W H I T E P A P E R

SAC – LSU Shreveport

Operation LINEBACKER II: A Retrospective

Report of the LSU Shreveport unit for the SAC Symposium, December 2, 2017

Gary D. Joiner, PhD.
Ashley E. Dean

Prepared for
The Strategy Alternatives Consortium
Lt. General USAF, (ret.) Robert J Elder, Jr.
President/Founder

STRATEGY ALTERNATIVES CENTER

The project was made possible through Louisiana State University in Shreveport, which provides salaries for researchers, office space, equipment, and technical support. LSU Shreveport also provides assistance with graduate student positons as needed. Additionally, the project is made possible through the assistance and mentoring of the Strategy Alternatives Consortium. The statements made and views expressed are solely the responsibility of the author(s).

SAC - LSU Shreveport is a unit of Louisiana State University Shreveport.

Published 2017 by SAC – LSU Shreveport
One University Place
Shreveport, LA 71115

TABLE OF CONTENTS

QUOTES

Every SAM in Hanoi went off—just a fantastic barrage of SAMS!...and then the bombs started to hit…It was a continuous din of noise and shaking of the ground…We had a panoramic view over the courtyard roof of the prison…You could see the flashes of explosions on the overcast… they just keep coming and kept coming!...a constant barrage of sound, flash, and concussion…An awesome display of power…We were just pasting hell out of them for the first time.[1]

Capt Bob Lilly, Prisoner-of-War (POW), 1965-1973

The first few times I experienced a B-52 attack it seemed, as I strained to press myself into the bunker floor, that I had been caught in the Apocalypse. The terror was complete. One lost control of bodily functions as the mind screamed incomprehensible orders to get out.[2]

The Viet Cong Minister of Justice Truong Nhu Tang

At the heart of warfare lies doctrine. It represents the central beliefs for waging war in order to achieve victory. Doctrine is of the mind, a network of faith and knowledge reinforced by experience which lays the pattern for the utilization of men, equipment, and tactics. It is the building material for strategy. It is fundamental to sound judgment.

General Curtis Emerson LeMay, 1968

The purpose of surprise is to strike at a time or place or in a manner for which the enemy is unprepared. Surprise can help the commander shift the balance of combat power and thus achieve success well out of proportion to the effort expended…[3]

Joint Publication 3.0 Doctrine for Joint Operations

We have the power to destroy his war making capacity. The only question is whether we have the will to use that power. What distinguishes me from [former President] Johnson is I have the will in spades.[4]

Richard Nixon to Henry Kissinger

---

[1] Luse Shackelford, and Ray, *Eleven Days in December: Linebacker II* (USAF Southeast Asia Monograph Series, Air University, 1977), V.
[2] Truong Nhu Tang, *A Viet Cong Memoir* (New York: Vintage Books, 1985), 168.
[3] U.S. Joint Chiefs of Staff, *Doctrine for Joint Operations*. Joint Pub 3-0. (Washington: U.S. Joint Chiefs of Staff, 10 September 2001), A-2.
[4] Henry A. Kissinger, *White House Years* (Boston: Little, Brown and Company, 1979), 1199.

One more observation needs to be made, which goes to the very heart of the matter. Only the commander who imposes his will can take the enemy by surprise….[5]

Carl von Clausewitz

The first, the supreme, the most far-reaching act of judgment that the statesman and the commander have to make is [rightly to understand] the kind of war on which they are embarking, neither mistaking it for, nor trying to turn it into, something that its alien to its nature. This is the first of all strategic questions and the most comprehensive.[6]

Carl von Clausewitz

The bastards have never been bombed like they're going to be bombed this time.[7]

President Richard M. Nixon, May 1972

In any two-week period you mention.[8]

General Curtis LeMay, July 1986, when asked if the United State could have won in Vietnam.

I never said we should bomb them back to the Stone Age. I said we had the capability to do it.[9]

General Curtis LeMay

In war there is never any chance for a second mistake.

Lamachus, 465-414 B.C.E.

[5] Carl von Clausewitz, *On War* ed. by Michael Howard, Peter Paret. (Princeton, NJ: Princeton University Press, 1984), 200.
[6] Clausewitz, *On War*, 89.
[7] Richard Nixon, statement to White House Chief of Staff H. R. Haldeman and Attorney General John Mitchell, April 4, 1972.
[8] Interview of Curtis LeMay by Manny-Ann Bendel, *USA Today*, July 23, 1986, 9A.
[9] Gen. Curtis Emerson LeMay, in *Washington Post* interview published October 4, 1968.

ABOUT THE AUTHORS

Gary D. Joiner, Ph.D.

Dr. Gary Joiner received a B.A. in history and geography and a M.A. in history from Louisiana Tech University and a Ph.D. in history from St. Martin's College, Lancaster University in the United Kingdom. He is a professor of History at Louisiana State University in Shreveport and serves as the Chair of the Department of History and Social Sciences, where he holds the Mary Anne and Leonard Selber Professorship in History. He is the director at the Strategy Alternatives Consortium (SAC) LSUS and the Red River Regional Studies Center.

Dr. Joiner is the principal author of prior SAC LSUS White Papers, including *OPERATION SENIOR SURPRISE: The Secret Squirrels and the opening of Operation DESERT STORM, 9/11: A Brief History and Case Study of America's Worst Terrorist Attack,* and *Deterrence: A Brief History and a Case Study in Cold War Practice, Part I: 1945-1953.* He is the author and editor of thirty-four books, including: *History Matters, Shiloh and the Western Campaign of 1862, One Damn Blunder from Beginning to End, Through the Howling Wilderness, The Red River Campaign: The Union's Last Attempt to Invade Texas, No Pardons to Ask or Apologies to Make, Little to Eat and Thin Mud to Drink, Mr. Lincoln's Brown Water Navy, The Battle of New Orleans: a Bicentennial Tribute, Red River Steamboats, Historic Shreveport-Bossier, Lost Shreveport: Vanishing Scenes from the Red River Valley, Historic Haunts of Shreveport, Historic Oakland Cemetery, Wicked Shreveport,* and *Legendary Locals of Shreveport.* Dr. Joiner is also the author of numerous articles and technical reports, and has served as a consultant for ABC, the Associated Press, A&E Network, C-SPAN, the Discovery Network, Fox News, HGTV, the History Channel, MSCBC, MTV, SyFy Channel, and Louisiana Public Broadcasting, among others.

Ashley E. Dean

Ashley Dean received her B.A. in history and M.A. in Liberal Arts from Louisiana State University in Shreveport. She was the graduate researcher for SAC LSUS and is now the full time Assistant Director for the Consortium. She has co-authored and edited prior SAC LSUS White Papers, including *OPERATION SENIOR SURPRISE: The Secret Squirrels and the opening of Operation DESERT STORM, 9/11: A Brief History and Case Study of America's Worst Terrorist Attack,* and *Deterrence: A Brief History and a Case Study in Cold War Practice, Part I: 1945-1953.* She recently published *Victorian to Victorious: Women in the American Civil War* in the 2016 edition of *Janus,* the journal of historical research published by the Department of History and Social Sciences at LSUS.

PREFACE

The Strategy Alternatives Consortium at Louisiana State University in Shreveport SAC LSUS created a series of essays to commemorate the forty-fifth anniversary of the Operation LINEBACKER II, which, for America, all but ended the Vietnam War. These essays have been combined into a White Paper. All seven essays and the White Paper are available, free of charge, on the SAC LSUS website – www.lsus.edu/sac. The purpose is to assist professors, high school teachers, Air Force Association chapters, and ROTC units understand the campaign and put it in context of the time and the consequence it made in Air Force doctrine and subsequent political/military decisions.

Operation LINEBACKER II marked a seminal point in the Vietnam War. The campaign, sometimes referred to as "The Eleven-Day War," brought the North Vietnamese, with sincerity, back to the peace talks in Paris and all but destroyed their ability to wage a defensive war against American Airpower. Most historians and strategists agree that LINEBACKER II was a tremendously successful endeavor. There are some dissenters, who point to a lack of significant targets.

This series of essays examines the literature, the role of participants, presidential administrations, and military commanders and planners to provide an overarching examination of LINEBACKER II. They also provide both orthodox and dissenting opinions so that the reader may make up his or her mind concerning the subject.

The chapters cover a brief examination of the campaign, a discussion of the political climate from the end of World War II to through the decisions to execute Operation LINEBACKER and LINEBACKER II, an examination of strategic bombardment theory from World War II to the early years of the Vietnam War, strategic assets and micromanagement of those assets between 1965 and 1972, Operation LINEBACKER I, Operation LINEBACKER II, and, finally, the consequences and change in strategic thought brought forward by the campaigns.

The authors, Gary D. Joiner, Ph.D. and Ashley E. Dean, wish to thank Lane Callaway, the Eighth Air Force Historian, the good folks who handle the Freedom of Information Act (FOIA) requests at Barksdale Air Force Base, Louisiana and Maxwell Air Force Base, Alabama, for their often as for requests, and Lieutenant General Robert Elder (USAF retired) for guidance in this project.

Gary D. Joiner
Director, SAC LSUS
Louisiana State University in Shreveport
November 5, 2017

ABBREVIATIONS

AAA- Anti-Aircraft Artillery

AAD- Anti-Aircraft Defenses

AAF- Army Air Force (United States)

AB- Air Base

ABM- Anti-ballistic Missile

ACC- Air Combat Command

ADC- Air Defense Command

AEC- Atomic Energy Commission

AFA- Air Force Association

AFB- Air Force Base

AFGSC- Air Force Global Strike Command

AFM- Air Force Manual

ALCM- Air launched cruise missile

ARVN- Army of the Republic of Vietnam (South Vietnamese national army)

BARCAP- Barrier Combat Air Patrols

BDA- Bomb Damage Assessment

BW- Bomb Wing (USAF)

CALCM- Conventional air launched cruise missiles

CENTCOM- Central Command (US)

CH- CORONA HARVEST

CIA- Central Intelligence Agency

CINCPAC- Commander US Military Assistance Command Pacific

COMUSMACV- Commander US Military Assistance Command Vietnam

CONUS- Continental United States

DEW- Defense Early Warning (radar system)

DIA- Defense Intelligence Agency

DMZ- demilitarized zone

DOD- Department of Defense

DOE- Department of Energy

DRVN- Democratic Republic of Vietnam (North Vietnam)

ECM- electronic counter-warfare measures

ELINT- electronic intelligence

EW- Electronic Warfare

EWO- Electronic Warfare Officer

FAS- Federation of American Scientists

HE- high explosive

ICBM- Intercontinental Ballistic Missile

IP- Initial Point

IRBM- Intermediate Range Ballistic Missile

ISIS (IS, ISIS, ISIL, Daesh) - Islamic State of Iraq and Syria

JCS- Joint Chiefs of Staff

LGM- laser guided munitions

MACV- Military Assistance Command, Vietnam

MAD- Mutually Assured Destruction

MAJCOM- Major Command

MiG CAP- MiG Combat Air Patrol

MIRVs- multiple independently targeted vehicles

MIT- Massachusetts Institute of Technology

NATO- North Atlantic Treaty Organization

NSC- National Security Council

NSM- National Security Memorandum

NVA- North Vietnamese Army (North Vietnamese communist national army)

NVN- North Vietnam

PACAF- Pacific Air Forces

PAVN- People's Army ofVietnam (North Vietnamese communist national army)

PGM- Precision guided munitions

POL- Petroleum Oil and Lubricants

PRC- Peoples Republic of China

PTT- Post Target Turn

ROE- Rules of engagement

RP- Route Package

RT- Radar Troops

RTNAB- Royal Thai Naval / Air Base

SAC- Strategic Air Command

SAM- Surface to Air Missile

SAM-2- Surface to Air Missiles, model 2

SEA- Southeast Asia

SECAF- Secretary of the Air Force (U.S.)

