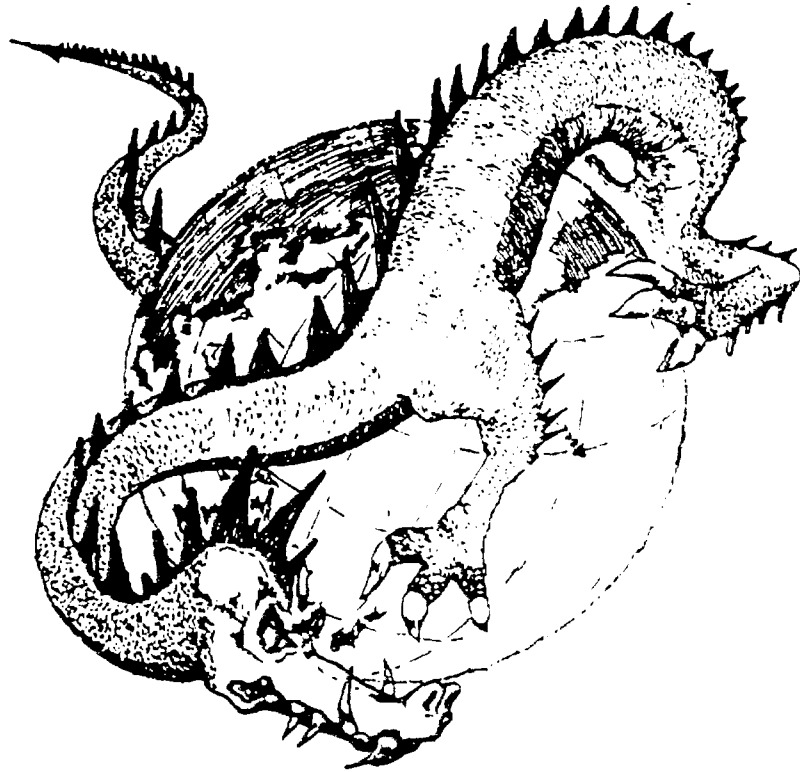


series VI
volume 2

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NO. 609

united states cryptologic history



**PURPLE DRAGON:
The Origin and Development of the
United States OPSEC Program**



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UNITED STATES CRYPTOLOGIC HISTORY

*Series VI
The NSA Period
Volume 2*

PURPLE DRAGON:

*The Origin and Development of
the United States OPSEC Program*



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



CENTER FOR CRYPTOLOGIC HISTORY
NATIONAL SECURITY AGENCY
1993

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Foreword

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Operations Security (OPSEC) as a concept is probably as old as war itself. Nevertheless, the fact that poor OPSEC practices have been costly in loss of human life and lost objectives in every American war demonstrates that, despite its venerated age, Operations Security as a doctrine needs to be learned afresh by each generation.

It is imperative that those with responsibility for military activities understand that observation of Operations Security principles is as essential an ingredient to victory as any of the other tools of war. To the extent possible, these lessons should be learned in peacetime -- experience in recent conflicts shows there is unlikely to be a period of grace once a military emergency occurs and troops are committed to combat.

[redacted] in *PURPLE DRAGON: The Origin and Development of the United States OPSEC Program* has given us a superb monograph about the genesis of Operations Security during the Vietnam War. [redacted] thorough and readable account describes the initial problems in air operations which prompted a high-level investigation, explains the weaknesses in U.S. practices which this investigation identified, shows how Operations Security principles were developed through close analysis of the problems and weaknesses, and, finally, tells how Operations Security at last became institutionalized. Of primary importance, [redacted] shows clearly that complacency is dangerous, not only before the principles of Operations Security have been applied, but even after, as situations evolve, personnel change, and the adversary undertakes new intelligence initiatives.

The Center for Cryptologic History believes that [redacted] monograph is an important addition to the study of cryptologic history and, indeed, to the literature on the Vietnam War. It has much to say to two audiences: those unfamiliar with Operations Security will find it a good introduction to the concepts and methodology of this important component. Those already familiar with Operations Security should find it an interesting study of OPSEC origins as well as a refresher on the basic principles of the discipline.

This story of *PURPLE DRAGON* is not just for the military; its lessons apply to the civilian cryptologic professional as well. The Center for Cryptologic History hopes that this study will reinforce the importance of the doctrine and help us to examine our premises and practices, military and civilian alike.

DAVID A. HATCH
Director,
Center for Cryptologic History

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Acknowledgments

(U) I wish to take this opportunity to thank everyone who contributed to the production of this monograph. First, I would like to thank all those who graciously consented to speak with me concerning their experiences with PURPLE DRAGON and OPSEC, especially [redacted] and [redacted]. Their assistance was truly indispensable. I would also like to express my gratitude to the employees of the NSA archives.

(U) I would also like to thank those who read the draft of this paper, reviewing it for factual content and stylistic reasons. Among those who provided valuable suggestions, I particularly wish to thank Milton Zaslow, [redacted] and NSA's Office of Operations Security.

(U) Special thanks must go to David Hatch and Henry Schorreck, the current and former Historians of the National Security Agency, and the other members of the Center for Cryptologic History for giving me the opportunity to produce this paper and for putting up with me while I worked on it. [redacted] my editor at the Center, deserves special thanks for her efforts in making the finished product presentable.

(U) Finally, special thanks to [redacted] without whom I never would have undertaken this project.

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[redacted]
July 1993



Southeast Asia during the Vietnam War

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Part I Introduction

WHY OPSEC?

(U) Throughout the history of armed conflict, a few general tactical rules have directed the actions of armies around the world: control the high ground; preserve your supply lines; and, most of all, maintain the element of surprise.

(U) Generals have always recognized that tactical surprise is one of the most effective force multipliers available to them. Because of this, one of the primary objectives of every military campaign is to strike when and where the enemy least expects it and before he can take defensive measures. As the Chinese general Sun Tzu, writing in the fifth century B.C.E., advised, "Take advantage of the enemy's unpreparedness; travel by unexpected routes and strike him where he has taken no precautions." Another Chinese general, Tu Mu, said of Sun Tzu's advice, "This summarizes the essential nature of war . . . and the ultimate of generalship."¹

(U) In the twenty-five centuries since Sun Tzu, military history has been replete with examples of battles that were won in large part because an attacking army was able to maintain the element of tactical surprise. One battle, the first battle of Trenton during the American Revolution, can stand as a classic example of the benefits of tactical surprise.

(U) Following a successful campaign in New York and New Jersey during the summer and fall of 1776, the commander of British forces in North America, Sir William Howe, decided in early December to suspend operations for the winter. British troops and their Hessian mercenaries were therefore bivouacked in a series of outposts across New Jersey. Bivouacked in Trenton were three Hessian regiments, plus miscellaneous troops and artillery under the command of Colonel Johann Rall - in all, about 1,400 men. Although instructed to build defenses for his troops, Rall, convinced that the Continental Army posed no threat to his position, merely established sentry posts throughout the town.

(U) On Christmas night 1776, while Rall and his men celebrated with extra rations of rum, General George Washington set in motion one of the great surprise attacks in military annals. After ferrying across the Delaware River, which the British and Hessians deemed impassable due to floe ice, the Continental Army marched all night through the snow and, by dawn, 26 December, had managed to surround Rall's troops on three sides. Surprise was so complete that the first evidence the Hessians had that the Continental Army was even on the move came when a sentry on the north side of Trenton caught a glimpse of the main Continental force on the edge of town. Before he could raise the alarm, the Continentals attacked. In the forty-five-minute battle that followed, Rall was killed while trying to rally his disorganized and unprepared troops, and the

Continental Army captured more than 900 prisoners, as well as large stores of arms, ammunition, and provisions. American losses were negligible.²

(U) While history shows many instances of battles like Trenton, won because an attacking army maintained the element of surprise, it is equally full of examples of battles lost by the failure to maintain surprise. An example of this, also from the American Revolution, was the British march on Lexington and Concord on 19 April 1775.

(U) Based on intelligence that the Massachusetts Provincial Congress was gathering military stores in the town of Concord, the royal governor, General Thomas Gage, decided to send a troop of approximately 700 light infantry and grenadiers to Concord to destroy them. Gage's actions, however, soon gave his plan away.

(U) Beginning on 14 April, Gage relieved the grenadiers and light infantry from their regular duties, ostensibly for training in new drill and maneuvers. Furthermore, on 15 April all of the long boats and barges of the British transports in Boston harbor were transferred to shore.

(U) These events did not go unnoticed by the populace of Boston. On 15 April, Joseph Warren, the patriot leader in the city, dispatched Paul Revere to Lexington to notify Samuel Adams and John Hancock of the developments. Word of the British actions also spread to Concord, where townspeople began removing the military stores to Worcester, further inland. On his return to Boston, Revere also met with Colonel William Conant of the Massachusetts militia in Charlestown and agreed to establish a signal in Boston's Old North Church which would indicate when the British troops began to move and whether they were crossing to the mainland by way of Boston Neck or crossing directly over the Charles River.

(U) The situation in Boston remained tense but quiet for the next two days, but on 18 April the HMS *Somerset*, without warning, was moved from its moorage in Boston harbor to a position at the mouth of the Charles River, where it would be able to control the ferry between Boston and Charlestown. General Gage also dispatched small squadrons of troops in the late afternoon to patrol the roads between Boston and Concord and prevent any messengers from getting through, and he ordered the sentries at Boston Neck to challenge anyone trying to leave the city. Finally, in the early evening, the light infantry and the grenadiers began to quietly assemble at the foot of Boston Common, on the banks of the Charles. By eleven o'clock, the first troops had begun to embark for Charlestown.

(U) The implications were clear. Warren dispatched Revere and William Dawes to ride to Lexington and notify Adams and Hancock to escape, in case their capture was the object of the British troops. Revere and Dawes were also to rally the local militias and have them muster at Concord, in case the military stores were the British objective. Before setting out, however, Revere had two lanterns hung in the Old North Church's

spire to notify the militias on the northern and western banks of the Charles that the British were coming.

(U) The two riders then set out. Revere left Boston by rowing across the Charles right under the guns of the *Somerset*, apparently without being detected. Dawes, meanwhile, somehow managed to convince the sentry on duty at Boston Neck to let him pass. Anyway, they both managed to get out of Boston and, as the famous poem relates it, to spread the word to every Middlesex village and farm.

(U) By the time the British troops arrived in Lexington on the morning of 19 April, they did not find Adams and Hancock. They did find a small body of militia on Lexington Green. A quick skirmish put the militiamen to rout, and the British were soon on the march again to Concord.

(U) At Concord the British found and destroyed most of the military stores still in the town. They also found a larger body of local militia, with more coming all the time. The British confronted, and were defeated by, the militia at Concord's North Bridge. Sensing that the situation was, or soon would be, desperate, the British began the long retreat back to Boston. The retreating column came under constant harassment from the militiamen, suffering heavy losses, and only the arrival of 1,200 reinforcements from Boston saved the original column from destruction. The British troops faced heavy fire all the way back to the Charles River, where the guns of the fleet in Boston harbor finally convinced the militiamen to cease their attack.

(U) The British would remain besieged in Boston until the following March.³ The first day of the American Revolution thus ended in a stunning upset as one of the most professional armies in the world, well armed and well trained, was routed by a disorganized rabble of farmers and tradesmen, most of whom had never fired a shot in anger before in their lives. And all because the British could not keep their intentions a secret.

(U) As Washington himself wrote in 1777, "upon secrecy, success depends in most enterprises . . . , and for want of it, they are generally defeated, however well planned and promising a favorable issue."⁴ From the Revolution to the present, the United States has made a concerted effort, through such means as physical security, cryptography, and counterintelligence, to keep information concerning its intentions and capabilities from falling into the hands of its enemies during wartime.

VIETNAM AS AN OPSEC CATALYST

(U) But while the benefits of maintaining the element of surprise as a military objective, and the dangers of losing that surprise, have always existed and have been recognized as vital to tactical, and even strategic, success, it was only during the war in

Vietnam that the United States began to make a concerted effort to review its security posture from the vantage point of an adversary in order to identify that information concerning U.S. intentions and capabilities that an adversary considers vital, to discover how he gains such knowledge about U.S. military plans and capabilities, and, finally, to develop strategies by which U.S. commanders could prevent him from gaining that knowledge. This "ability to keep knowledge of our strengths and weaknesses away from hostile forces"⁵ became known as operations security, or OPSEC, and had its birth in an operation known as PURPLE DRAGON.

(U) Early in its involvement in Vietnam, the U.S. military came to the realization that several of its operations were not being fully successful. Enemy forces were somehow consistently able to avoid the worst consequences of U.S. and Allied operations, and senior U.S. commanders wanted to know why. Assuming that North Vietnam and the Viet Cong were not likely to be decrypting the United States' most secure communications and that they could not have enough spies in South Vietnam to be aware of every U.S. operation in Southeast Asia before they took place, U.S. personnel came to the conclusion that U.S. forces were themselves inadvertently revealing vital information to the enemy.

(U) To test this hypothesis, the U.S. Joint Chiefs of Staff authorized Operation PURPLE DRAGON. Relying on a multidisciplinary investigation of all aspects of combat operations, from conception to planning to execution, the men of PURPLE DRAGON sought to uncover those elements of an operation which might be insecure and which of those elements might be able to provide valuable, exploitable information to the enemy. Once uncovered, PURPLE DRAGON could then suggest possible remedies for those elements to the concerned commanders in the field.

(U) From its inception in 1966 and 1967, PURPLE DRAGON proved a major success at improving the combat effectiveness of the units and operations it surveyed. PURPLE DRAGON was so successful, in fact, that before the war was over the Joint Staff made operations security programs, based on the PURPLE DRAGON model, mandatory for all U.S. commands everywhere in the world. Operations security would prove so successful in the end that President Ronald Reagan would make it a requirement for every U.S. government department or agency, military and civilian, with a national security mission.

(U) It is the goal of this study to explore why and how operations security in general and PURPLE DRAGON in particular came about. It will attempt, furthermore, to show how the concept and methodology of OPSEC were developed; how OPSEC came to prove itself in the rice paddies and jungles of Vietnam; how it came to win acceptance, first among the U.S. military in Southeast Asia and the U.S. Pacific Command, then by the U.S. military establishment worldwide; and, at last, how operations security came to become an official policy of the United States government. Finally, it will seek to document the vital role that the National Security Agency has played in the development of operations security, from the birth of OPSEC during the conflict in Vietnam to the present day.

Notes

1. (U) Sun Tzu. *The Art of War*. Trans. Samuel B. Griffith. (London: Oxford University Press 1963), 134.
2. (U) Bruce Lancaster. *The American Revolution*. (New York: The American Heritage Library, 1971), 161-166; Willard M. Wallace. *Appeal to Arms: A Military History of the American Revolution*. (Chicago: Quadrangle Books, 1951), 127-131.
3. (U) Lancaster. 84-91; Wallace, 12-26.
4. (U) George Washington, letter to Col. Elias Dayton, 26 July 1777, quoted in Jack Ingram, "Historical Impact of OPSEC on Military Operations" (NSA Video) (FOUO).
5. (U) William O. Studeman. "Cryptologic Orientation Welcome Address" (National Security Agency Video TVC-1984, 1989) (S).

Part II

The Beginnings of OPSEC

WHY PURPLE DRAGON?

(U) On 7 February 1965, a Viet Cong (VC) platoon attacked the U.S. air base at Pleiku, about 200 miles north of Saigon, in the Republic of Vietnam (RVN or South Vietnam). During the attack, the VC destroyed one transport aircraft and nine helicopters and damaged fifteen other aircraft. They also blew up a barracks, killing eight U.S. servicemen while wounding 126 more.

(U) In response to the Pleiku attack, President Lyndon Johnson approved a proposal for continuing air strikes against targets in the Democratic Republic of Vietnam (DRV or North Vietnam), as opposed to the policy of quid pro quo retaliations for North Vietnamese attacks that had been in effect since the Tonkin Gulf incident of August 1964. The first raid under the new policy took place on 11 February 1965, when 160 U.S. and RVN Air Force and Navy fighter-bombers struck targets north of the 17th parallel, the official boundary between the two countries. The policy of continuing air strikes north of the 17th parallel, to be carried out by fighter-bomber aircraft, was given the covername Operation ROLLING THUNDER.¹

(U) On 17 June 1965, U.S. B-52 bombers from Andersen Air Force Base in Guam for the first time launched a mission against a VC stronghold in South Vietnam. This and future B-52 missions from bases in Guam, Okinawa, and Thailand were covernamed Operation ARC LIGHT.² From that time on, ARC LIGHT strikes against VC and North Vietnamese Army (NVA) targets in South Vietnam and ROLLING THUNDER strikes against targets in North Vietnam became an almost daily occurrence.

(U) By the summer of 1966, however, it had become clear that the bombing missions were not having as significant an effect on the VC/NVA as had been expected. Ground sweeps and bomb damage assessments of B-52 target areas discovered lighter enemy losses, in both men and material, than expected, and North Vietnamese infiltration of more men and material into South Vietnam was apparently not being inhibited by air strikes in the DRV. Morale in the VC/NVA still seemed high after a year of bombing, and North Vietnamese military and industrial activity did not seem to have been severely hampered.³ The concern was on many people's minds - was U.S. intelligence concerning the enemy's whereabouts and strength faulty or, more ominously, were the the ARC LIGHT and ROLLING THUNDER missions being given away in advance, providing the VC/NVA the opportunity to avoid them?

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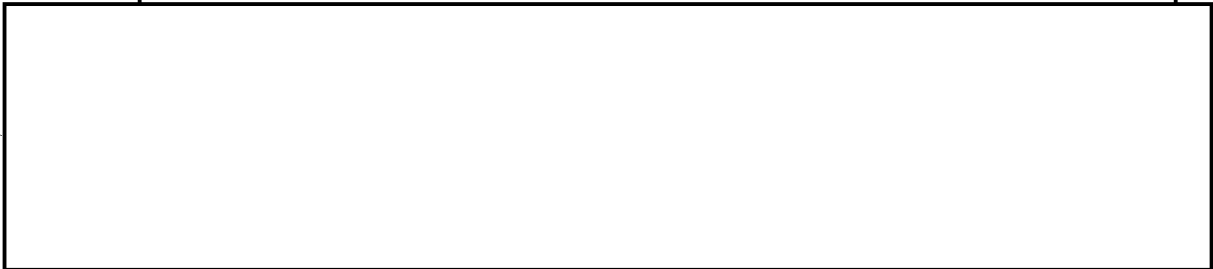
Admiral U.S. Grant Sharp, USN
Commander in Chief, U.S. Pacific Command

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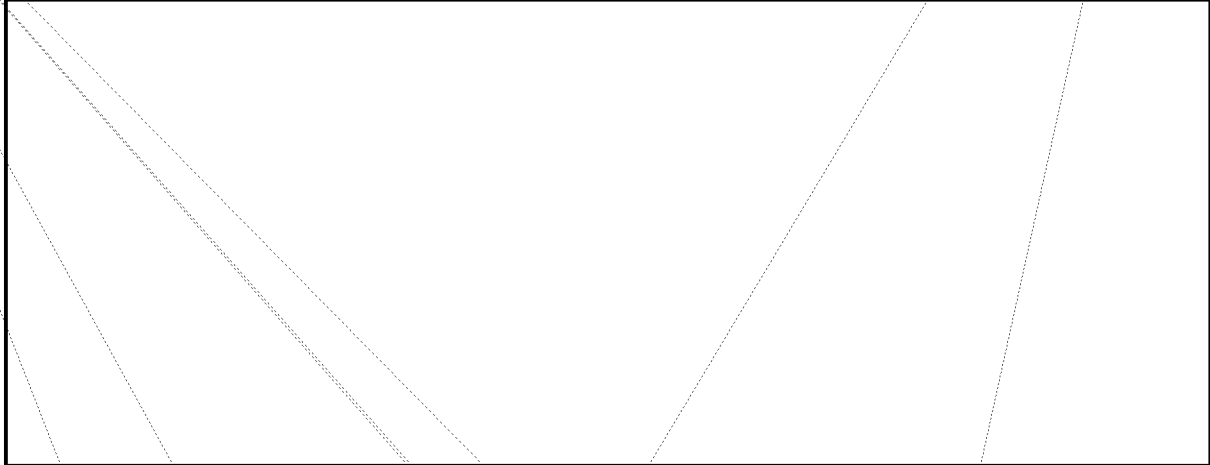


President Lyndon B. Johnson and
General Earle Wheeler, USAF, Chairman of the Joint Chiefs of Staff

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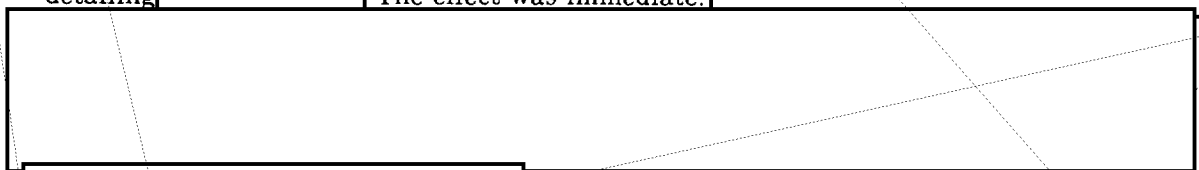
~~(TSC)~~ The answer was yes, they did. Beginning in mid-1965, National Security Agency (NSA) analysts in [redacted] B21, had uncovered evidence of Chinese forces in North Vietnam (CFNVN) and had begun full-time monitoring of manual morse code communications between [redacted] and the CFNVN. For several months these communications consisted of short, formulaic messages [redacted]



~~(TSC)~~ Playing a hunch by E. Leigh Sawyer, then chief of B21, analysts began comparing the [redacted] messages against U.S. operations in Southeast Asia. They discovered an apparent match between the [redacted] messages and some ROLLING THUNDER missions. Upon further analysis, they discovered a near perfect match between [redacted] and planned ROLLING THUNDER missions over the northeast quadrant of North Vietnam. [redacted]

[redacted] The final proof of the meaning [redacted] came during the U.S. bombing moratorium between 24 December 1965 and 31 January 1966. The messages stopped along with the bombing. By early 1966, the analysts at NSA were able to show [redacted] to between 80 and 90 percent of all ROLLING THUNDER missions.¹⁰

~~(TSC)~~ After performing more analysis of the links between [redacted] and ROLLING THUNDER during the early part of 1966, B21 finally released a report of its findings in May detailing [redacted] The effect was immediate. [redacted]



[redacted] B21 also produced another four reports on [redacted] messages, their probable content, and their relationship to ROLLING THUNDER missions, during the course of the next three months. Leigh Sawyer gave a private briefing on [redacted] to General Earle Wheeler, chairman of the JCS. After the briefing,

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according to Sawyer, Wheeler's only response was to slam his fist on the desk and shout, "Goddam it, we've been penetrated!"¹¹

~~(TSC-NF)~~ At the same time as its findings on [redacted] NSA was uncovering other evidence of hostile prior knowledge of U.S. air operations in Southeast Asia. The Strategic Air Command (SAC) had begun overflights of North Vietnamese and Chinese territories using low altitude photographic reconnaissance drones in 1964, covernamed BLUE SPRINGS in 1966 and redesignated at various times BUMBLE BUG, BUMPY ACTION, and BUFFALO HUNTER. C-130 mother ships operating out of Bien Hoa air base in South Vietnam would release the drones over Laos or the Gulf of Tonkin; the drones would overfly northern North Vietnam, and then be recovered over the Gulf by helicopters operating out of Da Nang. [redacted]

[redacted]

~~(TSC)~~ NSA had also uncovered evidence of North Vietnamese alerting of ARC LIGHT missions dating back at least to late 1965. These alerts, [redacted]

[redacted] were issued on 34 percent of B-52 strikes during 1966, with an average warning time of eight and a half hours. Though usually general in nature, the Vietnamese alerts did occasionally include detailed targeting information.¹³

~~(TSC-NF)~~ [redacted]

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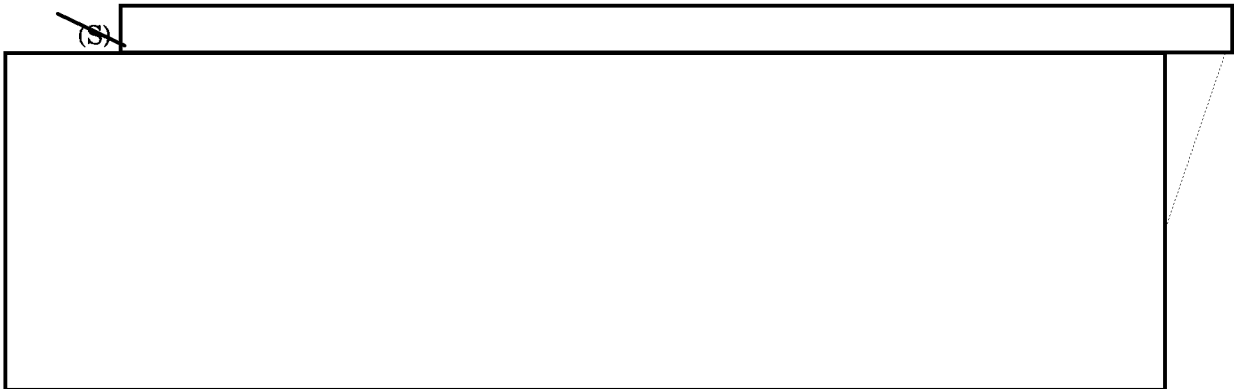
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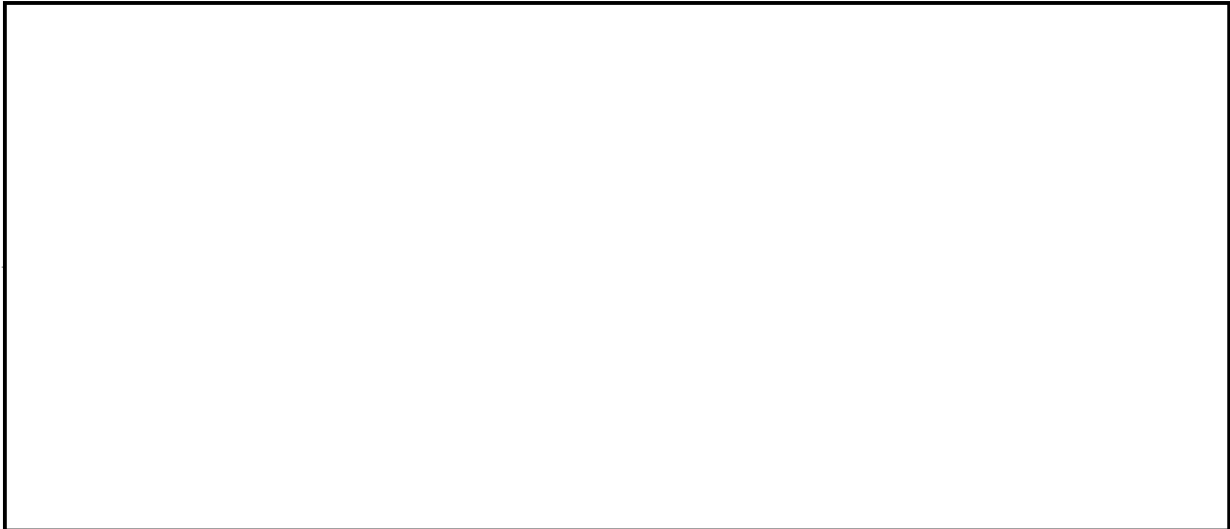
Lt. General Marshall S. Carter, USA
Director, National Security Agency



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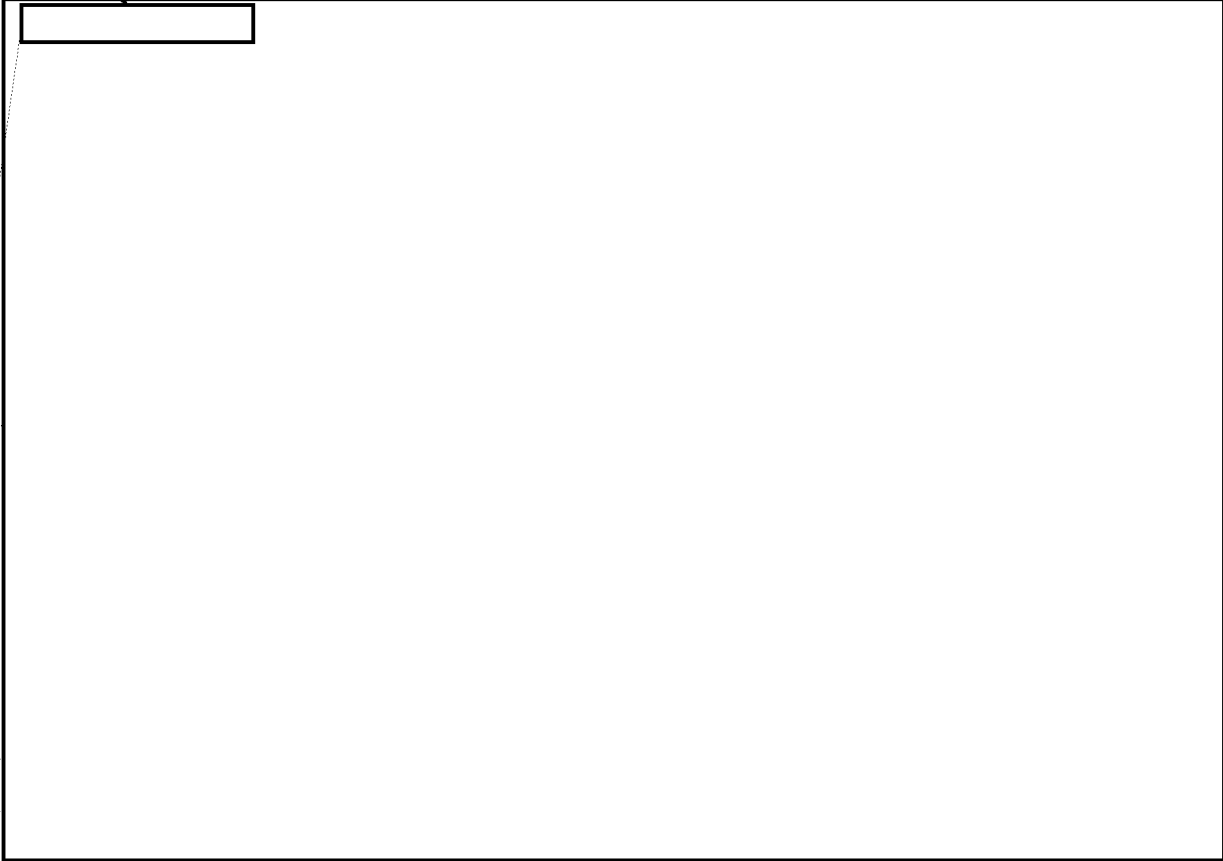
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(U) The problem with monitoring, however, was that COMSEC monitoring, by its very nature, was selective, the findings being limited by the fact that the SCAs could not monitor all communications all the time. Monitoring, furthermore, could uncover COMSEC lapses only after they had occurred.¹⁹



