(U) Allen came from the high-tech side of the Air Force, and he was well connected with private industry, which he considered an essential partner in solving big problems. The task force was composed of only four NSA people, plus representatives from fourteen companies, including such industry giants as Lockheed, Hughes, and IBM. Lew Allen

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understood that the cryptologic community could not work its way out of this jam without help.<sup>48</sup>

(C-CCO) He instructed the group to consider only [redacted]. They had two options: modernize [redacted] or use remoting. (Standing pat was not an option.) The objective was clear - they were to devise a SIGINT system that was much less costly than the one that existed.

(S-CCO) The task force cast aside casual tinkering and recommended radical surgery. Although they did consider modernizing the overseas sites, they ended up recommending that the whole lot be remoted. [redacted] Task Force recommended that every site remaining [redacted] be remoted to Fort Meade [redacted]

(E) Savings under the modernization option would be significant, but using the remoting concept they would far exceed the 3 percent cut mandated by Clements (see Table 5). Of course, DoD would have to wait a few years for the return. The entire remoting scheme would cost [redacted], to be spread over a period of years from fiscal year 1976 to fiscal year 1981. Although each year's personnel savings would be significant, the procurement costs would not be completely amortized until fiscal year 1983 - fully ten years down the road.

(E) Full remoting would require that [redacted] data would pass [redacted] back to Fort Meade; [redacted] [redacted] To remote such huge volumes of data, the panel recommended that NSA purchase its own satellites rather than rent from the Defense Communications Satellite System (DCSS). Purchase would be more expensive, of course, but the amortization difference would only amount to less than a year.<sup>50</sup>

(S-CCO) Table 5<sup>51</sup>  
The [redacted] Plan Costs

	Current	Remoting	[redacted] modernization
Number of [redacted] positions	[redacted]		
Personnel			
Annual CCP cost			
Estimated cost of remoting			

(S-CCO) The organization at Fort Meade would be a nightmare. Here, the panel only hinted at solutions, but did originate the concept of the "problem center," which was to

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have a long life. At the Fort, signals would be shunted to areas that worked certain problems - for instance, all [redacted] would go to one area. This would permit customized processing operations and would reduce duplication. For instance, the problem center [redacted] would not require a timely reporting mechanism, while the problem center (or "PC") [redacted] would not need equipment [redacted] for transfer to the computer complex in the basement.<sup>52</sup>

(C) Consolidation at NSA would permit the introduction of many efficiencies that might be unaffordable in a dispersed system. The panel foresaw the automation of search through the employment of automated scan systems

[redacted]

[redacted]

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(C) What emerged from the private sector's blue-sky planning was an implementation plan, [redacted] It represented what the cryptologic community could get cranked into the CCP, and it was much different from the [redacted] system. Under it, NSA scaled the system back to [redacted], a far more realistic plan, more in line with the original TENNIS planning (see Table 6).

[redacted]

(S) Out of the [redacted] billets at the [redacted] affected sites, [redacted] would remain overseas to do tactical support, Peacetime Aerial Reconnaissance Program, and other operations that would be difficult (if not impossible) to perform from Fort Meade. Some [redacted] people would

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be moved back to the collection operation center at NSA, and the billet savings would be only [redacted]. The plan allowed for some modernization at the residual overseas sites, but offered specifics in only one case - the Navy site [redacted] which would stay largely untouched by remoting [redacted]. At Fort Meade, the "problem center" organizational scheme was adopted from the [redacted] plan.

(C) While the [redacted] plan remained through the end of the decade, harsh realities soon intruded. Remoting would incur very high initial costs, and the ever-present Dr. Hall was willing to proceed initially with only one site. [redacted]

[redacted]

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(U) Not even [redacted] survived intact. Pieces of it were eventually implemented, but they resulted from pressures and events not even anticipated when the plan was written. The name survived, but the eventual system could not have been recognized by the original planners.

(U) [redacted]

(C) The first remoted site had nothing to do with the grandiose plans originating from the [redacted] planning efforts, [redacted]. Instead, the [redacted] became the guinea pig for the whole system.

[redacted]

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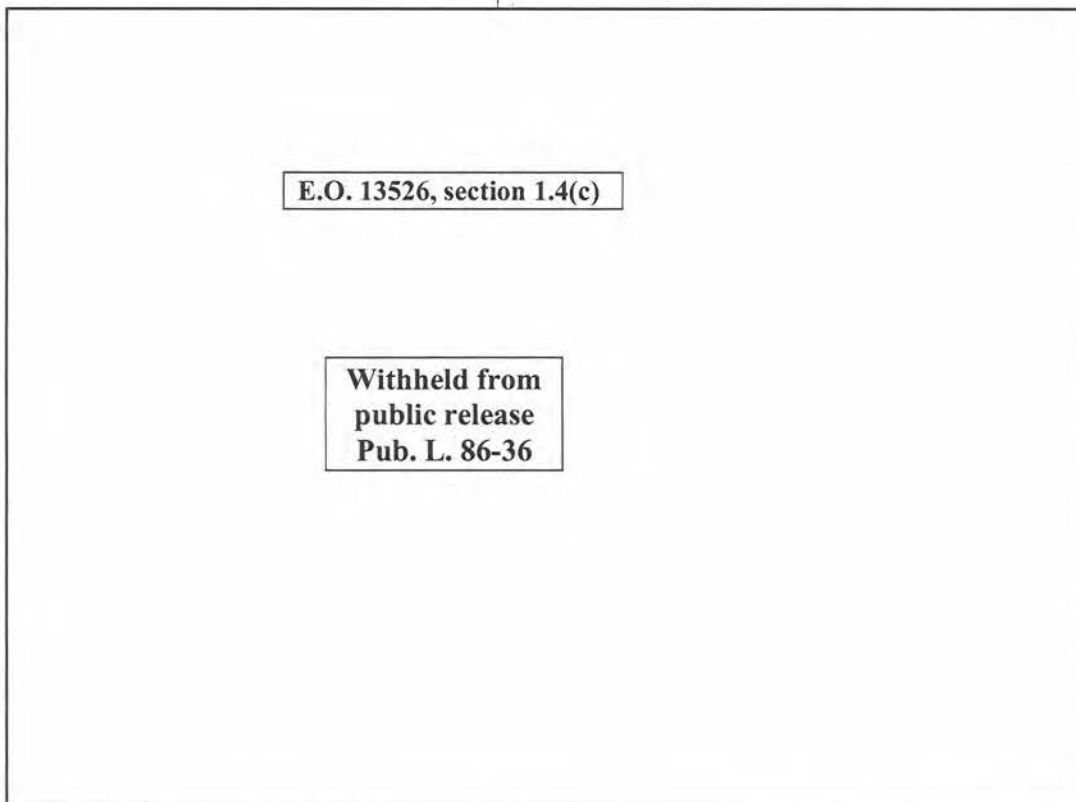
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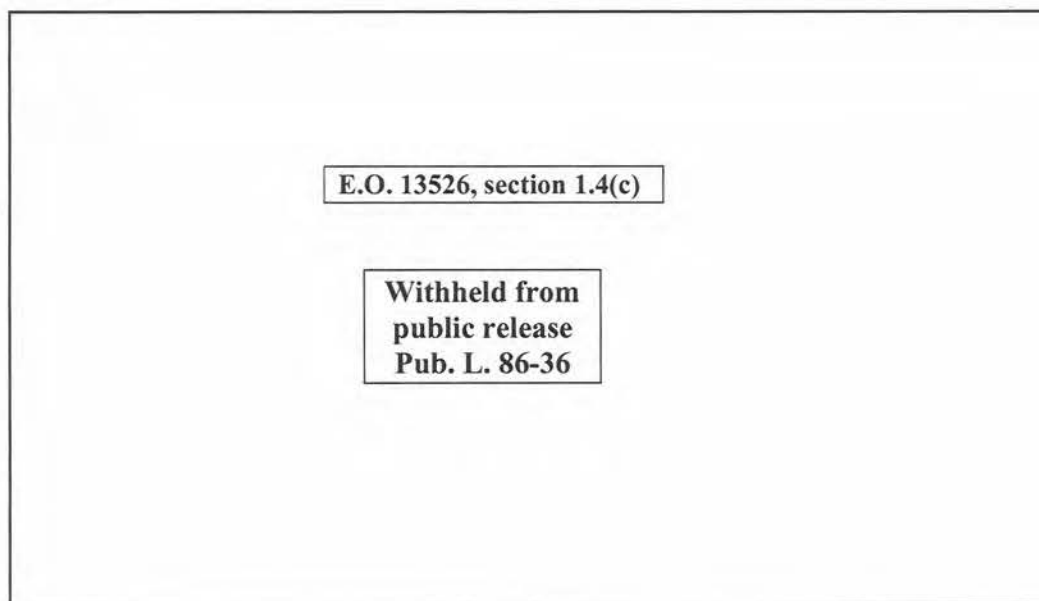
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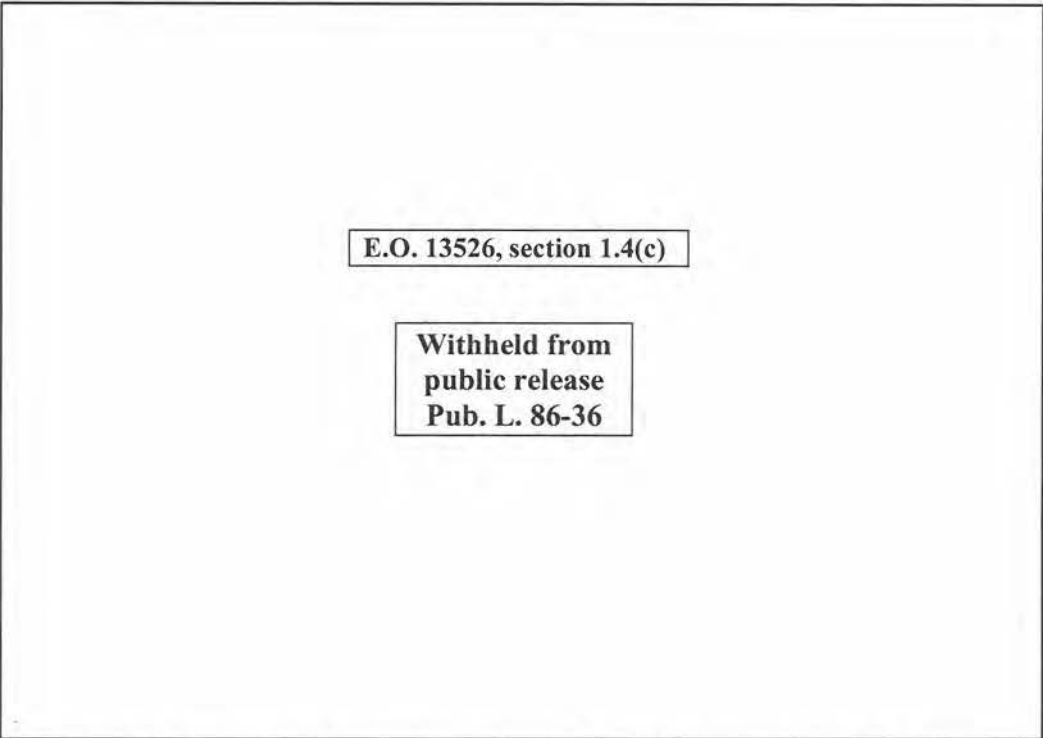
(U) AROF