SIOP- Single Integrated Operational Plan

SLBM- Submarine Launched Ballistic Missile

TAC- Tactical Air Command

TACAIR- Tactical Aircraft, Tactical Air, or Tactical Air Forces

TOT- Times on Target

UN- United Nations

UNSC- United Nations Security Council

USAAF- United States Army Air Force

USAF- United States Air Force

USS- United States Ship

USSBS- United States Strategic Bombing Survey

USSR- Union of Soviet Socialist Republics

VC- Viet Cong (guerilla communist force that cooperated with the PAVN/NVA)

WMD- Weapons of Mass Destruction

LIST OF FIGURES

LIST OF TABLES

Table

CHAPTER 1

Introduction

In December 1972, in what was hoped to be the final weeks of the Vietnam War, President Richard M. Nixon ordered a massive bombing campaign against North Vietnam. The military campaign had strictly political origins. The Joint Chiefs of Staff (JCS) recommended in 1964 that North Vietnam be bombed and determined 94 targets that would wreck their ability to wage war.[1] President Lyndon B. Johnson, Secretary of Defense, Robert S. McNamara, and Secretary of State Dean Rusk balked at the idea, fearing a Chinese invasion as in Korea.[2] This set the stage for civilian micromanagement of the military conduct of the war, troop strength, selection of targets, rules of engagement (ROE), and, to many commanders, observers and historians, the primary reason the war descended into the chaos that it became.[3] McNamara, in his position since 1961 and never popular with the military, became a pariah to the JCS and the commanders who followed his orders.[4]

North Vietnam invaded South Vietnam earlier that year using standard military tactics rather than guerrilla warfare. They hoped to take over the South Vietnamese government before U.S. forces, (deep into troop draw-downs) could hold them back. A series of long drawn out negotiations in Paris frustrated the Americans and the South Vietnamese. On December 13, North Vietnam suspended negotiations that attempted to establish a cease-fire agreement and return U.S. prisoners of war.[5] At the same time, the U.S. Congress, tired of the political consequences of the war, determined to cut off funding for Southeast Asia military operations when members returned to Washington D.C. from their holiday recess in January 1973.[6]

The bombing campaign, known as Operation LINEBACKER II, began on December 18 and lasted for 11 days. Air Force Strategic Air Command (SAC) B-52 bombers flew 729 sorties, and U.S. Navy and Air Force Tactical Air Command (TAC) fighter-bombers flew 1,000 sorties.[7] The SAC bombers, naval fighter-bombers, and TAC aircraft dropped 20,370 tons of bombs on North Vietnam.[8] They destroyed command and control structures, power generating plants, railroad marshalling yards and trackage, and destroyed military airfields, surface to air missile (SAM) assembly and storage facilities. At the end of the

---

[1] Richard H. Kohn and Joseph P. Harahan editors, *Strategic Air Warfare: An Interview with Generals Curtis E. LeMay, Leon W. Johnson, David A. Burchinal, and Jack J. Catton* (Washington, 1988), 123; Robert F. Futrell, *The United States Air Force in Southeast Asia: The Advisory Years to 1965* (Washington, 1981), 253-256

[2] Futrell, *The United States Air Force in Southeast Asia*, 253-256; Alain C. Enthoven and K. Wayne Smith, *How Much Is Enough? Shaping the Defense Program 1961-1969* (New York, 1971); Charles J. Hitch, *Decision-making for Defense* (New York, 1965).

[3] Kohn and Harahan, *Strategic Air Warfare*, 121.

[4] Ibid. 122; William W. Momyer, *Airpower in Three Wars* (Washington. 1978), 90-98; Carl Berger, ed., *United States Air Force in Southeast Asia, 1961-1973: An Illustrated Account* (Washington, 1977), 74-89; U.S. Grant Sharp, *Strategy For Defeat: Vietnam in Retrospect* (San Rafael, Calif., 1978), 94-104; James Clay Thompson, *Rolling Thunder, Understanding Policy and Program Failure* (Chapel Hill, 1980); John Morrocco, *Thunder From Above: Air War 1941-1968* (Boston, 1984), 50-71; U.S. Department of Defense, *The Pentagon Papers: The Senator Gravel Edition*, 4 vols., (Boston, 1972), III, 284-286, 321-324, 332-334, 339-340, IV, 55-56, 68-70, 109-110, 138, 421-422.

[5] Henry Kissinger, *White House Years* (Boston, 1979), 717-744.

[6] In November 1973, Congress enacted the War Powers Resolution, which limited the President's ability to send troops back into the theatre of operations to 90 days without receiving congressional approval. See Guenter Lewy, *America in Vietnam* (New York, 1978), 202-222; John H. Sullivan, *The War Powers Resolution* (Washington, 1982), 31-42, 103-166, 179, 183; W. Hays Park, "Linebacker and the Law of War," *Air University Review* 34 (Jan-Feb 1983): 2-30.

[7] James R. McCarthy and George B. Allison, *Linebacker II: A View From the Rock* (Montgomery, Ala., 1979), 39-89.

[8] Ibid., 91-167.

campaign, North Vietnam was largely in the dark, very low on ammunition, and had exhausted its supply of SAMs.[9] Although additional missions were planned and preparations made, President Nixon halted the bombing on December 29.[10] North Vietnam, without replenishment from China and the Soviet Union, agreed to return to negotiations in earnest. The results were merely a formality. The cease-fire agreement was signed on January 23, 1973 by Henry Kissinger for the United States and Le Due Tho for North Vietnam.[11]

Operation LINEBACKER II's strategy and tactics remain the topic of discussion and planning today, forty-five years later. It proved that the Air Force commanders' concept of ending the war in 1965 would work militarily, but largely due to the threat of Chinese intervention, was nullified. Once the JCS and Air Force commanders could set targets themselves and not answer to the White House staff (within reason), destruction of the North Vietnamese will and capacity to wage became evident. The operation also led to unanticipated consequences. SAC lost much of its prestige due to its inflexibility. Beliefs in bomber stream formation from World War II and Korea for conventional bombing missions proved problematic for SAC crews who were trained to follow orders blindly in their nuclear combat roles. Iron bombs soon gave way to precision guided weapons. The vulnerability of the B-52s to SAMs quickly led to changes in tactics, mission concepts, and a reduction in the numbers of the heavy bombers. More senior commanders were chosen from the ranks of the fighter pilots.[12]

[9] Ibid.
[10] Richard M. Nixon, *RN, The Memoirs of Richard Nixon* (New York, 1978), 717-744.
[11] Henry Kissinger, *White House Years* 740-744.
[12] See Mike Worden, *Rise of the Fighter Generals: The Problem of Air Force Leadership 1945-1982* ((Montgomery, AL, 1988).

CHAPTER 2

Political Climate Leading up to LINEBACKER II

No study or analysis of Operation LINEBACKER II should be conducted without a discussion of the political climate that preceded it, not only in the months before the missions in December 1972, but the philosophy of why to use heavy strategic bombers in a limited war that had few legitimate targets. This discussion will set the stage for further reading and examination, but will not provide an exhaustive digest of resources to present the topic fully.

The Strategic Air Command as the Ultimate Strategic Deterrent

The political climate of the use of strategic airpower prior to the Vietnam War (or Second Indochina War) is rooted in the months following the end of World War II. The Strategic Air Command (SAC) predated the establishment of the United States Air Force (USAF).[13] SAC was a Major Command (MAJCOM) in the Air Force, but simultaneously a Specified Command under the Department of Defense. It was responsible for the training and billeting of heavy bomber crews and their aircraft, delivery of all atomic weapons in the case of war, and ultimately, the defense of the continental United States (CONUS).[14] As technology rapidly progressed and over time, SAC also controlled Air Force refueling squadrons, strategic reconnaissance aircraft, intercontinental ballistic missiles (ICBMs) and airborne command posts. Refueling squadrons were later taken out of wings and formed into their own wing structure. It encompassed three numbered air forces, the Second Air Force, the Eighth Air Force, and the Fifteenth Air Force and several air divisions were assigned to these numbered Air Forces. SAC also originally housed fighter-bomber aircraft units, all of which were designed to deliver nuclear weapons.

SAC's scope of mission, high degree of readiness, and almost cult-like status began on October 19, 1948, when Lieutenant General Curtis LeMay was appointed its commander. At the time of the command change, SAC possessed sixty B-29 nuclear-capable bombers, none of which could strike the Soviet Union from their CONUS bases.[15] LeMay built SAC into an extraordinarily organization. He placed his personal stamp on all activities from training, housing, aircraft development and acquisition, Congressional actions on needs and, above all, budgets.[16] President Harry Truman entrusted LeMay to create the core documents specifying how to wage the next war, which was believed to be nuclear and against the Soviet Union. LeMay's response was to create the Emergency War Plan 1-49 (EWP 1-49). The plan outlined a sustained attack on the Soviets which would deliver 133 atomic bombs on 70 cities over a 30-day period.[17] This would exhaust the entire atomic bomb inventory, but LeMay was confident that the Soviets would be annihilated. The Soviets had no practical means of deploying their munitions against the United States. LeMay became the arbiter for defense budgets, strategic doctrine, and force composition under four presidents.[18] SAC demanded more and more resources, to the point where the Air Force even questioned the need for the Navy for force projection. The Navy lost the budget battle over whether to build a super aircraft carrier or

---

[13] SAC was established (stood up) on March 21, 1946. It transferred to the USAF on the same day that this new independent military service on September 18, 1947.

[14] Richard H. Kohn and Joseph P. Harahan, *Strategic Air Warfare: An Interview with Generals Curtis E. LeMay, Leon W. Johnson, David A. Burchinal, and Jack J. Catton* (Washington: Office of Air Force History, 1988), 73-118.

[15] Bennett Tillman, *LeMay* (New York: Palgrave Macmillan, 2007), 94.

[16] Curtis LeMay with MacKinlay Kantor, *Mission With LeMay: My Story* (Garden City, NY: Doubleday, 1965), 390.