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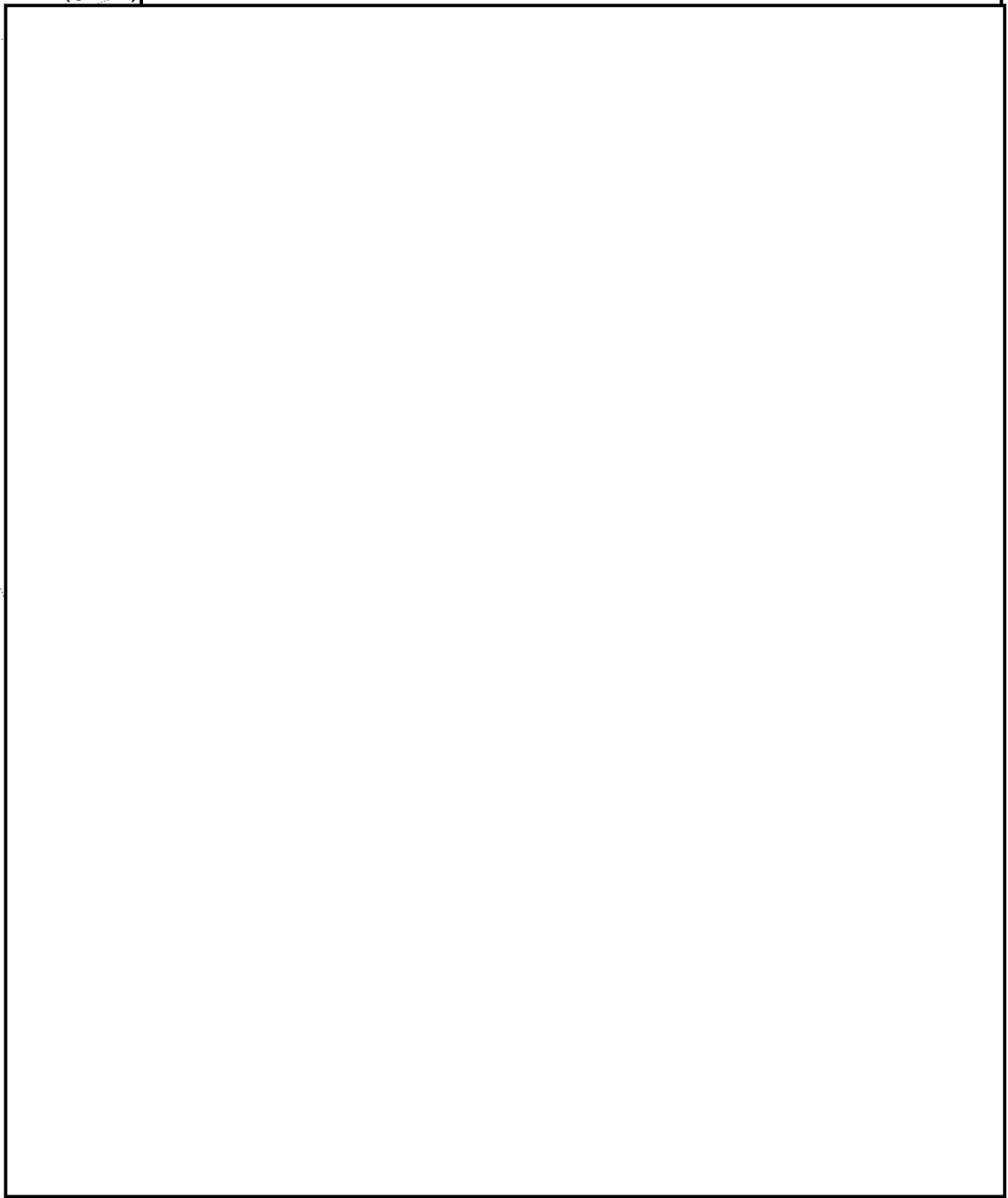
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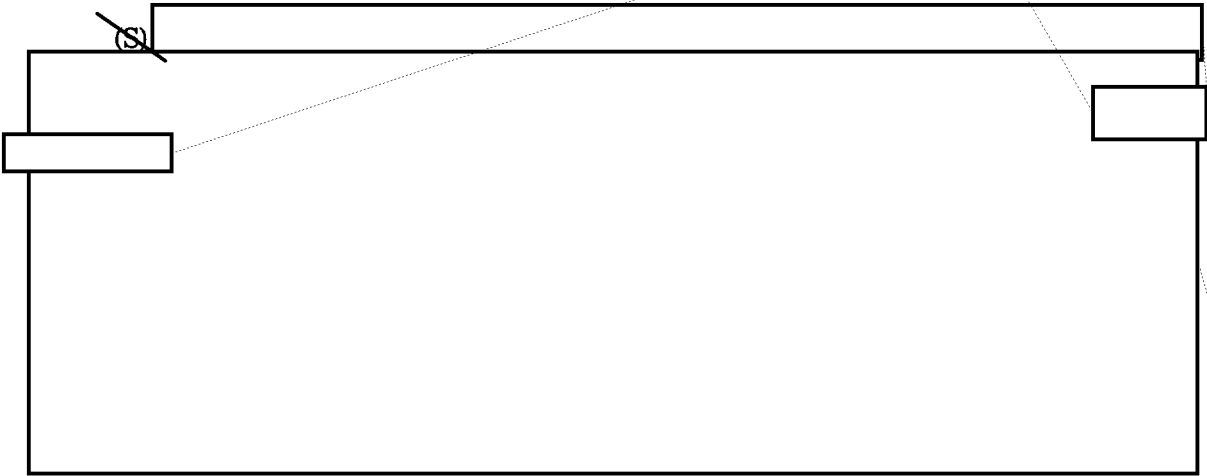
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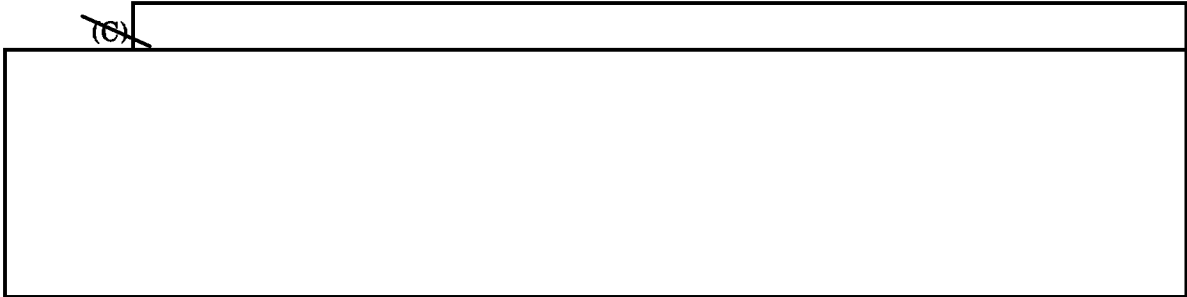
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BIRTH OF THE DRAGON

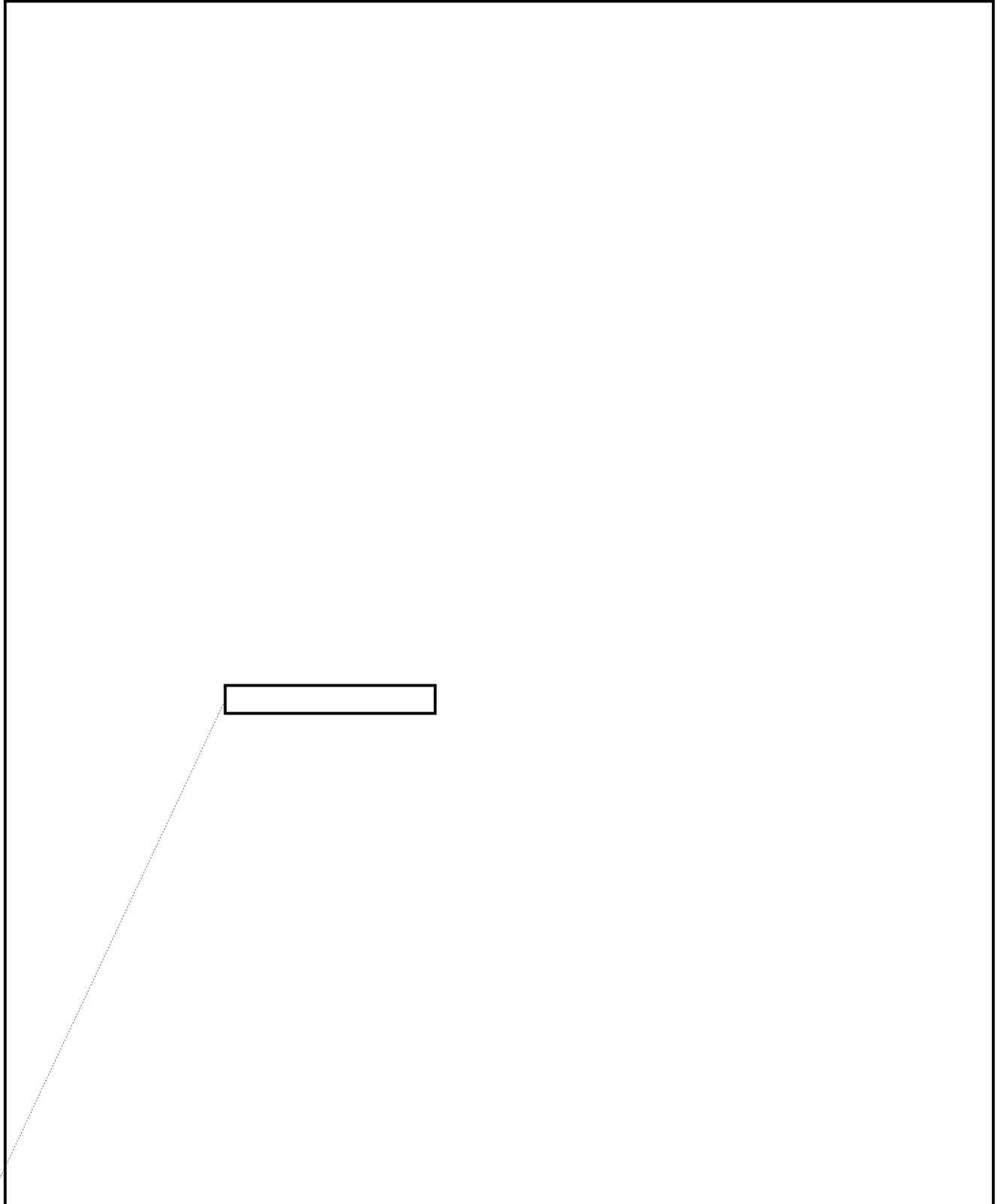
~~(TS)~~ At the beginning of the PURPLE DRAGON survey in December 1966, the survey teams lacked clear guidance on what they were looking for and how to proceed. However, following a briefing from CINCPAC on the sort of information they were to seek, and improvising as they went along, the PURPLE DRAGON teams and staff were able to develop an efficient method for both the gathering and the analysis of information on potential sources of enemy foreknowledge and forewarning. The PURPLE DRAGON teams decided that the fundamental process of the surveys would be to "put ourselves in the position of the adversary and study our operations step by step, from conception through execution to completion and beyond." Furthermore, they would focus their attention on the small, seemingly insignificant details of the surveyed operation, considering them to be just as likely, if not more so, to provide valuable information to the enemy as the major aspects of the operation.³⁴

~~(S)~~ The PURPLE DRAGON survey teams' first order of business was to develop a complete overview of the operation and of each mission in that operation. Though already knowledgeable about the operations they were to survey, the teams began by reviewing "operations orders and directives, communications-electronics operating instructions, pertinent COMSEC...and such other documentation" so that they would be as familiar as possible with "the details and possible weaknesses of the operation before commencing..."³⁵



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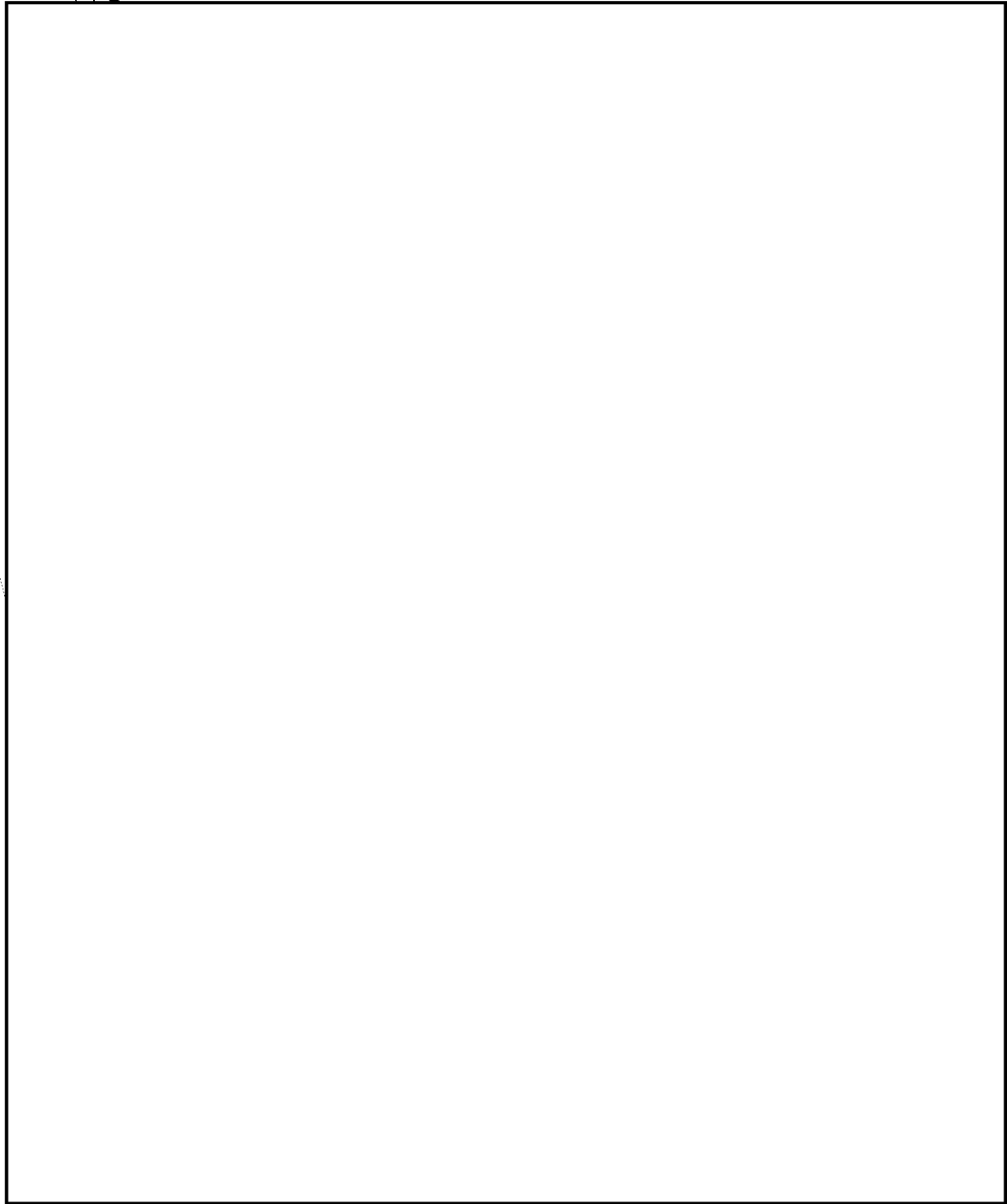
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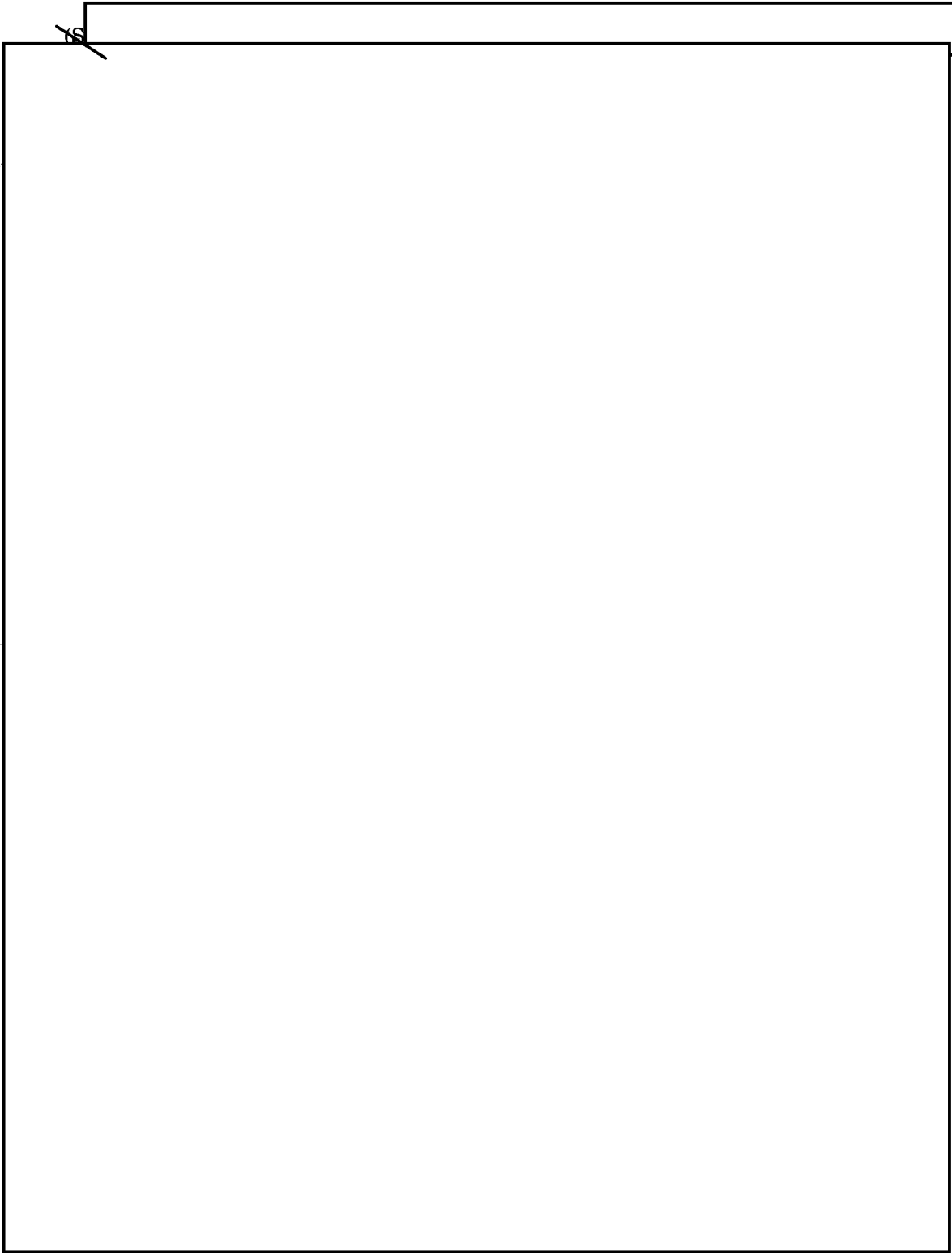


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BLUE SPRINGS MISSIONS

~~(TS NF CCO)~~ On BLUE SPRINGS, the SAC drone reconnaissance operations being

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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Air
Combat
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**U.S. Air Force CH-53 helicopter recovering a
BLUE SPRINGS reconnaissance drone over the Gulf of Tonkin**

~~(S-CCO)~~ [Redacted]

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~~(TS NF)~~ On being apprised of PURPLE DRAGON's findings concerning [redacted] [redacted] SAC began to upgrade its worldwide operations codes. By 1 June 1967, [redacted] and, by the following spring, two [redacted] had been introduced. Also as a result of PURPLE DRAGON, CINCPAC ordered the installation of a KW-26 secure teletype link between Bien Hoa and Da Nang to handle BLUE SPRINGS traffic. In fact, the KW-26 was on-line between Bien Hoa and Da Nang within a week after CINCPAC's J-6 was apprised of the situation. The KW-26 link was still later replaced by an HY-2/KG-13 secure voice link between the two bases.⁵⁰

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[redacted]

ARC LIGHT MISSIONS

(U) On ARC LIGHT missions, PURPLE DRAGON found several likely sources of enemy foreknowledge and forewarning. Under International Civil Aviation Organization agreements, every time an aircraft is scheduled to pass from the control of one air traffic control (ATC) center to another, it is required to file a flight plan with its local ATC center and to notify the new ATC center of its expected arrival time and location in that center's zone of control and request an altitude reservation (ALTREV) for its flight path through that zone. The new ATC center will then publish a Notice to Airmen (NOTAM), giving flight particulars such as altitude, flight path, and entry and exit times and locations from the ATC zone, which it broadcasts to all adjacent ATCs so they will be aware of the aircraft's presence.

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[redacted]

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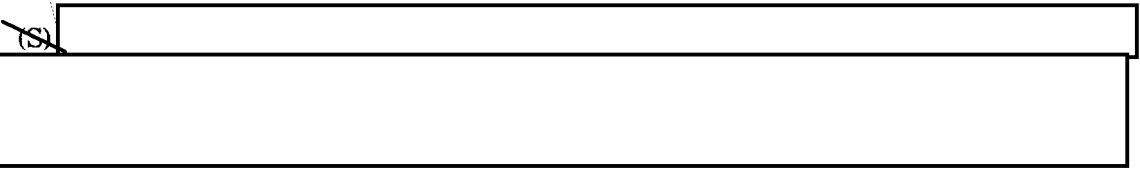


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**U.S. Air Force B-52 bomber on an
ARC LIGHT mission over South Vietnam**



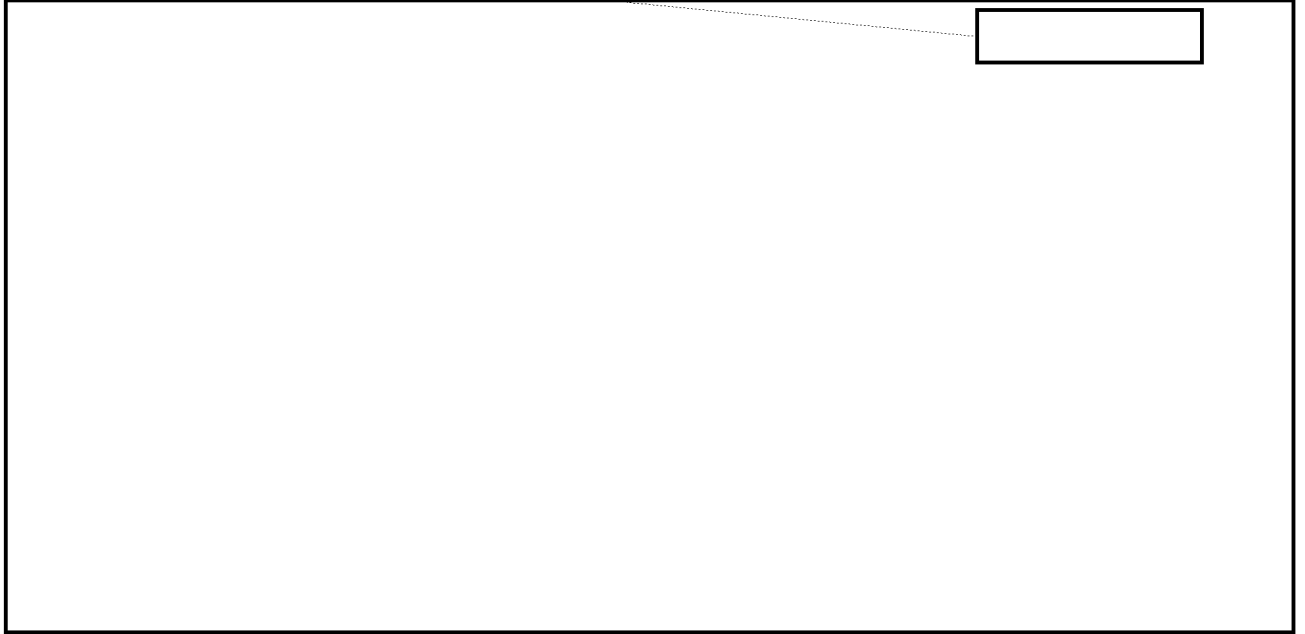
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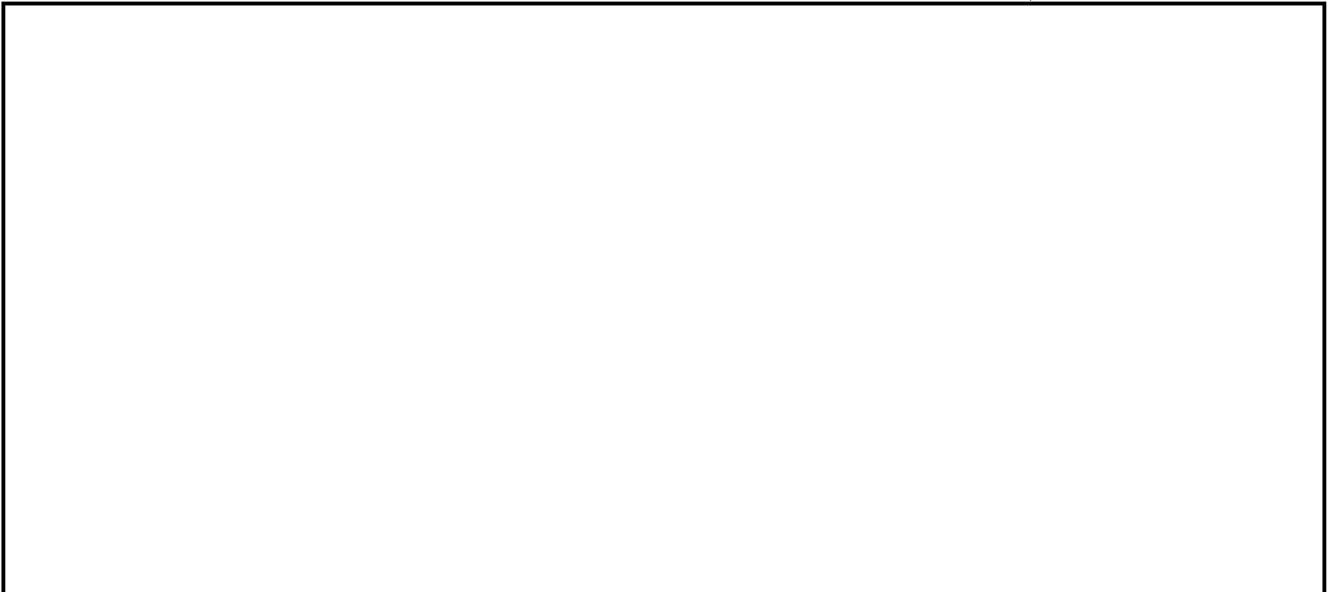


~~(TSC)~~ Following the implementation of PURPLE DRAGON's recommendations on ARC LIGHT, enemy alerting of B-52 strikes dropped significantly, at least by the two broadcast stations identified by NSA. During December 1966, the first month of the PURPLE DRAGON survey, the two NVA stations had alerted 34 percent of ARC LIGHT missions with an average warning time of eight and a half hours. In April 1967, at the end of PURPLE DRAGON, NVA alert broadcasts had fallen to only five percent of B-52 strikes, with an average alert time of less than thirty minutes.⁶⁰