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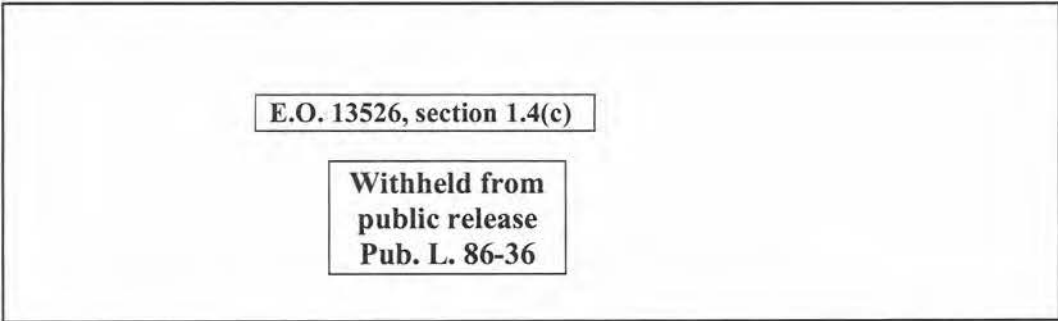
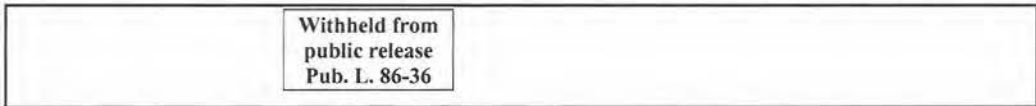
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(U) The technology was different, though. RCA had custom-designed the collection consoles. The Hazeltine receivers had an autostepping feature which eliminated hand-cranking a tuning knob in the time-encrusted method used since the invention of the radio. The time delay inherent in AROF remoting was almost a second, so for the operators everything seemed to be stepping in slow motion. The IATS system which still dominated the field was not in evidence in AROF. Instead, each position was equipped with a minicomputer to digitize the collection for later processing.<sup>68</sup>

(U) BROF



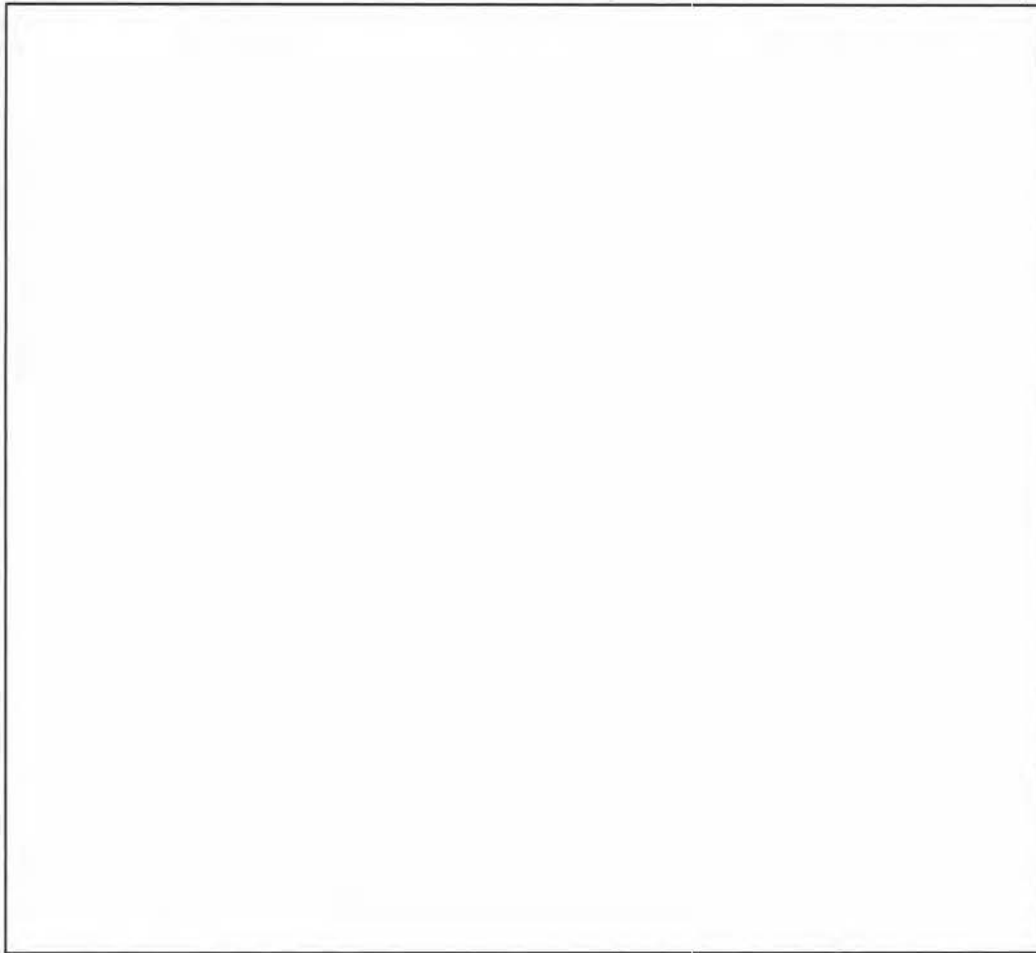
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**(U) Remoting the Small Sites**

~~(S)~~ TENNIS was never intended for the small sites [redacted] It had become a truism early in the project that the cost of earth terminals and ancillary equipment would make such a proposition uneconomical. TENNIS, DRAWSTRING, [redacted] [redacted] all presupposed that [redacted] would become candidates for remoting.

~~(C-CCO)~~ The implementation of remoting stood this assumption on its head. As it turned out, the big payoff was in small-site remoting. Part of this resulted from the decline in earth terminal costs, but mostly it related to the importance of the mission. The small sites, with their [redacted] and highly selective focus [redacted] became the high value items in the system.

~~(TS-CCO-TK)~~ The first step was data linking, in which operators at overseas sites intercepted signals and plugged the receiver outputs into communications channels.