[17] Tom Engelhardt, *The End of Victory Culture: Cold War America and the Disillusioning of a Generation* (Amherst, MA: University of Massachusetts Press, 2007), 155; David Rosenberg, "A Smoking Radiating Ruin at the End of Two Hours: Documents on American War Plans for Nuclear War with the Soviet Union 1954-55," *International Security* 6, no. 3, (Winter 1981/82; Peter Pringle and William Arkin, *S.I.O.P.: The Secret U.S. Plan for Nuclear War* (New York: W.W. Norton, 1983), 42-64.

[18] Pringle and Arkin, *S.I.O.P.*, 65-84.

to fund the B-36 intercontinental bomber. The SAC commander was unmoved by public sentiment and political pressure. LeMay's primary, indeed only, mission was to provide the United States with the largest, best trained and equipped nuclear deterrent force possible. He believed he could prevent a nuclear war before it began.[19] SAC crews were elite units. They trained constantly and innovation among the air crews was not discouraged, but eliminated. Every aspect of mission preparation, aircraft maintenance, crew performance, bombing results and post mission analysis was done by an extensive set of orders.[20] Crews functioned together as a team, unless one or more crewmen were deemed unfit. At that point, the individual was demoted to a lower echelon and sometimes in rank.[21] Spot promotions and demotions were authorized within SAC.[22]

SAC's fortunes rose with the rearmament brought on by the Korean War. Although a World War I style war with serious implications of communist intentions, President Harry Truman refused to declare war on North Korea, even after the intervention of Communist China.[23] The United Nations and United States were guarantors of the South Korean government. The Communists captured the South Korean capital, Seoul, and Truman was forced to send in large numbers of troops as well as air and sea assets.[24] SAC was the only command that could send bombers and fighters to the Far East, but could also send nuclear capable bombers to the United Kingdom as a forward base if the Russians decided to escalate the war.[25]

The Korean War placed a tremendous strain on SAC. While supporting United Nations forces in Korea for conventional bombing support, SAC also increased its nuclear-capable units. These were B-50 and B-36 wings. The B-50s were essentially nuclear capable B-29s with jet assist and specialized bomb bays. Due to the very long range and weapons capacity of the B-36, stockpiles of nuclear weapons increased dramatically.[26] Although the B-36 had tremendous range, its six propellers and four jet engines could not compete with the speed of pure jets. SAC obtained the first all jet bomber in the Air Force inventory with the B-47 and the mainstay B-52 was first delivered in 1955. The Korean War was considered something of an aberration to SAC planners. LeMay did not want to send his bombers to Korea. He suggested that his B-29s should be sent into North Korea and carpet bomb their cities and, if needed, bomb Chinese positions in Manchuria.[27] When told that he was ordered to send units to support United Nations forces, he sent two units with lower proficiency ratings. He often repeated his belief that his bombers were being used merely as "flying artillery."[28] The cardinal mission of SAC remained nuclear and the threat of overwhelming devastation to an enemy anywhere in the world. As intercontinental ballistic missiles entered their infancy, SAC made certain that all delivery vehicles that contained nuclear warheads were under its control. Beginning during the Truman Presidency and continuing through the Eisenhower terms, theorists, particularly with RAND Corporation authored policy and working papers on the problems with nuclear

[19] Warren Kozak, *Curtis LeMay: Strategist and Tactician* (Washington: Regnery History, 2009), 290.
[20] Kohn and Harahan, *Strategic Air Warfare*, 84.
[21] Ibid., 97.
[22] Mike Worden, *Rise of the Fighter Generals: The Problem of Air Force Leadership 1945-1982* (Maxwell Air Force Base, Montgomery, AL: Air University Press, 1998), 62-63.
[23] Robert F. Futrell, *The United States Air Force in Korea, 1950-1953*, rev. ed. (Washington: AFCHO, 1983), 14-20.
[24] National Security Council (NSC) Consultants Meeting, June 29, 1950, in *Foreign Relations of the United States (FRUS)*, 1950, I, 327-330.
[25] Vernon Burk, *The USAF in the United Kingdom, 1948-1973: Organization*, USAFE Historical Monograph, Ramstein Air Base, Germany: Headquarters, United States Air Forces, Europe, 1977), 26-27.
[26] Walton S. Moody, *Building a Strategic Air Force* (Wright-Patterson Air Force Base, Dayton, OH: Air Force History and Museums Program, 1995), 410-11.
[27] Worden, *Rise of the Fighter Generals*, 63.
[28] Ibid.

warfare. Among the best known of these strategists were Albert Wohlstetter,[29] Bernard Brodie,[30] and Herman Kahn.[31] Their work influenced not only the National Security Council (NSC) and presidents, but also the senior Pentagon planners. SAC particularly benefited from their work.

Budgets

The new Eisenhower administration stressed military security, but with the caveat that it must be economically sound and not harm the private sector.[32] The Joint Chiefs of Staff (JCS), in 1953, created war plans that overwhelmingly emphasized the Air Force and SAC in particular. The National Security Memorandum (NSM) 162/2 stated "Air power and nuclear weapons should provide the nation's primary means of defense – plans should be developed to use nuclear weapons whenever desirable militarily."[33]

The military budget requests during President Eisenhower's first term sky rocketed. SAC was the primary beneficiary. Eisenhower found that the demands of military needs were precariously balanced on what the country could afford.[34] The President wrote in 1953 that he intended to eliminate "waste and duplication in the armed forces: and that "even in roles and missions-these last always at least [were] self assigned."[35]

Aggravating this problem was the Soviet Union, which rapidly developed both atomic and hydrogen weapons and the means to deliver them.[36] Knowledge of Soviet defenses was sparse at best, but the general belief was that missile silos and nuclear bomber airfields were thinly spread.[37] SAC's response to the burgeoning, but as yet immature, threat was to run "Fail Safe" missions. LeMay's training regimen required every crew on alert status to launch when ordered in the belief that this might be "the Big One," the onset of all-out thermonuclear war. This kept the crews sharp and a significant percentage of nuclear weapons aboard the ready alert status aircraft. Each bomber had a set of orders that were to be opened in the event that a "go code" was sent to them. If the code was not sent, the crew practiced for a mission in a secondary set of orders. The secret code told their crews their target and their navigation points. Fail-Safe missions typically consisted of six bombers and six tankers.[38] The bombers in CONUS and depending upon

[29] See Rand DL1246 – Albert Wohlstetter, "A Little Answer and Some Big Questions for the Target Systems Analysis," (Santa Monica, CA: Rand Corporation, April 9, 1952); Rand P1472, Albert Wohlstetter, "The Delicate Balance of Terror," (Santa Monica, CA: Rand Corporation, November 6, 1958), revised December 1958.
[30] See Bernard Brodie, *The Anatomy of Deterrence* (Santa Monica, CA: Rand Corporation, July 23, 1958), among many others.
[31] Herman Kahn, *On Thermonuclear War* (Princeton, NJ: Princeton University Press, 1960).
[32] Robert R. Bowie and Richard H. Immerman, *Waging Peace: How Eisenhower Shaped an Enduring Cold War Strategy* (New York: Oxford University Press, 1998), 75.
[33] Caroline Ziemke, "In the Shadow of the Giant: USAF Tactical Air Command in the Era of Strategic Bombing, 1945-1955" (PhD dissertation, Ohio State University, 1989), 243.
[34] Bowie and Immerman, *Waging Peace*, 96-108.
[35] Alfred Goldberg, ed. *A History of the United States Air Force, 1907-1987* (Princeton, NJ: D. Van Nostrand, Co., 1987), 6; Warren A. Trest, *Air Force Roles and Missions: A History* (Washington: Air Force History and Museum Program, 1998), 154.
[36] Bowie and Immerman, *Waging Peace*, 153-154. The first Soviet atomic bomb was exploded on August 29, 1949. The first hydrogen weapon was exploded on August 12, 1953. The first ICBM launch was on August 26, 1957.
[37] Lee Kennett, "Strategic Bombardment: A Retrospective," in *Case Studies in Strategic Bombardment,* R. Cargill Hall, editor, Series: Special studies (Wright-Patterson Air Force Base, Dayton, OH: Air Force History and Museums Program, 1998), 630.
[38] The best non-governmental popular sources of these sequences are found in two movies – *Fail Safe* and Dr. Strangelove *or: How I Learned to Stop Worrying and Love the Bomb*. Both opened in 1964.

the location of their home air bases, would typically fly a northern route, each plane separating into different courses depending upon their targets.[39]

The primary results from strategic planning and operations were that SAC air crews moved away from massed bomber formation tactics that were standard operating procedures in World War II and, to a lesser extent, Korea and toward single aircraft operations with nuclear weapons. This demanded that crews adhere to standard rote orders with no room for innovation. The single aircraft training would have mixed results in the Vietnam War.

The Air Force and various intelligence assets identified possible targets within the Soviet Union and its allies that required exponentially more warheads and aircraft. Strategic theory moved into first strike capability, second strike survivability, and mutually assured destruction (MAD).[40] The threat of Soviet ICBM production and weapons of huge magnitude forced the President to increase the number of U.S. warheads to 18,000 by the end of his administration. SAC's targeting plans by 1961 projected huge overkill. Eisenhower was "shocked and angered" about the numbers.[41] Eisenhower's response to the perceived "missile gap" and "bomber gap," brought forth by conservatives in the National Security Council, Congress, and think tanks such as RAND, was to go against the prevailing SAC concept and give the Navy a third leg in what would be known as the nuclear triad. Polaris missile submarines were built that could stay at sea for months at a time and run silently near or at their launch points. Their missiles were not intercontinental, but were intermediate range ballistic missiles (IRBMs) with a range of 1,000 nautical miles, in this case Submarine Launched Ballistic Missiles (SLBMs).[42] This concept led to land theatre IRBM's as well. At the end of the Eisenhower administration, SAC's strategic bombers were still considered to be the most reliable and morally effective deterrent. If launched from their bases with orders to strike targets, the bombers could be recalled enroute should tensions de-escalate. In contrast, ICBMs once launched could not be recalled.

The Kennedy Administration

As ICBM's matured as a weapon delivery system, the calculus changed. The new John F. Kennedy presidency decided that a change in defense spending must be made. Kennedy's Secretary of Defense, Robert McNamara, was brilliant but short-sighted. The ex-Ford Motor Company executive saw his world view through the eyes of a pragmatic accountant, not looking ahead to eventualities, but only seeing immediate cost savings. McNamara advocated ICBMs as a cost-saving alternative. They were relatively inexpensive and thus were more affordable than manned bombers.[43] He told a Senate Subcommittee in 1964: "What is the role of a [strategic] bomber," … "after you place 1.000 to 2,000 missiles on the Soviet Union? What do you have left to mop up? This is *the* question. If it is not a mop-up operation, what is the role of the bomber?"[44]

---

[39] Conversation with Philip Blaufuss, B-52 radar navigator, who participated in both Fail Sate and Vietnam missions including Linebacker II. Interviewed by Gary D. Joiner, Ph.D. and Ashley Dean on September 12, 2017.