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ROLLING THUNDER



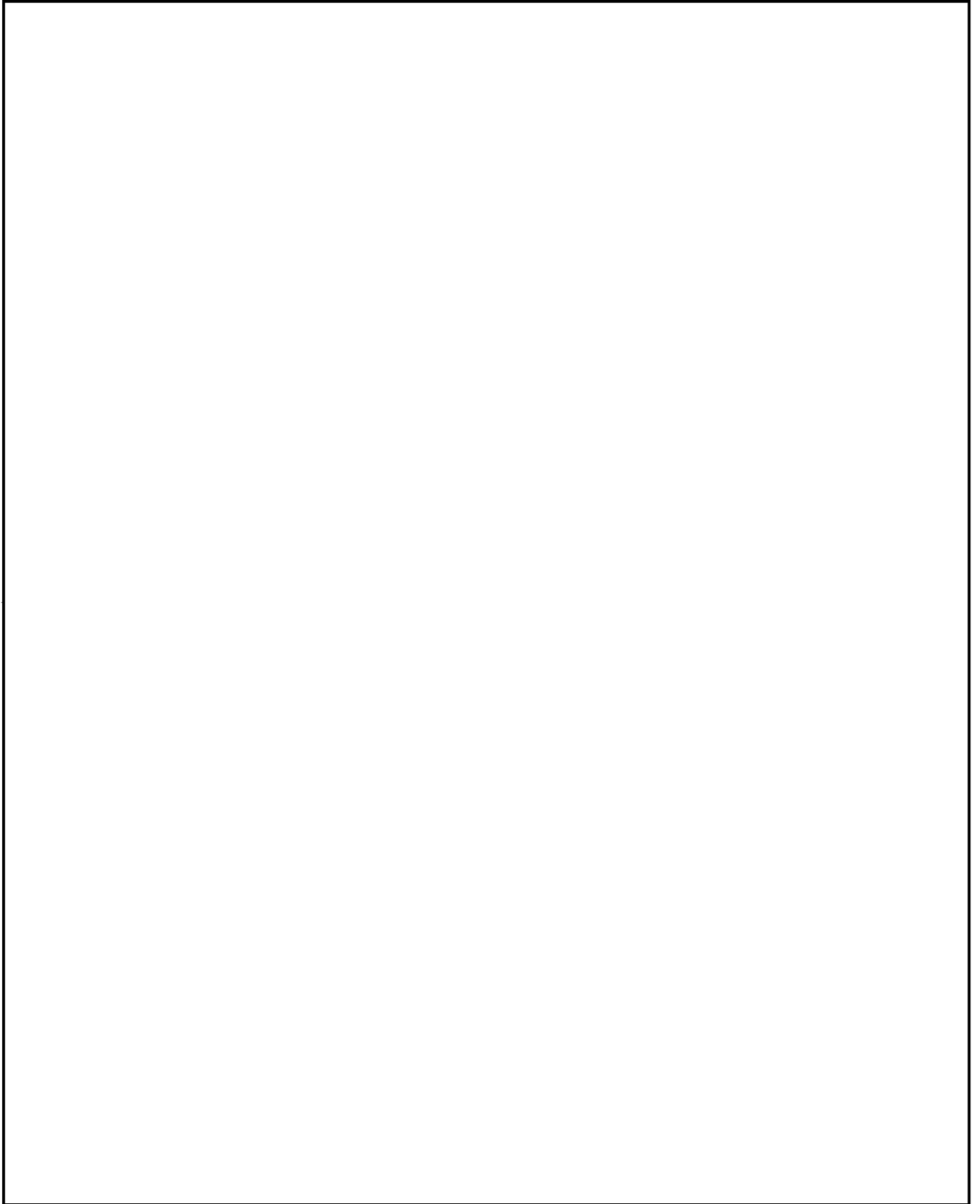


U.S. Air Force F-105 fighter bombers en route to North Vietnam on a ROLLING THUNDER mission



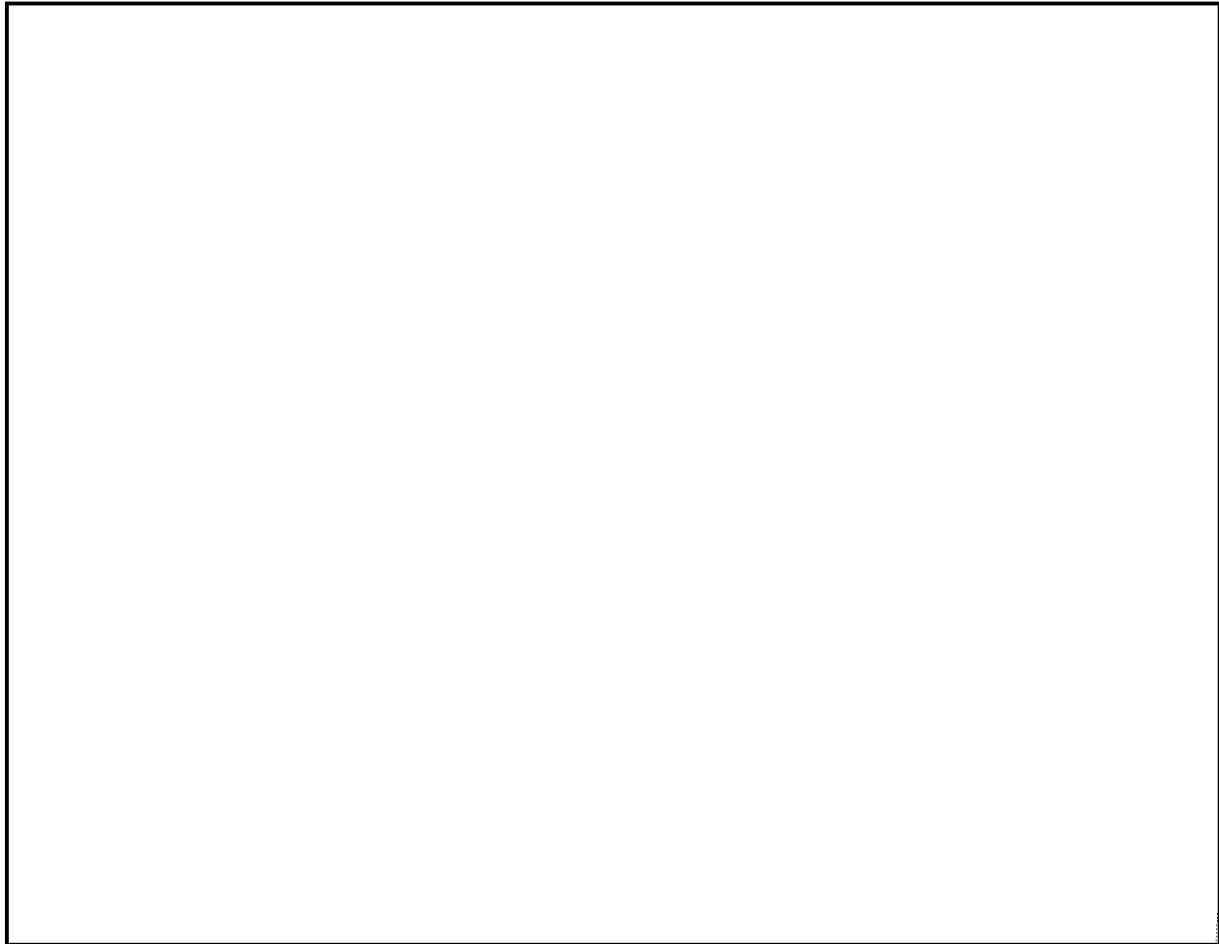
U.S. Navy A-4 fighter bombers on a ROLLING THUNDER mission

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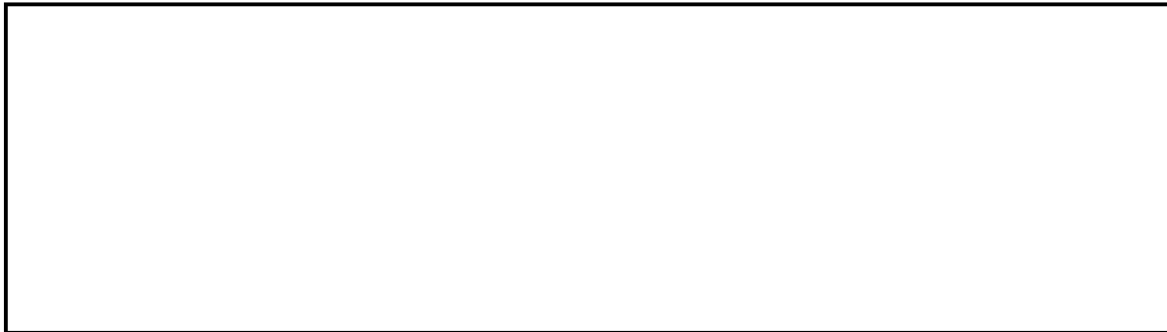
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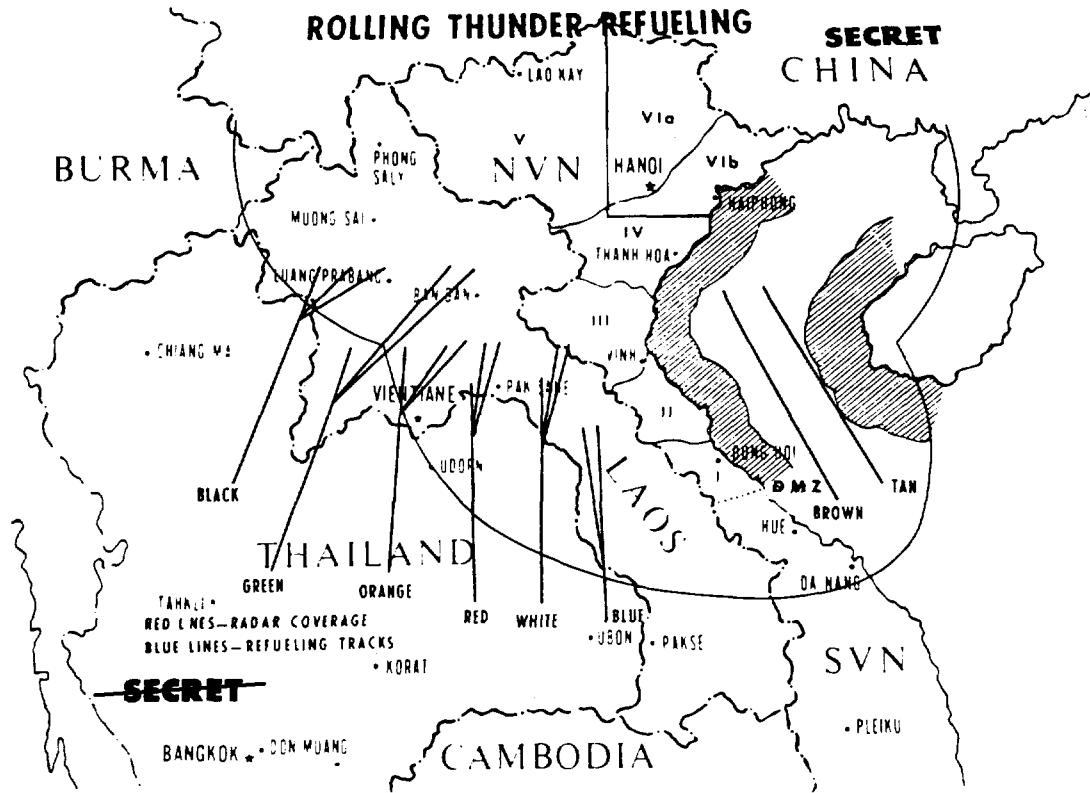
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(U) Because of the radar surveillance problem, PURPLE DRAGON decided to make no major recommendations, beyond those already mentioned, for eliminating possible sources of enemy foreknowledge and forewarning of ROLLING THUNDER missions. Consideration was given to recommending changes in refueling aircraft communications procedures, but it was decided that the changes would only needlessly complicate refueling operations without significantly lessening the enemy's warning time.⁶⁸



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ROLLING THUNDER flight routes and refueling stations and North Vietnamese air defense radar coverage

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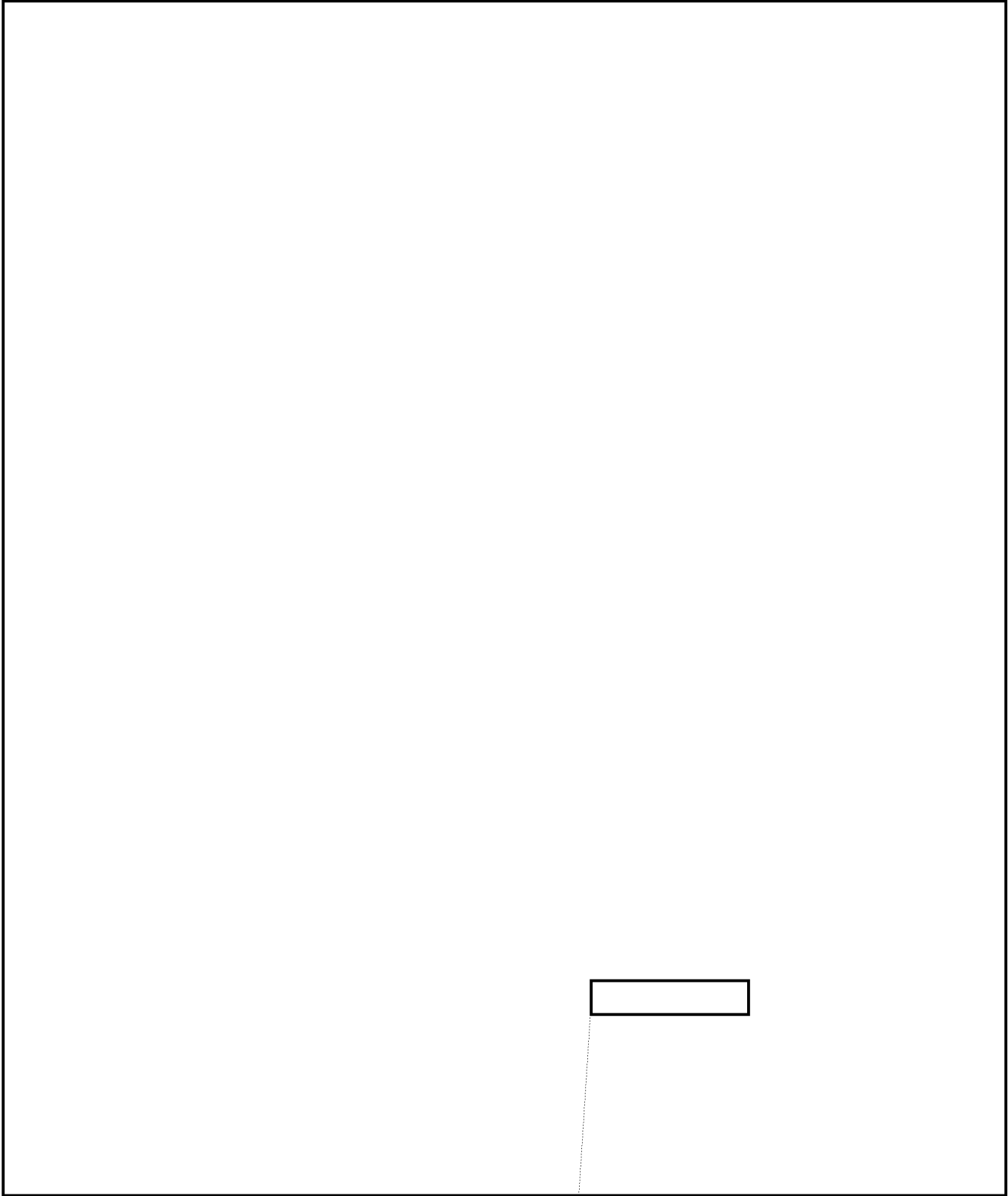
MISSION AWARENESS



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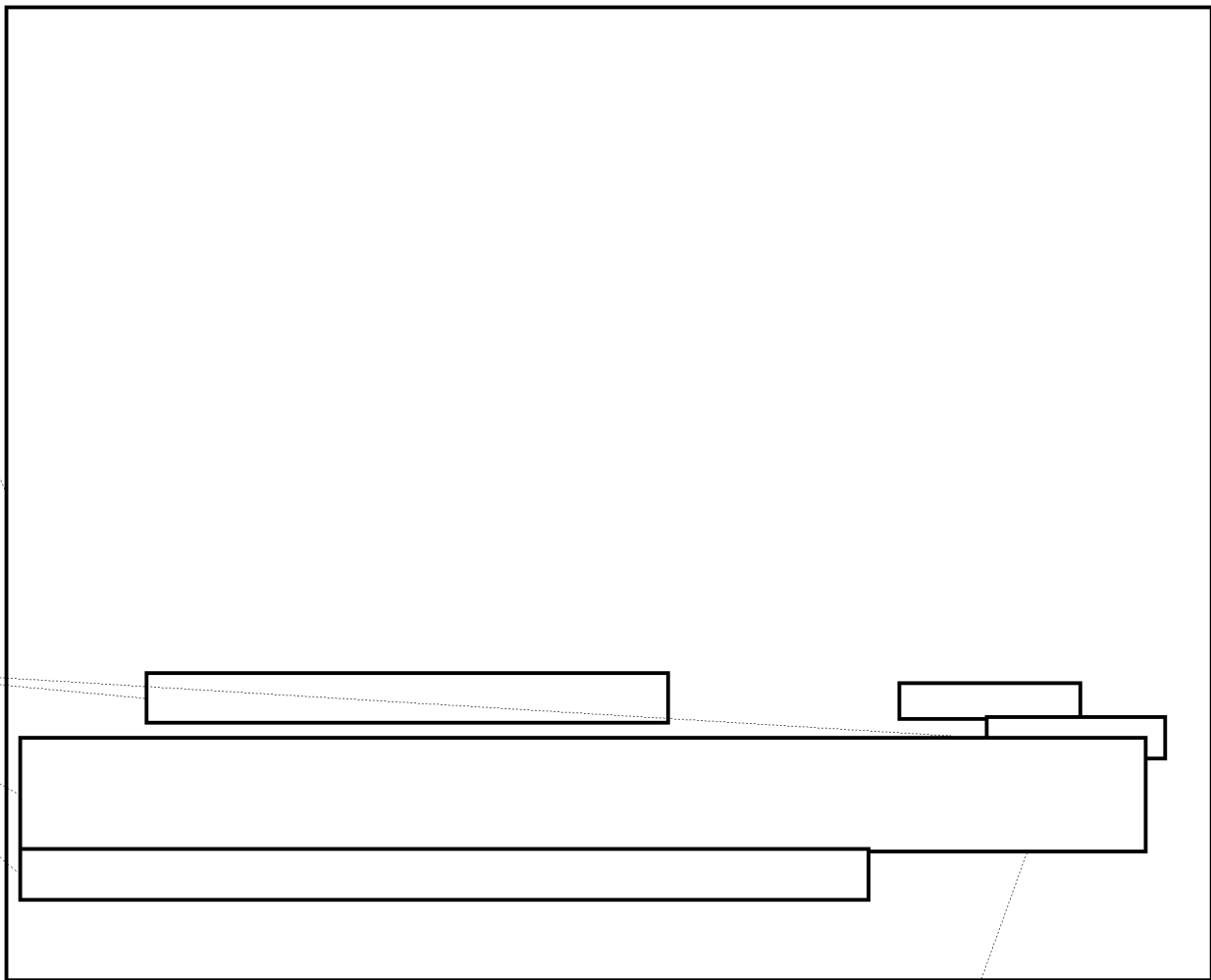
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(b) (1)
OGA

Air Combat
Command



Notes

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

1. (U) John S. Bowman, General Editor. *The World Almanac of the Vietnam War*. (New York: World Almanac, 1985), 104-105; [redacted] *The Great Conversation: The Origins and Development of the National Operations Security Program*. (Interagency OPSEC Support Staff, 1991), 2.
2. (U) Bowman, 118.
3. (U) Walter G. Deeley. "A Fresh Look at Purple Dragon." *SIGNAL*, Volume 38, Number 8, April 1984, 18.
4. ~~(S NF)~~ Donzel E. Betts, et al. *Deadly Transmissions: COMSEC Monitoring and Analysis*. (National Security Agency, Cryptologic History Series, December 1970), 87 (S NF).
5. ~~(S NF)~~ Betts, et al., 89-90 (S NF).

6. (TS) [redacted] "History of a Dragon." *DRAGON SEEDS*, Volume 2, Number III, September 1973, 29 (TSC). National Security Agency, Memorandum for the Chief, ADSP, [redacted] Subject: OPSEC Support. 16 June 1971 (TS NF LIMDIS CCO).

(b) (3)
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7. (U) Central Intelligence Agency Intelligence Memorandum, [redacted] The Effectiveness of the ROLLING THUNDER Program in North Vietnam: 1 January-30 September 1966. November 1966, 7-8⁸ (TSC) E. Leigh Sawyer. "Pursuit of the [redacted]" *CRYPTOLOG*, Volume IV, Number 3, March 1979, 1 (TSC). [redacted] Telephone Interview with the Author. 2 March 1992.

CIA

8. (TSC) Sawyer, 1-2 (TSC)

9. (TSC) Ibid. (TSC).

10. (TSC) Ibid.; [redacted] interview; [redacted]

11. (TSC) Sawyer, 4-5 (TSC) [redacted] interview (TSC).

12. (TSC) [redacted] Deeley, 18; Donzell E. Betts, et. al. *Working Against the Tide (COMSEC Monitoring and Analysis)*. (National Security Agency Cryptologic History Series, June 1970), 131.

13. (TSC) [redacted] Director, NSA (DIRNSA) Memorandum to NSA Representative, Pacific Command (NSAPAC), 9 August 1966 (S-CCO); NSAPAC Memorandum to DIRNSA. "VC Warning of ARC LIGHT Strikes." 29 September 1966 (SC).

14. (TSC NF) Sawyer, 4-5 (TSC); [redacted] 29 (TSC); Betts. *Deadly Transmissions*, 91 (SNF).

(b) (1)
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15. (S) NSA Interview, [redacted] 26 February 1992, by [redacted] OH-10-92, Center for Cryptologic History (S-CCO); Deeley, 17; NSA Interview, David G. Boak, 5 March 1992, by [redacted] and Charles W. Baker. OH-12-92, Center for Cryptologic History (S-CCO).

16. (S) [redacted] interview. OH-10-92 (S-CCO); Boak interview. OH-12-92 (S-CCO); Deeley, 17(S).

17. (S) [redacted] interview. OH-10-92 (S-CCO); Deeley, 17(S).

18. (S) [redacted] interview. OH-10-92 (S-CCO); Deeley, 17(U).

DIA

19. (U) Deeley, 17(S).

20. (S) [redacted] interview. OH-10-92; Deeley, 17-18; Boak Interview. OH-12-92 (S-CCO).

21. (S) [redacted] interview, OH-10-92 (S-CCO); Deeley, 17-18; Boak interview. OH-12-92 (S-CCO).

22. (S) [redacted] interview. OH-10-92 (S-CCO); Deeley, 18(S).

23. (S) [redacted] interview. OH-10-92 (S-CCO); Deeley, 18; Boak interview. OH-12-92 (S-CCO) [redacted]

[redacted] Betts. *Deadly Transmissions*, 91 (SNF).

24. (SNF) Ibid., 91 (S NF).

25. (SNF) Ibid.

26. (SNF) Ibid.

27. (SNF) [redacted] interview. OH-10-92 (S-CCO); Betts, *Deadly Transmissions*, 91 (S NF).

28. (S) [redacted] interview. OH-10-92 (S-CCO).

29. (TS) [redacted]

30. (TS) [redacted]; [redacted] interview. OH-10-92 (S-CCO); Deeley, 18.

31. (TSC NF) [redacted] interview. OH-10-92 (S-CCO); Betts. *Deadly Transmissions*. 92 (S NF); Betts. *Working Against The Tide*. 130 (TSC NF)

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

32. ~~(TS NF)~~ [redacted] interview. OH-10-92 (S-CCO); Betts. *Deadly Transmissions*, 92 (S NF).

33. ~~(S)~~ [redacted] interview. OH-10-92 (S-CCO).

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

34. ~~(TS)~~ [redacted] *The Great Conversation*, 5 (S).

35. ~~(S)~~ Commander-in-Chief, Pacific, Instruction (CINCPACINST) 003100.5. *Operations Security (OPSEC)*. 26 March 1969, 5.

36. ~~(C)~~ CINCPAC SSO Serial 00026-71. *Operations Security (OPSEC) Report*. 1 June 1971 73-74 (TSC)

37. ~~(S)~~ CINCPACINST 003100.5 4 (S); CINCPAC SSO 00026-71, 73-74, 76 (TSC).

38. ~~(S)~~ [redacted] interview. OH-10-92 (S-CCO).

39. ~~(S)~~ CINCPACINST 003100.5, 1 (S)

40. ~~(S)~~ Ibid., 1 (S); CINCPAC SSO 00026-71, 77 (TSC); [redacted] Interview with the author. 12 February 1992(S).

41. ~~(S)~~ CINCPACINST 003100.5, 1-2, 5-6.

42. ~~(S)~~ [redacted] interview. Oh-10-92 (S-CCO); CINCPACINST 003100.5, 6-7 (S).

43. ~~(S-CCO)~~ [redacted] interview. OH-10-92 (S-CCO). (U) [redacted] 26 May 1993 memorandum to [redacted] (U) Joint Chiefs of Staff publication 3.54. *Joint Doctrine for Operations Security*, 22 August 1991.

44. ~~(C)~~ CINCPAC SSO 00026-71, 77 (TSC).

45. ~~(S)~~ CINCPAC SSO 00026-71, 74, 77 (TSC); [redacted] interview. OH-10-92 (S-CCO).

46. ~~(S)~~ [redacted]

47. ~~(TS-CCO)~~ [redacted] interview. OH-10-92 (S-CCO); [redacted] interview (S-CCO); [redacted] interview with the author. 24 February 1992. (S NF) [redacted] *Deadly Transmissions*, 92 (S NF); Deeley, 18(TSC).

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48. ~~(TSC)~~ [redacted] (S-CCO) [redacted] interview. OH-10-92 (S-CCO); [redacted] interview (S-CCO); Boak interview. OH-12-92 (S-CCO); [redacted] interview. Betts. *Deadly Transmissions*, 93 (S NF).

49. ~~(S-CCO)~~ [redacted] interview.

50. ~~(TS NF)~~ Betts. *Deadly Transmissions*, 93 (S NF). (S) [redacted] interview. OH-10-92 (S-CCO) (S) Boak interview. OH-12-92 (S-CCO); [redacted]

DIA

51. ~~(S NF)~~ [redacted] Betts. *Deadly Transmissions*, 93 (S NF).

52. ~~(TS)~~ [redacted] Deeley, 18(S).

53. ~~(S)~~ [redacted]

54. ~~(TS)~~ [redacted]

55. (TS) [redacted]

56. ~~(TS NF)~~ [redacted] (S NF) Betts. *Deadly Transmissions*, 94 (S NF).

57. ~~(S NF)~~ Ibid., 94 (S NF).

58. ~~(S)~~ [redacted] interview. OH-10-92 (S-CCO).

59. ~~(TS NF)~~ [redacted] Betts. *Deadly Transmissions*, 94 (S NF); Deeley, 18 (SC).

60. ~~(TSC)~~ DIA TS-SI-60/PL. figure 7 (TSC NF); *ibid.*, 11. (TSC NF).

61. ~~(TSC)~~ [redacted]

62. ~~(TSC)~~ [redacted]

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

- 63. (TSC) [redacted]
- 64. (SNF CCO) [redacted] interview (SNF); Betts. *Deadly Transmissions*, 95 (SNF).
- 65. (TS) [redacted]
- 66. (TS) [redacted]
- 67. (TS) [redacted]
- 68. (U) Deeley, 18.
- 69. (TSC) [redacted] (b) (3) - P.L. 86-36
- 70. (TS) [redacted] interview.
- 71. (TS) [redacted]
- 72. (S) [redacted] interview. OH-10-92 (S-CCO); [redacted] *The Great Conversation*, 2.
- 73. (TS) [redacted]
- 74. (SNF) [redacted] interview. OH-10-92 (S-CCO); Betts. *Deadly Transmissions* 95 (SNF).
- 75. (TS NF) [redacted] interview. OH-10-92 (S-CCO); [redacted]
[redacted] Telephone interview with the author, 2 March 1992; Betts. *Deadly Transmissions*, 95 (SNF).