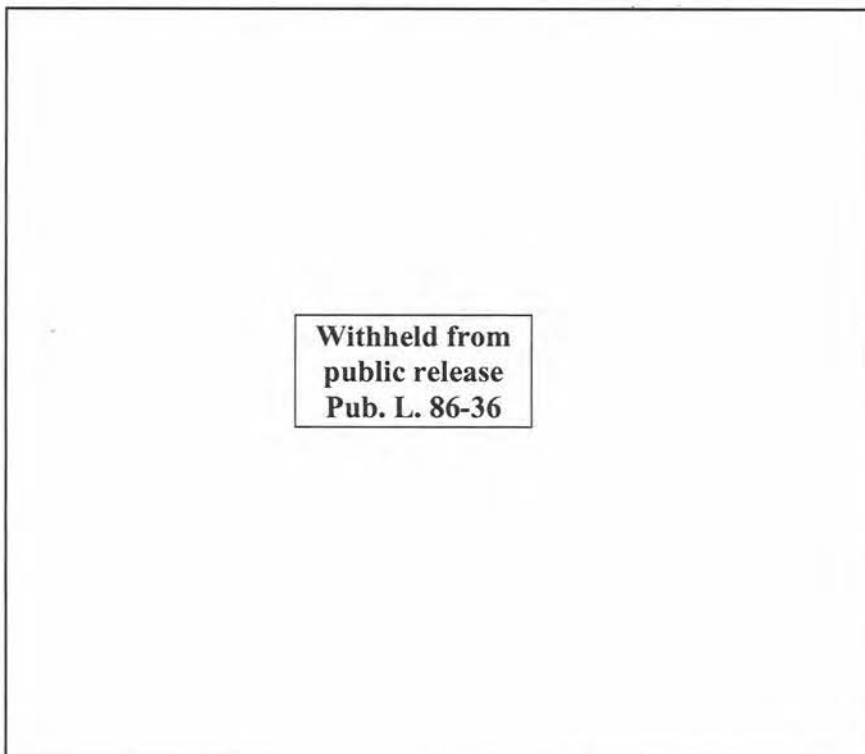
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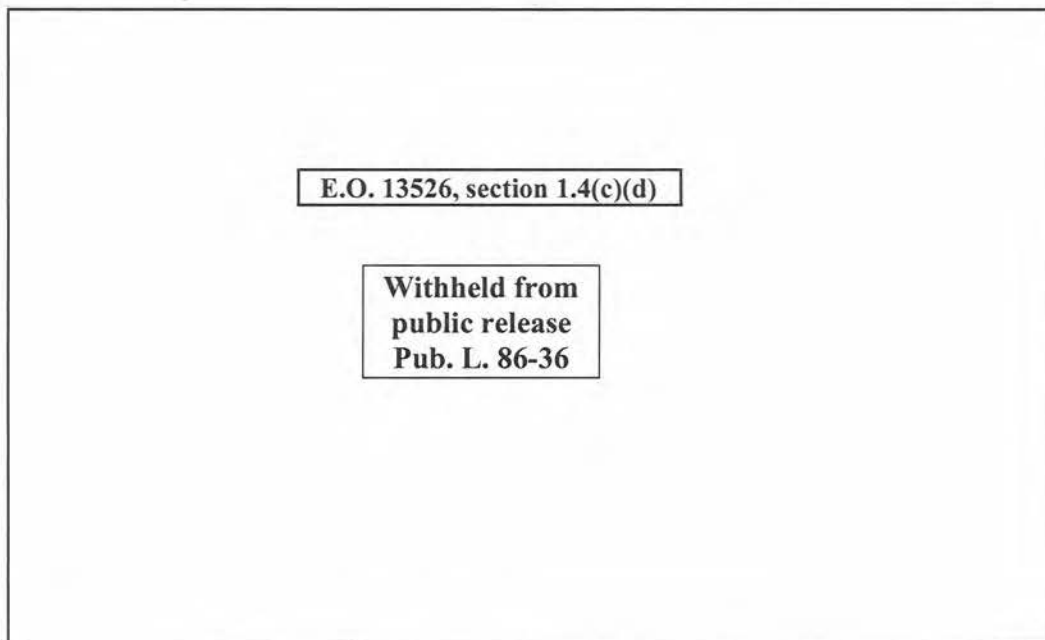
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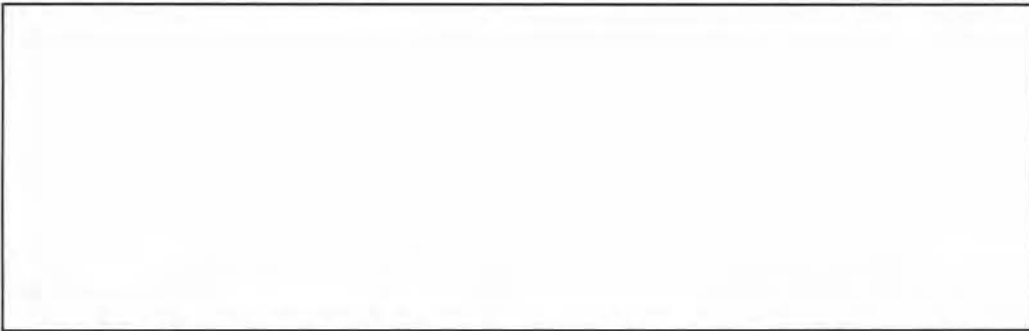
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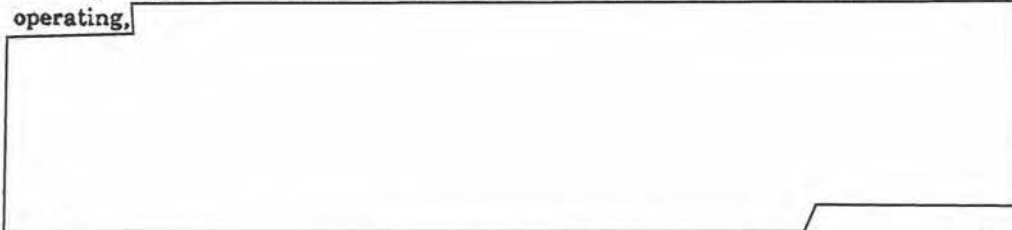
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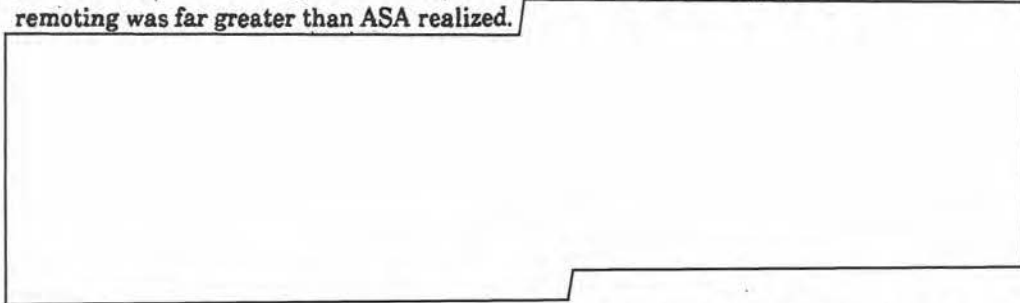


~~(TS-CCO)~~ The advantage of data linking was speed - critical signals could be intercepted, forwarded and processed in something approaching near real time. It did not remove the operator at the distant end, nor did it reduce the number of people in the system. The operational payoff could be significant [redacted] but these operations did not help with overseas visibility, international balance of payments, or CCP reductions.

~~(S)~~ The next system was a true remoting operation. [redacted] an Army-sponsored project, sprang from the dismal budget-cutting days of the late 1960s, when ASA was strapped for cash and looking for a way to reduce expenses. The [redacted] sites, although top producers, had been a financial drain for years. They were expensive to keep operating, [redacted]



~~(TS-CCO)~~ NSA recognized immediately that the potential payoff for [redacted] remoting was far greater than ASA realized. [redacted]



~~(TS-CCO)~~ In a lengthy memo in late 1971, Major General John Morrison, NSA's ADP (assistant director for production, i.e., DDO), laid out the prospects. [redacted] collection had to be data linked back to NSA. ASA's [redacted] was a good idea, but it got the material only part of the way home. NSA needed a data link to get [redacted] [redacted] to Fort Meade.<sup>79</sup>

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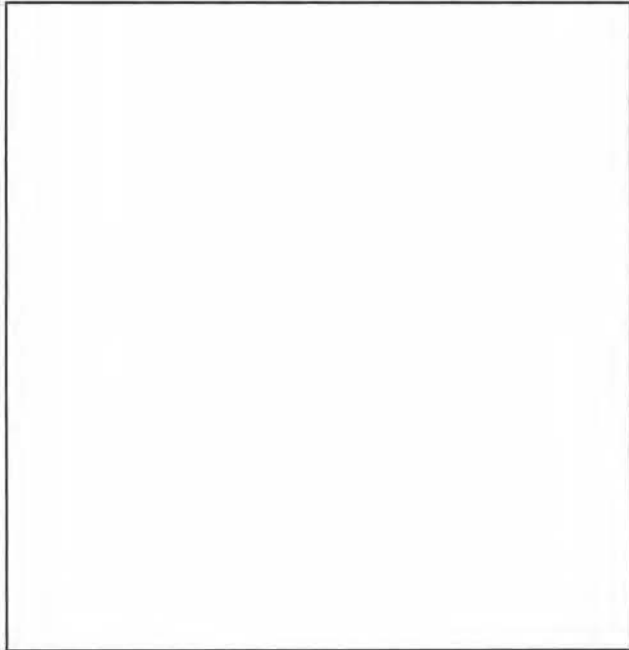
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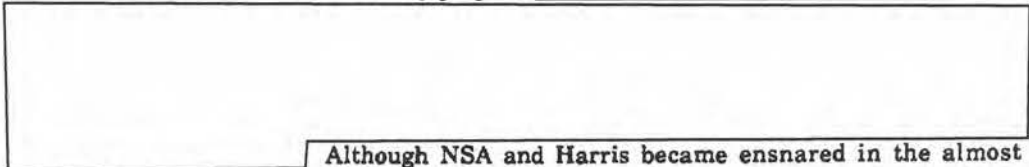
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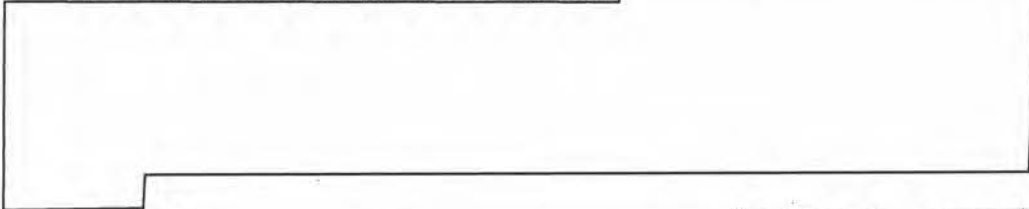
(S) NSA's engineers became involved [redacted] from its inception, and in October of 1970 the ASA project manager, Colonel Vernon Robbins, formally invited NSA into the development process. ASA resources were strapped, and only NSA could provide the expertise to steer such a large project. NSA's Richard Bernard was named the deputy project manager.<sup>80</sup>