[40] Herman Kahn, a senior RAND Corporation theorist on nuclear warfare, was the father of the MAD theory. His most important work on the subject was *On Thermonuclear War* (Princeton, NJ: Princeton University Press, 1960).

[41] David Rosenberg, "The Origins of Overkill: Nuclear Weapons and American Strategy 1945-1960," *International Security* 7 (Spring 1983), 64-65.

[42] Federation of American Scientists (FAS) https://fas.org/nuke/guide/usa/slbm/a-1.htm Retrieved September 16, 2017. With the deployment of the Polaris submarines in 1960, the United States had, for the first time, a triad of three redundant delivery platforms of nuclear weapons.

[43] Kennett, "Strategic Bombardment," 630.

[44] U.S. Congress, Senate, Subcommittee of the Committee on Appropriations and the Committee on Armed Services, *Department of Defense Appropriations: Hearings on H.R. 10939,* 88th Cong, 2d sess, 1965, pt. 1, 57.

The Kennedy administration inherited a problem in Southeast Asia from the Eisenhower presidency, and, indirectly, from the French. The French were forced out of Vietnam after 1954 by Vietnamese nationalists. The leader, Ho Chi Minh, had been somewhat pro-Western, but was rejected and turned to Russia and China for aid. During the Red Scare era of McCarthyism, all communists were thought to be part of a monolithic block. The U.S. sent in military advisors but not massive numbers of ground troops. McNamara wrote in 1995:

> Throughout the Kennedy Years, we operated on two premises, that ultimately proved contradictory. One was that the fall of South Vietnam to Communism would threaten the security of the United States and the Western world. The other was that only the South Vietnamese could defend their nation, and that America should limit its role to providing training and logistical support. In line with that latter view, we actually began planning for the phased withdrawal of U. S. forces in 1963, a step adamantly opposed by those who believed it could lead to the loss of South Vietnam and, very likely, all of Asia.[45]

McCarthyism stripped the State Department of its best Asia experts. As the new administration looked at the growing problem in Indochina. It possessed few details and no in-region resources that could understand the state of affairs. As McNamara later recounted, "We also totally underestimated the nationalist aspect of Ho Chi Minh's movement. We saw him first as a Communist and only second as a Vietnamese nationalist."[46]

The Vietcong (South Vietnamese pro-communist guerrillas) intensified attacks on South Vietnam and, at the same time, North Vietnam sent their own guerillas in to the south near the end of 1961. The U.S. responded by sending in more advisors and military materiel into South Vietnam. Troop numbers were low, but this small increase put America on a footing. At this point the United States was confronting communist ploys the Congo, in Berlin, and soon, in Cuba. It appeared that the corrupt president of South Vietnam, Ngo Dinh Diem, was the focus of communist activity. The Kennedy administration attempted to move him toward conciliation, but he rejected all efforts. The U.S. authorized a coup attempt against Diem. Diem was assassinated two weeks before Kennedy was assassinated in November 1963.[47]

The Johnson Administration

The new president was Lyndon B. Johnson. He kept Kennedy's team largely intact. McNamara remained Secretary of Defense, Dean Rusk remained Secretary of State, and his national security advisors. The advisors were split on how to handle the volatile situation in SEA. The new President received advise from both hardline anti-communists and moderates who wanted to keep the region as more of a sideshow on the world state. Johnson moved within a few months to send massive amounts of troops to fight the communists. He erred on the side of fear that the Domino Theory would prevail and perhaps all of Asia would go communist.[48] The coup leaders against Diem were themselves toppled by another coup.

---

[45] Robert S. McNamara, "We Were Wrong, Terribly Wrong," *Newsweek*, April 16, 1995.
[46] Ibid.
[47] Robert S. McNamara with Brian VanDeMark, *In Retrospect: The Tragedy and Lessons of Vietnam* (New York: Vintage Books, 1995), 81-87, 169-206.
[48] The domino theory was a Cold War policy that believed that a communist government in one nation would inevitably lead to communist takeovers in neighboring states, each falling like a row of dominos. After the Vietnam War, the theory was discredited.

President Johnson received the push he needed to send massive military support to South Vietnam in August 1964, when North Vietnamese patrol boats attacked two U.S. destroyers in the Gulf of Tonkin. As a result, Congress passed the Tonkin Gulf Resolution.[49] This document became the chief tool in escalating the war. At the time, no one understood how it would be applied and to the extent to which it was used by the Johnson administration. Johnson won the November elections in a landslide that November. By the following July, the U.S. increased its troop strength in Vietnam from 23,000 to 175,000.[50] The decision was not made in the public arena.[51] Johnson brought former President Dwight Eisenhower to White House for a conference in February 1966, to ask for his opinion. Eisenhower told Johnson and his advisors that it might take eight full U.S. Army divisions to hold and drive out the communists from South Vietnam. He also told them "'he hoped they would not be needed; but if they were, so be it.' If the Chinese or Soviets threatened to intervene, he said, 'We should pass the word back to them to take care lest dire results [i.e., nuclear strikes] occur to them.'"[52]

General William Westmoreland, the U.S. commander in Vietnam stated that he needed tens of thousands of additional troops and more later. He also advocated bombing North Vietnam. He got his wishes. McNamara was the principal conduit for these requests and the Secretary of Defense and the President began four-year day-to-day micromanagement of the war. Using conventional forces to fight guerrilla warfare became the new norm. Objectives were calibrated by targets destroyed in North Vietnam and disruption of traffic in the jungles along the main supply route, the Ho Chi Minh trail. Body counts became the primary factor in proving success.[53] McNamara, approved by the President, set the pattern. Johnson often bragged that "Those boys can't hit an outhouse without my permission."[54] The bombing missions conducted by the Air Force, Navy, and Marine Corps were tightly constrained for the remainder of the Johnson Administration.

[49] The Gulf of Tonkin Resolution or the Southeast Asia Resolution, Pub. L. 88–408, 78 Stat. 384, enacted August 10, 1964, was a joint resolution that the United States Congress passed on August 7, 1964, in response to the Gulf of Tonkin incident.

[50] McNamara, *In Retrospect*, 105-125 192-94.

[51] Ibid., 172-73.

[52] McNamara, "We Were Wrong, Terribly Wrong"; McNamara, *In Retrospect*, 172-73.

[53] McNamara, *In Retrospect*, 48; For a thorough analysis of the problems created by President Johnson, Robert McNamara, and their associates, see H. R. Mc McMaster, *Dereliction of Duty: Lyndon Johnson, Robert McNamara, The Joint Chiefs of Staff, and the Lies That Led to Vietnam* (New York: HarperCollins, 1997).

[54] Joe Patrick, "Air Force Colonel Jacksel 'Jack' Broughton & Air Force General John D.' Jack' Lavelle: Testing the Rules of Engagement During the Vietnam War," *Vietnam* Magazine, December 1997. Retrieved from http://www.historynet.com/air-force-colonel-jacksel-jack-broughton-air-force-general-john-d-jack-lavelle-testing-the-rules-of-engagement-during-the-vietnam-war.htm, September 16, 2017.

CHAPTER 3

Strategic Bombardment Theory Prior to Vietnam

Post Nagasaki

Strategic bombing theory following World War II continued the tenants of the early theorists, particularly the Italian pioneer Giulio Douhet and General William "Billy" Mitchell in the 1920s and 1930s. Both men, and others, theorized that aerial bombardment should be concentrated on major targets of economic and military importance.[55] This could not be carried out by aerial bombing alone, but it tipped the balance on winning World War II. The post war United States Strategic Bombing Survey (USSBS) stated that strategic bombing "was decisive in the war in Western Europe."[56] The Pacific Theatre saw, under General Curtis LeMay, the wholesale destruction of Japanese cities, industrial complexes, military complexes, and the destruction of Hiroshima and Nagasaki with atomic bombs. This brought about surrender without an invasion by American ground troops. Strategic bombardment became an integral part of military planning and execution.[57] Airpower advocates saw the atomic bomb, with America being the sole owner and operator, as the ultimate hedge against war. If a war did occur, it was expected to be against the Soviet Union.

General Carl A. Spaatz, who became the Army Air Force (AAF) postwar Commanding General and the first Chief of Staff of the U.S. Air Force in 1947, summed up this belief: "Air Power is not only our first line of defense, it is the only instrument using the third dimensional medium, the air; it is the only weapon which has the speed, flexibility, and versatility to cope with the cataclysmic forces yet to be released in the Atomic Age."[58] Post War thinkers like Bernard Brodie brought the complex issues of the use of atomic weapons into sharp focus. He believed the existence of the atomic bomb required a complete reordering of military strategic deterrence doctrine: "Thus far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them. It can have almost no other useful purpose."[59] The American military, in a joint exercise, exploded two atomic bombs near Bikini Atoll in the Marshall Islands in July 1946. Operation CROSSROADS was to establish the effect of atomic weapons on naval forces. The second test, codenamed "BAKER" used a 23-kiloton weapon suspended 90 feet below the surface of the water and yielded the following results:

> The underwater fireball generated by the blast took the form of a rapidly expanding hot gas bubble, which reached the sea floor and the sea surface simultaneously. The result created a shallow crater on the seafloor 30 feet deep and nearly 2,000 feet wide. At the top, water burst through the surface like a geyser, creating a massive "spray dome" containing nearly two million tons of water. The expanding dome stretched into a hollow chimney of spray called the "column," 6000 feet tall and 2000 feet wide with walls 300 feet thick.

---

[55] Steven L. Rearden, "U.S. Bombardment Doctrine Since 1945," *Case Studies in Strategic Bombardment*, R. Cargill Hall, ed. (Washington: Air Force History and Museums Program, 1998), 383.
[56] United States Strategic Bombing Survey (USSBS), *Summary Report (European War)* (Washington: US. Government Printing Office (GPO), September 30, 1945), 15.
[57] Reardon, "U.S. Bombardment Doctrine," 383; Kenneth P. Werrell, "The Strategic Bombing of Germany in World War II: Cost and Accomplishments," *Journal of American History*, 73 (December 1986), 702-713; Ronald Schaffer, *Wings of Judgment: American Bombing in World War II* (New York: Oxford University Press, 1985), 20-34.
[58] Address, Gen Carl Spaatz, "Air Power Pre-Eminent," Business Advisory Council, Hot Springs, VA, Oct 27, 1945, Spaatz Papers, box 268, Library of Congress, Washington: Library of Congress.
[59] Bernard Brodie, ed., *The Absolute Weapon: Atomic Power and World Order* (New York: Harcourt, Brace, & World, 1946), 76.