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Part III
PURPLE DRAGON at War

COMMANDER IN CHIEF PACIFIC



**PURPLE
DRAGON
REPORT**

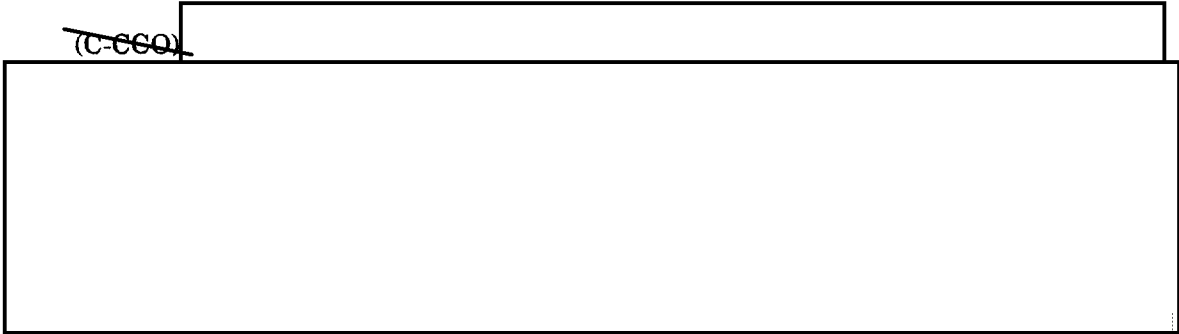
OPERATIONS SECURITY

CINCPAC PURPLE DRAGON report coversheet (artwork by USN)

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OPSEC IN ACTION

~~(C-CCQ)~~



(U) The teams also produced some fourteen OPSEC reports. Each PURPLE DRAGON report consisted of the results of surveys conducted during the reporting period as well as regular updates on the OPSEC status of Operations ARC LIGHT, BLUE SPRINGS, and ROLLING THUNDER. Following the termination of ROLLING THUNDER in the spring of 1968, PURPLE DRAGON began including regular updates on the Strategic Air Command's SR-71 reconnaissance program over Vietnam and the Korean peninsula, Operation GIANT SCALE. PURPLE DRAGON reports were unusual in that they did not go through the usual staffing process at CINCPAC but were issued directly as written by the OPSEC branch.¹

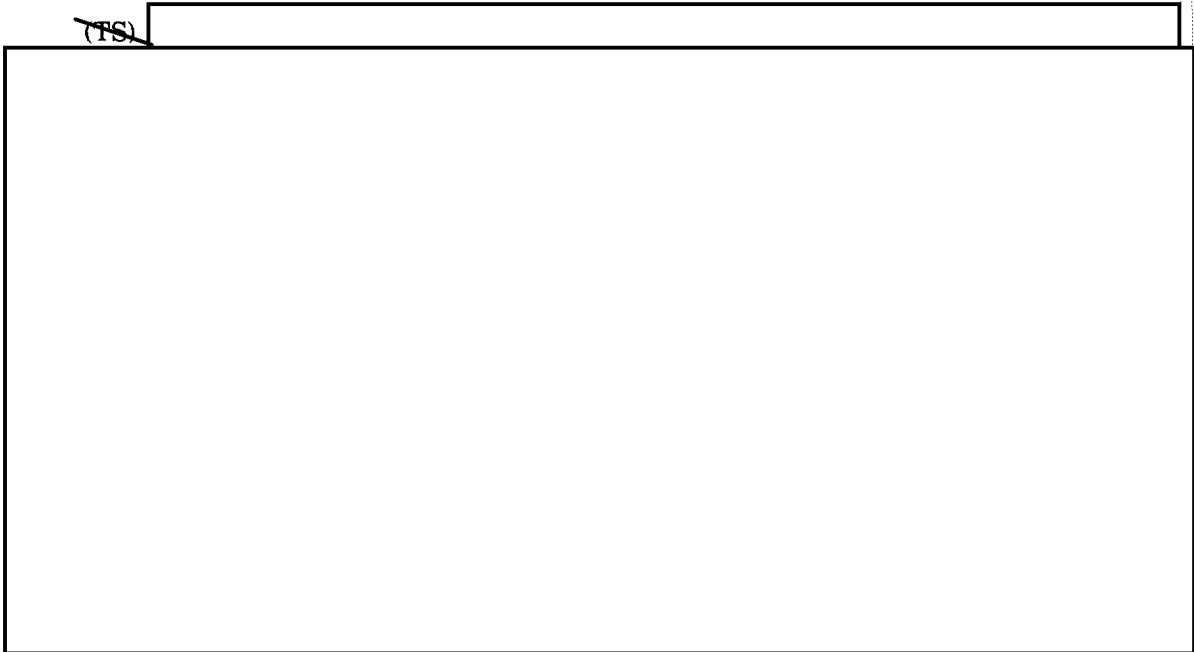
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(U) Following are a few of the more significant operations security surveys conducted during the Vietnam conflict, which are representative of PURPLE DRAGON's usual activities and findings.

U.S. NAVY/MARINE CORPS AMPHIBIOUS OPERATIONS

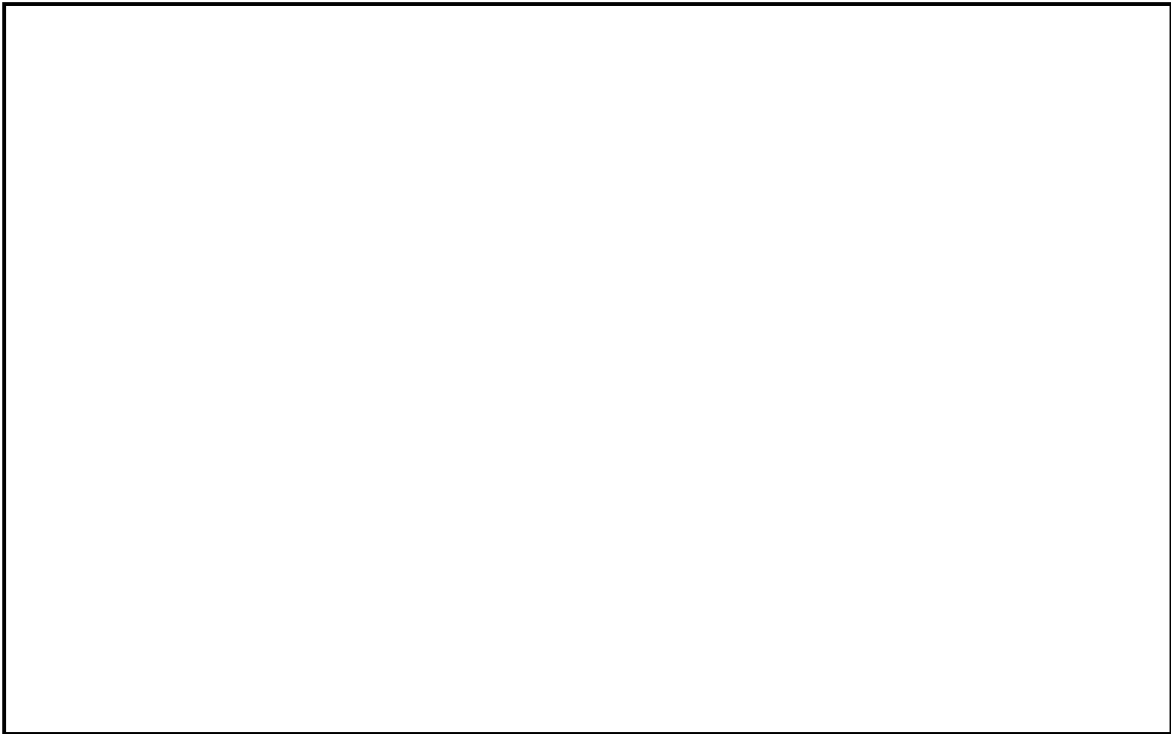
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U.S. Marine amphibious landing, South Vietnam



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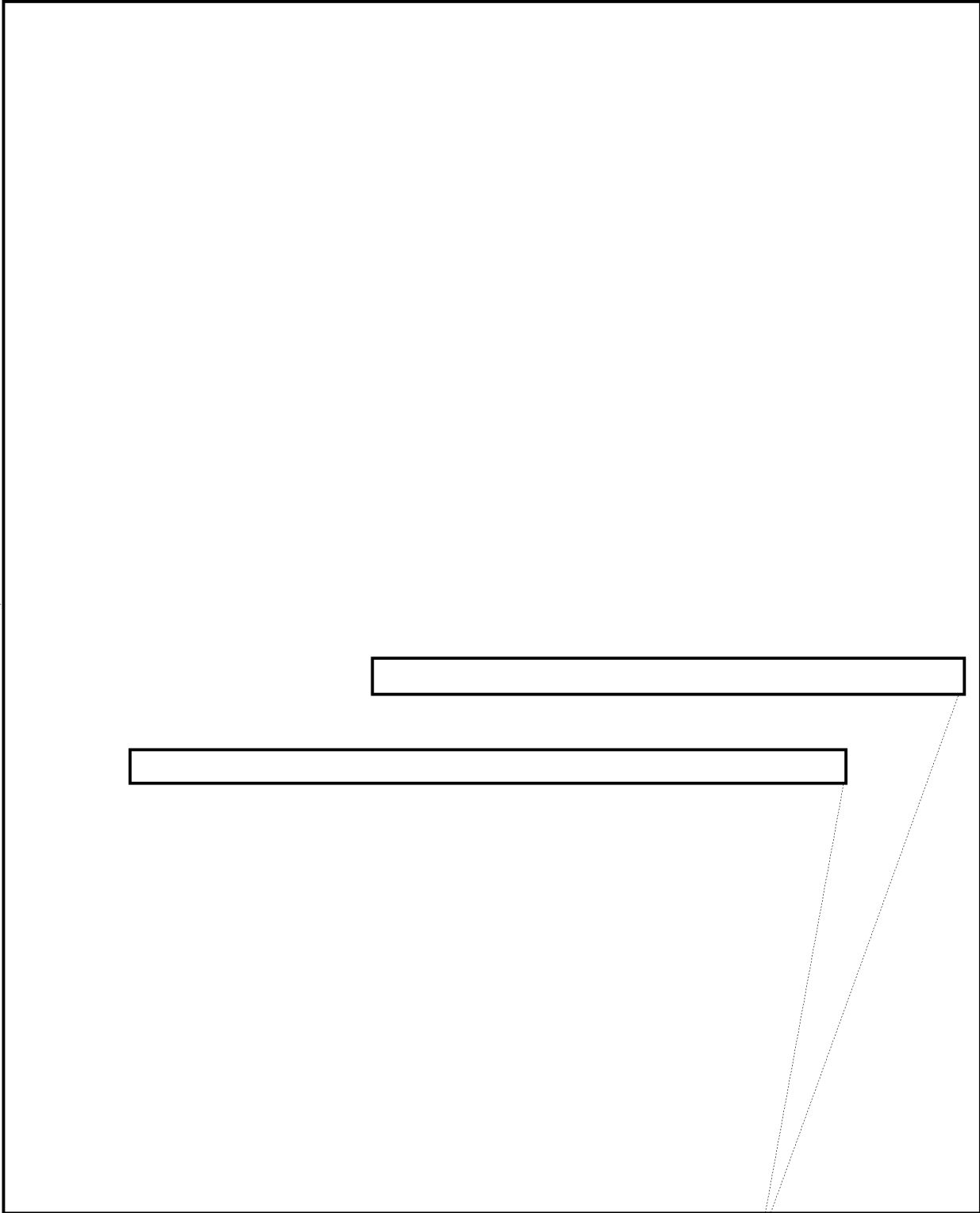
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Air
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Command

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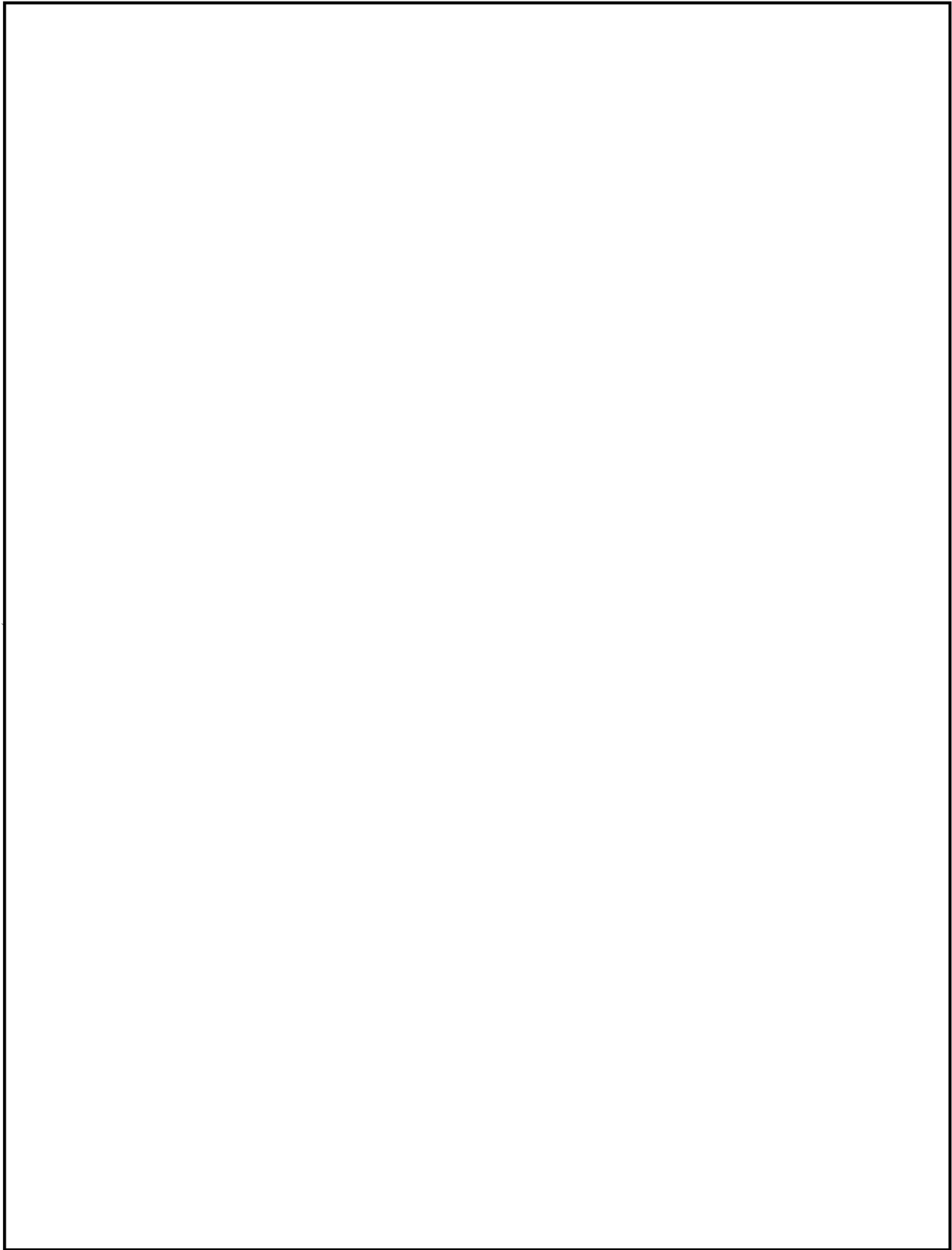
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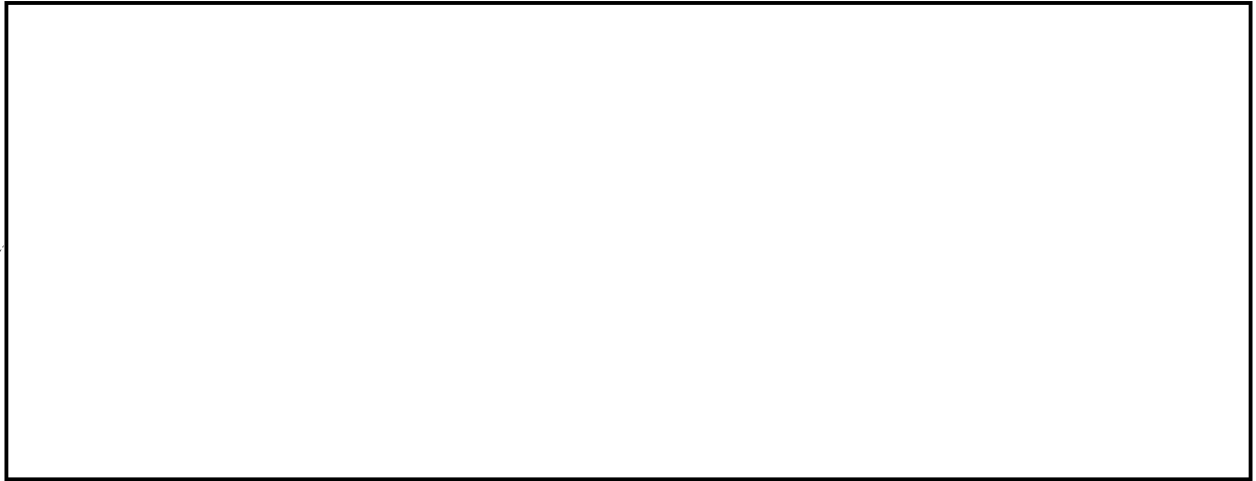
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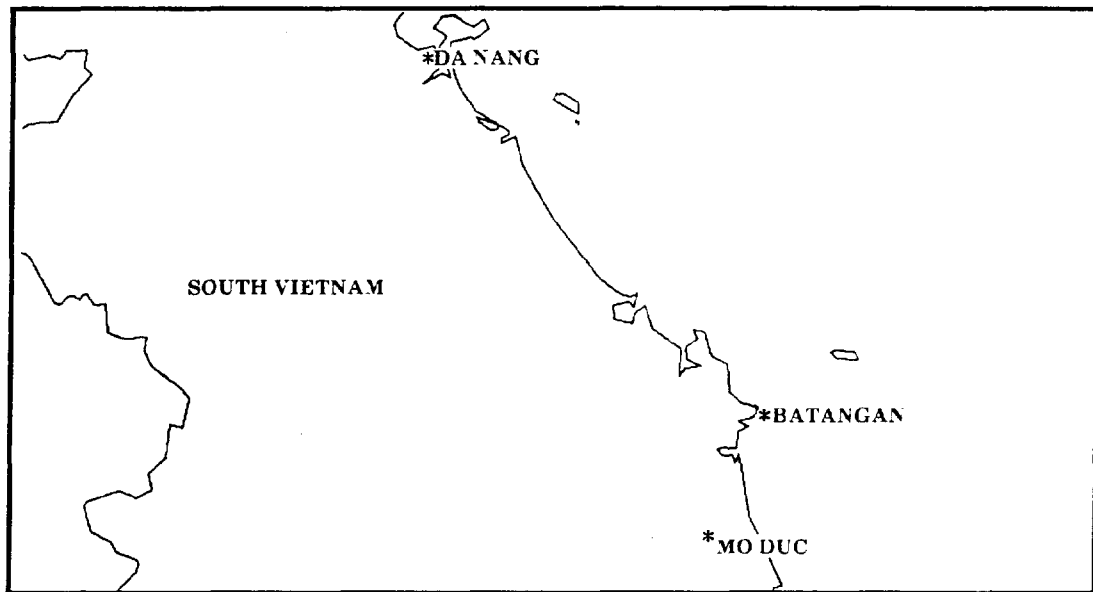
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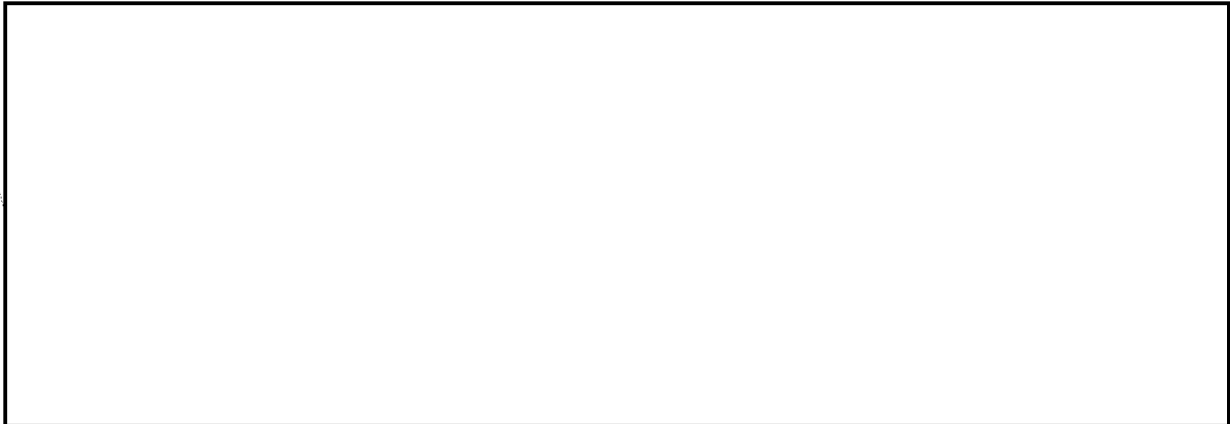
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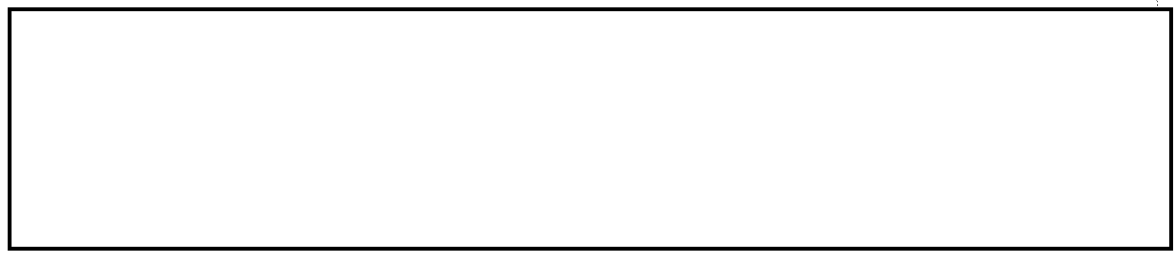


Operation BOLD MARINER, Batangan peninsula and Mo Duc, South Vietnam



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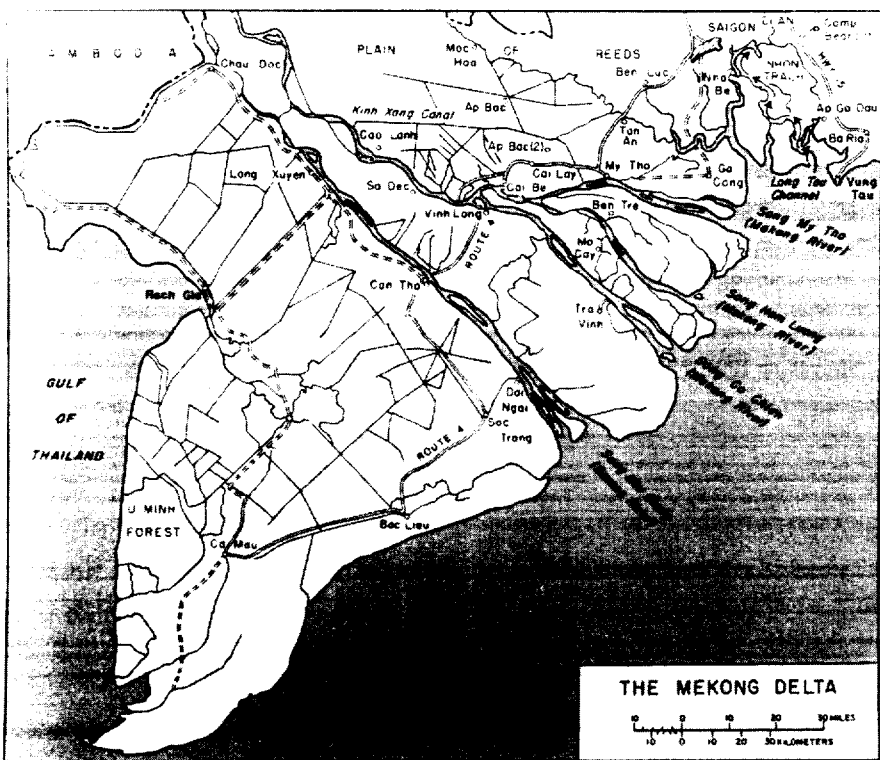
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(U) BOLD MARINER was a major success from an OPSEC standpoint. Proof of operations security achieved in BOLD MARINER comes from the fact that Marines of the SLF, working in concert with U.S. Army and ARVN troops inland, succeeded in capturing 470 suspected Viet Cong guerrillas on just the first day of the operation, VC who certainly hadn't been forewarned that the Marines were coming.²⁰

U.S. ARMY/NAVY RIVERINE OPERATIONS

(U) In the summer of 1966, MACV reported that approximately one third of all VC attacks within the RVN occurred in the IV Corps Tactical Zone, in the Mekong River delta region of southern South Vietnam. MACV also estimated that the Viet Cong controlled almost one quarter of the population in the delta.²¹



Mekong River delta, South Vietnam, showing major rivers, canals, and main roads

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(U) The delta would have to be cleared of the enemy, but that posed a problem. The delta consists of a vast network of rivers, canals, rice paddies, and swampland, making normal military operations, especially the bivouacking, supply, and movement of ground troops, nearly impossible. To get around this problem, MACV hit upon the idea of basing a combat division on board Navy troop transports offshore and transporting them in Navy river patrol boats and landing craft to and from their tactical areas of operations. The 9th U.S. Infantry Division, consisting of three brigades, was established to serve as the ground force, with naval TF117 supporting them, and the Mobile Riverine Force (MRF) was ready to commence operations in early 1967.²²



U.S. Navy assault craft landing Mobile Riverine forces in the Mekong delta

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U.S. 9th Infantry soldier in the Mekong delta

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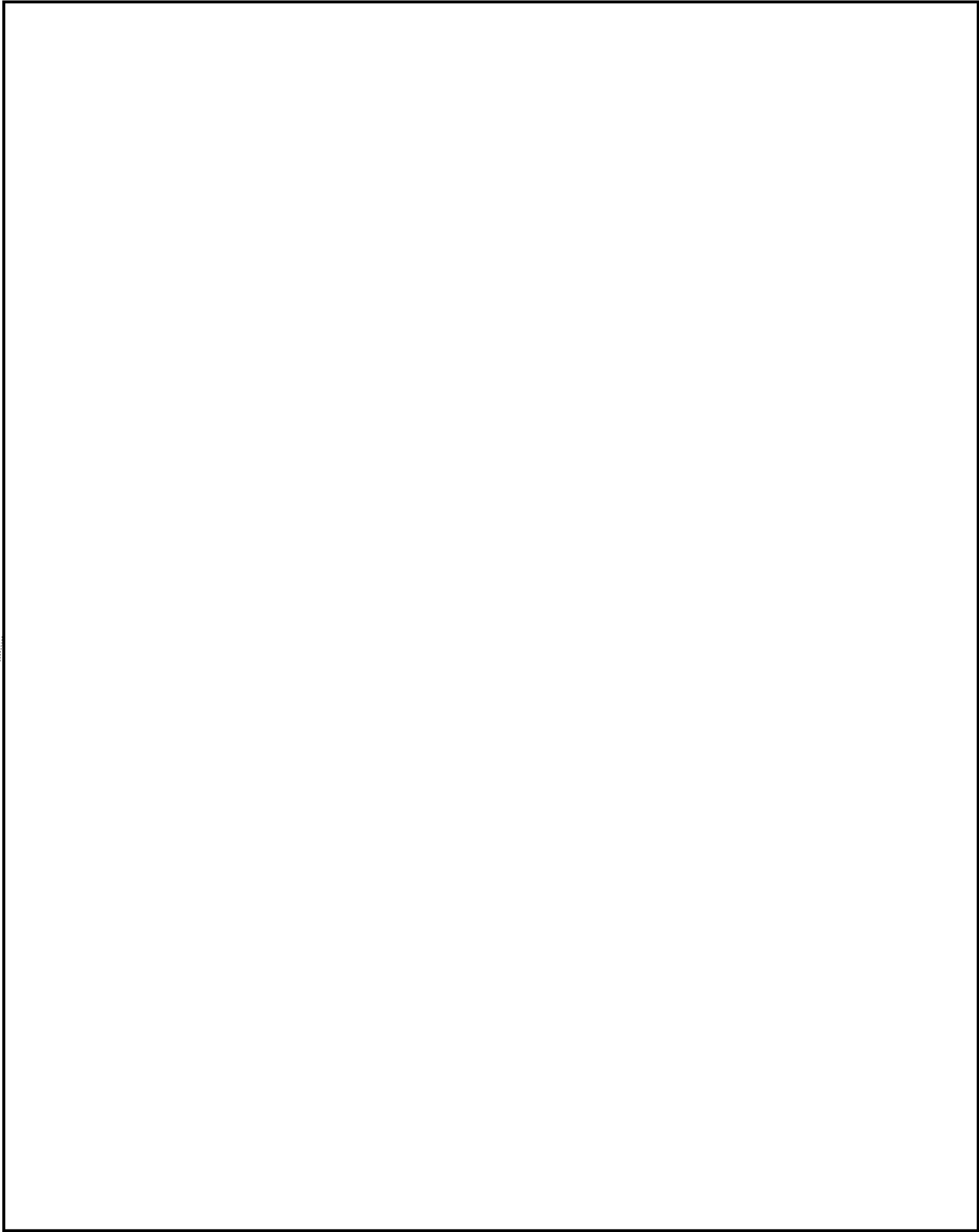