(S-CCO) The combined ASA/NSA project planning committee selected Radiation (later called Harris) Corporation as the prime contractor and let a contract for \$25 million. The committee had to scale back an early proposal [redacted]



Although NSA and Harris became ensnared in the almost inevitable cost overrun disputes, the system succeeded technically and operationally.<sup>81</sup>

(TS-CCO) For NSA, the payoff was the data link. [redacted]



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**(U) Guardrail**

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(S) Once remoting was available, everybody wanted it. The earliest field applications were in Southeast Asia, where NSA began remoting signals from isolated mountaintops during the later stages of the war in Vietnam. Called EXPLORER, this program got people out of danger zones and back into defensible base areas, while leaving the equipment (antennas, receivers, and communications) in exposed locations. The aptly named Black Widow Mountain along the Cambodian border was the most famous of the remoting operations.

(S) Remoting was next employed to fix serious SIGINT support problems [redacted] The problems [redacted] arose from the disparity between tactical systems available to field commanders and strategic systems tailored for national-level support. By the early 1970s, strategic SIGINT had far outrun what was available tactically. In September of 1970, [redacted] complained to Admiral Gayler (then DIRNSA) that his SIGINT support assets were not what they should be. [redacted] His mobile collection equipment was antiquated [redacted] Moreover, the intercept vans, [redacted] were too slow to get out of the way in case of attack [redacted] Communications were clearly inadequate [redacted]

(S) [redacted] knew about the systems that had been devised for Southeast Asia, and he wanted them [redacted] He wanted airborne systems that did not have to retreat over roads that were vulnerable to interdiction. He wanted communications to get the intercept back to safe areas where they could be processed. And most of all, he wanted ARDF.<sup>83</sup>

(S) At NSA, Gayler instigated a planning whirlwind. He sent an NSA team [redacted] to look at the situation. The team devised a radical solution - an airborne remoting operation similar in concept to the [redacted] in Southeast Asia. When the matter came to a head in a JCS meeting in January of the following year, NSA was ready with the solution. The Agency called it GUARDRAIL.<sup>84</sup>

(S) GUARDRAIL would [redacted]

[redacted]

(S-CCQ) The first test was only partly successful. [redacted]

[redacted]

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(U) Guardrail aircraft

[Redacted]

~~(S-~~CGG~~)~~ GUARDRAIL II was a spectacular success.

[Redacted]

~~(S)~~ Early GUARDRAIL was an Army-specific asset. Despite the fact that air-related intelligence dominated the collection "take," the Air Force participated reluctantly, and then only after considerable prodding at the JCS level. One Air Force problem was survivability. The U-21 was a propeller-driven utility aircraft [Redacted]

[Redacted] The U-2 would be a far better platform.<sup>88</sup> It may also have been

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that the Air Force feared Army dominance and wanted to use Air Force money to fund its own systems.

(C) GUARDRAIL II became the final system. Even prior to its deployment, the Army, [redacted] and NSA had all agreed that it would be left behind to provide tactical support. There were no plans to fund a production system.<sup>89</sup>

(S-CCO) While GUARDRAIL I was being tested [redacted] a separate SIGINT operation was being deployed [redacted]

(G) This changed radically in 1972. Major General John Morrison proposed an [redacted] to do the same work [redacted] that GUARDRAIL was doing [redacted]. At a stroke, NSA would be satisfying the constant demands of American commanders in [redacted] to improve SIGINT support and add a DF capability.<sup>91</sup>

(S-CCO) The final system, called GUARDRAIL IV, looked a lot like GUARDRAIL [redacted] but it did not solve the strategic-tactical interface problem. It used U-21s, [redacted]. It remained an integral part of the strategic SIGINT system. Once again, the Air Force entered the system reluctantly. Its concerns probably related to a fear that GUARDRAIL IV threatened the continued viability of the RIVET JOINT fleet, rather than to any criticism of the way the program operated technically or conceptually.<sup>92</sup>

#### (U) REORGANIZATION

(U) The war in Vietnam produced wide dissatisfaction with the performance of intelligence. This was in some ways unwarranted. It had performed better than in Korea, and the problems that beset intelligence early in the war were on the way toward solution by the time Richard Nixon became president in 1969. But the perceptions persisted and led to demands for change.

#### (U) The Fitzhugh Panel

(U) When Nixon assumed office, he called for a reexamination of the total Defense effort, appointing a blue ribbon defense panel to recommend changes. The panel conducted the broadest review of the Defense Department since the Hoover Commission of the mid-1950s. Part of that effort was a Panel on Command Control and Defense Intelligence

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chaired by Gilbert W. Fitzhugh. This committee consisted primarily of industry figures and lawyers and was clearly intended to represent a totally dispassionate view of Defense intelligence.<sup>93</sup>

(U) The committee discovered that management was fragmented (not the first time someone had discovered that salient fact), uncoordinated, and not well focused. There appeared to be no effective control of intelligence requirements, a great deal more information was collected than was required, and consumers were overwhelmed by a welter of disjointed reports from all corners of the intelligence structure. DoD had never developed a substantial corps of intelligence professionals. (The only exception appeared to be NSA, which had obtained special legislation.)

(U) Fitzhugh recommended that the Office of the Secretary of Defense focus intelligence management under a single deputy, called the assistant secretary of defense for intelligence. (At the time, intelligence was loaded onto the assistant secretary of defense for administration as an additional duty.) Under him there would be a Defense Security Command (consciously modeled after the NSA structure), which would enjoy broad authority to supervise DIA, NSA, and all other Defense intelligence.<sup>94</sup> Such changes might have been logical but politically fell very wide of the mark. The Fitzhugh Panel had little ultimate influence over the course of actual events.

**(U) The Schlesinger Study**

(U) The Fitzhugh Panel had no sooner submitted its report than the president commissioned another study. But there were differences. This new study, chaired by James Schlesinger, head of OMB, dealt exclusively with intelligence, while Fitzhugh had also looked at command and control. More important, Schlesinger examined all of intelligence, while Fitzhugh had looked only at the Defense Department.<sup>95</sup>

(U) Not surprisingly (considering what job he held), Schlesinger concluded that intelligence centralization could best be effected by giving the DCI broader budget authority. Nixon invested then-DCI Richard Helms with a broad grant of authority to review all governmental intelligence activities in order to rationalize programs and priorities within



(U) James Schlesinger

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the budgetary structure. But Nixon and Helms did not get on, and the president never followed this up with specific authorities for his DCI. Helms was left to study, to coordinate, to cajole, but he was no closer to reigning in the disparate parts of intelligence, particularly those in Defense. He never did get what the Schlesinger study promised him.<sup>96</sup>

(U) Helms did accomplish one thing, however, that had long-range effects. He created a small staff, composed of a cross-section of the intelligence community, to look at the budgets of the respective (and disrespectful) agencies. This staff still existed at Langley in 1973 when Schlesinger became DCI. The new intelligence chief's intentions went awry as he struggled to contain the damage from Watergate by reorganizing CIA, but he definitely intended to grant that staff more power. William Colby, his successor in the job, pushed the status and authority of Schlesinger's small staff, which had become known as the IC (Intelligence Community) Staff. At the time, President Ford issued a new executive order putting teeth in the IC Staff's authority to control the budgets of the warring intelligence agencies, and in 1978 President Carter issued the executive order which gave the DCI "full and exclusive authority for approval of the National Foreign Intelligence Program budget." By then the IC Staff had moved into its own quarters in downtown Washington, and thus attained its own facility, with its own identity.<sup>97</sup>

(U) CSS

(U) The cryptologic reorganization that occurred in the early 1970s was the culmination of two decades of conflict between NSA and the JCS over control of cryptologic assets and operations. As NSA gained more authority and as the cryptologic system became more centralized, Pentagon officials became less and less pleased. A decade of war in Vietnam had produced, among other things, an internal war over cryptology. NSA's attempts in the 1960s to further centralize the business were bitterly opposed within the JCS, which had embarked on efforts to fragment SIGINT by shaving off small areas that they could call by different names (electronic warfare - EW, electronic support measures - ESM, etc.) and rid itself of the codewords that controlled dissemination. By the time James Schlesinger looked at the organization of intelligence, the deep fissures between NSA and the armed services had become almost unbridgeable.