The space vacated by the rising gas bubble caused a tsunami which generated a wave 94 feet high. By the time the wave reached Bikini Island beach 3.5 miles away, a series of nine 15-foot waves tossed landing craft onto the beach and filled them with sand. Ten seconds after the detonation, falling water from the column created a 900-foot "base surge" which rolled over many of the target ships, painting them with radioactivity that could not be removed.[60]

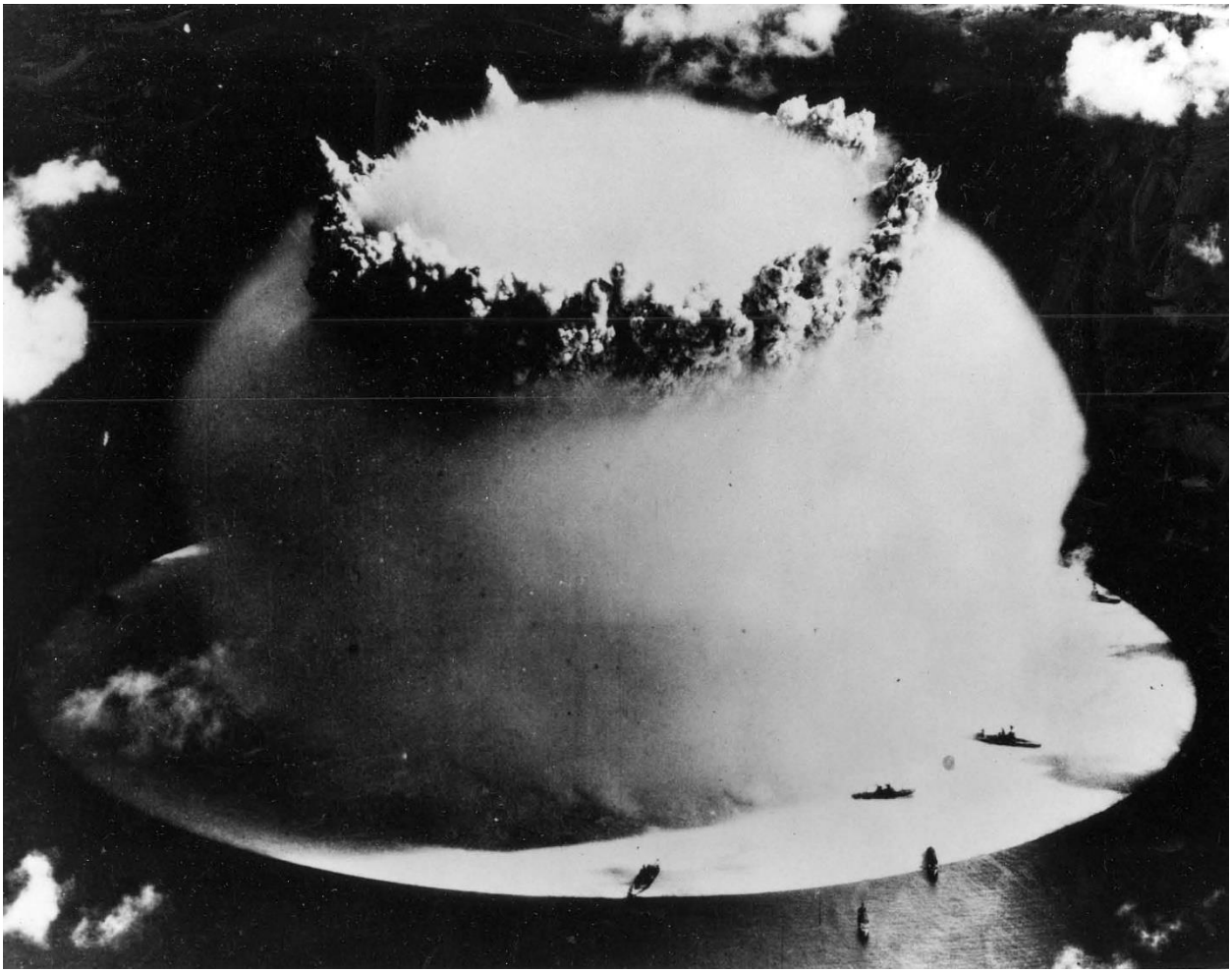


Figure 1. Operation CROSSROADS in July 1946. Note the capital ships that were destroyed in seconds. Image Source: U.S. Atomic Energy Commission.

Observers from the Joint Chiefs of Staff (JCS) reported that the destructive power of atomic weapons was so impressive that if "used in numbers," they could "nullify any nation's military effort" and "demolish its social and economic structures and prevent their reestablishment for long periods of time."[61]

[60] "Operations Crossroads," (Washington: Atomic Heritage Foundation, 2014). www.atomicheritage.org
[61] JCS Evaluation Board for Operation CROSSROADS, "Final Report," June 30, 1947, RG 330 (Records of the Office of the Secretary of Defense), CD 25-1-12, Washington: National Archives and Records Administration (NARA).

The difficulty in producing enough atomic bombs to meet planning needs took years to solve, and the question of how many nuclear-capable bombers was an added problem.[62] The small numbers of atomic bombs led planners to assume that future conflicts would be fought with a combination of conventional and atomic weapons.[63] President Harry Truman added to the Air Force's frustration and confusion when he placed custody and control of nuclear weapons with the civilian-run Atomic Energy Commission (AEC), established by the Atomic Energy Act of 1946. The Berlin Crisis and the Korean War forced Truman to relinquish some control to the military. He allowed military custody of nuclear weapons, limited initially to nonnuclear components.[64]

SAC – Peace is our Profession

The Strategic Air Command (SAC) became the long-range strike arm of the postwar Air Force. It formed, along with the Tactical Air Command (TAC) and the Air Defense Command (ADC), the three primary major commands (MAJCOMs) that composed the Air Force. SAC was also designated a "Specified Command" meaning that it reported directly to the JCS, making the Air Force their executive agent.[65] This meant that SAC not only possessed a degree of independence from the Air Force, but it also became a separate line item in the Defense budget. As SAC's needs and perceptions grew, so did its voracious budgets for the next three decades.

When the U.S. Air Force became an independent service, SAC possessed only one atomic weapons capable bomb group. This was the 509th, based at Roswell Field, New Mexico near the Sandia nuclear storage facility. This reflected the complex relationship among the AEC, The DOD, and SAC. The 509th flew Silverplate B-29s,[66] each modified to carry a single atomic bomb weighing approximately 10,000 pounds.[67] The remaining six groups fielded conventionally armed B-29s or B-17s as reconnaissance aircraft. B-29s had an unrefueled range of 3,250 miles. This meant that, in the post-war world, they must operate from forward bases in Europe or the Far East, which caused some serious security and potential political problems.[68] SAC organized its air refueling tankers into squadrons in 1948. These consisted of modified B-29s designated as KB-29Ms. This greatly increased the bombers' range since the KB-29Ms could be stationed at forward air bases and meet the bombers on their way or returning from missions.[69] SAC received its initially problem-plagued B-36 intercontinental bombers beginning in 1948. This increased the combat range to 8,000 miles.[70]

SAC planners and targeters focused primarily on a war with the Soviet Union almost immediately following World War II and this continued throughout its existence. SAC concentrated targeting on 70

---

[62] David Alan Rosenberg, "U.S. Nuclear Stockpile, 1945 to 1950," *Bulletin of the Atomic Scientists,* 38 (May 1982), 25-30.
[63] Reardon, "U.S. Bombardment Doctrine," 387.
[64] Steven L. Rearden, *History of the Office of the Secretary of Defense: The Formative Years, 1947-1950* (Washington, D.C.: Historical Office, Office of the Secretary of Defense, 1984), 425-432; Richard G. Hewlett and Francis Duncan, *A History of the United States Atomic Energy Commission* (Washington, D.C.: U.S. Atomic Energy Commission, 1972), vol. 2, 154-184.
[65] JCS 1259/27 para 4, subj: Unified Command Plan, Dec II, 1946, and decision on December 12, 1946, RG 341, DCS/Ops, Dir of Plans, PO 323.361 (November 8, 1943), case I, sec 4, NARA.
[66] Atomic Heritage Foundation. Project "Silverplate" was the code name that referred to a secret program within the Manhattan Project to produce a special version of the Boeing B-29 Superfortress bomber that could deliver the atomic bomb. http://www.atomicheritage.org/history/project-silverplate
[67] Lt Gen Walter E. Todd, "Evolution of Aerospace Power," *Air University Quarterly Review* 12 (winter-spring 1960-1961), 11.
[68] Ibid.
[69] Ibid.
[70] Ibid.

urban-industrial centers recognized as crucial to the Soviet war-making economy. These were the most easily-identifiable and easily-targetable sites, as there was no aerial reconnaissance until the U-2 was introduced.[71] The plan established an imperative for a "paralyzing blow delivered within forty-eight hours, mainly against the Soviet Union's transportation and petroleum production systems, it would incapacitate or at least slow the Soviet war machine while the United States and its allies mobilized."[72] SAC made its point very clearly during the Berlin Crisis of 1948-1949. It deployed B-29s to Great Britain to show how highly the West prioritized the situation. As a deception, the 509th Silverplate B-29s were moved. The Soviets did not know if the B-29s in Britain were nuclear capable or not.[73]

The Soviet Union exploded its first atomic bomb in September 1949. The reaction was predictably strong. President Truman announced that the United States would begin research and deployment of new weapon of mass destruction (WMD) using thermonuclear (hydrogen) it its design.[74] President Truman asked his advisors to take a hard look at the state of the military following the detonation of the Soviet bomb. The result was National Security Council (NSC) 68, which estimated that by 1954, the Soviets would have both the atomic weapons and delivery systems to threaten the continental United States.[75] When the Korean War began, President Truman began lifting the ceiling on defense spending.

SAC was the great beneficiary. SAC's personnel and equipment in January 1951 consisted of 85,000 personnel and 1,000 aircraft. By the end of 1951, SAC expanded to 145,000 personnel and 1,200 aircraft, including 98 B-36s, 340 B-29s, and 219 B-50s, a longer-distance version of the B-29 with jet assist.[76] SAC and the Air Force both requested far larger forces. The Air Force wanted 95 wings of both tactical and strategic aircraft. Congress mulled over increasing the force size to between 126 and 150 wings with one-third dedicated to SAC.[77] This increase in Air Force strategic units was accompanied by a rapidly increase in the production of nuclear weapons. The AEC counted 299 atomic weapons at the beginning of the Korean War. By 1961, the total arsenal totaled 22,229.[78]

The Dwight D. Eisenhower administration's "New Look" policy saw a tremendous increase in strategic deterrence assets. These included not only offensive weapons such as bombers, but defensive early warning systems such as the Defense Early Warning radar system (DEW Line), dedicated nuclear missile armed fighter-interceptor squadrons, and air defense missile systems protecting cities and major military bases.[79]

---

[71] David Alan Rosenberg, "The Origins of Overkill: Nuclear Weapons and American Strategy, 1945-1960," *International Security*, 7 (spring 1983),15; Letter from, Lt Gen Curtis LeMay, Commanding General (CG) SAC, to Gen Nathan Twining, Vice COS, subj: Reece and Intelligence Capabilities, Apr 26, 1951, Twining Papers, box 54, Reading file, May 1951, Library of Congress.