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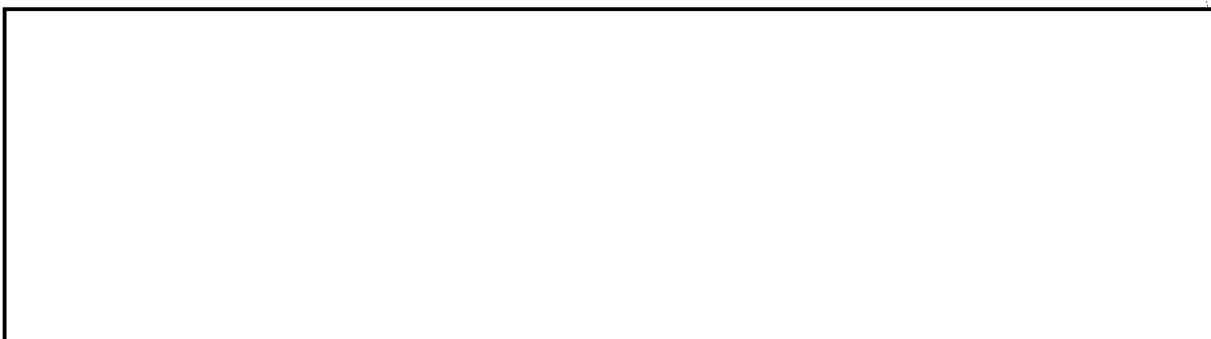
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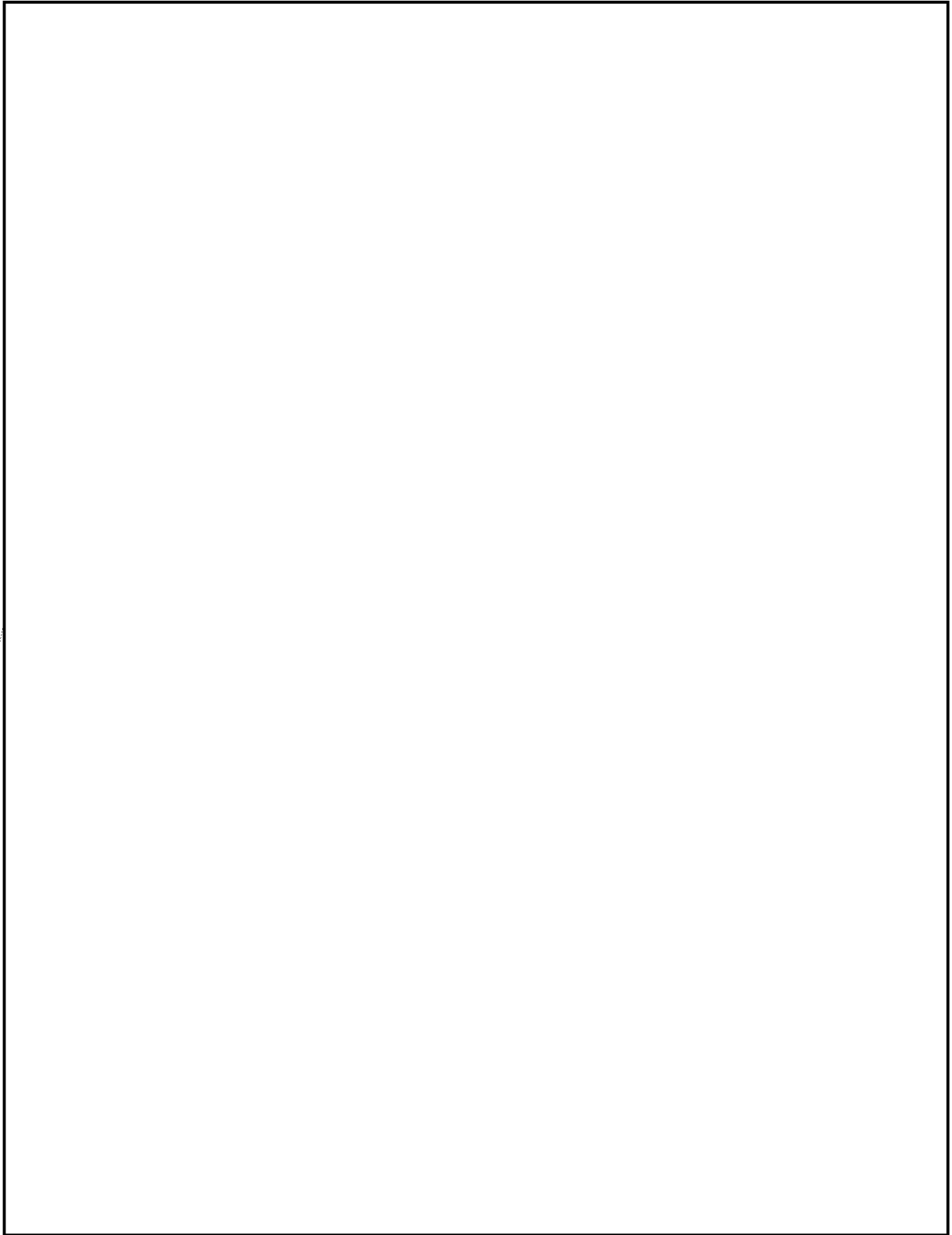
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U.S. ground forces receiving tactical air support in South Vietnam



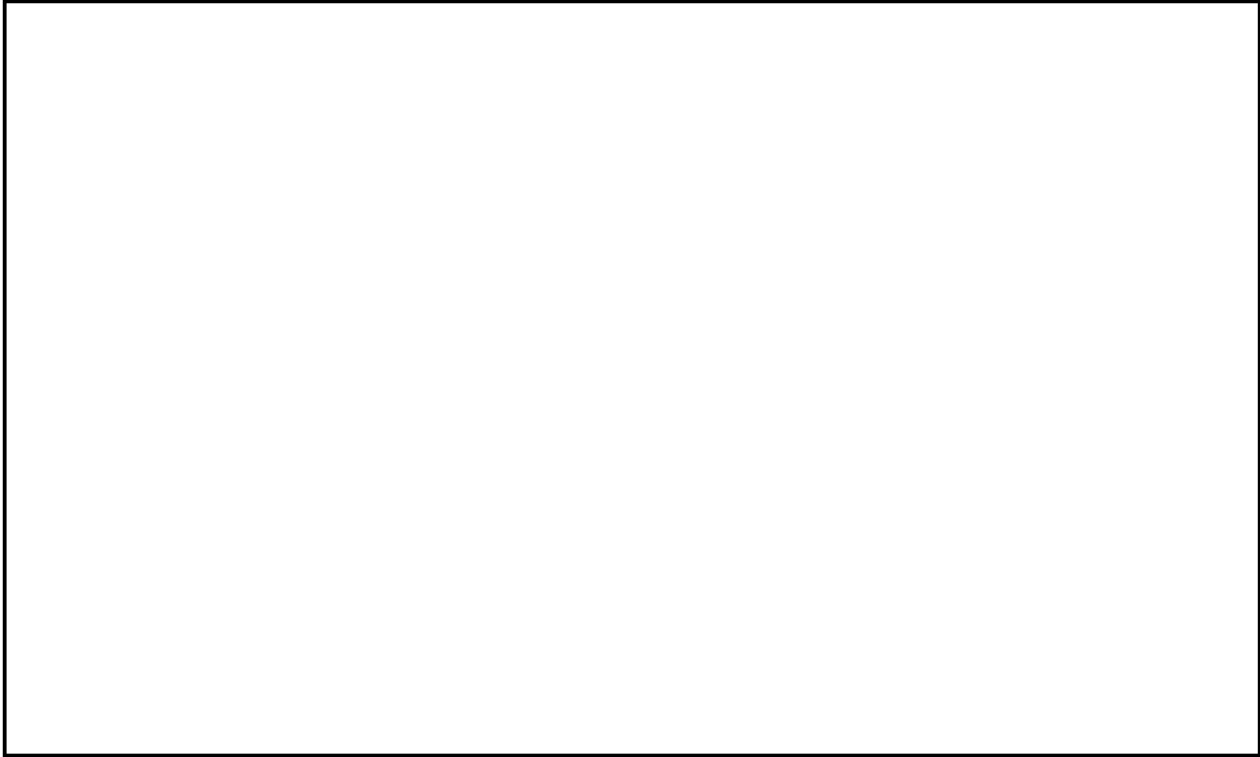
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(U) Following the PURPLE DRAGON surveys of Mobile Riverine operations and Army ground operations, as with most PURPLE DRAGON surveys during Vietnam, the OPSEC posture of the surveyed organizations improved, at least temporarily. More important, however, evidence of enemy prior awareness of the operations significantly decreased as the surveyed units implemented suggested changes in procedures. U.S. intercept of enemy alert messages dropped off, and contact with the enemy usually increased. These positive results, however, were almost invariably only temporary. In most cases, the enemy, being denied one valuable source of foreknowledge of U.S. intentions and capabilities by the improved operations security of the units involved, would cast about until they had found a new source of information to take its place. Then, evidence of the enemy's prior knowledge would again surface and the OPSEC procedure would begin again.

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ARC LIGHT OPERATIONS REVISITED





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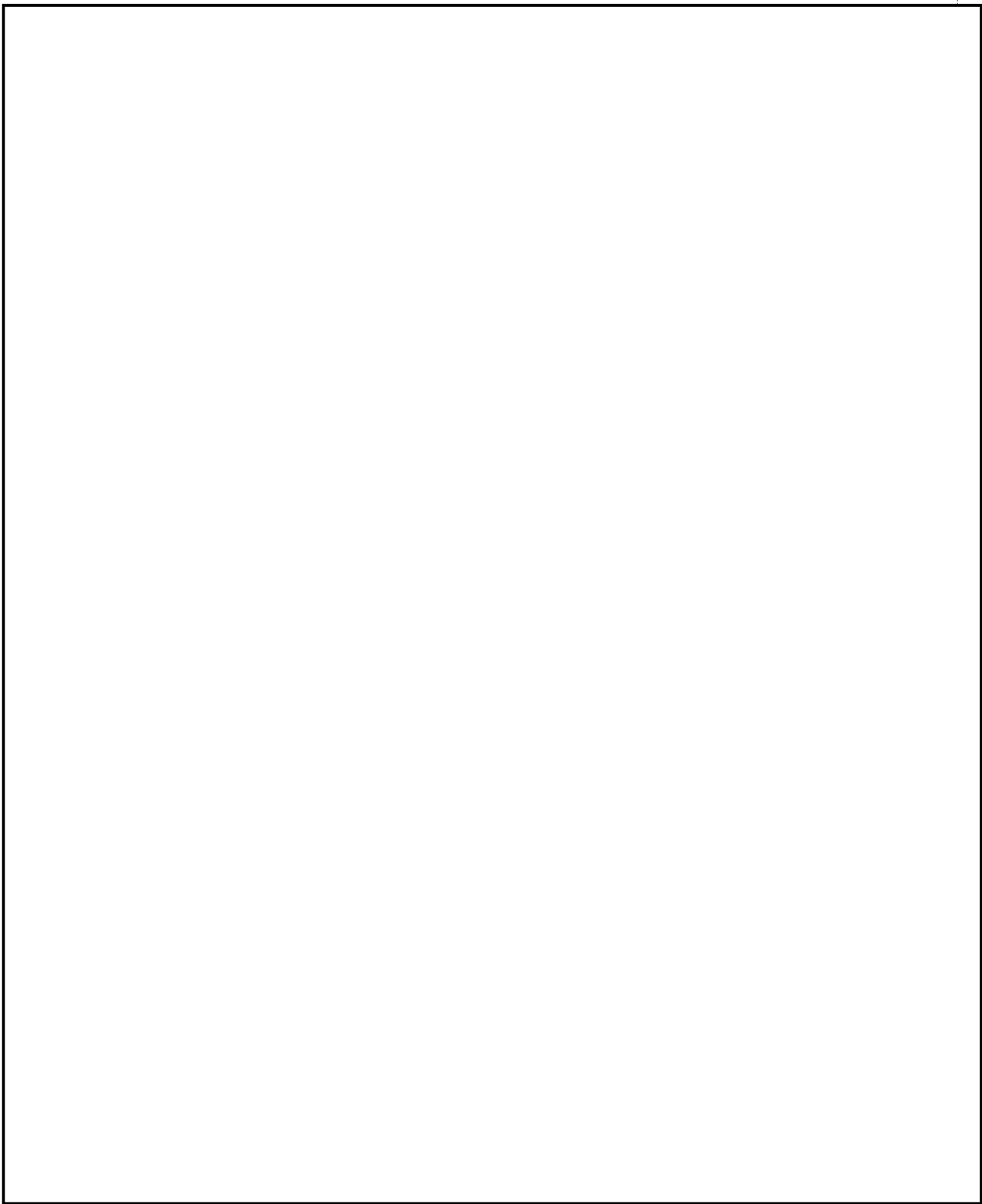
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U.S. ground forces, foreground, watch the results of a B-52 strike in South Vietnam

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Notes

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

1. (U) [redacted] *The Great Conversation*, 4-5.
2. ~~(TS)~~ Bowman, 428; CINCPAC SSO-00021-68, *Operations Security Report*, 1 April 1968, 18, 21 (TSC).
3. ~~(TS)~~ Ibid., 18 (TSC).
4. ~~(TS)~~ DIA TS-SI-60/PL, 15 (TSC NF).
5. ~~(TS)~~ CINCPAC SSO-00021-68, 18 (TSC).
6. ~~(TS)~~ Ibid., 18-19 (TSC); DIA TS-SI-60/PL, 15 (TSC NF).
7. ~~(TS)~~ CINCPAC SSO-00021-68, 18-21 (TSC); DIA TS-SI-60/PL, 15 (TSC NF).
8. ~~(TS)~~ CINCPAC SSO-00021-68, 18-19 (TSC); DIA TS-SI-60/PL, 15 (TSC NF).
9. ~~(TS)~~ CINCPAC SSO-00021-68, 19-21 (TSC).
10. ~~(TS)~~ Ibid., 18-19 (TSC).
11. ~~(TS)~~ Ibid., 19-20 (TSC).
12. ~~(TS)~~ Ibid., 21 (TSC); [redacted] interview. OH-10-92 (S-CCO).
13. ~~(TS)~~ CINCPAC SSO-00021-68, 19-21 (TSC).
14. (TS) [redacted] [redacted] interview. OH-10-92 (S-CCO); Deeley, 19.
15. ~~(TS)~~ CINCPAC (SI) SSO-00051-68. *CINCPAC Operations Security Report*, 1 August 1968, 38-41 (TSC).
16. ~~(TS)~~ CINCPAC SSO-00048-69. *Operations Security (OPSEC) Report*, 1 April 1969, 1 (TSC NF); Bowman, 219.
17. CINCPAC SSO-00048-69 1-3 (TSC NF).
18. ~~(TS NF)~~ Ibid., 4-5 (TSC NF).
19. ~~(TS NF)~~ Ibid., 5-6 (TSC NF).
20. (U) Bowman, 219.
21. (U) William B. Fulton. *Vietnam Studies: Riverine Operations 1966-1969*. (Washington, D.C.: Department of the Army, 1973), 24-25.
22. (U) Ibid., 26-27, 42, 58-59.
23. ~~(TS)~~ CINCPAC SSO 00051-68, 19 (TSC).
24. ~~(TS)~~ Ibid., 19-20 (TSC).
25. ~~(TS)~~ Ibid., 20 (TSC).
26. ~~(TS)~~ Ibid., 20 (TSC); Fulton, 65-66.
27. ~~(TS)~~ CINCPAC SSO 00051-68, 21-22 (TSC).
28. ~~(TS)~~ Ibid., 23 (TSC).
29. ~~(TS)~~ Ibid., 22-23 (TSC).
30. ~~(TS)~~ Ibid., 23-26 (TSC).
31. ~~(TS)~~ Ibid., 26-27, 30 (TSC).
32. ~~(TS)~~ Ibid., 27-28 (TSC).

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- 33. ~~(TS)~~ Ibid., 28 (TSC).
- 34. ~~(TS)~~ Ibid., 28-29 (TSC).
- 35. ~~(TS)~~ CINCPAC SSO-00021-68, 1-2 (TSC).
- 36. ~~(TS)~~ Ibid., 22 (TS); [redacted]
- 37. ~~(TS)~~ Ibid., 15, 20 (TSC NF); CINCPAC SSO-00021-68, 22 (TSC).
- 38. ~~(TS)~~ Ibid., 22-23 (TSC).
- 39. ~~(TS)~~ Ibid., 22 (TSC); [redacted]
- 40. ~~(TS)~~ CINCPAC SSO-00021-68, 22, 24 (TSC).
- 41. ~~(TS)~~ Ibid., 23-24 (TSC).
- 42. ~~(TS)~~ Ibid., 23 (TSC); [redacted]
- 43. ~~(TS)~~ CINCPAC SSO-00021-68, 23 (TSC).
- 44. ~~(TS)~~ CINCPAC SSO 00064-70. *Operations Security (OPSEC) Report*. 1 December 1970, 72 (TSC NF).
- 45. ~~(S)~~ Ibid., Appendix I, 1 (TSC NF).
- 46. ~~(S)~~ Ibid., Appendix I, 37 (TSC NF).
- 47. ~~(S)~~ Ibid., Appendix I, 38 (TSC NF).
- 48. ~~(S)~~ Ibid., Appendix I, 38-39 (TSC NF).
- 49. ~~(S)~~ Ibid., Appendix I, 39 (TSC NF).
- 50. ~~(S)~~ Ibid., Appendix I, 41-42, 43 (TSC NF).
- 51. ~~(S)~~ Ibid., Appendix I, 44-46 (TSC NF).
- 52. ~~(S)~~ Boak interview. OH-12-92 (S-CCO).

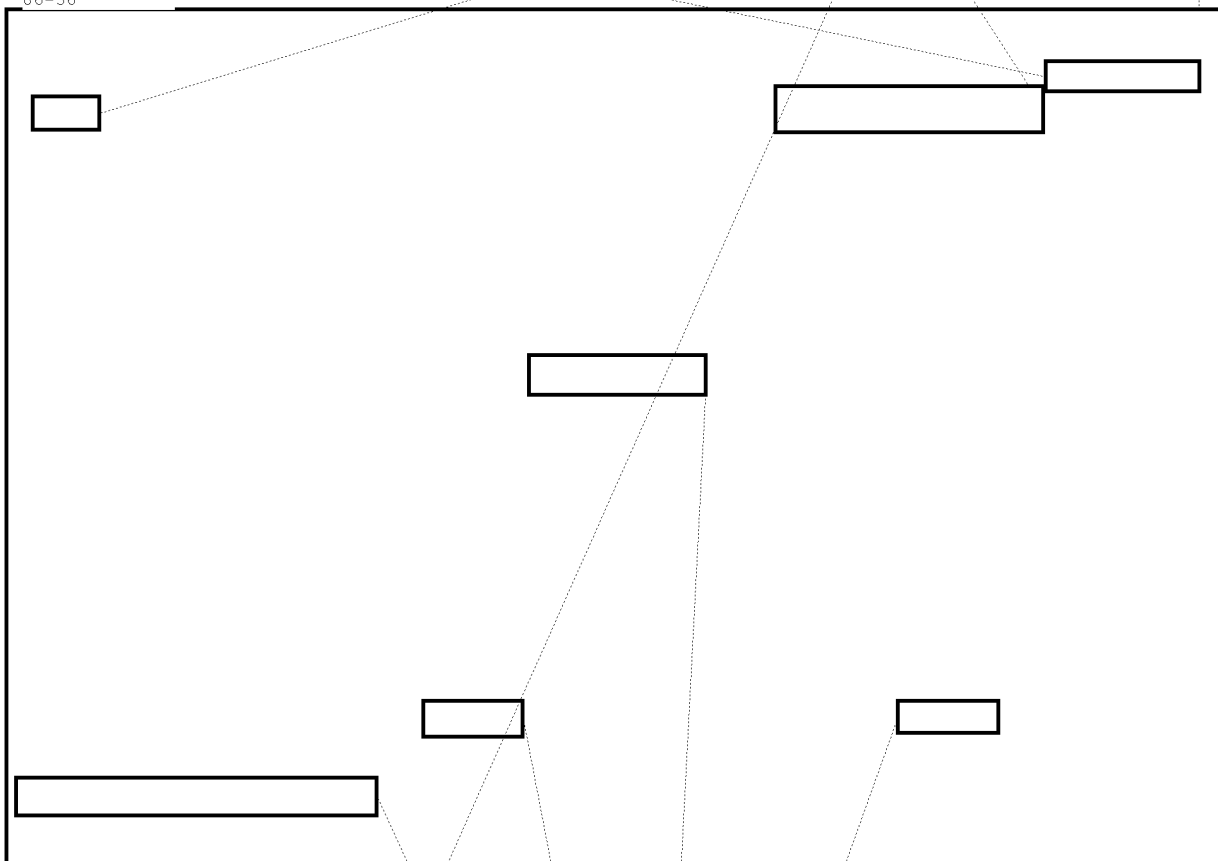
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Part IV NSA and PURPLE DRAGON

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86-36

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~~(TSC NF)~~ Besides providing COMSEC expertise to the OPSEC branch in the Pacific, NSA also set about to provide dedicated SIGINT support to PURPLE DRAGON. Beginning in April 1967, NSA drafted Technical Instructions (TECHINS) for Agency and SCA elements, both at Fort Meade and in the Pacific, that established procedures for handling and reporting SIGINT evidence of [redacted] VC/NVA foreknowledge and forewarning of U.S. operations in the Pacific.

~~(TSC NF)~~ These TECHINS required all U.S. SIGINT field stations to

continuously scan their daily intercepted material for any indications of Asian Communist awareness of U.S. and Allied reconnaissance/strike-related flight. Indications of such awareness will be checked against station records for correlation with known mission schedules. Indications of Asian Communist awareness of reconnaissance/strike-related activity will be reported in the appropriate vehicle...³

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~~(TSC NF)~~ The TECHINS also established reporting vehicles for the enemy awareness reports, ranging from tactical reports at flash precedence for intercepts which could be closely correlated with imminent Allied operations and could be released directly to the units involved, to weekly and monthly Asian Communist (later Pacific Area) Awareness Reports, which summarized all SIGINT evidence of enemy foreknowledge or forewarning during the preceding period.⁴ Over time, the TECHINS would be expanded in scope, first to cover intercept indicating [redacted] prior awareness of U.S. and Allied operations and communications indicating such awareness, and, second, to cover all U.S. and Allied combat operations, rather than just reconnaissance and strike-related flights.⁵

~~(TSC NF)~~ Along with the new reporting instructions on enemy foreknowledge and forewarning, DIRNSA decided to replace the ad hoc nature of support to PURPLE DRAGON with a more permanent mechanism to coordinate the Agency's OPSEC-related activities with the CINCPAC OPSEC branch. General Carter, therefore, in June 1967 established within NSA's Office of Asian Communist Nations, then designated B Group, a B Group Joint Task Force (BJTF) to provide dedicated SIGINT support to the OPSEC program in the Pacific.⁶ The mission of the BJTF was "to review the SIGINT evidences of forewarning from all available sources, in order to determine not only what the enemy may be exploiting, but also how he is doing it."⁷ A major focus of the BJTF's analysis of enemy awareness was to determine whether any U.S. codes or ciphers were being exploited.⁸

~~(TS CCO)~~ Among the Agency organizations included in the BJTF were representatives of the Agency's Communications Security Division, S1, as well as representatives of the various B Group branches directly involved in the Agency's efforts against the North Vietnamese, Viet Cong, [redacted] targets. These included B21, the office which had first reported the [redacted] alerts of ROLLING THUNDER missions. [redacted] for the vast majority of ROLLING THUNDER strikes throughout the initial PURPLE DRAGON survey, and, in fact, continued to issue them regularly right through to the termination of ROLLING THUNDER in April 1968. [redacted] for more than a year after ROLLING THUNDER ended, but B21 concluded that most of these later alerts were merely training exercises for the CFNVN.⁹

~~(TSC)~~ [redacted] A new organization, [redacted] Division of the Office of [redacted] B45, was made the focal point for the BJTF. B45 had been established following the discovery of a [redacted] organization communications net [redacted] that was apparently reporting on U.S. Navy, Marine, and Air Force operations in the Gulf of Tonkin and northern South Vietnam. The net consisted of a control station [redacted] and two outstations [redacted]. The network was first noted active in [redacted] 1967,

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[redacted] A third outstation in the net [redacted]
[redacted] was also identified, but it was seldom active.¹⁰

[redacted]

[redacted]

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U.S. forces tactical data, so called "blue force data," to aid them in their analysis of a hostile SIGINT target.

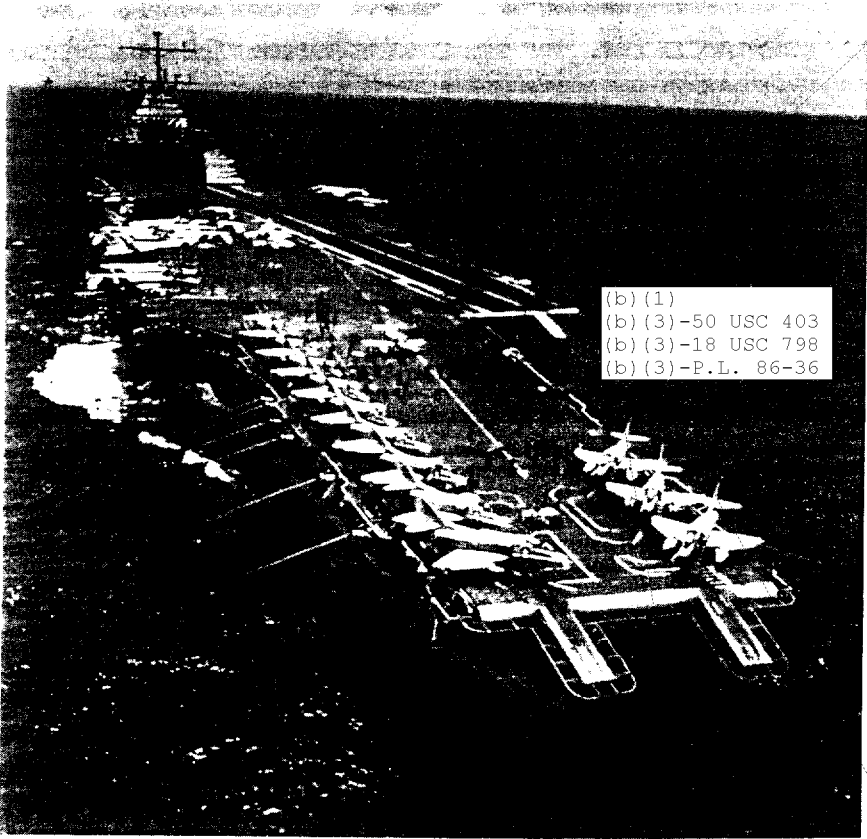
(PSC) Throughout the Vietnam conflict, the Navy maintained an average of [redacted] ONI-5
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analysts learned from the [redacted] data that every day at 0700 hours local, these carriers would transmit their locations to CINCPAC headquarters in Pearl Harbor. They further noticed that [redacted]

[redacted]

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(b) (3)-P.L.
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(TSC) What they read surprised them. The [redacted] communications net, designated [redacted] turned out to consist of reports of primarily U.S. Navy and Marine aircraft activities off the carriers in the Gulf. Some transmissions consisted of direct transcriptions of U.S. aircraft communications traffic, no more and no less. [redacted]

[redacted] But the element of the [redacted] net

communications that most surprised the NSA analysts reading them, was that everything transmitted on the [redacted] net, except operator chatter, was in English.¹²

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

(TSC) Why [redacted] was in English no one could say. One plausible suggestion was

[redacted]
[redacted] Or perhaps they were just too busy to translate the mass of material - after all, at its peak [redacted] alone was sending over 250 [redacted] messages a day to [redacted]

(TSC) Most of the [redacted] intercept observed in [redacted] reflected activity by the U.S. aircraft carriers in support of ROLLING THUNDER missions and other operations, but there were also reflections of U.S. Air Force KC-135 tanker aircraft, reconnaissance aircraft, and B-52s on ARC LIGHT missions. While most U.S. communications reflected in [redacted] were in plain text, B45 was able to show that at least some U.S. operational codes may have been compromised, either through traffic analysis or cryptanalytic attack, and were regularly being exploited [redacted] Whatever the methods [redacted] [redacted] used to read the U.S. traffic, B45 showed they were regularly able to intercept the U.S. signals and retransmit the content of them [redacted] on average within five minutes.¹³

(TSC) The [redacted] net continued to provide valuable intelligence to the U.S., and important indications of [redacted] foreknowledge of U.S. operations in Southeast Asia, until late 1970, when the circuit suddenly and for no apparent reason went dead. A debate ensued as to whether or no [redacted]

[redacted]

(TSC) Other reasons for the loss of the [redacted] signals were also presented: the [redacted] had trouble getting the system to function properly, and it was possible they simply gave up on it as being too complicated to operate. [redacted] may also have abandoned [redacted] in the [redacted] net because they had developed a better system. The circuit was quickly replaced by a parallel net using a different encryption system.

[redacted]

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

[redacted] The new system remained active for approximately a year before it too went off the air, probably to be replaced by landline.