(U) Schlesinger intended to solve the problem for all time, in NSA's favor. Clearly driven by budgetary concerns, he proposed to stamp out any JCS control over, and even involvement in, the SIGINT business. The dispute over the control of cryptology that had continued since the end of World War II would come to an abrupt end.

(U) The "end of the war" came on November 5, 1971, when Richard Nixon announced the conclusions of the Schlesinger Study. Buried in the text of this "Nixon letter" was the announcement that, by the first day of the following year, there would be a "unified National Cryptologic Command" under the director, NSA, for the conduct of United States government communications intelligence and electronic intelligence activities.<sup>98</sup>

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(U) And then controversy erupted. What was a National Cryptologic Command (NCC)? What did the president intend it to do, and what were its authorities? Was this really the end of SCA independence? What would the new organization control? What was meant by "command"?

(U) Many, both within NSA and without, felt that it meant the death of the SCAs, and a new organization chart was even prepared showing all service collection activities directly under DIRNSA. One view was that the chief of the NCC would also serve as DIRNSA. In one role he would control the national cryptologic system as before; in the other, he would command the SCAs through the JCS chain of command. Most agreed that the SCA theater headquarters would expire and that their functions would be effectively assumed by existing NSA theater organizations. The opinion of Admiral Gayler counted the most, and Gayler viewed his role as akin to that of a Unified & Specified (U&S) commander, with total control over assets within his purview.

(S-CCO) In the Pentagon, near panic ensued. Theoretically, the NCC would control all SIGINT collection. This could include the Navy's VQ squadrons, the Air Force's EC-47, and the Army's U-21 ARDF capability, [redacted] the overhead mission ground stations, tactical ELINT (including the Third Party programs that the Air Force had guarded for so many years) - [redacted] Under its NCC hat, NSA might begin managing Army and Air Force tactical SIGINT programs rendering support to field commanders. At the very least, the struggle to control EW and ESM programs would be resolved in NSA's favor.

(U) DIA predicted that NSA would swing hard toward satisfying national requirements and would cease paying any attention to the satisfaction of the SIGINT requirements of tactical commanders. The independence of the SCAs would end, and, worst of all, tactical ELINT units would find themselves answering to NSA through the NCC.<sup>99</sup>

(C) Within NSA a certain smugness settled in. The war was over, the battle was won, and to the victor belonged the spoils. The spoils consisted of those SIGINT assets that had formerly been controlled by rival factions: primarily the armed services and CIA. As November faded into December, plans were being laid to assume control of the outlying assets that NSA had never owned. This was a big win - a major revolution in the way cryptology was handled.

(U) But things began to go awry even before the end of the year. On December 23, Secretary of Defense Melvin Laird informed Gayler that the new organization would not be a command - it would be called the Central Security Service. Implicit in the new name was a diminished world view. "Services," after all, could not exactly "command." Laird instructed Gayler to come up with an organizational plan and to create the new organization by February 1, 1972, a slippage of one month from Nixon's original deadline.<sup>100</sup>

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(U) Concurrently, a new NSCID 6 was being written. Issued in February of 1972, it gave NSA significant new powers - and failed to give it others that, in the heady days of November 1971, folks at Fort Meade assumed they would get.

(e) The directive officially established CSS, which would be collection oriented, and would "include SIGINT functions previously performed by various Military Departments and other United States governmental elements engaged in SIGINT activities." It did not define these functions, nor did it refer to CIA, which by omission managed to hang onto its SIGINT system. The mobile SIGINT system remained under military control, thus answering one of the biggest questions which had arisen from the Nixon Letter. But in NSA's favor, NSCID 6 resolved the EW issue by placing it under NSA control. And on the administrative front, NSCID 6 gave the director authority over tasking, logistics, research and development, security, and career management of personnel.<sup>101</sup>

(U) Following Laird's decision on December 23, Gayler created a series of internal panels to flesh out the CSS plan. Progress was uneven because no one seemed to agree what it should be or how it should function. Gayler gave the task of managing the disputatious committees to Paul Neff, a World War II cryptologic veteran who had held key positions in NSA's policy councils for many years. Neff's most vital assistants were Major General John Morrison for operations and Frank Austin for training. Much of the action fell into their bailiwicks.<sup>102</sup>

(U) Under severe time constraints (the plan was due to Laird by February 1), the committees solved the easy problems and left the tough ones for later. The new cryptologic system would be unitary, with centralized control and decentralized execution (hardly a new or controversial concept). It would be composed of NSA and the SCAs as they then existed, thus putting off the question of the system acquiring assets then controlled by the JCS and CIA. The SCAs would provide men, equipment, and facilities - CSS would operate the system.

(U) CSS would be headed by DIRNSA in a dual-hat role, and it would be assisted by a staff of its own. Composed of some 205 billets (75 from operations), it looked just like the NSA staff (see Table 7). All the staff heads were dual-hatted with their respective NSA jobs - thus John Morrison was both head of NSA production and chief of CSS operations, while Frank Austin headed NSA's training school and CSS's training organization.<sup>103</sup>

(U) The CSS plan produced serious fissures between Gayler and the SCA commanders, who viewed the new organization as the death knell of the independent SCAs. So they fought back, and the struggle spilled over into almost every aspect of cryptologic organization. They fought the training plan because the role of training and equipping servicemen for cryptologic duty had always been central to their being. They fought NSA's encroachment into R&D and logistics in direct proportion to the size of their respective staffs in those functions.<sup>104</sup>

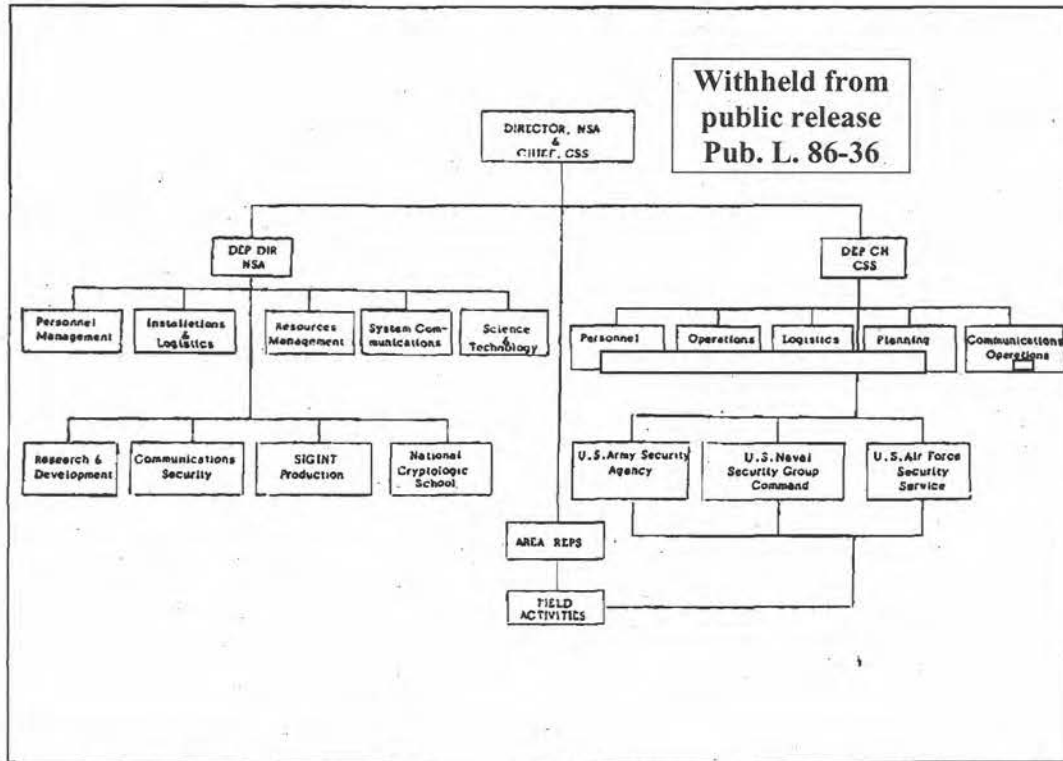
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NSA/CSS Organizational Structure (U) Table 7

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(FOUO) A struggle ensued over cryptologic organization in the theaters. Gayler wanted SCA theater offices to collocate with the senior NSA/CSS headquarters, but eventually agreed that they could collocate instead with the component command headquarters. The senior SCA commander would be responsible for the SCA and CSS functions, and most of his people would do the same. Gayler also wanted component command level CSGs to be NSA elements, and went toe to toe with Major General Carl Stapleton of USAFSS over this issue. Stapleton won, and all component command CSGs became part of their parent SCA. The chief was the senior SCA representative in the theater.<sup>105</sup>



(U) Major General Carl Stapleton

(U) They enlisted U&S commanders to defend their interests. Admiral McCain, CINCPAC (which would soon become Admiral Gayler's own command), predicted the beginning of the end of responsive SIGINT support:

In summary, the proposed plan is viewed as placing in concrete the sterile, inherently unresponsive centralization philosophy to which field commanders have so long been opposed. The centralization of SIGINT has not been tested in a major conflict. The concentration of analytical functions at the national level will soon cause a decline in the ability of the uniformed cryptologic activities to function responsibly in a support role in combat operations especially when access to a national database is denied and integration with other intelligence data is vital. The proposal is a long step backward in the Armed Services quest for more responsive intelligence....<sup>106</sup>

(E) The most contentious issues related to resources, and it was here that NSA had eyes bigger than its stomach. In the first heady days of CSS planning, many in the Agency envisioned swallowing every SIGINT collection asset worldwide, the theater ELINT centers, and even scientific and technical centers like the Air Force's Foreign Technology Division.