[72] Reardon, "U.S. Bombardment Doctrine," 391; R. D. Little, *Foundations of an Atomic Air Force and Operation SANDSTONE, 1946-1948* (unclassified version), 2 in *The History of Air Force Participation in the Atomic Energy Program, 1943-1953* (Pentagon: AF/CHO, n.d.), 255-265.

[73] Gary D. Joiner, Alexander Mikaberidze, and Ashley Dean, *Deterrence: A Brief History and a Case Study in Cold War Practice, Part I: 1945-1953* (Shreveport, LA: Strategy Alternatives Consortium: 2016), 21.

[74] Harry S. Truman, *Memoirs: Years of Trial and Hope* (Garden City, N.Y.: Doubleday, 1956), 309.

[75] NSC 68, "A Report to the National Security Council by the Executive Secretary on United States Objectives and Programs for National Security, Apr 14, 1950," with Editor's introduction, in *Naval War College Review*, 27 (May-June 1975), 108, *passim.*

[76] J. C. Hopkins and Sheldon A. Goldberg, *The Development of Strategic Air Command, 1946-1986* (Offutt AFB, NB: Office of the Historian, HQ SAC, 1986), 21, 30.

[77] Doris M. Condit, *History of the Office of the Secretary of Defense: The Test of War, 1950-1953* (Washington, D.C.: Historical Office, Office of the Secretary of Defense, 1988), 261-305.

[78] Department of Energy (DOE) Press Release, U.S. Department of Defense and Department of Energy, "Summary of Declassified Nuclear Stockpile Information," June 1994.

[79] Rosenberg, "The Origins of Overkill," 31-32.

Guiding all of this was General Curtis E. LeMay, SAC's commander from 1948-1957. His personal stamp covered everything from airmen's daily lives to targeting and aircraft procurement. He placed gifted men loyal to him and his theories of air warfare in high positions and many succeeded him as his career rose. He stressed excellence at level of his command: "In my opinion, SAC's deterrent influence on USSR aggressive intentions can only be maintained by an effective force in being, properly manned, equipped and trained, at the proper time period, and whose combat capability is universally recognized and unquestioned."[80] LeMay led SAC to be the greatest deterrent force in history, with 200,000 personnel operating at 55 air bases in CONUS and overseas.[81]

Figure 2. B-52 D with SAC livery with anti-radiation white on lower surfaces and twin Hound Dog missiles on external pylons. Image Source: United States Air Force.

SAC found that its piston engine propeller driven bombers could not keep up with the rapid advances in fighter jets. The result was a new medium bomber, the B-47 Stratojet. The six-jet engine swept wing jet entered service in 1951. This allowed for the replacement of the B-29s and B-50s, and the changeover to all jet bombers was complete by 1950. At that time SAC had 1,300 B-47s. The B-52 Stratofortress, an eight-engine jet bomber, entered service the same year, replacing the B-36s.[82] The early A through D models, carrying four gravity-fall hydrogen weapons, had an approximate range of 6,000

[80] Cable, LeMay to Twining, subject: SAC Capabilities, May 15, 1953, LeMay Papers, box B-203, B-27106 folder, Library of Congress.
[81] Hopkins and Goldberg, *Development of SAC*, 58.
[82] Reardon, "U.S. Bombardment Doctrine," 405.

miles, while the G and H models traveled 10,000 miles carrying eight H-Bombs.[83] This included carrying Quail decoys and twin Hound Dog missiles with their own nuclear warheads.[84] KC-135 jet tankers replaced the KB-50s and allowed the B-52s to have unlimited range.[85]

SAC occasionally tested Soviet Air Defenses by flying parallel to their air space. Fifty aircraft flew over the port city of Vladivostok during daylight, unopposed, at least once.[86] The implementation of the Lockheed U-2 high altitude reconnaissance plane allowed SAC to obtain real time intelligence for targeting. U-2s operated out of Beale Air Force Base and also forward bases in Europe and Asia with impunity until one was lost over Sverdlovsk and the pilot, Francis Gary Powers was captured in 1960. The CIA and the Air Force jointly operated the U-2 program.[87]

Figure 3. Lockheed U-2 Dragon Lady. An early example. Image Source: United States Air Force.

[83] Ibid.; Todd, "Evolution of Aerospace Power," 17; Hopkins and Goldberg, *Development of SAC*, 34, 51, 55-56; Walter J. Boyne, *Boeing B-52: A Documentary History* (London: Jane's, 1981), 123-128, 145-148.
[84] Ibid.; Todd, "Evolution of Aerospace Power," 17; Hopkins and Goldberg, *Development of SAC*, 34, 51, 55-56; Walter J. Boyne, *Boeing B-52: A Documentary History* (London: Jane's, 1981), 123-128, 145-148.
[85] Ibid.; Todd, "Evolution of Aerospace Power," 17; Hopkins and Goldberg, *Development of SAC*, 34, 51, 55-56; Walter J. Boyne, *Boeing B-52: A Documentary History* (London: Jane's, 1981), 123-128, 145-148.
[86] Thomas M. Coffey, *Iron Eagle: The Turbulent Life of General Curtis LeMay* (New York: Crown Publishers, 1986), 340.

[87] John Prados, *The Soviet Estimate: U.S. Intelligence Analysis and Russian Military Strength* (New York: Dial Press, 1982), 31-35; Anne Karalekas, "History of the Central Intelligence Agency," 59, published as U.S. Congress, Senate, Select Committee to Study Governmental Operations with Respect to Intelligence Activities, *Supplementary Detailed Staff Reports on Foreign and Military Intelligence*, book 4, Sen Report, 94-755, 94th Cong, 2d sess (Washington, GPO, 1976).

The U-2s gave SAC much needed information on potential targets. SAC planners allocated their primary target status to military-industrial targets, and as the tradition of World War II and Korea demanded, major population centers were kept on the list. Even though the number of nuclear weapons and bombers were ever increasing, targets out matched deliverability. Targets were often chosen by selecting multiple targets in clusters with higher yield weapons and multiple thermonuclear bombs dedicated to them if needed.[88] SAC identified 1,700 targets within the Soviet Union in 1954. Of these 409 were airfields.[89] A full attack on 118 of the Soviet Union's 134 most populous cities would yield annihilation of between 75 and 84 percent of the Soviet population.[90]

The Soviets made significant gains in the early 1950s toward jet bombers that could threaten SAC's overseas air bases, NATO facilities and troop concentrations, and perhaps CONUS. The mainstay of the Soviet long-range bomber force was the Tupolev 95 Bear bomber. They also made rapid gains in IRBM and ICBM weapons. RAND Corporation performed research projects for the Air Force that described the vulnerability of the U.S. Mainland from a Soviet strike.[91] This prompted SAC to withdraw many of its forward based bombers back to U.S. and increased its bases it currently used and added many more. Foreign bases typically retained KC-135 tankers.[92]

This rapid increase in the technology of Soviet bombers and ICBM technology led President Eisenhower to ask the president of the Massachusetts Institute of Technology (MIT), James R. Killian, to form a panel to investigate America's vulnerabilities in case of attack.[93] The panel presented their findings in 1955 to the NSC and Eisenhower in what is called the Killian Report. They believed that if the United States did not increase its strategic forces and home defenses that "For the first time in history a striking force could have such power that the first battle could be the final battle, the first punch a knockout."[94] The Killian Report stated that strategic offensive capabilities must be vastly upgraded and the United States homeland defenses must be upgraded to include early warning and air defense systems, more SAC base dispersal, particularly away from major population areas, and an increased emphasis on "high-technology intelligence gathering and on weapons such as ICBMs and land-and sea-based intermediate-range ballistic missiles (IRBMs) that could respond swiftly and effectively in an emergency with minimal prior warning."[95] SAC pushed for ICBMs and IRBMS, and an increase in the number of operational bases.[96] Air Force, Department of Defense, and NSC planners and researchers began to fear of both bomber and missile gaps relative to the Soviets. Specifically, Trevor Gardner, at that time Special Assistant for Research and

---

[88] Curtis LeMay, "Briefing Given to the Representatives of All Services at SAC Headquarters," March 15, 1954, *International Security,* 6 (winter 1981-1982), 26-28.
[89] Ibid., 18.
[90] "Briefing on Weapons Systems Evaluation Group (WSEG) Report No 12," April 6, 1955, *International Security:* 6 (winter 1981-1982), 34.
[91] *Special Staff Report: The Selection of Strategic Air Bases* (RAND R-244-S, Mar I, 1953) and A. J. Wohlstetter *et al., Selection and Use of Strategic Air Bases* (RAND R-266, April 1954).
[92] Hopkins and Goldberg, *Development of SAC,* pp 72-73.
[93] James R. Killian, *Sputnik, Scientists, and Eisenhower: A Memoir of the First Special Assistant to the President for Science and Technology* (Cambridge, Mass.: MIT Press, 1977), passim.
[94] Technological Capabilities Panel of the Science Advisory Committee, "Meeting the Threat of Surprise Attack," Feb 14, 1955, I: *5,* 37-46, Eisenhower papers, Dwight D. Eisenhower Library, Abilene KS, (DDEL).
[95] Ibid.; Reardon, "U.S. Bombardment Doctrine," 413.
[96] Richard H. Kohn and Joseph P. Harahan, eds., *Strategic Air Warfare: An Interview with Generals Curtis E. LeMay, Leon W. Johnson, David A. Burchinal, and Jack J. Catton* (Washington, D.C.: Office of Air Force History, 1988), 100.

Development to the Secretary of the Air Force, urged for a rapid increase in the ICBM program.[97] Although SAC rightly placed great significance in its bomber and tanker force, it embraced ballistic missiles if they were under its control.