~~(TSC)~~ With the loss of the [redacted] B45 turned its attentions to other, less valuable targets until the end of U.S. involvement in Southeast Asia, when the [redacted] division was disbanded and the target went into a caretaker status.¹⁴

~~(TSC)~~ While the analysis and reporting of the [redacted] net was its major responsibility, B45 supported the CINCPAC OPSEC program in other ways as well. As focal point for the BJTF, B45 was responsible for producing weekly and monthly summaries of all SIGINT reflections of enemy foreknowledge and forewarning of U.S. military operations. Because of the quantity of such material, this requirement was later reduced to only weekly summaries. The BJTF was also responsible for gathering both SIGINT and collateral evidence of foreknowledge of U.S. operations, not only by [redacted] and even from [redacted] and for coordinating all NSA OPSEC-related reports. The BJTF produced reports and briefings on its findings for PURPLE DRAGON team members and the U.S. military and intelligence communities, as well as orientation tours for personnel being assigned to the OPSEC team at CINCPAC.¹⁵

~~(S-CCO)~~ As SIGINT often provided the evidence of OPSEC weaknesses, it also served as a major indicator of OPSEC successes. Throughout the war, one of the most common reasons for performing an OPSEC survey of a particular operation was SIGINT evidence that the enemy had foreknowledge of it. In ongoing operations, such as air operations, the SIGINT evidence often took the form of alert messages prior to individual missions. When PURPLE DRAGON had finished surveying an operation and its recommendations were implemented, the OPSEC team would offer [redacted]

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~~(S-CCO)~~ In the final analysis, NSA support to PURPLE DRAGON was an important, perhaps vital element in the success of the OPSEC program in Southeast Asia. As one employee of B45 put it, PURPLE DRAGON "wouldn't have happened without NSA."¹⁷

~~(S-CCO)~~ But NSA's support was also a success story within the Agency itself. Just as PURPLE DRAGON was originally conceived as a multidisciplinary organization, so too was the Agency's support multidisciplinary. In support of the OPSEC effort in PACOM, Agency personnel from all of the cryptologic disciplines - cryptanalysts, traffic analysts, signals analysts, linguists, reporters, COMSEC specialists, and intercept operators - both military and civilian, from a variety of offices with a variety of targets, at Fort Meade and at field stations throughout the Pacific and around the world, worked together closely to improve the combat effectiveness and save the lives of U.S. and Allied servicemen and women in the rice paddies and the jungles, at sea, and in the air throughout Southeast Asia.¹⁸

Notes

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1. ~~(TS NF)~~ [redacted]
2. ~~(S-CCO)~~ Telephone Interview with the Author. March 1992 (S-CCO).
3. ~~(TSC)~~ NSA Technical Instructions (TECHINS) Number 4065. *Report of Possible [redacted] Awareness of Friendly Reconnaissance and Strike-related Missions (TSC)*. 3 April 1967, 1 (TSC).
4. ~~(TSC)~~ Ibid., 1-3 (TSC).
5. ~~(TS NF CCO)~~ Memorandum for the Chief, ADSP, Mr. Oliver. Subject: OPSEC Support. 16 June 1971 (TS NF LIMDIS CCO).
6. ~~(TSC NF)~~ [redacted] 31 (TSC); DIA TS-SI-60/PL, 47 (TSC NF).
7. ~~(TSC NF)~~ Ibid., 47 (TSC NF).
8. ~~(TSC NF)~~ Ibid., 48 (TSC NF).
9. ~~(TS CCO)~~ NSA Interview [redacted] 3 March 1992, with [redacted] OH-11-92. Center For Cryptologic History (S-CCO); CINCPAC SSO-00021-68, 14-15 (TSC) CINCPAC SSO 00048-69, 27 (TSC).
10. ~~(S-CCO)~~ [redacted] interview. OH-11-92 (S-CCO); 3/OO/24596-73 [redacted] 21 AUG 73; 2/O [redacted] R04-70, 30 April 1970; 2/O [redacted] R07-67, 152130Z NOV 67.
11. ~~(S-CCO)~~ [redacted] interview. OH-11-92 (S-CCO); 3/O [redacted] R09-67, 28 AUGUST 1967; 2/O [redacted] R04-70, 30 APRIL 1970.
12. ~~(TSC)~~ [redacted] interview. OH-11-92 (S-CCO); NSA Serial 33.058. *Radio Signal Notation (RASIN) Manual*. June 1978, 51 (SC); 2/O [redacted] R04-70 30, APRIL 1970; 3/O [redacted] R09-67, 28 AUGUST 1967.
13. ~~(TSC)~~ [redacted] interview. OH-11-92 (S-CCO); CINCPAC SSO 00064-70, 73 (TSC NF); 2/O [redacted] R04-70, 30 APRIL 1970; 3/O [redacted] R09-67, 28 AUGUST 1967.
14. ~~(TSC NF NC)~~ 3/OO/24596-73 [redacted] 21 AUG 73; [redacted] interview. OH-11-92 (S-CCO); [redacted] interview; Robert E. Newton. *The Capture of the USS Pueblo and its Effect on SIGINT Operations*. (1992, Center for Cryptologic History), 144-145.
15. ~~(TSC)~~ [redacted] interview. OH-11-92 (S-CCO) [redacted] 31 (TSC).

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(b) (3)-50 USC 403
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16. ~~(S-CCO)~~ [redacted] interview. OH-11-92 (S-CCO).

17. ~~(S-CCO)~~ Ibid. (S-CCO).

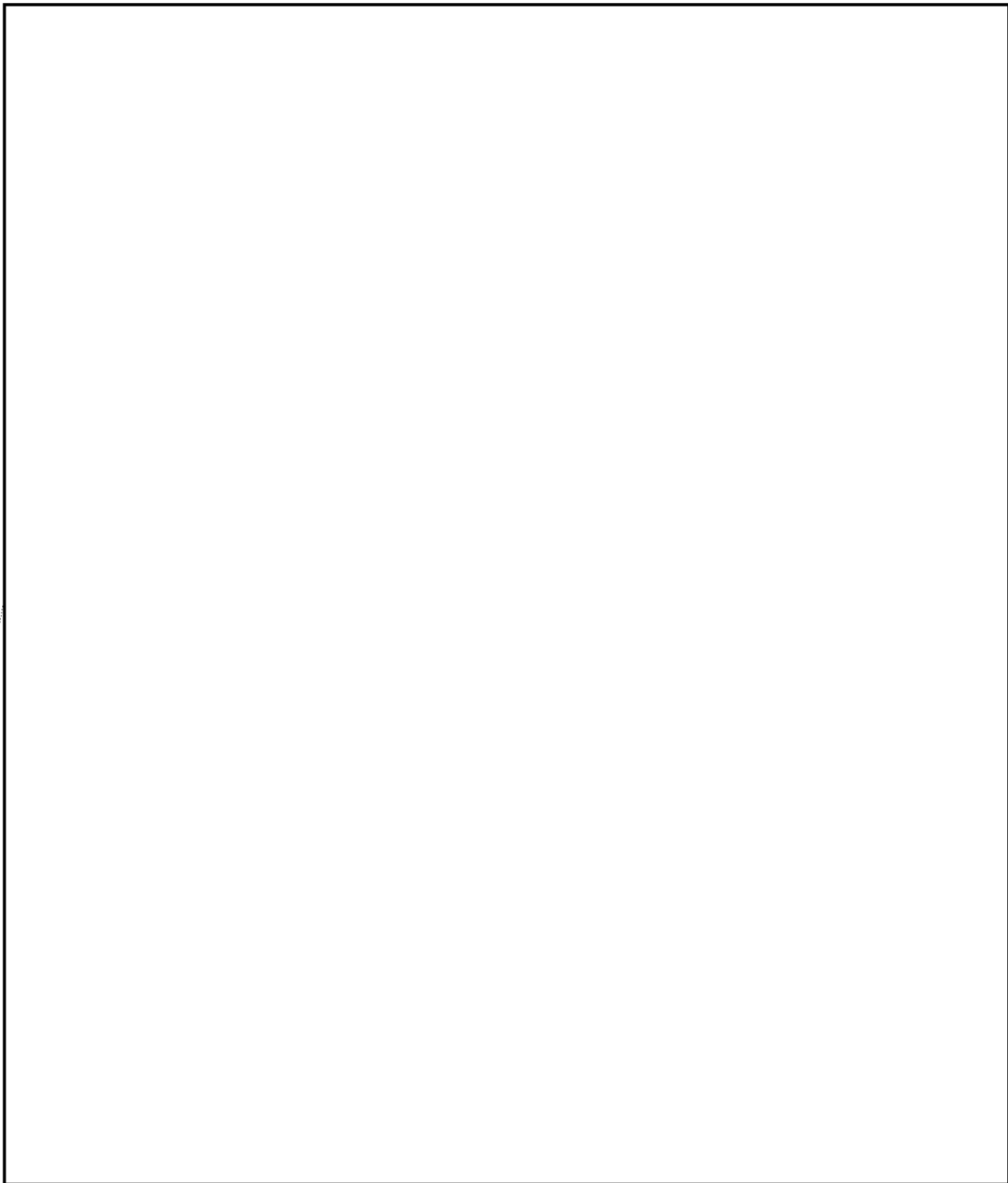
18. ~~(S-CCO)~~ Ibid. (S-CCO).

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VC/NVA INTELLIGENCE STRUCTURE

~~(TS-CCO)~~ At the top of the VC/NVA intelligence structure was North Vietnam's Central Research Directorate (CRD) in Hanoi. The CRD, sometimes described as "Hanoi's DIA," had responsibility for strategic, national-level intelligence.⁶ Below the CRD, the Central Office, South Vietnam (COSVN), analyzed and disseminated tactical intelligence to VC/NVA forces throughout the RVN and served as a point of contact between the CRD and units in the field.⁷ Finally, scattered throughout the RVN were VC/NVA tactical units and individual agents. They could either pass their information up to COSVN for analysis or, in some units, analyze and use it for tactical advantage themselves.⁸

~~(TSC)~~ Of all sources of information, the VC/NVA valued communications intelligence most heavily, with enemy PWs and ralliers describing it variously as "the easiest, safest, and fastest" means of obtaining intelligence, and as a "continuous source of information" on Allied plans and operations.⁹ All levels of the VC/NVA intelligence system were involved in the collection, processing, analysis, and production of COMINT. The CRD in Hanoi, for example, attempted the cryptanalysis of medium- and high-level U.S. cryptosystems. While there is no evidence the North Vietnamese had any success cryptanalyzing high-grade U.S. systems, the CRD was successful against some lower-grade codes and ciphers, such as one used to transmit airborne radio direction finding results in the RVN.¹⁰

~~(S-NP)~~ Much of what is known about VC/NVA COMINT activities in the RVN comes from documents and personnel captured during Operation TOUCHDOWN in 1969. During TOUCHDOWN, soldiers of the 1st U.S. Infantry Division in Binh Duong Province near Saigon managed to capture twelve of the eighteen enemy personnel assigned to a local Technical Reconnaissance Unit (TRU), a VC/NVA tactical COMINT unit, along with items of equipment and some 2,000 documents.¹¹

~~(S-CCO)~~ Based on the review of TOUCHDOWN-related materials, as well as interrogations of enemy PWs and ralliers, it was clear that the enemy maintained an extensive and efficient COMINT network in the RVN. COSVN, through its Military

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Intelligence Bureau (MIB), oversaw the activities of at least 4,000 enemy personnel in the RVN estimated by CINCPAC to be engaged in the intercept and analysis of Allied communications in 1969. The actual number may have been as high as 5,000 personnel. The extent of the enemy COMINT effort inside South Vietnam was particularly shocking, as the best previous estimates of the enemy's COMINT effort had suggested that no more than 300 enemy personnel were engaged in COMINT activities inside South Vietnam.¹² Enemy TRUs were apparently established in every part of the RVN and ranged in size from 406 personnel in the 47th Technical Reconnaissance Battalion collocated with COSVN along the Vietnamese-Cambodian border in early 1967, to individuals performing signals intercept operations alone in Saigon.¹³

OPERATIONS OF THE TRUs

~~(C)~~ The TRUs used a combination of captured and stolen U.S. radio equipment, as well as commercial equipment from Japan and Western Europe, and radios supplied by the Communist Bloc countries to conduct intercept. They also used small, battery-operated tape recorders to aid them in exploiting non-Vietnamese voice communications.¹⁴



DRV signals intercept officer at work

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~~(S-CCO)~~ The TRU intercept program was primarily targeted at low- to medium-level RVN armed forces and national police voice and manual morse nets, as well as U.S. tactical voice nets. There was a smaller, but successful effort made against Australian, South Korean, Thai, and Cambodian tactical voice nets. They also monitored Allied open source broadcasts including the Voice of America, the British Broadcasting Corporation, and Armed Forces Radio, and were capable of wiretapping telephone landlines.¹⁵ The TRUs were usually well equipped with English linguists, and the VC/NVA were known, on occasion, to augment their language capabilities by requiring Thai and Korean prisoners of war to aid them in their intercept operations. There were even reports of U.S. deserters working as signals intercept operators for the enemy.¹⁶

~~(C)~~ The TRUs showed a high level of professionalism in the performance of their duties. The VC/NVA were able to target specific Allied units in their vicinities and maintain continuity on them, in many cases for years at a time, because of the static call signs and frequencies, and other elements of SOI employed by U.S. and Allied communicators.¹⁷ The TRUs had the ability to perform traffic analysis, radio direction finding, and even limited cryptanalysis on intercepted communications.¹⁸

Their competence in covering assigned targets is reflected by the heavy monthly figures on messages that platoons and companies report as intercepted and exploited. The first and largest company of the former 47th TR Battalion had a strength of 130 and reported processing 7,745 messages during the month of September 1966. The third platoon (strength 69) of an unknown but entirely different company operating in Tay Ninh province reported an average of 500 messages per day, and a high of 920 messages in a single day during the latter part of 1968. A captured target list of another unidentified unit operating near Da Nang in December 1968 showed it to be working against 31 separate voice nets of the U.S. 1st Marine Division. These three units alone were capable of covering about 100 radio nets. One of them (the 1st Company of the 47th TR Bn) reported 100 percent exploitation of the material intercepted.¹⁹

~~(C-CCO)~~ The size of the enemy's COMINT program was matched by its success. Although, as already noted, the VC/NVA apparently had no success in cryptanalyzing U.S. medium- or high-level cryptosystems, they were very successful against U.S. and Allied tactical- level codes, particularly the unauthorized codes so beloved of signalmen in the field. Enemy PWs and ralliers often commented on the lack of security offered by brevity and slang codes used by Allied radiomen, one PW stating that, almost invariably, brevity codes could be broken out and read within six hours, and that Allied use of such codes often allowed the enemy to differentiate between particular units and echelons.²⁰

~~(S-CCO)~~ The enemy also proved adept at traffic analysis, thanks in no small part to poor use of SOI by the U.S. and its allies. Unchanging SOI allowed enemy TRUs to intercept a high volume of traffic. Instances of poor SOI included the U.S. Army's Artillery Warning Control Centers, which did not change their call signs or frequencies between 1967 and at least early 1971; and B-52s involved in ARC LIGHT missions, which, according to enemy PWs, regularly used the call sign CAPTAIN CONTROL and DINBACK. Even

when SOI were changed, however, the VC/NVA were reportedly able to break out the complete new U.S. SOIs in as little as six hours, and the new ARVN SOIs in as little as two hours.²¹

~~(C)~~ For all their cryptanalytic and traffic analytic successes, the VC/NVA's major source of COMINT was always the exploitation of Allied nonsecure voice transmissions. Intercept of Heavy Artillery Warnings, known by the enemy just as well as by the Allies as advanced warning of B-52 strikes, provided the enemy with at least tactical forewarning of almost all ARC LIGHT missions, giving target coordinates and TOT, usually ten to thirty minutes before the bombs started falling.²² "Calls for air strikes, requests for medical evacuations (including numbers, locations, and landing zones), ARVN assessments of tactical situation (including deployment of forces, map coordinates, and weapons used), and requests for artillery support (including forward observer, mission requests, and adjustment of fire)" were just some examples of the types of clear text messages regularly exploited by the VC/NVA.²³

~~(S-CCO)~~ The enemy also routinely targeted and exploited the communications of specific units, such as two ARVN Special Forces units in Tay Ninh and Hua Nghia provinces, west of Saigon, whose commanders were known to discuss their operational plans in the clear. Other ARVN units would regularly follow encrypted transmissions with clear voice to collate the messages and to clear up any mistakes, or to offer help in decrypting difficult passages in the messages. Even requests for food, when intercepted, informed the enemy of ARVN intentions.²⁴ As already mentioned, the VC/NVA TRUs even monitored Voice of America, British Broadcasting Corporation, and Armed Forces Network broadcasts originating in Saigon, and were often able to learn valuable information such as the organizations, designations, and number of troops involved in particular operations from these sources.²⁵

~~(C-CCO)~~ Interrogations of PWs and ralliers provided numerous examples of the immediate use that the VC/NVA made of intercepted Allied communications. One PW related how, on at least two occasions in 1967, his battalion had intercepted U.S. reconnaissance aircraft communications indicating that the battalion's position was going to be bombed and strafed by U.S. fighter aircraft. In both cases, the battalion escaped before the fighters could arrive on the scene, potentially avoiding numerous casualties.²⁶ On another occasion, a VC rallier described how his regiment had set up an ambush at a particular intersection on 4 November 1969 after intercepting a movement plan of the ARVN 22nd Ranger Battalion. In two engagements that day, the VC were able to kill twenty-nine ARVN personnel and wound sixty-five others.²⁷ Finally, a captured VC regimental commander related how, in March 1968, his regiment had used intercepted clear-voice transmissions to set up the ambush of a U.S. battalion. During the ensuing action, the PW claimed, 100 Americans had been killed.²⁸

~~(C)~~ Although the VC/NVA relied most heavily on COMINT for foreknowledge and forewarning of Allied operations, Allied communications were by no means the only source

of enemy intelligence during the war in Southeast Asia. The VC/NVA also maintained an extensive espionage program in the RVN and perhaps elsewhere in the Pacific. Individual agents working in the RVN were controlled by Military Intelligence Sections (MIS), which were directed by the Strategic Intelligence Section (SIS). The SIS reported directly to the MIB at COSVN, where agent information was analyzed and either disseminated to military units in the field or passed on to the CRD in Hanoi.²⁹ There was also evidence that VC/NVA tactical units recruited their own agents to provide them with local, tailored intelligence.

~~(C)~~ The VC/NVA were able to infiltrate agents into all levels of RVN society, from high-ranking military and civilian personnel in Saigon to peasant children in the countryside. The enemy also attempted and, often it seemed, succeeded in placing agents among the Allied forces, especially the Americans, usually as workers in local military installations. The enemy typically sought communist or DRV sympathizers to recruit as agents but were not unwilling to resort to threats and violence to coerce people into spying for them.³⁰

~~(C)~~ Interrogation of enemy PWs and ralliers gave general indications of VC/NVA espionage in the RVN. For instance, sympathetic civilian authorities often provided the VC with information on Allied troop concentrations in their areas, while local villagers would provide them with local hearsay on Allied intentions.³¹ Villagers were also responsible for warning the VC of Allied activities. These villagers would use "such methods as ringing a gong, shaking a rattle, firing shots into the air, blowing a whistle, beating a bamboo stick, blowing a horn, setting a fire, or igniting smoke grenades" to warn the enemy of Allied troop movements. The VC/NVA also would force interpreters and translators working for U.S. military and civilian agencies in the RVN to steal documents and provide information from their jobs.³²

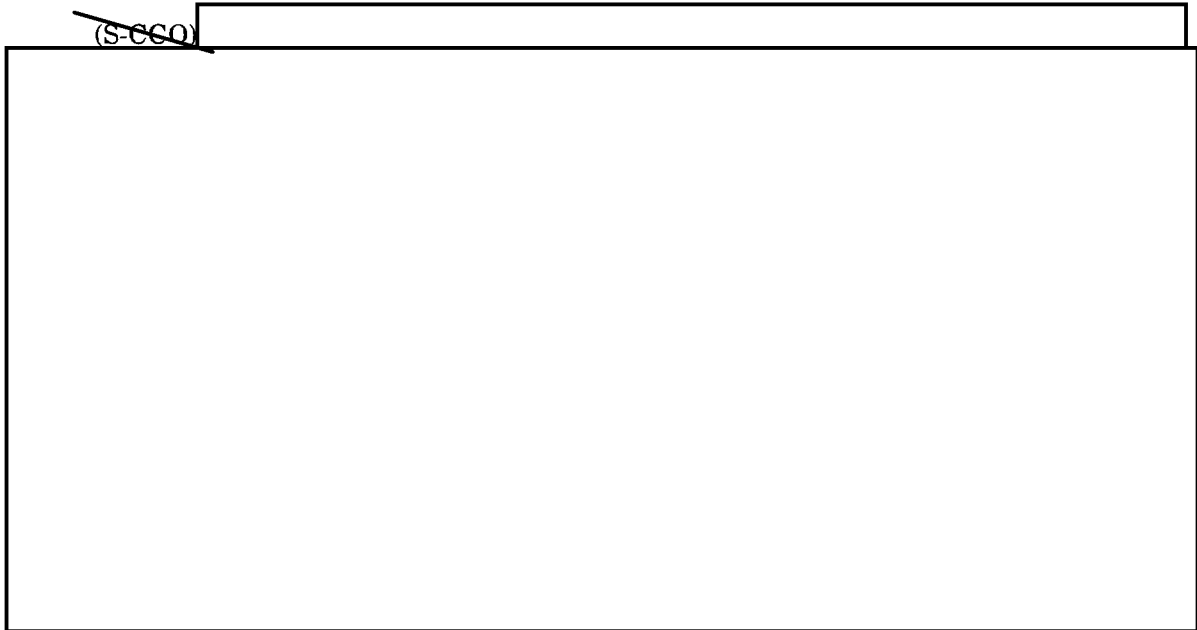
~~(C)~~ The enemy also made a concerted, and successful, effort to infiltrate ARVN units in order to provide more timely and accurate information on proposed ARVN operations. Often, draft-age VC personnel would allow themselves to be arrested as draft evaders, and would then volunteer for duty in target areas. VC/NVA personnel even gained access to ARVN-controlled installations by wearing captured or stolen RVN armed forces uniforms and passing themselves off as South Vietnamese military personnel.³³

~~(SC-NF)~~ When the enemy was not able to place an agent inside a particular Allied installation, they settled for placing one near the installation or in those places that Allied personnel were known to frequent off the job, and relied on observation and eavesdropping to gather information. The enemy recruited vendors, truck drivers, carpenters, even bar girls and prostitutes to serve as agents.³⁴ The VC was even reported recruiting fourteen- to sixteen-year-old children to hang around Allied radio-equipped vehicles and copy the frequency settings on the communications gear, and they are believed to have placed

agents in Guam, Thailand, Okinawa, Japan, and the Philippines in order to observe and report on U.S. operations such as ARC LIGHT.³⁵

~~(S-CNF)~~ The last major source of enemy intelligence concerning Allied operations in South Vietnam, following COMINT and espionage, consisted of information gathered by VC/NVA forces themselves. Military intelligence of this sort, collected through routine reconnaissance and the recognition of stereotyped Allied activities, was supplied to the SIS at COSVN for analysis and dissemination.³⁶ VC/NVA units learned during the war to forecast Allied tactics based, for instance, on their reconnaissance procedures. The presence of certain U.S. reconnaissance aircraft in a region was recognized as a tip-off of an ARC LIGHT mission in the near future, while other types of reconnaissance aircraft forewarned of tactical air and helicopter gunship attacks.³⁷ A captured NVA lieutenant colonel considered the following types of activity, all of which were easily observable to VC/NVA personnel in the field, as good indicators of pending U.S. ground operations: troop movements, supply movements, the appearance of new units in a region, the appearance of certain reconnaissance aircraft, increased patrol activity, and increased radio communications. He also observed changes in the activity of the local populace and local ARVN forces prior to most Allied operations. The NVA colonel further indicated that the amount of time between operations in any one area was fairly consistent and that he could predict the likelihood of impending operations based solely on the length of time since the last previous operation in the vicinity.³⁸

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Notes

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1. (U) [redacted] *The Great Conversation*, 5.
2. (TS) [redacted]
3. (S) CINCPAC Serial SSO 00026-71. *Operations Security (OPSEC) Report*. 1 June 1971, 2 (TSC).
4. (C) Combined Intelligence Center Vietnam (CICV) Serial MACJ231-6. *VC/NVA Alert and Early Warning System*. 30 June 1970, i (C).
5. (C) Ibid., 1 (C).
6. (TSC) CINCPAC SSO 00048-69. *Operations Security (OPSEC) Report: Extracts from Appendix I*, 3 (C); Lieutenant General Marshall S. Carter, DIRNSA, Memorandum to Director, Central Intelligence Agency, Chief, JCS, and Director, DIA. Subject: Project RATHSKELLER. 12 January 1968 (TSC).
7. (S) CINCPAC SSO 00048-69. *Extracts from Appendix I*, B-1 (C); Department of Defense Intelligence Information Report (DODIIR) Serial TCSR PAC 08-70. *Study of VC/NVA Technical Reconnaissance Units*, 14 July 1970, 2 (C).
8. (C) CINCPAC SSO 00048-69. *Extracts from Appendix I*, B-1 (C).
9. (S) CINCPAC SSO 00048-69. *Extracts from Appendix I*, 4 (C); DODIIR Serial 6 028 2422 68. *Prior Knowledge of Allied/U.S. Operations*. 22 June 1968, 2,3 (C).
10. (TSC) DIRNSA Memorandum to Director, CIA, Chief, JCS, and Director, DIA. Serial N0040. Subject: Project RATHSKELLER. 12 January 1968 (TSC); [redacted]
11. (S/NF) Charles W. Baker. "Military Effects of Poor Communications Security (COMSEC) -- Some Historical Examples" (unpublished manuscript), (1991, National Security Agency, Center for Cryptologic History), 3,4 (TSC NF) [redacted] "Viet Cong SIGINT and U.S. Army COMSEC in Vietnam." *CRYPTOLOGIA*, Volume XIII, Number 2, April 1989, 144- 145.
12. (S-CCO) DODIIR TCSR PAC 08-70, 2 (C); (C) CINCPAC SSO 00048-69. *Extracts from Appendix I*, 1 (C); Boak interview. OH-12-92 (S-CCO).
13. (C) CINCPAC SSO 00048-69. *Extracts from Appendix I*, 1, B-2 (C).
14. (C) Ibid., 3 (C); CICV MACJ231-6, 2 (C).
15. (S-CCO) DODIIR Serial TCSR PAC 15-69. *Study of VC/NVA Technical Reconnaissance Units (TRU)*. 18 November 1969, 2; 3 (S-CCO); U.S. Army Security Agency (USASA). TAREX Report TCSR 04- 71. *VC/NVA COMINT Effort*. 8 March 1971, 5,7 (C).
16. (C-CCO) USASA TAREX Report TCSR 04-71. .5, 6 (C); DODIIR Serial TTIR RVN 24-68. *Interrogation of Le Van Ngot*. 4 November 1968, 3 (C-CCO); DODIIR Serial [redacted] *VC Communications in MR2*. 14 January 1968, 2 (C).
17. (C) USASA TCSR 04-71. pg.4, 5 (C); CINCPAC SSO 00048-69. *Extracts from Appendix I*, 3 (C).
18. (C) Ibid., 2 (C); [redacted] 145(C) .
19. CINCPAC SSO 00048-69. *Extracts from Appendix I*. pg.3, 4 (C).
20. (C-CCO) DODIIR TTIR RVN 24-68, 4, 5 (C-CCO); DODIIR TIR RVN 307-68. *VC Operations to Obtain Information From ARVN and Allied Forces*. 31 December 1968, 4 (C-CCO); [redacted] 145(C).
21. (S-CCO) USASAPAC TCSR 04-71 4, 8 (C); DODIIR TCSR PAC-15-69. *Study of VC/NVA Technical Reconnaissance Units (TRU)*. 18 November 1969, 3, 4 (S-CCO); TAREX Reports. 15 June 1970, 1 (S).
22. (S) CICV MACJ231-6, 4 (C); DODIIR TCSR PAC 08-70, 5 (C).

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- 23. ~~(C)~~ DODIIR IR 6028 0138 68, 2 (C).
- 24. ~~(S-CCO)~~ DODIIR TTIR RVN 24-68, 6 (C-CCO); DODIIR TCSR PAC-15-69, 3 (S-CCO).
- 25. ~~(C-CCO)~~ DODIIR TTIR RVN 24-68, 4 (C-CCO); [redacted] 145.
- 26. ~~(C-CCO)~~ DODIIR Serial TIR RVN 308-68. *Monitoring of ARVN and Allied Radio by the VC 186th Battalion.* 3 December 1968, 4, 5 (C-CCO).
- 27. ~~(S)~~ DODIIR TCSR PAC 08-70, 6 (C).
- 28. ~~(C-CCO)~~ DODIIR TTIR RVN 24-68, 5 (C-CCO).
- 29. ~~(C)~~ DODIIR TCSR PAC 08-70, 2 (C).
- 30. ~~(C)~~ CIVV MACJ231-6, 5 (C).
- 31. ~~(C)~~ DODIIR Serial IR 6 028 2730 68. *Prior Warning of Allied Operations.* 11 July 1968, 2, 3 (C); DODIIR IR 6028 0138 68, 3 (C).
- 32. ~~(C)~~ CIVV MACJ231-6, 5, 6 (C). (b) (3) - P. L. 86-36
- 33. ~~(S)~~ Ibid., 6 (C).
- 34. ~~(S-CCO)~~ Ibid., 5, 6 (C); Donzel E. Betts. *The Front 4 Intelligence Threat Puzzle* (Draft Copy). December 1971, 16 (S-CCO).
- 35. ~~(C)~~ USASAPAC TCSR 04-71, 7 (C); CIVV MACJ231-6, 3 (C).
- 36. ~~(S-CCO)~~ DODIIR TCSR PAC 08-70, 2 (C); Betts. *The Front 4 Intelligence Threat Puzzle* (Draft Copy), 16 (S-CCO).
- 37. ~~(S)~~ TAREX Reports, 1 (S); DODIIR Serial [redacted] *Prior Knowledge of Allied/U.S. Operations.* 22 June 1968, 2 (S).
- 38. ~~(S)~~ DODIIR [redacted] DODIIR TTIR RVN 24-68, 6 (C).
- 39. ~~(S-CCO)~~ DODIIR TIR RVN 307-68, 3 (C-CCO); TAREX Reports, 2 (S). (b) (1)
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- 40. ~~(S)~~ DODIIR [redacted]
- 41. ~~(S)~~ Ibid., 2. (C); TAREX Reports, 3 (S).