(S) In April of 1972, Admiral Gayler convened a panel (which he himself chaired) to survey the field. The most cursory study revealed a very wide field indeed. For instance, NSA discovered that at least forty-three submarines had ELINT collection gear, as did all Navy surface combatants. The list of CIA sites was very long, and the theater ELINT centers were very well-entrenched tactical assets.

(E) When the smoke cleared from the battlefield, NSA had won operational control over some of the assets under contention, most notably Air Force SIGINT platforms doing national jobs. But theater ELINT centers remained under theater control; programs designed for purely tactical jobs stayed with their parent services; the Navy held onto its

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entire fleet of airborne SIGINT reconnaissance aircraft; and the Army kept its electronic warfare companies. CIA assets were not even filtered into the mix, and NSA's relationship with Langley remained on hold.<sup>107</sup> When confronted with determined service opposition, Gayler had elected to smooth the waters.

(U) One of the key aspects of the CSS reorganization was to collocate the headquarters at Fort Meade, and a new DIRNSA, General Samuel Phillips, began looking at this in the fall of 1972. The move was superficially attractive because of the money that could be saved, and it would certainly permit further dual-hatting of SCA and NSA staffs. The idea did not begin to burn itself out until a study group quantified the amount of space needed: 550,000 square feet, to be exact, at a cost of \$30 million. NSA, chronically short of space, was busy expanding into the Baltimore suburbs and could offer no space to the SCEs. It might be possible to get some office space on Fort Meade from 1st Army, but it was still inadequate, even if it could have been converted into cryptologic work space (a very doubtful proposition indeed). So the idea was virtually dead anyway when Major General Stapleton confronted Phillips with the most determined opposition that any aspect of CSS had faced. It was obvious that the Air Force would never agree, and the plan was dropped.<sup>108</sup> As Phillips later said, rather laconically, in a message to the theater cryptologic chiefs, ". . . there is specific and determined opposition by the SCA chiefs to such collocation. It is the expressed view of the SCA chiefs that proximity to their service headquarters is more important than collocation with NSA/CSS."<sup>109</sup> It was the understatement of the year.

(U) At the Defense Department, Dr. Albert Hall told his chief of resources management, Lieutenant General Phillip Davidson, to keep watch over the implementation of CSS. By January of 1973, Davidson's watchdog, Robert E. "Red" Morrison, was ready to throw in the towel. Morrison wrote to Hall that the CSS staff concept had not worked. Agency employees had not accepted the dual-hat idea and were not ready to relinquish their carefully garnered authority. According to Morrison, ". . . the 'dual-hat' concept has served mainly as a way to keep the status quo." NSA had never transferred authority over tactical SIGINT assets to CSS, and field commanders had reciprocated with suspicion and mistrust of the CSS mechanism. CSS had cost NSA over 200 billets and had produced nothing in return.

(U) At NSA, Sam Phillips had seen enough. Lacking any semblance of DoD support, and unwilling to make the drastic changes in CSS authority that would be necessary to keep the concept functioning, Phillips killed it. The date of death was listed as April 16, 1973. On that date, Phillips eliminated the CSS staff, transferring authority instead to a new deputy director for field management and evaluation (DDF), who also became deputy chief, CSS. He dropped the idea of dual-hatting and instead transferred authority for CSS activities to existing NSA positions, elevating them at the same time to deputy director status. Thus assistant director for production became deputy director for operations, communications security became ruled by a deputy director, and Phillips created the post of deputy director for research and engineering, with authority over both NSA and SCA

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research efforts. Other staff chiefs were elevated to assistant directors; all had additional responsibilities for CSS management.<sup>110</sup>

(U) In 1976, when a new director, Lew Allen, went looking for CSS, he found only a paper organization. Associated with CSS, his resource people could find only General Allen himself (he was named on paper as chief of CSS); the DDF incumbent, who served as the deputy CSS; and a military staff of fewer than ten people.<sup>111</sup>

(U) The CSS exercise benefited the cryptologic system by further centralizing such functions as research and development, personnel administration, and certain aspects of logistics. In these areas, NSA's staff authority expanded into areas that were of common concern to NSA and the services. The biggest changes were in training, where Frank Austin, the dynamic leader of the National Cryptologic School, presided over a long-term centralization of training functions, and a rationalization of the system to the point where the individual SCAs served as executive agents to separate aspects of a now-joint training system. And, though the meetings were often stormy, the SCA chiefs were brought into closer contact with Gayler and his staff. Gayler institutionalized this into Wednesday morning breakfasts with his SCA chiefs, and thus brought a more direct and personal atmosphere into what had been a remote and long-distance relationship.<sup>112</sup>

(U) So in certain respects, the addition of "CSS" to the NSA logo marked a permanent change in the way business was done. But the larger changes that had been so keenly anticipated in the fall of 1971 would have required steamroller tactics worthy of Brownell at his best. The JCS had been bested by Brownell in 1952 because he had the backing of the president. Twenty years later the president was not engaged, and the JCS won.<sup>113</sup>

**(U) *The Murphy Commission***

(U) The period following the Vietnam War was extraordinarily fruitful with reorganization studies. Those which touched cryptology bent the process in a new direction. One such was the Murphy Commission.

(U) The Murphy Commission was set up by Congress rather than by the president. Its main purpose was to examine the process by which American foreign policy was set. The chairman, former ambassador Robert D. Murphy (then chairman of Corning Glass), was to report back to Congress by June 1975. Murphy was looking at foreign policy at a time when Henry Kissinger occupied positions as both secretary of state and national security advisor, and perhaps this was the reason that Murphy concentrated on national security and intelligence issues. Of the four subcommittees, the one on national security and intelligence, chaired by Murphy himself, dealt with NSA.

(U) It was hardly surprising that Murphy should echo the climate of the times. Following Schlesinger (and a host of others before him), he recommended splitting the job of DCI into two people - the political advisor to the president should work downtown, while the administrator of CIA, who would be his deputy, would manage the agency itself. He advocated giving the DCI further control over the intelligence budget (meaning, in

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essence, authority over the Defense component thereof). And he predictably proclaimed that the secretary of state and national security advisor roles should never again reside in the same person.

(U) As for NSA, Murphy remarked rather quizzically that NSA was the only national cryptologic agency in the West that reported through the defense rather than the foreign affairs institution. This tended to bias the satisfaction of requirements in favor of military needs. But, having examined the pros and cons of that arrangement, Murphy opted to leave cryptology within Defense. He recommended, however, that the Agency report to an executive committee composed of the DCI and the assistant secretary of defense for intelligence, to broaden its responsiveness. Moreover, he favored changing the rule by which the director be strictly a military officer. The rule, he felt, should be the same as at CIA - civilian or military did not matter as long as the director and his or her deputy were not both military officers.

(U) The key thrust of the Murphy report, however, was in the direction of further centralization of the process. The SCAs should be abolished, and NSA should take on the job of cryptology unhindered and unassisted. This would at once simplify the process and eliminate the bickering that had characterized NSA-SCA relationships since the day NSA was established.<sup>114</sup>

**(U) The Hermann Study**

(U) In the long run, the most influential study was one that was not even completed, let alone published and promulgated. In 1975 Dr. Robert Hermann asked Lew Allen for the opportunity to study SIGINT support to military commanders. Hermann formed a committee of just three people: himself, [redacted] and William Black. Together, they formulated an elegant and timeless statement of the problem that confronted cryptologic organization.

(U) To Hermann, the central dilemma emanated from the abortive establishment of CSS. NSA had been given theoretical control of the complete cryptologic process by which military commanders obtained cryptologic support, but the enforcement mechanism had never been implemented.

The most recent NSCID-6 . . . provided for very broad NSA responsibilities and authorities well beyond present practices. . . the 1971 Presidential Memorandum from which the directive was written specifically includes 'tactical intelligence' within the scope of the national level responsibility. However, *the Presidential memorandum and NSCID-6 are not being enforced and are probably not enforceable.* . . . The political forces which generated NSCID-6 did not develop the near term enforcement means necessary to persuade an unwilling management structure. . . This has been a major cause of stagnation in the development of adequate SIGINT support to military operations as well as inhibiting the general development of SIGINT support for other purposes. . . [Emphasis added]<sup>115</sup>

(FOUO) Hermann pointed to a cascade of changes to the SIGINT system which had irreversibly altered the way business was done. He referred to an "electronic explosion" in

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the signals environment which tactical commanders were increasingly occupied with and were exploiting to their own advantage. Electronic warfare, electronic support measures, and other terms were being applied to signals in order to get them out from behind the codewords that restrained their dissemination and exploitation. According to Hermann, "The notion that all 'SIGINT' activity is naturally a part of a coherent SIGINT system organized separately to support all national interests and organizations at every echelon is probably unsound. SIGINT is clearly not the most natural primary management dimension for an increasing number of activities." While NSA held to the rigid codeword protection mechanisms that had been built up since 1952, these barriers were becoming increasingly anachronistic. The SCAs, confronted with a two-way tug on their loyalties, increasingly opted for allegiance to their own services. They no longer hungered to expand the large field site system, no longer viewed their future as lying within a national cryptologic structure. According to the study, "... the traditional role of the SCA as the field collection arm of the national SIGINT system is eroding and is even now, not a viable mission."