Some in the administration believed that ICBMs were the answer to cost overruns. Missiles were relatively cheap, especially regarding the cost of SAC bombes and tankers, as well as tremendous infrastructure of bases.[98] Eisenhower's response was that "We must remember that we have a great number of bombardment aircraft programmed, and great numbers of tankers that are now being built, and we must consider how to use them."[99]

Late in 1957, the Soviets launched *Sputnik 1*, the Earth's first artificial satellite. The delivery vehicle was, of course, an ICBM. This set of a frenzy off activity among American and NATO planners. SAC might be rendered obsolete. RAND Corporation's Albert Wohlstetter and Fred Hoffman authored a report just prior to the Sputnik launch, which laid the basis for this argument.[100] The authors stated: "Our SAC presents soft, relatively few, relatively undefended targets."[101] Wohlstetter again recommended greatly improving early warning systems and hardening of bomber shelters. President Eisenhower asked H. Rowan Gaither, Jr. to chair an inquiry into the "various active and passive measures to protect the civil population in case of nuclear attack and its aftermath."[102] The Gaither Committee tendered its report, *Deterrence and Survival in the Nuclear Age*, to President Eisenhower in November 1957.[103] It warned that "By 1959, the USSR may be able to launch an attack with its ICBMs carrying megaton warheads, against which SAC will be almost completely vulnerable under present programs."[104] The committee followed Albert Wohlstetter's recent suggestions, but privately told the President that if forced to make a choice, they believed it "would be more cost-effective to stress improvements in offensive capabilities rather than defensive measures."[105] Eisenhower agreed with the report, but slowed the suggested implementation schedule.[106] Improving offensive capabilities was Eisenhower's foremost goal. By 1959, SAC deployed the first Atlas D ICBMs. They also equipped the rapidly increasing B-52 bomber fleet with Quails and Hound

[97] Memo, Gardner for Twining: ICBM Program, January 27, 1954, Twining Papers, box 72, Secretary of the Air Force Correspondence 1954, folder 2; Memo, Gardner for Talbott and Twining: ICBM Acceleration Plan, March II, 1954, Twining Papers, box 122, Top Secret file 1952-57, folder I, LC.
[98] Col A. J. Goodpaster, Meeting of Nov 8, 1956, on Policy Questions Affecting Department of Defense, November 9, 1956, Eisenhower Papers, Whitman file, DOE Diary Series, box 19, November 1956 Staff Memos folder, DDEL.
[99] Goodpaster, Meeting of December 19, 1956, on DoD Budget, Dec 20, 1956, DOE Diary Series, box 20, December 1956 Staff Memos folder, DDEL.
[100] Albert J. Wohlstetter and Fred Hoffman, *Protecting U.S. Power to Strike Back in the 1950s and 1960s* (RAND R-290, September I, 1956), 1-4, 11-12, 21; Fred Kaplan, *The Wizards of Armageddon* (New York: Simon & Schuster, 1983), 117-124.
[101] Wohlstetter and Hoffman, *Protecting U.S. Power*, 21.
[102] NSC Action No 1691b (I), quoted in Memo of Discussion, 318th Meeting, NSC, April 4, 1957, in *FRUS*, 1955-1957: 19, 463. For origins of the Gaither Committee, see Thomas E. Cronin and Sanford D. Greenberg, eds., *The Presidential Advisory System* (New York: Harper & Row, 1969), 185-208.
[103] Security Resources Panel of the Science Advisory Committee, *Deterrence and Survival in the Nuclear Age* (November 7, 1957; Washington, D.C.: GPO, 1976), 14, *passim.*
[104] Ibid.
[105] Memo, Goodpaster, Conference with the President on November 4, 1957, November 6, 1957, Eisenhower Presidential Papers, Whitman file, DOE Diary Series, box 28, November 1957 Staff Notes folder, DDEL.
[106] JCS 2101/284, December 4, 1957, RG 218, Modem Military Division, NARA.

Dogs and low-level penetration aids.[107] This marked a change in strategy for the B-52s to travel at low altitudes to reach their targets. By the end of the Eisenhower presidency, SAC conducted major redeployment of its bomber assets to CONUS and placed them at sixty-six bases in the United States and Canada. It also set criteria for one-third of its bombers and tankers to be on fifteen-minute ground alert.[108]

SAC believed that it needed a replacement for the B-52. What they desired was an aircraft that could outrun any known enemy fighter, either in existence or on the drawing board. The answer was the Mach 3 high altitude B-70 *Valkyrie*. It was also considered to be a counter weapon to the Navy's Polaris SLBM. The Navy deployed the Polaris submarines before the B-70s finished testing, but SAC forged ahead with the program. SAC then requested that all Polaris missiles be placed under SAC's control.[109] The Navy responded with a request for more Polaris submarines and a reduction of SAC.[110] Shortly after John F. Kennedy's election and before he took office in January 1961, The JCS approved its initial single integrated operational plan (SIOP) for 196l. It was a near copy of SAC operational doctrine.[111]

The Kennedy-McNamara Era

SAC's doctrine hinged on its massive ability for overkill and to survive a Soviet first strike in a full out thermonuclear war. The new B-70 was in final engineering and early flight stages, and, as General LeMay stated: "to provide a decisive counterforce potential" in the coming decade and thereafter.[112] John Kennedy was critical of the Eisenhower administration's defense policy as a Congressman and Senator. He believed that the "missile gap" would be America's undoing. He was suspicious of a world in which the United States had only one military option, that being massive nuclear counterstrike capabilities.[113] He wanted wider options and the ability to fight conventional wars that might stop a thermonuclear conflagration. He stated: "We have been driving ourselves into a corner where the only choice is all or nothing at all, world devastation or submission – a choice that necessarily causes us to hesitate on the brink and leaves the initiative in the hands of our enemies."[114]

Kennedy handpicked a team of bright intellectuals to carry out his beliefs and campaign promises. Among these was Secretary of Defense Robert S. McNamara. McNamara left the post of President of the Ford Motor Company to work in Kennedy's cabinet. His specialty was data and statistical analysis. McNamara thought like an accountant, not like the civilian head of the United States military. To somewhat counter McNamara, the President brought General Maxwell Taylor, Eisenhower's Army Chief of Staff, back to active duty and appointed him the Chairman of the JCS. McNamara and his team, known as the

---

[107] Memo, LeMay for General Thomas D. White: Vulnerability of SAC Bombers in Early 1960s, February 18, 1959; Memo: LeMay for White: B-52 Penetration Aids Modification Program, February 20, 1959, both in White Papers, box 25, Air Force Council file, LC.
[108] Hopkins and Goldberg, *Development of SAC*, 89, 92.
[109] Letter, General Power to General Twining: Command and Control of Polaris, Mar 6, 1959, Thomas D. White Papers, box 27, Command SAC folder, LC.
[110] Rosenberg, "Origins of Overkill," 56.
[111] Reardon, "U.S. Bombardment Doctrine," 422.
[112] Gen. Curtis E. LeMay, 'The Present Pattern," *Air University Quarterly Review:* 12 (winter-spring 1960--1961), 25.
[113] Alain C. Enthoven and K. Wayne Smith, *How Much Is Enough? Shaping the Defense Program, 1961-1969* (New York: Harper & Row, 1971), 122.
[114] Ibid.

"Whiz Kids,"[115] began auditing the United States' defense policy. He reviewed SIOP from the standpoint of economic efficiency, not survivability or practicality.[116] SAC pushed back stating that it did not want to be pushed backwards into a state of weakened deterrence and "perhaps make a thermonuclear war impossibly difficult to fight."[117] Kennedy's NSC revised SIOP to focus on retaliation, not preemption, and to select second strike targets rather than preemptive targets with emphasis on reexamining aim points and timing rather than one massive assault. The theory was that if the Soviets did not kill the United States entirely in a first strike, U.S. retaliation might convince them to halt their aggression by not attacking in a single giant response.[118] SAC's commander, General Thomas A. Power, believed abandoning first strike options were foolhardy at best.[119]

After being in office for four months, McNamara told the North Atlantic Council in a secret meeting in Athens, Greece on May 5, 1962:

> The U.S. has come to the conclusion that to the extent feasible, basic military strategy in a possible general nuclear war should be approached in much the same way that more conventional military operations have been regarded in the past. That is to say, principal military objectives, in the event of a nuclear war stemming from a major attack on the Alliance, should be the destruction of the enemy's military forces, not his civilian population. In other words, we are giving a possible opponent the strongest imaginable incentive to refrain from striking our own cities.[120]

McNamara, with the President's blessing, began cost cutting measures. He increased the number of ICBMs to be built, increased the number of B-52s and KC-135s standing alert from one-third to one-half, accelerated the decommissioning of the B-47 fleet, and killed the Skybolt missile and B-70 programs.[121] Air Force Chief of Staff, General LeMay told a Senate committee, "I do not think you can maintain superiority in this field with that sort of a program."[122] New online and launched CORONA satellites showed that the missile gap did not exist and that the Soviets had perhaps seventy SS-6 and SS-7 ICBMs.[123]

McNamara controlled the SIOP. He retained several counterforce options, but limited them. He met heavy resistance from SAC. McGeorge Bundy, the President's National Security Advisor, admitted "it

---

[115] McMaster, *Dereliction of Duty*, 2, 18-21, 24, 109.
[116] Goodpaster, Conference with the President, Kistiakowsky, *et al.*, November 25, 1960, December I, 1960, Eisenhower Papers, DDEL.
[117] Richard Fryklund, *100 Million Lives: Survival in a Nuclear War* (New York: Macmillan, 1962), 28.
[118] Desmond Ball and Jeffrey Richelson, eds., *Strategic Nuclear Targeting* (Ithaca, N.Y.: Cornell University Press, 1986), 63.
[119] Thomas S. Power, *Design for Survival* (New York: Coward-McCann, 1966), 83, 119-120.
[120] Robert S. McNamara, "The 'No-Cities' Doctrine," in Robert J. Art and Kenneth N. Waltz, eds., *The Use of Force: International Politics and Foreign Policy*, 2d ed (Lanham, MD: University Press of America, 1983), 149.
[121] William W. Kaufmann, *The McNamara Strategy* (New York: Harper & Row, 1964), 53-55; Robert S. McNamara, *The Essence of Security: Reflections in Office* (New York: Harper & Row, 1968), 71-73; Thomas B. Cochran, William M. Arkin, and Milton M. Hoenig, *Nuclear Weapons Data- book*, (Cambridge, MA: Ballinger, 1984), I: 11, 111-112.
[122] Thomas S. Power, *Design for Survival* (New York: Coward-McCann, 1966), 128.
[123] Robert F. Futrell, *Ideas, Concepts, Doctrine: A History of Basic Thinking in the United States Air Force, 1907-1964*, 2d printing (Maxwell Air Force Base, AL: Air University, 1974), 344-349.

would be much easier to control strategic procurement if he [McNamara] did not at the same time challenge SAC's targeting doctrines."[124] McNamara refused to consider any hint of an American first-strike option under any circumstances. "Because we have a sure second-strike capability, there is no pressure on us

Figure 4. North American B-70 Valkyrie Mach 3 bomber. Images Source: United States Air Force and NASA.

whatsoever to preempt … our second strike is so sure that there would be no rational basis on which to launch a preemptive strike."[125] Author Steven Reardon sums up McNamara's not so altruistic decision:

> A number of considerations doubtless played a part in his thinking, but it seems clear that the crucial factor in McNamara's decision to abandon counterforce was his dawning realization that the costs would be enormous, entailing ever-increasing new expenditures. As more weapons were made available, still more targets could be added to the SIOP, which in turn would require more weapons, not to mention more active and passive American defenses. Although Kennedy and McNamara both supported a more vigorous civil defense program, it never caught on either with a Congress that was lukewarm toward the idea or with an indifferent American public.[126]

[124] McGeorge Bundy, *Danger and Survival* (New York: Random House, 1988), 354.
[125] Bundy, *Danger and Survival*, 355.
[126] Reardon, "U.S. Bombardment Doctrine," 429; U.S. Commission on the Organization of the Government for the Conduct of Foreign Policy, *Appendix K: Adequacy of Current Organization: Defense and Arms Control* (Washington: GPO, June 1975), 231-232.