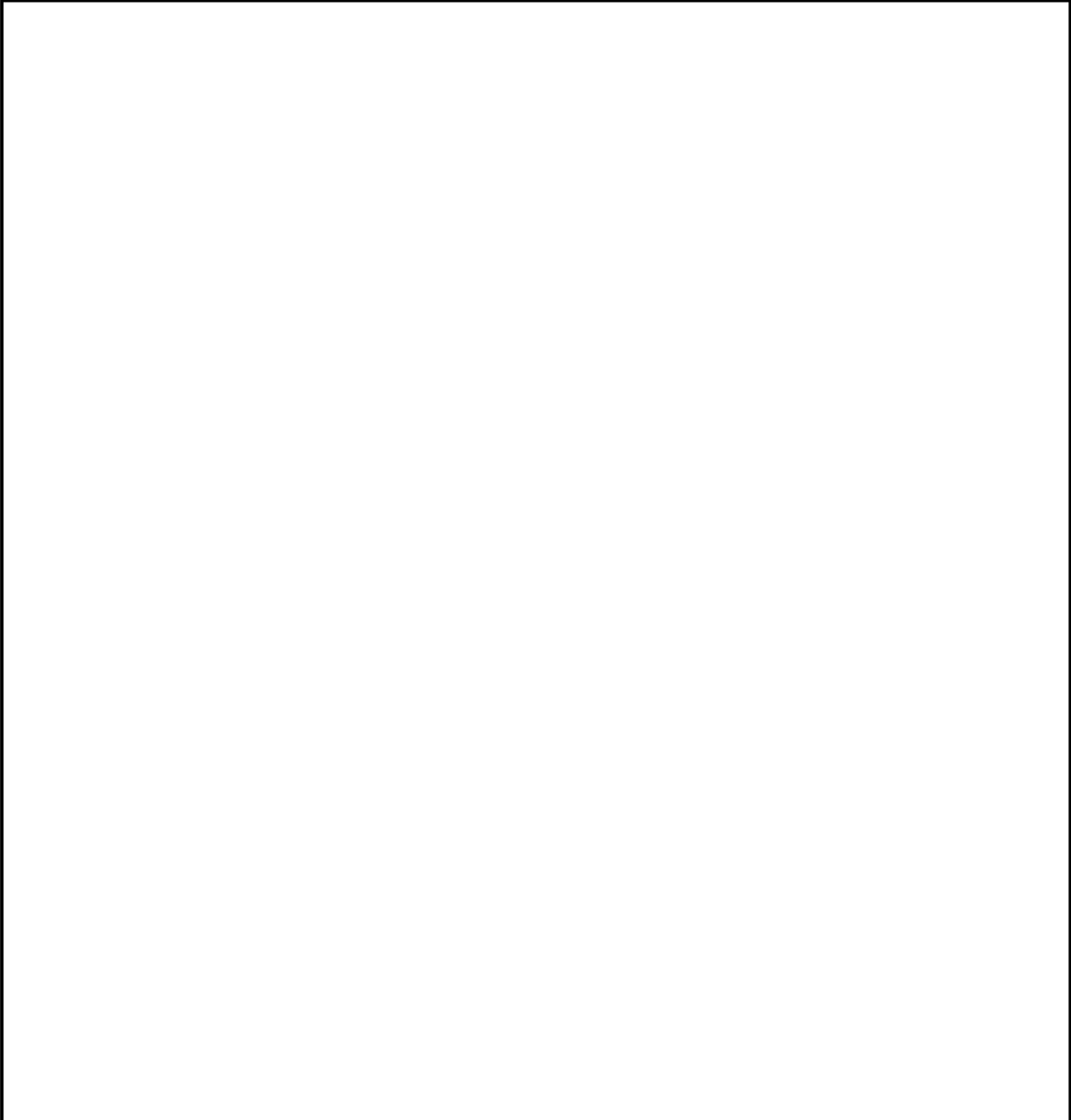
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Part VI

OPSEC Goes Worldwide

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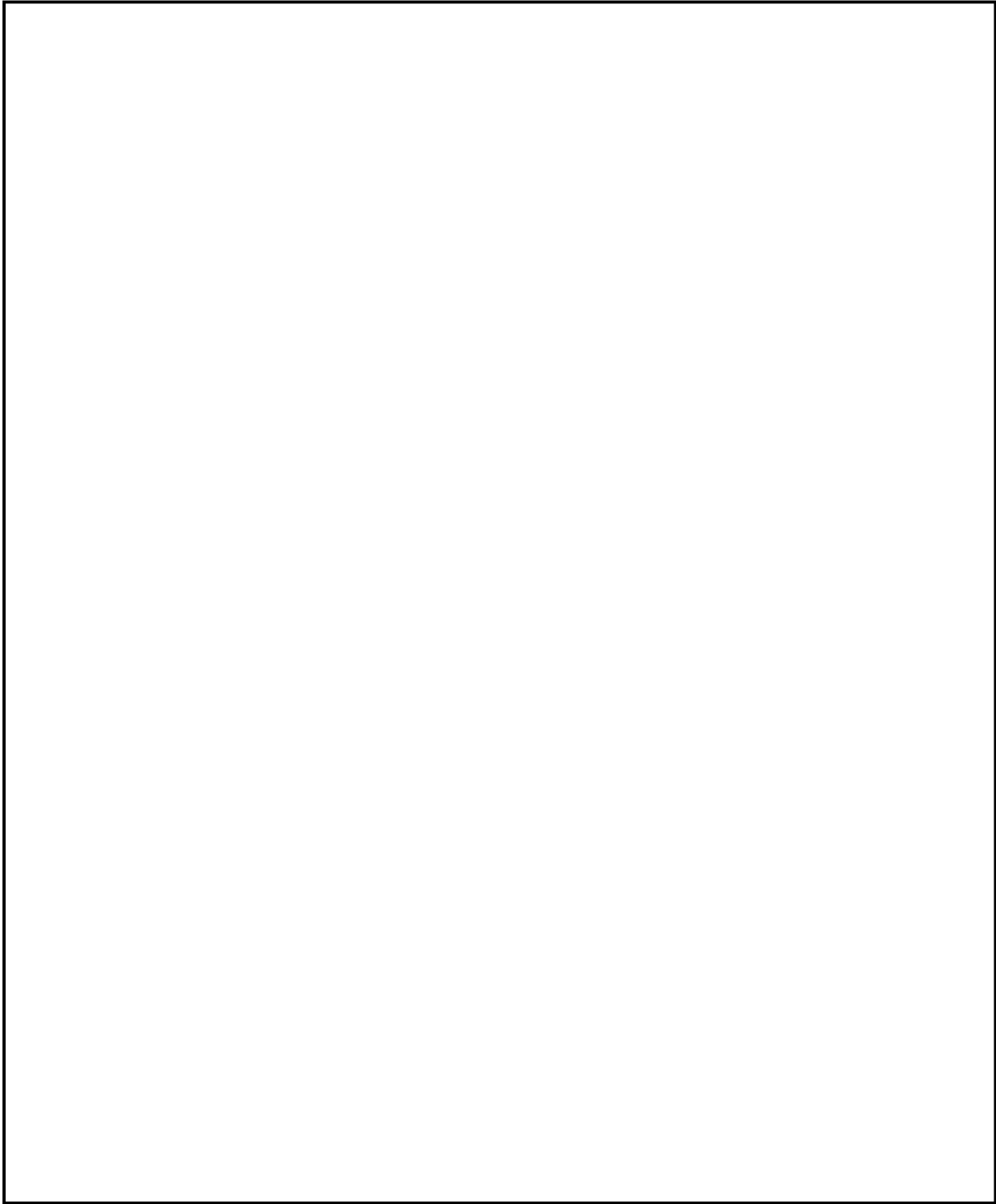
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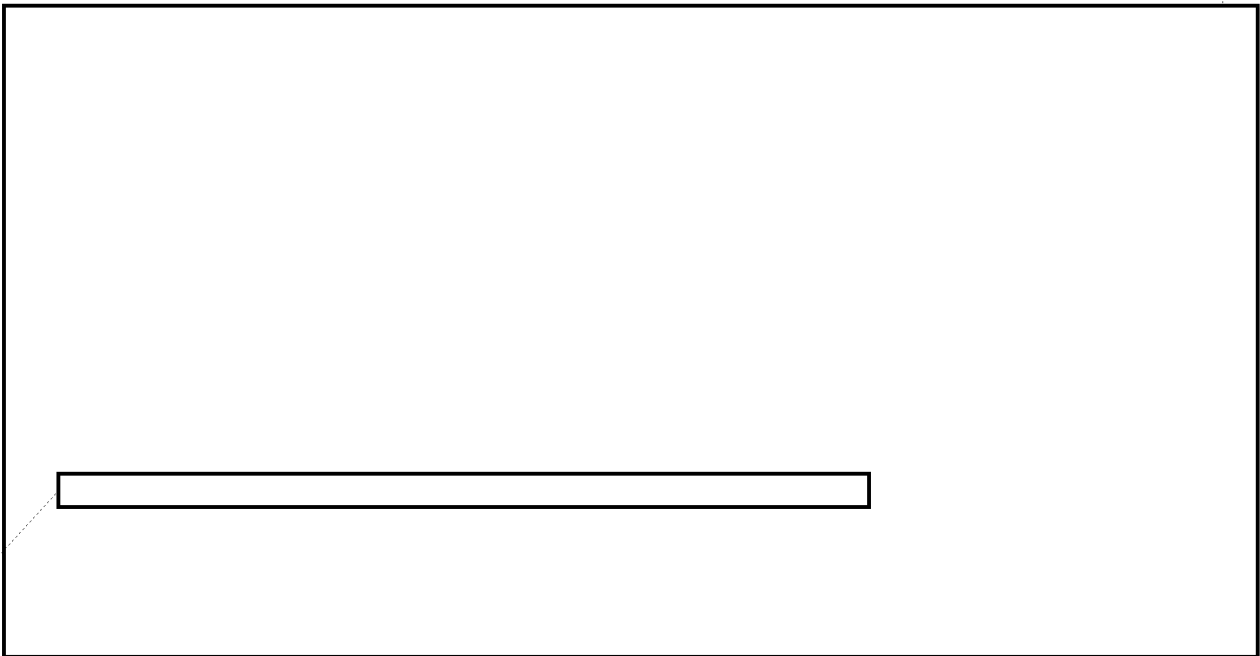
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PURPLE DRAGON DIVERSIFIES

(U) The nature of the U.S. involvement in South Vietnam underwent a significant change beginning in January 1969 with the inauguration of Richard Nixon as president. The buildup of U.S. troops was reversed and the long disengagement from South Vietnam began. Between the summer of 1969 and January 1973, U.S. troop levels in the RVN would drop by more than 95 percent.¹¹

(U) Along with the drawdown of U.S. forces in Southeast Asia, the U.S. military's conduct of the war also changed. The Nixon administration's policy of "Vietnamization" aimed at preparing the ARVN to take over the combat roles of the withdrawing U.S. troops, along with a gradually diminishing the role of those U.S. forces staying behind. The final goal of Vietnamization was for South Vietnam to take over completely the conduct of the war.¹²



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~~(S)~~ These surveys showed the same kinds of OPSEC weaknesses in PACOM peacetime operations as existed in combat operations in Southeast Asia. Poor COMSEC was the biggest single problem, especially the use of nonsecure communications links for passing sensitive information, with heavy dependence on the "conventional telephone." ¹⁵ Units were passing a superfluity of information, much more than necessary to accomplish their missions, highlighting friendly operations for the enemy. ¹⁶ Other weaknesses included poor SOI and the use of unauthorized or homemade codes, in one case a dependence for years on a homemade callsign for travel by a high-ranking officer. ¹⁷ EC-121 aircraft, providing early warning radar coverage in Korea, also for years had used an unchanging callsign, as well as a homemade code for reporting its operational status. ¹⁸ Another unit also used homemade, hence less secure, codes, and, furthermore, the survey team found, personnel were transmitting the same information via authorized operational codes. The parallel transmission of the same information over the two systems, one authorized, the other not, could easily have compromised the security of the authorized code. ¹⁹

~~(S)~~ PURPLE DRAGON also found numerous CI weaknesses in PACOM's noncombat operations. Uncleared Korean nationals, for example, were employed at many Army air fields, with virtually free access to most operational areas - some even had access to the ATC centers and other work spaces where sensitive, and sometimes classified, information was regularly being passed. Also, whenever a dignitary was to visit an 8th Army installation, the protocol office always distributed widely an unclassified, detailed itinerary booklet in advance of arrival. Additionally, unclassified flight schedules for the dignitary's visit would be posted in unsecure areas, such as officer's clubs, up to forty-eight hours in advance of the visit. ²⁰

~~(S)~~ Stereotyped operations were also a problem, perhaps even more so in peacetime operations than in combat operations. One of the regular operations of U.S. Army aviation units was the insertion of ROK troops in the area just south of the Demilitarized Zone separating the two Koreas, in order to interdict the infiltration of North Korean espionage agents and commandos into the ROK. Unfortunately, this interdiction operation was performed only one day a week, alternating between Wednesdays and Thursdays, and the ROK troops were always withdrawn after twenty-four hours. "This pattern could permit the North Koreans to take actions negating ROK mission effectiveness." ²¹

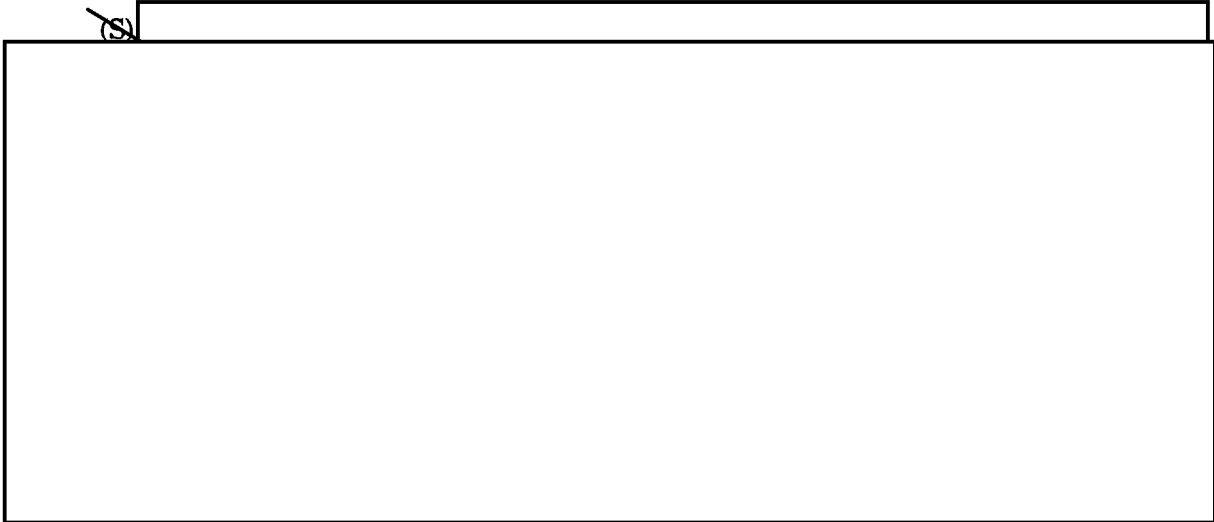
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missions, however, always flew exactly the same flight path and always for either

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five or seven hours at a time. Furthermore, the drones were released at exactly the same time during each mission. Likewise, the helicopters that recovered the drones always filed a flight plan at their home base at exactly 0800 hours local time on the day of a mission.²²

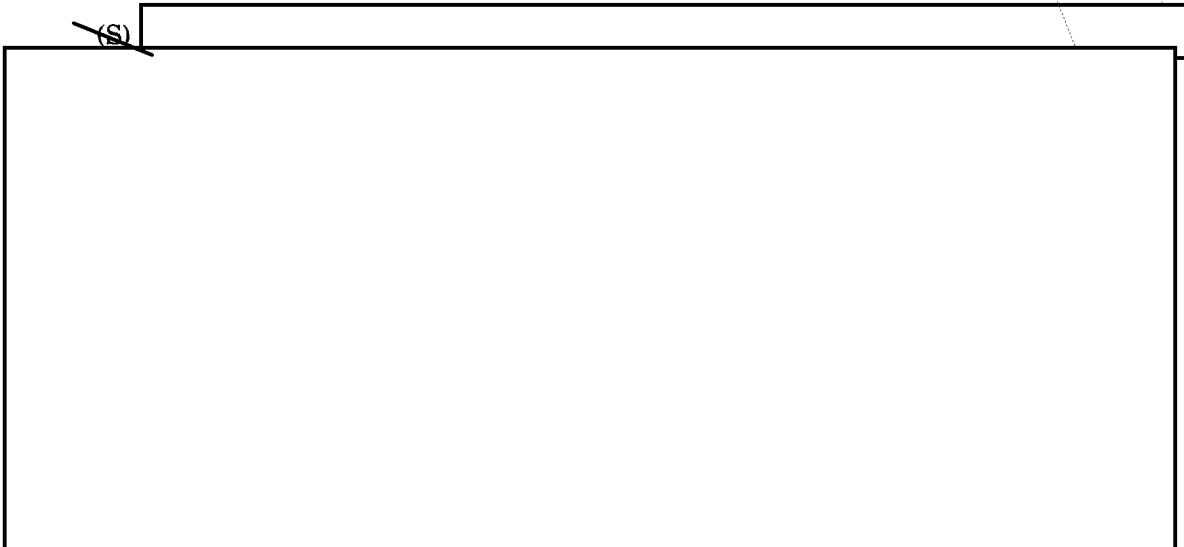


OPSEC AND THE ALLIES

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(U) The United States was not alone in fighting the North Vietnamese and Viet Cong. The war in Vietnam was a coalition effort, encompassing forces from Australia, South Korea, Thailand, New Zealand, The Philippines, the Republic of China, and, of course, South Vietnam.

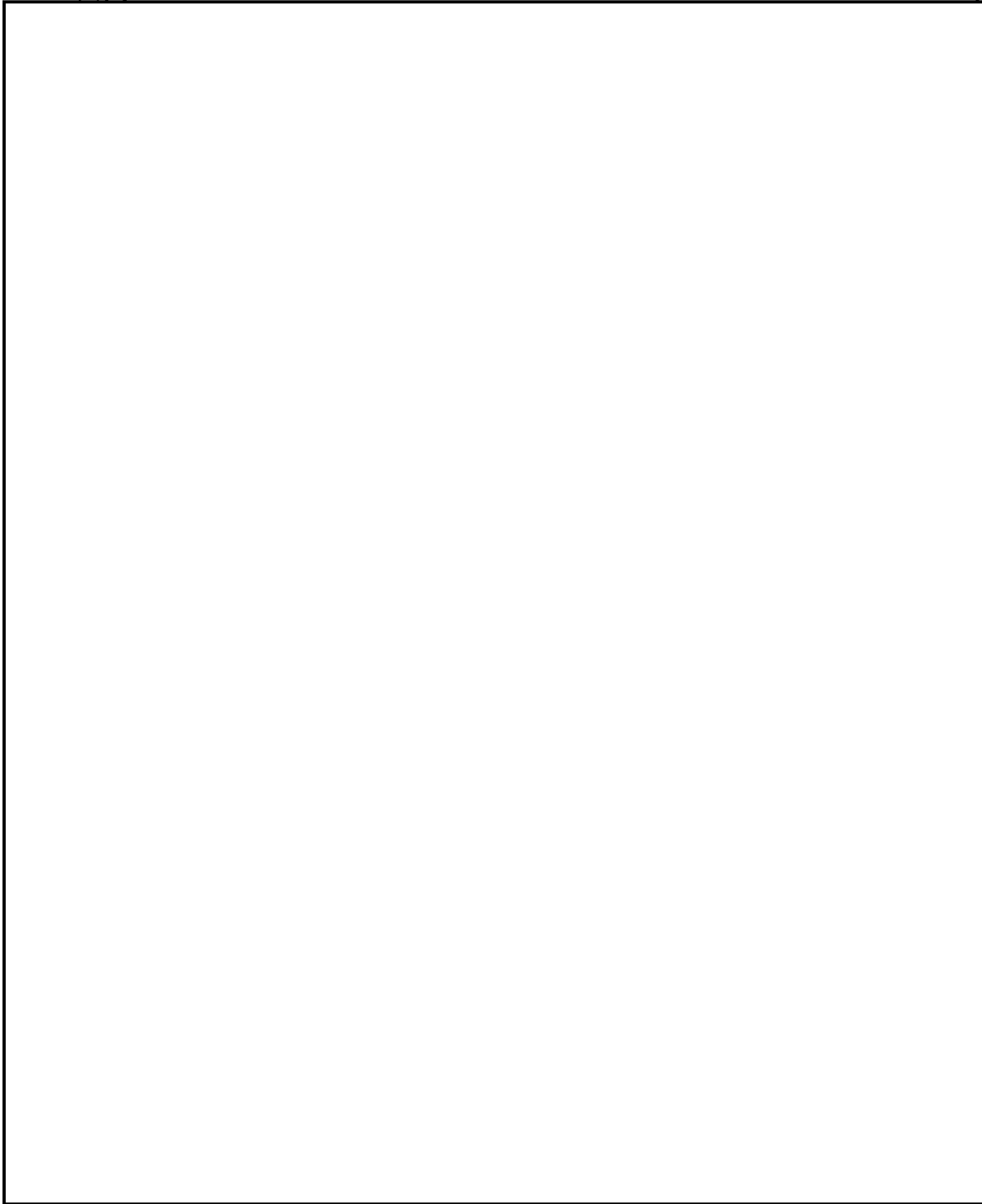


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PURPLE DRAGON: LESSONS LEARNED

(U) On 27 January 1973, representatives of the United States, North Vietnam, South Vietnam, and the Viet Cong signed "An Agreement Ending the War and Restoring Peace in Vietnam" in Paris. The agreement called for the withdrawal of the last 23,700 U.S. troops and advisors left in South Vietnam by the end of March. Although U.S. servicemen and women would continue to be actively engaged in Southeast Asia for another two years, the Paris Peace Accords effectively marked the end of the Vietnam War for the United States.

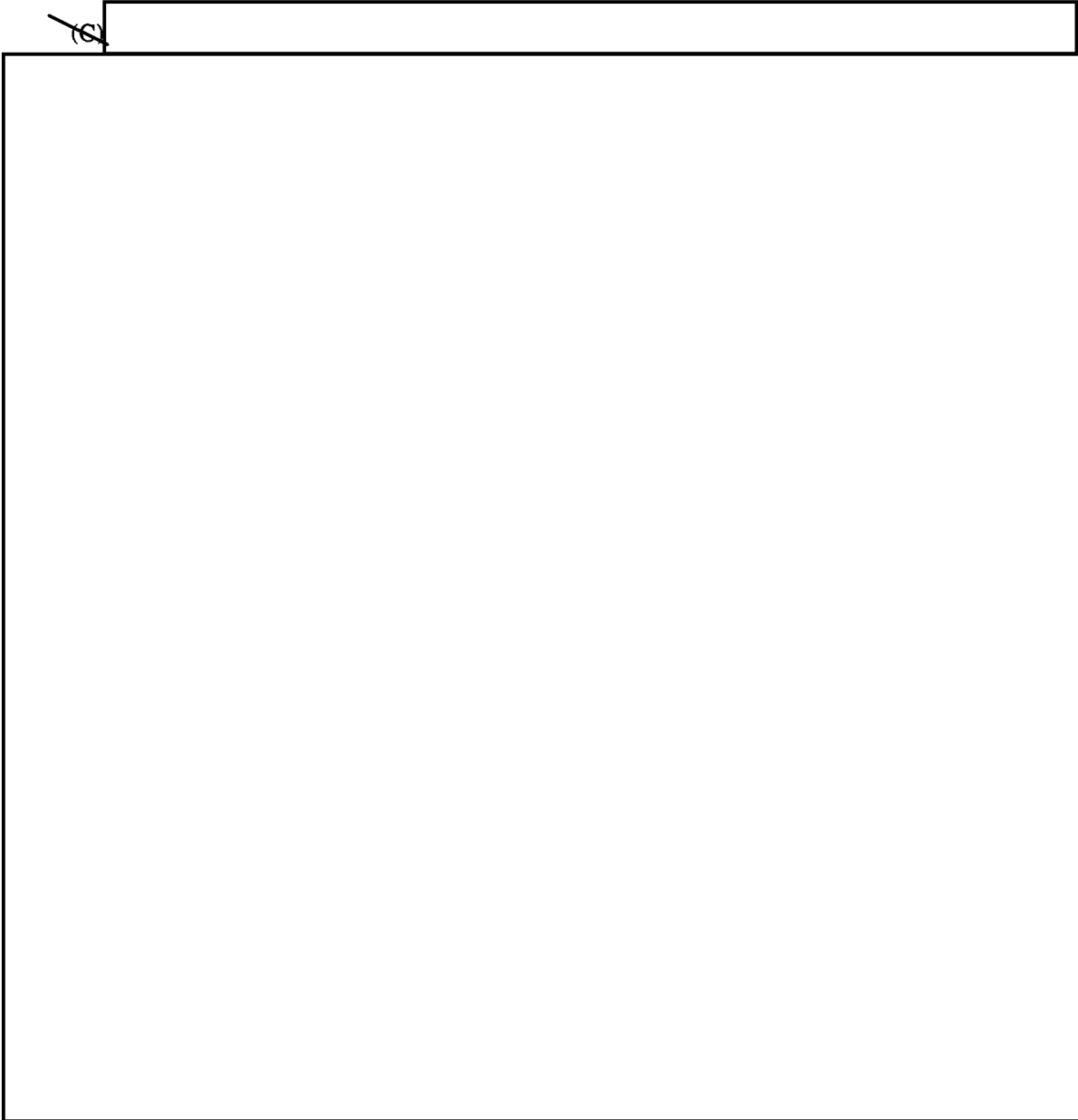
(U) By the end of the war, PURPLE DRAGON and the U.S. operations security program were a little over six years old. During that time, what did the U.S. military learn from PURPLE DRAGON? And how successful was the U.S. OPSEC effort in Southeast Asia?

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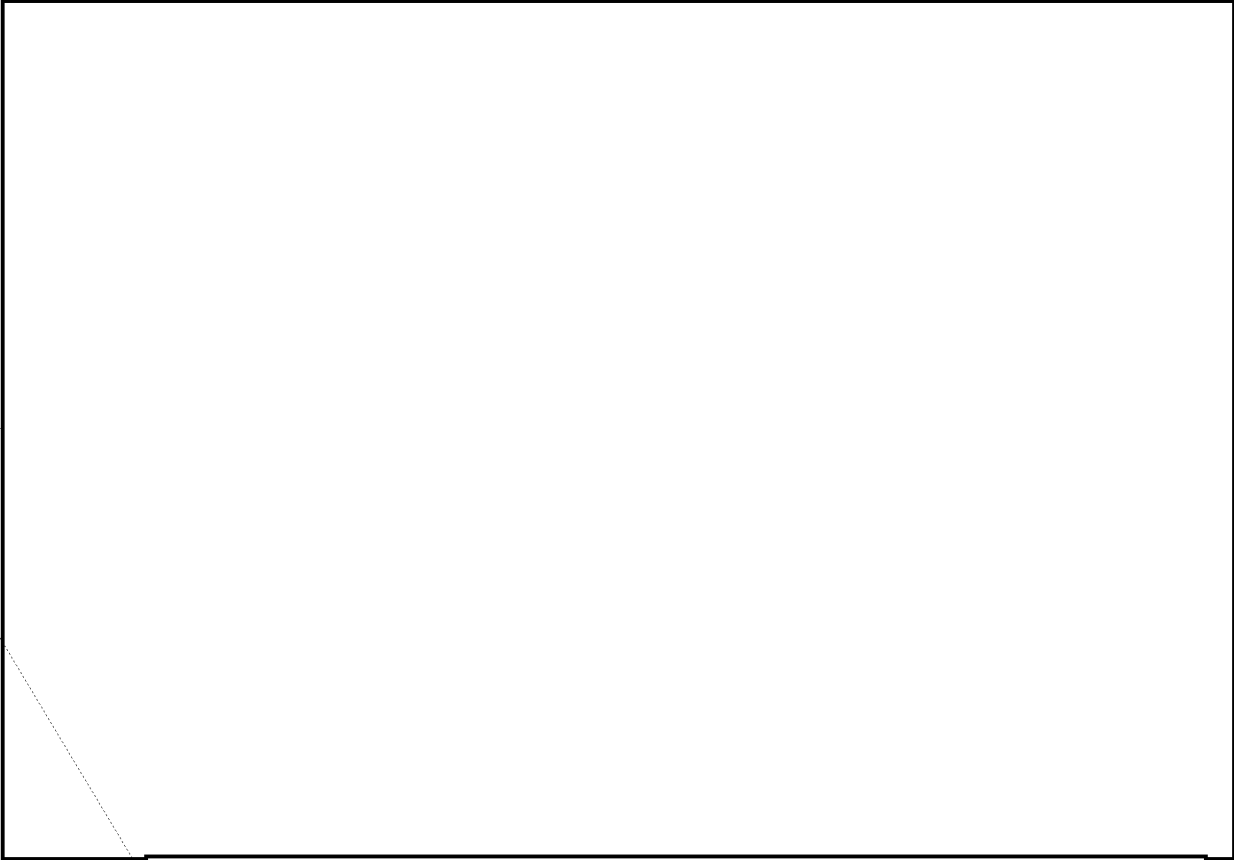


(U) When U.S. military commanders first received proof from the National Security Agency that the enemy was forewarned of U.S. operations in Southeast Asia, no one could say with certainty how he had obtained his information, and, without knowing this, there was no way to prevent him from obtaining more. It was in order to discover how the enemy obtained his information, and to prevent him from obtaining more, that PURPLE DRAGON was born.