(FOUO) To solve the dilemma, Hermann recommended a revolutionary strategy. The SCAs should cease being cryptologic agencies and should become what he called Service Signal Warfare Agencies (SSWAs). They should be integrated with the commands they supported, and their main job would be to provide signal warfare functions such as ECM, ECCM, tactical SIGINT/electronic support measures, MIJI (meaconing, intrusion, jamming, or interference), and radar surveillance. Except in unusual cases, they would no longer staff large fixed sites.

(S) The existing classification system should be completely scrapped. According to Hermann, "... we now provide SI, TK, or EARPOP protection for sources that we no longer hold to be sufficiently sensitive to require these caveats. The reason for protection is historical not deliberate." Cryptologists had cast aside the fine gradations which had evolved during World War II to permit wider dissemination of less-sensitive SIGINT and more restrictive handling of the products of cryptanalysis. In effect, everything was handled at a minimum Category II level, and the advantages of the World War II Y Service system had been lost. He pointed to the handling of clear text speech intercept (then normally protected as Category II material) as an example of how not to protect information. Other sources, [redacted] were scarcely more sensitive. Signals externals should not be held in COMINT channels unless clear justification was provided.

(S) Even more radical was his proposal for the handling of TK information. According to the study, "There is very little justification today for providing SI access without TK. There is no justification for providing TK SIGINT access without Byeman access." (The Byeman compartment was created to protect technical and contractual details of overhead systems.) The study proposed that overhead SIGINT should be completely removed from the TK compartment and should be handled as ordinary SIGINT information and that Byeman should be eliminated except as it related to the relationship with contractors.

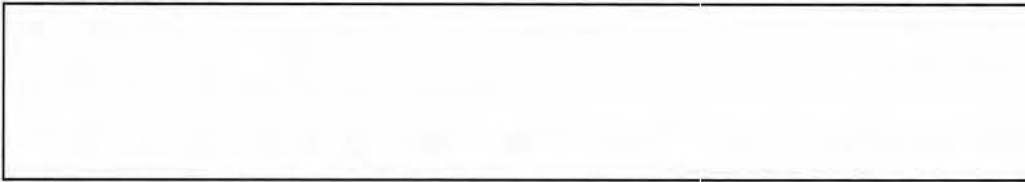
(S-CCO) Hermann recommended new initiatives for SIGINT support to NATO, long a cryptologic planning backwater. [redacted]

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~~(S-CCO)~~ The planning group was keenly aware of the developing gulf between SIGINT available in the field and that available at NSA [redacted]

[redacted] Because of processing mechanisms and dissemination restrictions, information of vital concern to the field commander piled up at NSA. This was being compounded by the accelerating dominance of overhead SIGINT. Even large field sites were becoming increasingly irrelevant unless the information they produced was combined (at NSA) with overhead [redacted]. In most cases the tactical commander was not even aware of the existence of this information.

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(S) Though he had no solutions, Hermann did articulate the dilemma and recommended that a mechanism be established to provide field commanders with support from national systems. That mechanism would necessarily involve more direct NSA control of overhead SIGINT resources, and Hermann recommended that the director take full control of SIGINT satellites in order to facilitate support to field commanders. This was an issue of hot dispute, and Hermann himself opposed this proposal when NSA placed it on his desk in the 1980s, when he was then director of the National Reconnaissance Office.

(U) According to Hermann, NSA should develop a strong planning office for support to military operations. Not only should it be centralized, but it should begin directing the entire process, rather than simply reviewing work already done by the SCAs.

(S) Following the study, Hermann himself went off to NATO to serve as a special assistant to SACEUR for intelligence support planning. The rudiments of the existing system of SIGINT support to NATO owe much to his planning. Although he never returned to NSA, his ideas lived on, and most were eventually implemented. NSA soon had an office that did support military operations, as Hermann had recommended. The idea of establishing a planning function to improve national support to tactical commanders got off the ground the next year, officially initiated by a memo from George Bush (then the DCI) to the secretary of defense. It became known as TENCAP. The SCAs eventually evolved into organizations more akin to what Hermann had recommended - more attuned to tactical support in all modes of the signals spectrum, less inclined to staff large fieldsites at NSA's bidding. The boundaries between SI and TK crumbled, and eventually, though the TK compartment held up, everyone involved in national-level cryptology had the clearance. The SIGINT compartment system was not changed significantly. Though proposal followed proposal, especially relating to eliminating the codeword protection for reports based on plaintext voice intercept, the Cold War ended with the restrictions still in place.<sup>116</sup>

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(U) *The Ursano Study*

(U) Robert Hermann's thinking dovetailed nicely with the direction that the Army was moving. That direction came out in very stark terms in 1975 as a result of the Intelligence Organization and Stationing Study (IOSS).

(U) IOSS resulted from a memo from the secretary of the army, Howard Callaway, to Army chief of staff Frederick Weyand in late 1974. Commenting about Army intelligence, Callaway said, "We maintain considerable information which is of questionable value and seldom used," a fact that "really makes me wonder about how much money we are wasting and raises serious questions as to the cost-effectiveness of our intelligence system." What was on Callaway's mind was apparently money. The Army was continuing to take monstrous post-Vietnam cuts, and Callaway was looking at intelligence as a place to save money.<sup>117</sup>

(U) The man Weyand appointed to study the issue, Major General James J. Ursano, was unencumbered by any experience with, or knowledge of, the intelligence function. At the time, he was Weyand's director for management. His study group was not very high powered, nor did it contain much expertise in the discipline.<sup>118</sup> It was a completely outsider's look.



(U) Major General James J. Ursano

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(U) It did not take long for the Ursano group to find out how fragmented and overlapping Army intelligence really was. Intelligence production was being carried out by a vast welter of rival organizations with competing agendas. The Army expended much effort toward HUMINT and comparatively little on SIGINT, which was found to be isolated and neglected. ASA came under severe criticism. Since the creation of CSS, ASA amounted only to another bureaucratic layer. The elimination of its field headquarters in both the Pacific and Europe gave it an unmanageable span of control. It devoted too much of its effort to field station operations, too little to tactical support. It had monopolized electronic warfare and held everything under a cloak of secrecy which inhibited real tactical support. In the field, the Army G2 had to manage two separate intelligence systems, SIGINT and everything else, and staff to integrate the two sides was in short supply.<sup>119</sup>

(U) Ursano looked at the vertical cryptologic command line which had been instituted following World War II and which had been reinforced with every subsequent study of Army intelligence. For once, someone took the opposite tack. Verticality must end, and ASA must rejoin the Army.<sup>120</sup>

(U) Ursano's central and most important recommendation was to dismantle ASA. A new organization would be created, called INSCOM (Intelligence and Security Command), which would integrate all Army intelligence functions. Combining SIGINT and HUMINT, Ursano recommended the amalgamation of USAINTA (U.S. Army Intelligence Agency) with strategic SIGINT. INSCOM would continue to manage eight field stations, to supply billets to NSA and other centralized cryptologic activities, and to provide SIGINT support to echelons above corps. Tactical assets (corps and below) would join the supported command echelon.

~~(S-CCO)~~ INSCOM would be an interesting mix of SIGINT, HUMINT, and counterintelligence organizations. Joining the new command would be the military intelligence groups [redacted] and to this were added groups in CONUS (CONUS MI Group) [redacted] TAREX, which had existed as a SIGINT-related effort since the waning days of World War II, would join the intelligence groups. There would be a unified Intelligence and Threat Analysis Center (ITAC) for all-source analysis. But, in sum, the new organization would be considerably smaller than ASA had been, primarily because of the loss of the tactical units. Training functions would be absorbed by other commands, and the training school at Fort Devens would belong to the Army Intelligence Center and School at Fort Huachuca, Arizona.<sup>121</sup>

(U) To virtually no one's surprise, Major General George Godding, the incumbent ASA commander, opposed the dissolution of his agency. Godding's reasoning, however, should have sounded bells somewhere in the Army staff. ASA should be retained because of the unique cryptologic expertise which had been developed and nurtured over a period of many years. Ursano's solution ignored that aspect of the problem.<sup>122</sup>

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(U) Major General George Godding

(U) The proposals caught NSA seemingly by surprise. When routed for comments, the Ursano proposals elicited little reaction. Each staff element viewed the problem from its own very narrow perspective, and each concluded that the matter was an Army problem, not one which should interest NSA. At the Directorate level, Norman Boardman of the director's policy staff understood the implications: "It is our general feeling that the loading of all army intelligence, security, and EW functions onto ASA, with a new name, and the stripping of specialized support functions . . . can do nothing but downgrade the quality and timeliness of SIGINT support to the army and army tactical commanders. . . ." <sup>123</sup> But NSA did not take a hard line, and its response to the Ursano proposals was less than warlike. And so INSCOM officially came into existence on January 1, 1977, without NSA having taken a strong stand one way or the other.

~~(S-CCO)~~ When Vice Admiral Bobby Inman became director in July of 1977, he hit the roof. Noting that the CSS concept assumed central control of cryptologic assets, and that ASA was the organization that was to control the Army's component to that structure, he pointed out acerbically that divestiture of cryptologic assets at corps and below abrogated that agreement and fragmented the system. Moreover, cryptologic training, considered an

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essential aspect of maintaining a skilled cryptologic work force, had been removed from INSCOM's authority. TAREX, formerly an exclusive cryptologic preserve, now appeared to be a SIGINT-HUMINT amalgam. "Throughout the plan SIGINT operational relationships and functions are described that impact directly on NSA/CSS. These relationships and functions have not been coordinated with this Agency." <sup>124</sup> In fact, they had been coordinated - but with Lew Allen, not with Inman. And that train was much too far down the track for one angry admiral to turn it around.

(U) The central problem of the INSCOM decision was one of expertise. The Army no longer had a unique cryptologic organization. It had been diluted by other disciplines and other interests. The cryptologic focus was lost and was replaced by a picture gone all dim and mushy. To participate in cryptology, the Army would have had to increase its emphasis on technical specialization. It chose to go the other direction.

**(U) The Creation of ESC**

(C) In its own way, the Air Force chose the same path, but at a slower rate. The Air Force Security Service had begun to lose its SIGINT focus in the late 1960s. When the Air Force Special Communications Center (AFSCC) SIGINT mission was moved to NSA in 1968, the organization survived by acquiring a new role. The mission, straight out of Vietnam, was to do electronic warfare analysis of tactical combat. Such analysis involved a variety of analytic skills, of which SIGINT was the largest component and was thus a natural for USAFSS. AFSCC could employ all the SIGINT and COMSEC skills of a seasoned work force in a new role of direct concern to Air Force commanders.

(U) As the command shrank in size during the 1970s, the electronic warfare analysis being done in AFSCC grew proportionately larger. Like ASA, USAFSS slowly eased out of the business of providing manpower to large fixed sites. Security Service sites which survived became smaller, and the command began shedding its management of air bases around the world. In 1978, USAFSS gave away its last remaining bases to other Air Force commands: Goodfellow AFB went to Air Training Command, [redacted] Iraklion, and Chicksands were turned over to USAFE, and PACAF began managing [redacted] With its intermediate headquarters in Germany and Hawaii closed, the command ended the decade with just under 12,000 people, down from a peak size of over 28,000. <sup>125</sup>

(C) General Lew Allen, who had become Air Force chief of staff, was intensely unhappy with the Air Force approach to, and use of, electronic warfare. His experience as DIRNSA had taught him how SIGINT could affect the modern battlefield. He had an especially keen appreciation for TEABALL, the command and control facility that had operated so effectively in Southeast Asia based on SIGINT support, and he wanted the new organization to create other such mechanisms. So he formed a high-level steering group to look at the problem. <sup>126</sup>

(U) In April of 1978 the Air Force announced that it would disestablish Security Service and consolidate intelligence functions within a new intelligence center at Kelly Air Force Base. This would involve USAFSS, the Foreign Technology Division at Wright-

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Patterson Air Force Base in Ohio, AFTAC (which monitored nuclear testing around the world), and Air Force Intelligence Service. The concept was clear, but the details were fuzzy; the affected organizations spent the summer thrashing out the implementation.<sup>126</sup>

(U) The grand Air Force Intelligence Center study became subsumed under two other high priority Air Force concerns: how to organize electronic warfare and what to do with a growing responsibility called C3CM (command, control, and communications countermeasures). All three functions were closely related, and Allen wanted an organization that combined all three. As it happened, USAFSS had the majority role in intelligence and C3CM and was a major player in electronic warfare. So whatever happened would surely center on the USAFSS complex at Kelly AFB.

(U) In January of 1979 a general officers board recommended to Allen that, not surprisingly, a new electronic warfare command be created, and that it be composed of all three USAFSS missions. Like ASA, USAFSS would continue as a major command. Unlike ASA, however, it would not swallow the other intelligence disciplines, at least not yet. USAFSS reopened its doors in August of 1979 under a new name, Electronic Security Command. Its commander, Major General Doyle Larson, was known to be a Lew Allen confidant. When he appointed Larson, Allen told him *not* to emulate INSCOM, but to insure that all elements of electronic combat were integrated into a single structure. Together, they were moving the Air Force away from a major role in cryptology, toward a closer tie with Air Force tactical combat.<sup>127</sup>



(U) Major General Doyle Larson

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Notes

- 1. (U) Deputy Director (DDIR), NSA, correspondence files, NSA retired records, 96026, box 1, part 2, Overview of Soviet Cryptology.
- 2. (U) NSA, *Quarterly Management Report (QMR)*, FY 1980, 2nd Quarter.
- 3. (U) Robert J. Hanyok, "Scaling Down NSA," *NSA Newsletter*, January 1995.
- 4. (U) *QMR*, 93/2, 5.
- 5. (U) *QMR*, 80/1.
- 6. (U) CCH Series VII.H.61.2.
- 7. (U) Interview, General (USAF, Ret.) Law Allen, 17 June 1996, by Tom Johnson, OH 29-96, NSA.
- 8. (U) CCH Series XII.H.19.
- 9. (U) Interview William T. Kvetkas, 10/17 July, 17 Aug 1996, by Tom Johnson., OH 25-96, NSA.
- 10. (U) CCH Series XII.H.19.
- 11. (U) CCH Series XII.H.19; NSA Archives acc nr 27210, CBOK 68.
- 12. [Redacted]
- 13. (U) NSA retired records, 44699, 84-228.
- 14. (U) Interview, Colonel Cecil B. Fulford, 23 November 1987, by Robert D. Farley and Tom Johnson, OH 30-87, NSA.
- 15. (U) NSA retired records 44669, 84-228; NSA Archives acc nr 27263, CBUB 11.
- 16. (U) Fullford interview; NSA retired records 44669, 84-228.
- 17. (U) Ibid.
- 18. [Redacted]
- 19. (U) NSA retired records 10017, 83-473; 44669, 84-228; [Redacted] "A Historical Overview."
- 20. (U) Mary Anne Weaver, "Burying the Martyrs," *New Yorker* (January 1993).
- 21. (U) NSA retired records, 44670, 77-397.
- 22. (U) Ibid.
- 23. [Redacted]
- 24. (U) NSA retired records, 44760, 74-295; Allen interview; Williams interview.
- 25. (U) NSA retired records, 28515, 84-245.
- 26. (U) National Security Files, Gerald R. Ford Presidential Library, Ann Arbor, Michigan, in CCH Series XVI.H., "Southeast Asia/Vietnam/Cambodia"; CCH Series VI.HH.26.15.
- 27. [Redacted]
- 28. (U) Interview [Redacted] 23 December 1992, by Charles Baker and Tom Johnson, OH 8-92, NSA.

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60. (U) [redacted] interview.

61. [redacted]

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90. (U) NSA Archives acc nr 16512, CBRG 35; acc nr 16512, CBRG 51; acc nr 2897, CBUC 52.
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100. (U) Ibid.
101. (U) Ibid.
102. (U) Interview, John R. Harney, by Robert D. Farley and Tom Johnson, 17 December 1987, Oral History 32-87, NSA.
103. (U) The Creation of Central Security Service....
104. (U) Interview, Carl W. Stapleton (Maj Gen, USAF, Ret.), by Lt Col William H. Buchholtz, unk date in 1986, USAFSS interview available at AIA, Kelly AFB, San Antonio.
105. (U) The Creation of Central Security Service....; Stapleton interview.
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109. (U) DIRNSA msg 10 Nov 1972 in CCH Series XII.H.48.
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113. (U) The DIRNSA, VADM Noel Gayler, was also hoping for a fourth star, and was loathe to jeopardize advancement by seriously tangling with his potential benefactors, according to Major General Carl Stapleton; See Stapleton interview.
114. (U) Murphy Commission Report, Committee II - Intelligence, in CCH Series VI.C.1.23; Ray S. Cline, *The CIA Under Reagan, Bush and Casey* (Washington, D.C.: Acropolis Books, 1981), 261-62.
115. (U) "SIGINT Support to Military Operations" [the Hermann Study], 28 April 1975, in NSA records center 28792, 80-079.
116. (U) Hermann study; Interview, Robert J. Hermann, by Tom Johnson and Charles Baker, 2 September 1994, OH 45-94, NSA; Tencap information is from Angelo Codevilla, *Informing Statecraft: Intelligence for a New Century* (New York: The Free Press, 1992), 118-19.
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118. (U) CCH Series XII.H.57.2.
119. (U) Jack Finnegan, "IOSS And After," unpublished manuscript in HQ INSCOM files, 1987.
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126. (U) "History of the Electronic Security Command, 1 January-31 December 1979."
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