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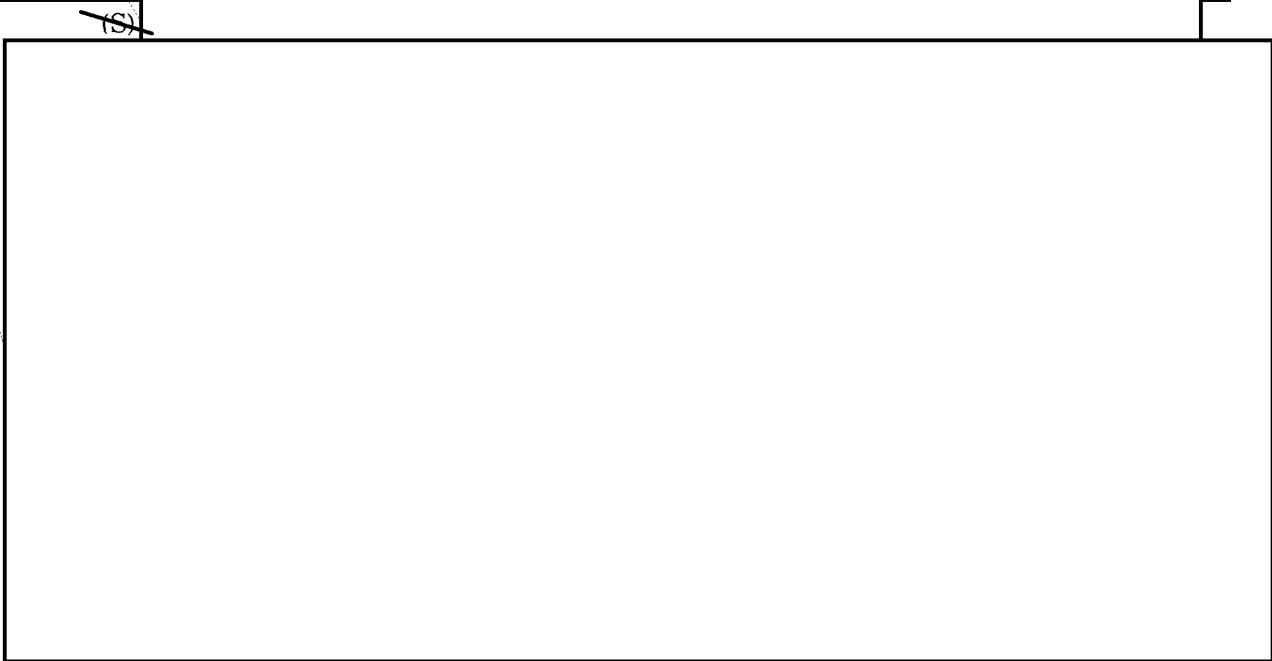
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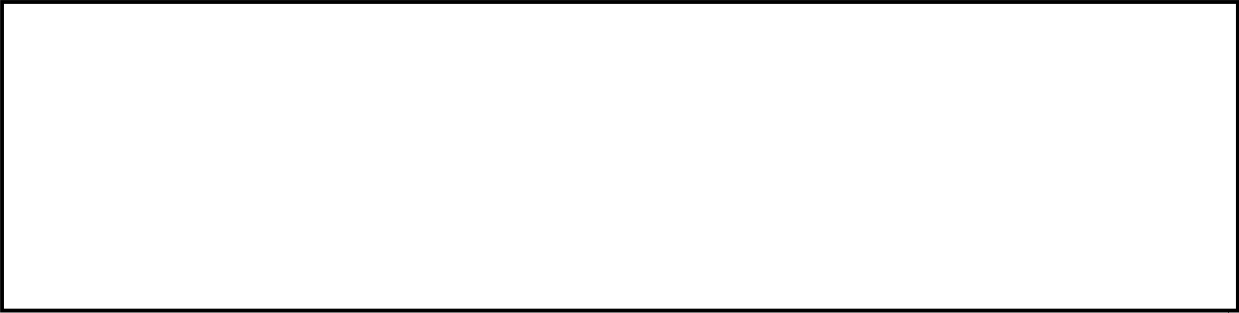


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U.S. Army ground forces using a radiotelephone in South Vietnam

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(U) How successful, then, was PURPLE DRAGON and the U.S. OPSEC effort in Vietnam?

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Notes

- 1. ~~(TS)~~ [redacted]
- 2. ~~(S)~~ [redacted]
- 4. ~~(S)~~ [redacted]
- 5. (U) Ibid., 96-99 (TSC NF).
- 6. ~~(S)~~ [redacted]
- 7. (U) Deeley, 19.
- 8. ~~(S)~~ [redacted]
- 9. ~~(S)~~ [redacted] interview. OH-10-92 (S-CCO).
- 10. ~~(S)~~ St. C. Smith, Chairman OPSEC Monitoring Group, Memorandum to Distribution. Subject: OPSEC Flimsy. 24 August 1972. (C).
- 11. (U) Bowman, 227, 231, 338.
- 12. (U) Ibid., 202, 241.
- 13. ~~(S-CCO)~~ CINCPAC SSO 00048-69, 32 (TSC).
- 14. ~~(S)~~ CINCPAC Serial SSO 00054-71. *Operations Security (OPSEC) Report*. 1 December 1971, 1, 33, 59, 179 (TSC NF).
- 15. ~~(S)~~ Ibid., 7 (TSC NF).
- 16. ~~(S)~~ Ibid., 60 (TSC NF).
- 17. ~~(S)~~ Ibid., 42 (TSC NF).
- 18. ~~(S)~~ Ibid., 64-65 (TSC NF).
- 19. ~~(S)~~ Ibid., 61 (TSC NF).
- 20. ~~(S)~~ Ibid., 12-13, 17 (TSC NF).
- 21. ~~(S)~~ Ibid., 14 (TSC NF).
- 22. ~~(S)~~ Ibid., 179, 180-181 (TSC NF).
- 23. ~~(S)~~ CINCPAC SSO 00064-70, 58-68.
- 24. ~~(S-CCO)~~ [redacted] Chief S11, NSA, Memorandum to Distribution. Subject: COMSEC Thinking of Experienced U.S. Service Officers Assigned to Vietnam. 18 April 1972, 4 (S-CCO).
- 25. ~~(S-CCO)~~ Ibid., 3, 6, 7, 13, 23.
- 26. ~~(S)~~ CINCPAC SSO 00054-71, 186 (TSC NF).
- 27. ~~(S)~~ Ibid., 187 (TSC NF).
- 28. ~~(S)~~ CINCPAC SSO 00064-70, 33 (TSC NF); CINCPAC SSO 00054-71, 187 (TSC NF); CINCPAC Serial SSO 00026-71. *Operations Security (OPSEC) Report*. 1 June 1971, 69 (TSC).
- 29. ~~(S)~~ Ibid., 70 (TSC).
- 30. ~~(S)~~ Ibid., 70, 71-84 (TSC).

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- 31. ~~(S)~~ CINCPAC SSO 00054-71, 188 (TSC NF).
- 32. ~~(S)~~ CINCPAC Message 7349 to MACV 300136Z JUL 72 (S); JCS Message 0020 to DIRNSA 261639Z JUL 72 (SC); JCS Message 0021 to CINCPAC 261641Z JUL 72 (SC); [redacted] NSA B6, Memorandum to Captain Smith, JCS J34. 23 August 1972 (SC); CINCPAC. *Operations Security Report*, Tab A to Appendix II. 1 December 1972, 8 (SC NF).
- 33. ~~(S)~~ CINCPAC. *Operations Security Report*, Appendix II. 1 June 1972. pg.1-5 (TSC).
- 34. ~~(S)~~ NSA Pacific Representative in Vietnam, Message to DIRNSA. 300702Z AUG 70 (TSC).
- 35. ~~(S)~~ St. C. Smith, Chairman, OPSEC Monitoring Group, Memorandum (C).
- 36. ~~(S)~~ Ibid. (C).
- 37. ~~(S)~~ Ibid. (C).
- 38. ~~(S)~~ Ibid. (C); [redacted] interview; Deeley, 19.
- 39. ~~(S)~~ NSA Pacific Representative in Vietnam Message to DIRNSA. 300702Z AUG 70 (TSC).
- 40. ~~(S)~~ [redacted] interview. OH-11-92 (S-CCO); St. C. Smith, Chairman, OPSEC Monitoring Group, Memorandum (C).
- 41. ~~(S)~~ [redacted]

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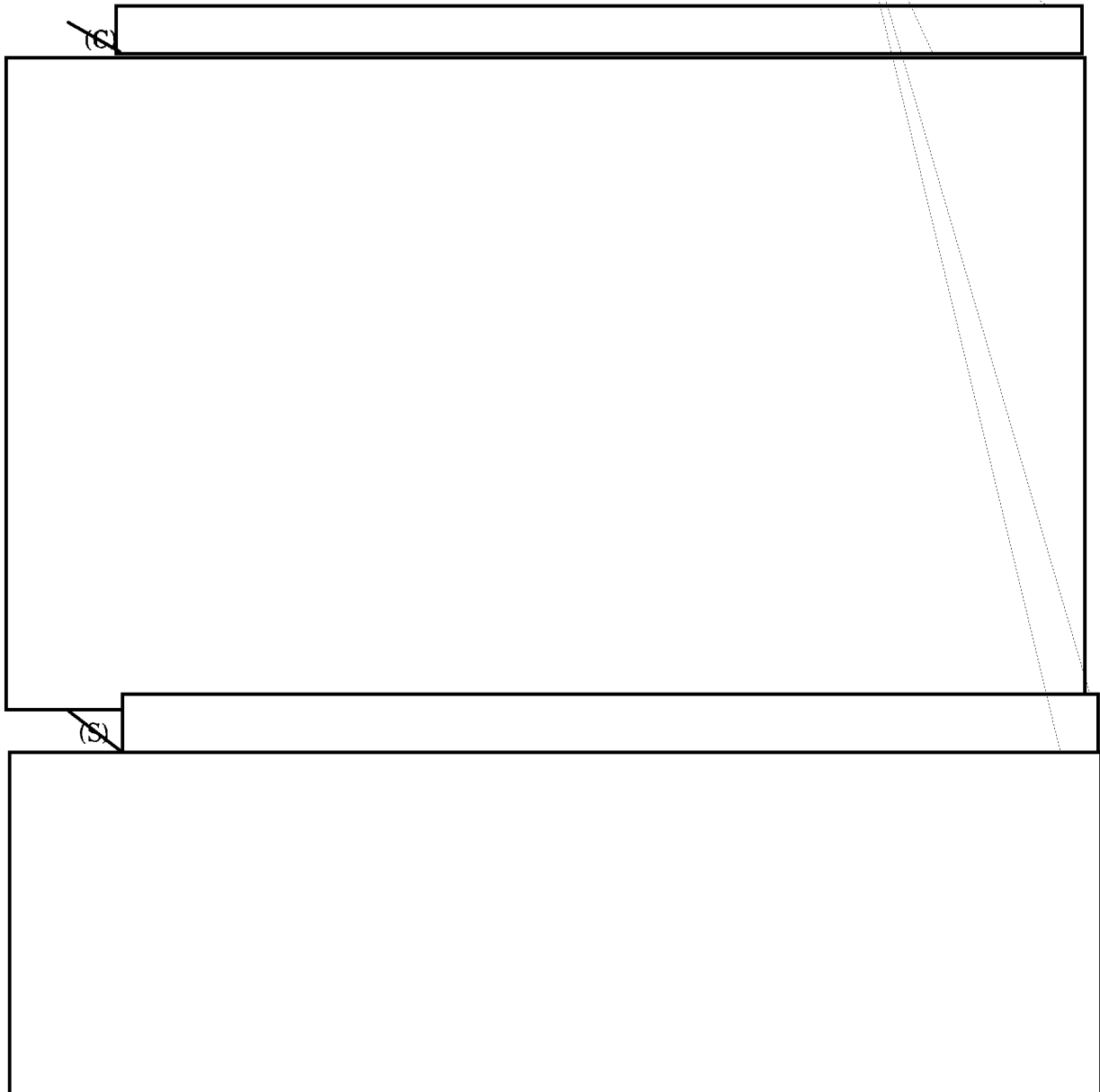
Part VII

PURPLE DRAGON at Peace

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OPSEC AFTER PURPLE DRAGON



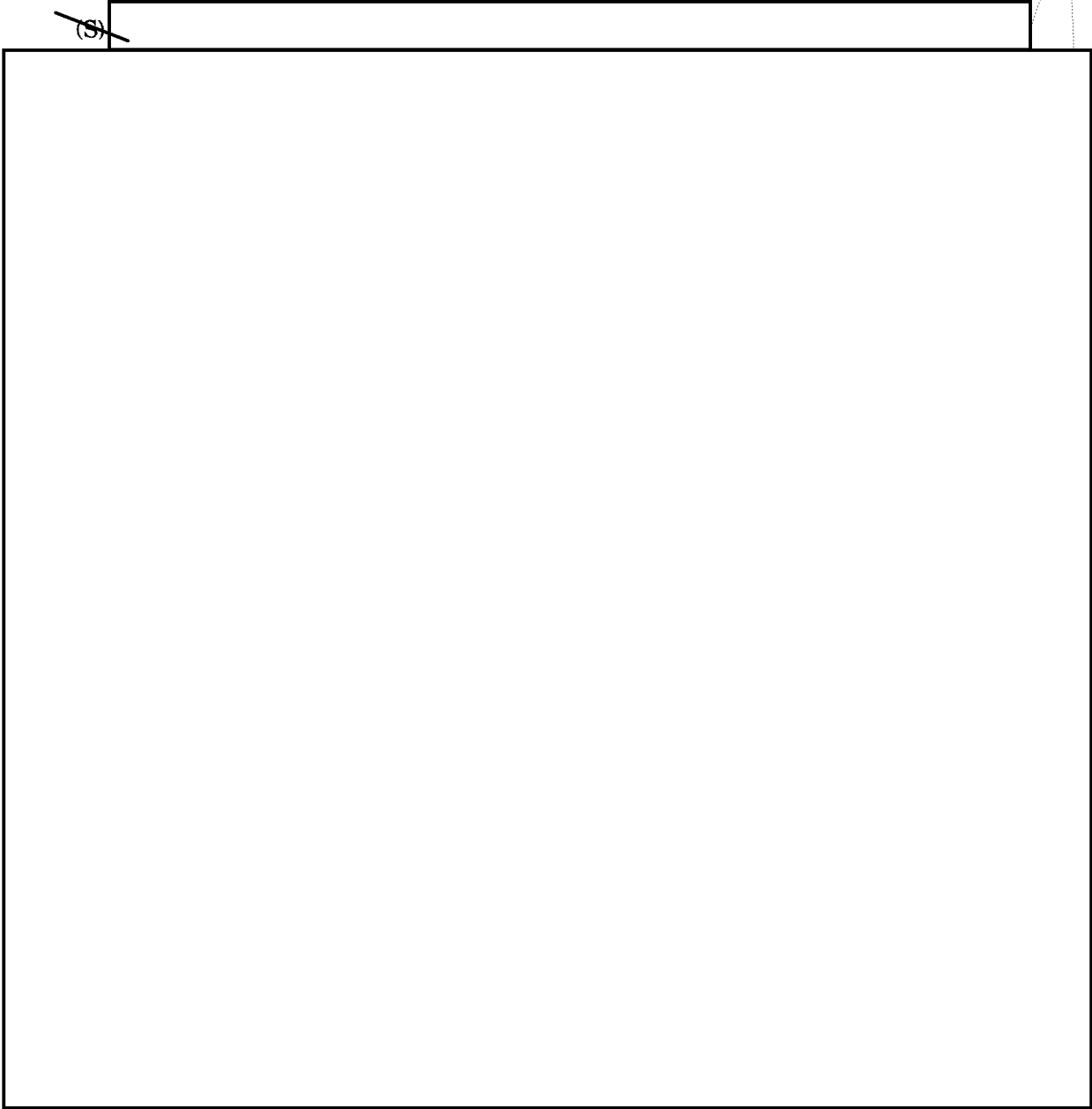
(U) Therefore, it should not be surprising that the surveys conducted by these OPSEC branches often showed a lack of understanding of the purpose of operations security. In

Vietnam, it had been possible to recognize what information the enemy had wanted and, by surveying operations, to discover whether that information was being divulged and how, if possible, to prevent it. Away from Vietnam, however, many OPSEC surveys, often of such operations as war game exercises, lacked a clear-cut enemy with identifiable intelligence interests. In these cases, OPSEC survey teams merely recorded potential security violations during the exercise, without regard to whether the lapse could have been exploited by an enemy, or whether it might be correctable, or even whether the information so divulged would have proved of real interest or value to an enemy.⁵

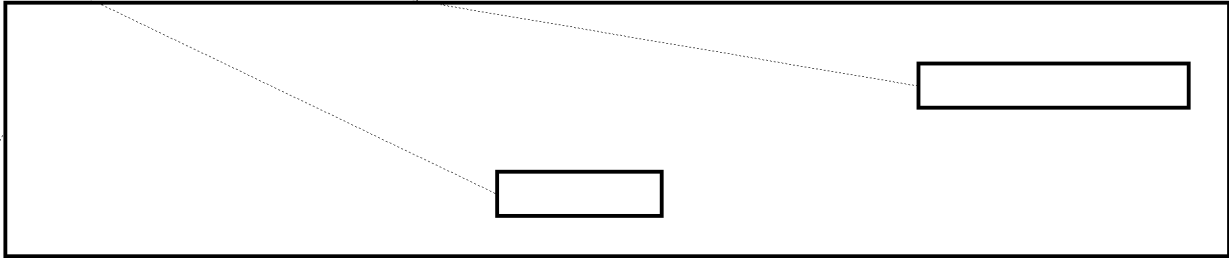
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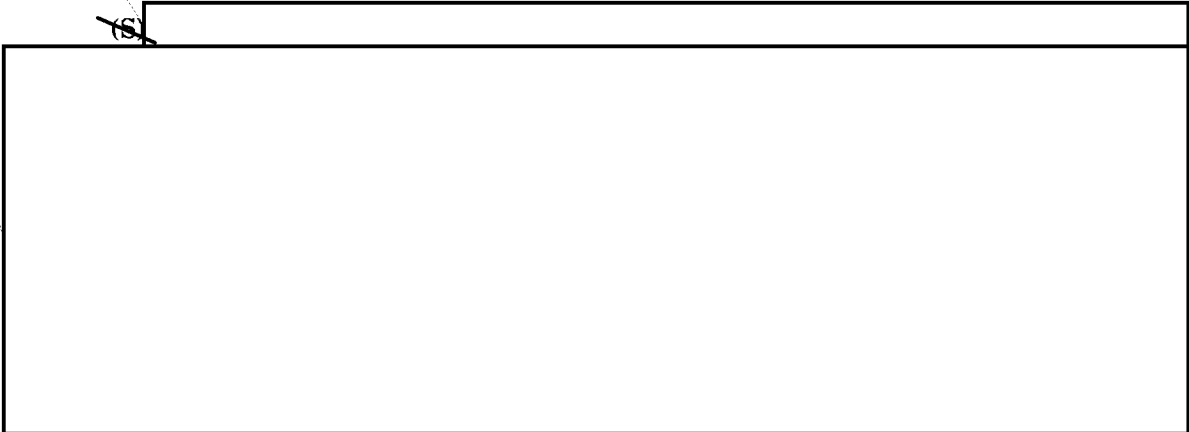


(U) In 1982, NSA efforts to establish a formal OPSEC training curriculum received a major boost. In December of that year, the JCS directed that NSA "establish and maintain an OPSEC training program for NSA/CSS civilian and military personnel."⁹ Using this directive, NSA developed the "National OPSEC Course," first presented at the NCS in November 1983. The OPSEC course was designated a national course, even though the JCS directive had called for a course solely for NSA/CSS personnel, because the Agency had asked to be allowed to present it to personnel from throughout the U.S. government; the JCS approved, and the OPSEC course was opened to non-NSA personnel. During the next six years, the National OPSEC Course would present the concept and methodology of operations security to over 500 senior- and mid-level government personnel, over 80 percent of whom were from departments and agencies outside NSA.¹⁰

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(U) NSA, through such means as the National OPSEC Course, OPSEC segments in other NCS courses, OPSEC seminars and briefings, and advice and assistance on OPSEC to other organizations, was able by the mid- and late 1980s to indoctrinate thousands of U.S. military and civilian personnel in the concept and methodology of OPSEC. Furthermore, using NSA's course as a model, other government organizations either developed new or revised existing OPSEC training programs. By the mid-1980s, therefore, a consistent view of operations security - its theory, its method, and its goals - was being propounded throughout the U.S. government.¹¹ The lack of focus which had plagued the U.S. OPSEC program since the end of the Vietnam War was finally being corrected.



(U) It would take nearly five years before the differing viewpoints and concerns of the competing departments and agencies concerned could be reconciled and the presidential directive on OPSEC published. In the meantime, the NOAC was established and, in 1985,

developed and approved training objectives for a three-tiered National OPSEC Training Program. NSA, "because of its experience in developing and fostering the OPSEC methodology," was to serve as the "lead agency for development and presentation of national level OPSEC instruction."¹³

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NATIONAL SECURITY DECISION DIRECTIVE 298

(U) Finally, on 22 January 1988 President Ronald Reagan signed National Security Decision Directive (NSDD) 298, decreeing that "each Executive department and agency assigned or supporting national security missions with classified or sensitive activities shall establish a formal OPSEC program. . . ."¹⁵ Under the directive, the Senior Interagency Group for Intelligence (SIG-I), with NOAC acting in an advisory capacity, was given the responsibility for formulating national OPSEC policy and resolving interagency OPSEC differences.¹⁶

(U) The director, NSA, was designated under NSDD 298 the executive agent for interagency OPSEC training:

In this capacity, he has responsibility to assist Executive departments and agencies, as needed, to establish OPSEC programs; develop and provide interagency OPSEC training courses; and establish and maintain an Interagency OPSEC Support Staff (IOSS). . . .¹⁷

The IOSS -- whose membership always consists, at the minimum, of representatives from the Department of Defense, the Department of Energy, the Central Intelligence Agency, the Federal Bureau of Investigation, and the General Services Administration -- was given the responsibility for carrying out interagency, national-level training for executives, program and project managers, and OPSEC specialists; consulting with executive departments and agencies in connection with the establishment of OPSEC programs and OPSEC surveys and analyses; and providing an OPSEC technical staff for SIG-I.¹⁸

(U) Thus, with the promulgation of NSDD 298, operations security became the third major component, along with signals intelligence and information systems security, of the

National Security Agency's mission. NSDD 298 also marked the culmination of over twenty years of development of the concept of operations security, from a single operation, meant to address the lack of success of aerial bombing operations in Vietnam, to a national-level program widespread within the U.S. government, meant to protect all national security missions and operations from compromise by any hostile nation.

(U) PURPLE DRAGON had come of age.

Notes

1. (S) [redacted] *The Great Conversation*, 6; Joint Chiefs of Staff (JCS) Publication 18. *Doctrine for Operations Security*. 1 April 1973 (C); JCS, Memorandum J3M 365 1974, for Distribution. Subject: Interim Report, Worldwide OPSEC Conference (Consolidated Conclusions and Recommendations). 26 February 1974 (C); Director for Operations Security, NSA. *Chronology of Pre-1984 OPSEC Events and Documentation* (S NF).
2. (S) JCS Memorandum J3M 365 1975 (C); Director for Operations Security, NSA. *Chronology* (S NF).
3. (U) Director for Operations Security, NSA. *Chronology* (S NF).
4. (S) [redacted] interview. OH-10-92. (S-CCO); [redacted] *The Great Conversation*, 6.
5. (U) Deeley, 20; [redacted] *The Great Conversation*, 6.
6. (S) Boak interview. OH-12-92 (S-CCO); Deeley, 19-20.
7. (S) [redacted] interview. OH-10-92 (S-CCO); [redacted] interview; Deeley, 20-21; [redacted] *The Great Conversation*, 7.
8. (S) Director of Operations Security, NSA. *Chronology*. (S NF); [redacted] interview. OH-10-92 (S-CCO); [redacted] *The Great Conversation* 8-9.
9. (U) Director of Operations Security. *Chronology* (S NF).
10. (U) Ibid. (S NF) [redacted] *The Great Conversation* 10-11.
11. (U) Ibid., 11.
12. (S) Director for Operations Security, NSA. *Chronology*. (S NF); [redacted] interview. OH-10-92 (S-CCO).
13. (U) Director for Operations Security, NSA. *Chronology*. (S NF) [redacted] *The Great Conversation*, 10, 11.
14. (S-CCO NF) Chief of Staff, NSA, Memorandum to Deputy Director, NSA. Subject: OPSEC Task Force Report. 10 May 1988 (S NF CCO).
15. (U) The White House, Washington, Fact Sheet. *National Operations Security Program*, 1-2; Director of Operations Security, NSA. *OPSEC Brief*.
16. (U) White House Fact Sheet, 1-3, 1-4.
17. (U) Ibid., 1-4.
18. (U) Ibid., 1-4.

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(S-~~CCO~~) [redacted] has been an intelligence analyst in the Office of [redacted] (B5) since March 1993. Previously, from January 1990 to February 1993, he was an Intelligence Research intern. From 1987 to 1990 he was a Security Protective Officer with NSA, and from 1984 to 1987 [redacted] [redacted] was employed by the Federal Bureau of Investigation. He did research for and wrote this study while on a tour with the Center for Cryptologic History in 1992. [redacted] holds a [redacted] [redacted] He is professionalized as an Intelligence Research Analyst.

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Abbreviations and Coverterms Relating to Operation PURPLE DRAGON and Operations Security

ACP	Airborne Command Post
ADIZ	Air Defense Identification Zone
AFSS	U.S., Air Force Security Service
ALTREV	Altitude Reservations
ARC LIGHT	U.S. coverterm for B-52 strikes inside South Vietnam
ARG	Amphibious Ready Group
ARVN	Army of the Republic of Vietnam
ASA	U.S., Army Security Agency
ATC	Air Traffic Control
B Group	NSA, Office of Asian Communist Nations
B21	NSA,
B45	NSA,
BJTF	NSA, B Group Joint Task Force
BLUE SPRINGS	U.S. coverterm for SAC low-altitude reconnaissance drone operations during the initial PURPLE DRAGON survey. Later redesignated at various times BUMBLE BUG, BUMPY ACTION, and BUFFALO HUNTER
BOLD MARINER	U.S. coverterm for amphibious assault landing at Batangan, RVN, 1969
CFNVN	Chinese Forces in North Vietnam
CI	Counterintelligence
CINCPAC	U.S., Commander in Chief, Pacific Command
COMINT	Communications intelligence
COMSEC	Communications security
COSVN	DRV, Central Office, South Vietnam
CRD	DRV, Central Research Directorate
CSS	U.S., Central Security Service
DIA	U.S., Defense Intelligence Agency
DIRNSA	U.S., Director, NSA

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DOE U.S., Department of Energy
DRV Democratic Republic of Vietnam (North Vietnam)
EAGER YANKEE U.S. coverterm for amphibious assault landing, RVN, 1968
ECM Electronic countermeasures
FAC Forward Air Control
FOCUS RETINA U.S./ROK coverterm for joint training exercise, ROK, 1969
FRAG ORDER Fragmentary order



HEAVY ARTILLERY U.S. coverterm for B-52 strikes
HUMINT Human intelligence
IOSS U.S., Interagency OPSEC Support Staff
JCS U.S., Joint Chiefs of Staff
JGS RVN Joint General Staff
L/H HOUR Helicopter landing/assault boat landing hour
MACV U.S. Military Assistance Command, Vietnam
MAF Marine Amphibious Force
MARKET TIME U.S./RVN coverterm for coastal interdiction operations, RVN
MIB DRV, Military Intelligence Bureau
MIS DRV, Military Intelligence Section
MRF Mobile Riverine Force
MSD RVN, Military Security Directorate
NCS NSA, National Cryptologic School
NOAC U.S., National OPSEC Advisory Committee
NOTAM Notice to Airmen
NSA U.S., National Security Agency
NSDD National Security Decision Directive
NSG U.S., Naval Security Group
NTDS Naval Tactical Data System
NVA North Vietnamese Army
OPSEC Operations security
PACOM U.S., Pacific Command

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PFIAB U.S., President's Foreign Intelligence Advisory Board
POINT JULIETTE U.S. coverterm for B-52 and RC-130 rendezvous point west of the Philippines
PRC People's Republic of China
PURPLE DRAGON U.S. coverterm for the first CINCPAC OPSEC survey, 1966-1967, and unofficial coverterm for CINCPAC's permanent OPSEC branch, 1967-1973
PW Prisoner of war
RALLIER VC defector

ROK	Republic of Korea (South Korea)
ROLLING THUNDER	U.S. coverterm for fighter-bomber bombing raids against DRV, 1965-1968
RVN	Republic of Vietnam (South Vietnam)
S1	NSA, Communications Security Division
SAC	U.S., Strategic Air Command
SCA	U.S., Service Cryptologic Agencies
SIG-I	U.S., Senior Interagency Group for Intelligence
SIGINT	Signals intelligence
SIS	DRV, Strategic Intelligence Section
SLF	Special Landing Force
SOI	Signal Operations Instructions
STRICOM	U.S., Strike Command
SWIFT SABER	U.S. coverterm for amphibious assault landing, RVN, 1968
TECHINS	NSA, Technical Instructions
TF	Task Force
TOC	Tactical Operations Center
TOT	Time Over Target
TOUCHDOWN	U.S. coverterm for U.S. Army operation resulting in the capture of a VC/NVA TRU
TRU	DRV, Technical Reconnaissance Unit
U&S COMMANDS	U.S., Unified and Specified Commands
UTM	Universal Transverse Mercator
VC	Viet Cong

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VNN

RVN, Vietnamese Navy

YANKEE STATION

U.S. coverterm for aircraft carrier rendezvous point in the Gulf of
Tonkin

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