The Cuban Missile Crisis in October 1962 seemed to have solidified his views that neither the U.S. nor the Soviet Union would commit to thermonuclear war because it was a path to suicide.[127] He introduced the theory of assured destruction, or mutual assured destruction (MAD) into SIOP and the defense budgets throughout his tenure in the Kennedy and Johnson administrations.[128]

After President Kennedy's assassination, his vice-president Lyndon B. Johnson became president. Johnson retained all of Kennedy's top aids and cabinet. McNamara convinced the new president to hold U.S. strategic assets to 41 SLBM submarines and 1,000 Minuteman ICBM launchers.[129] McNamara also promised the Pentagon that the next year's budget would include weapon refinements including hardened caps for warheads, multiple independently targeted vehicles (MIRVs), sea launched ballistic missiles (SLBMs) and some anti-ballistic missile (ABM) defense systems. The Pentagon, particularly SAC, realized that the bomber alert force, indeed the manned bomber program was marginalized.[130]

[127] Robert S. McNamara, *Blundering into Disaster: Surviving the First Century of the Nuclear Age* (New York: Pantheon Books, 1986), 8-9, 44-46.
[128] For MAD, see Herman Kahn, *On Thermonuclear War*, 2nd ed. (New York: Free Press, 1960), passim; U.S. Commission on the Organization of the Government for the Conduct of Foreign Policy, *Appendix.*
[129] Hopkins and Goldberg, *Development of SAC, 110,* 126; McNamara, *Essence of Security,* 63-64; Enthoven and Smith, *How Much Is Enough?* pp 251-262; McNamara, *Essence of Security,* 63-64.
[130] Alton H. Quanbeck and Archie L. Wood, *Modernizing the Strategic Bomber Force* (Washington: Brookings Institution, 1976), 2.

Table 1. Comprehensive list of all SAC bases, from 1946-1992, units attached by year, and whether the units were Host (H), Tenant (T), or Provisional (P).

Strategic Air Command Bases - 1946 – 1992

Source: www.strategic-air-command.com and Eighth Air Force and SAC archives.

For ease of use, if the name of the installation changed, both the old and new name are listed:

Present name (Future name and date of name change), Location. (T) = Tenant, (H) = Host.

(Previous name) Present name and date of name change. Location. (T) =Tenant, (H) = Host.

United States

Abilene AFB, TX (Dyess AFB, 15 Dec 1956) (H)

- 341st Bomb Wing 1955–1956

Altus AFB, Altus, OK (H)

- 816th Air Division 1958–1962.
- 816th Strategic Aerospace Division 1962–1965.
  - 11th Air Refueling Wing 1968–1969.
  - 11th Bomb Wing 1957–1962.
  - 11th Strategic Aerospace Wing 1962–1968.
  - 96th Bomb Wing 1953–1957.
  - 340th Air Refueling Wing 1984–1992.

Amarillo AFB, Amarillo, TX (H)

- 4128th Strategic Wing 1958–1963.
- 461st Bomb Wing 1963–1968

Andrews AFB, Camp Spring, MD (T)

- Namesake: Lt Gen Frank Maxwell Andrews
  - Strategic Air Command HQ 1946–1948.
    - 4th Fighter Wing 1947–1948.
    - 311th Reconnaissance Group 1946–1948

Barksdale AFB, Bossier City, LA (H)

- Namesake: Lt Eugene Hoy Barksdale.

- Second Air Force 1949–1975.
- Eighth Air Force 1975–1992.
  - 4th Air Division 1952–1964.
  - 311th Air Division 1949.
    - 2d Bomb Wing 1963–1992.
    - 2d Wing 1991–1992.
    - 91st Strategic Reconnaissance Wing 1949–1951.
    - 301st Bomb Wing 1949–1958.
    - 311th Reconnaissance Group 1948–1949
    - 376th Bomb Wing 1951–1957.
    - 4220th Strategic Reconnaissance Wing 1965–1966.
    - 4238th Strategic Wing 1958–1963.

Beale AFB, Marysville, CA (H)

- Namesake: Brig Gen Edward Fitzgerald Beale.
  - Second Air Force 1991–1992,
    - 14th Air Division 1960–1962,
    - 14th Air Division 1972–1991.
    - 14th Strategic Aerospace Division 1962–1972.
      - 9th Strategic Reconnaissance Wing 1966–1991,
      - 9th Wing 1991–1992,
      - 17th Bomb Wing 1975–1976,
      - 100th Air Refueling Wing 1976–1983,
      - 456th Bomb Wing 1972–1975,
      - 456th Strategic Aerospace Wing 1962–1971,
      - 4126th Strategic Wing 1959–1963,
      - 4200th Strategic Reconnaissance Wing 1965–1966,

Bergstrom AFB, Austin, TX (H)

- Namesake: Capt John August Bergstrom.
  - 12th Fighter Day Wing 1957–1958
  - 12th Fighter Escort Wing 1950–1953
  - 12th Strategic Fighter Wing 1953–1957
  - 27th Fighter Escort Wing 1950–1953
  - 27th Fighter Wing 1949–1950
  - 27th Strategic Fighter Wing 1953–1958
  - 67th Tactical Reconnaissance Wing 1971-1993
  - 131st Fighter – Bomber Wing 1951
  - 340th Bomb Wing 1963–1966
  - 4130th Strategic Wing 1958–1963

Biggs AFB, El Paso, TX (H)

- Namesake: Lt James B. Biggs.
  - 810th Air Division 1952–1962
    - 95th Bomb Wing 1952–1966
    - 97th Bomb Wing 1948–1959

Blytheville AFB, Blytheville, AR (Eaker AFB 26 May 1988) (H)

- 42d Air Division 1963–1969.
- 42d Air Division 1970–1971.
- 42d Air Division 1973–1988
- 42d Strategic Aerospace Division 1963
  - 97th Bomb Wing 1959–1988

Bolling AFB, Washington, DC (T)

- Namesake: Col Raynal Cawthorne Bolling.
  - District of Columbia
    - Strategic Air Commands HQ 1946

Buckley Field, Aurora, CO. (T)

- 311th Reconnaissance Wing 1946–1948

Bunker Hill AFB (Grissom AFB, 12 May 1968), Peru, IN (H)

- 305th Bomb Wing 1959–1968.

Camp Carson, Colorado Springs, CO (T)

- Namesake: Brig. Gen. Christopher "Kit" Carson
  - 3904th Composite Wing 1950–1952.

Campbell AFB, KY (T)

- Namesake: Brig. Gen. William Bowen Campbell.
  - SAC Special Activities Center

(Fort Worth AFB) Carswell AFB, 27 Feb 1948, Fort Worth, TX (H)

- Namesake: Maj. Horace Seaver Carswell, Jr.
- 8th Air Force 1948–1955
  - 7th Bomb Wing 1948–1991
    - 19th Air Division 1951–1988
      - 7th Wing 1991–1992
      - 11th Bomb Wing 1951–1957
      - 43d Bomb Wing 1960–1964
      - 4123d Strategic Wing 1957–1959

Castle AFB, Merced County, CA (H)

- Namesake: Brig. Gen. Frederick Walker Castle.
  - 47th Air Division 1959–1962
  - 47th Air Division 1963–1971.
  - 47th Strategic Aerospace Division 1962–1963.
    - 93d Bombardment Group 1946.
    - 93d Bomb Wing 1947–1991
    - 93d Wing 1991–1992

Chatham AFB, Savannah, GA (H)

- 22nd Bomb Wing 1949–1950

(Lake Charles AFB) Chennault AFB, LA 14 Nov 1958 (H)

- Namesake: Maj. Gen. Claire Lee Chennault
- 806th Air Division 1958–1960
  - 44th Bomb Wing 1958–1960
  - 68th Bomb Wing 1958–1963
  -

Clinton County AFB, Wilmington, OH (T)

- 22nd Air Division 1959–1960
  - 4090th Air Refueling Wing 1958–1960

Clinton–Sherman AFB, Clinton, OK (H)

- Namesake: City of Clinton and the Sherman Iron Works.

- 4090th Air Refueling Wing 1958–1960
- 70th Bomb Wing 1962–1969.
- 4123d Strategic Wing 1959–1963

Columbus AFB, Columbus, MS (H)

- 454th Bomb Wing 1962–1969
- 4228th Strategic Wing 1958–1963

Cooke AFB (Vandenberg AFB, 4 Oct 1958), Lompoc, CA (T)

- Namesake: Gen. Philip St. George Cooke.
  - 1st Missile Division 1957–1958
    - 704th Strategic Missile Wing 1957–1958

Davis–Monthan AFB, Tucson, AZ (H)

- Namesake: 1st Lt. Samuel H. Davis and 2d Lt. Oscar Monthan
  - 12th Air Division 1962–1971
  - 12th Strategic Aerospace Division 1962–1971
  - 12th Strategic Missile Division 1971–1973
  - 36th Air Division 1951–1960
    - 2d Bomb Wing 1947–1949
    - 40th Bombardment Group 1946
    - 43rd Bomb Wing 1947–1960
    - 100th Strategic Reconnaissance Wing 1966–1976
    - 303d Bomb Wing 1951–1964
    - 390th Bomb Wing 1953–1961
    - 390th Strategic Missile Wing 1962–1984
    - 444th Bombardment Group 1946
    - 4080th Strategic Wing 1969–1966

Dow AFB, Bangor, ME (H)

- Namesake: Lt. James F. Dow.
  - 6th Air Division 1961–1966
    - 101st Air Refueling Wing 1976–1992
    - 132d Fighter Bomber Wing 1951
    - 397th Bomb Wing 1962–1968
    - 506th Strategic Fighter Wing 1952–1955
    - 4038th Strategic Wing 1958–1963
    - 4060th Air Refueling Wing 1955–1963

(Abilene AFB) Dyess AFB 15 Dec 1956, Abilene, TX (H)

- 12th Air Division 1973–1988
- 819th Air Division 1956–1962
- 819th Strategic Aerospace Division 1962–1966
  - 7th Wing 1993-current
  - 96th Bomb Wing 1957–1962
  - 96th Bomb Wing 1972–1991
  - 96th Strategic Aerospace Wing 1962–1972
  - 96th Wing 1991–1992
  - 341st Bomb Wing 1956–1961

(Blytheville AFB) Eaker AFB 26 May 1988, Blytheville, AR (H)

- Namesake: Gen. Ira C. Eaker
  - 97th Bomb Wing 1988–1991
  - 97th Wing 1991–1992

Eglin AFB, Ft. Walton Beach, FL (T)

- Namesake: Lt. Col. Fredrick Irving Eglin.
  - 39th Bomb Wing 1963–1965
  - 4135th Strategic Wing 1958–1963

(Mile 26) Eielson AFB, Fairbanks 4 Feb 1948, AK 20 Jul 1957 (T)

- Namesake: Col. Carl Benjamin Eielson
  - 6th Strategic Reconnaissance Wing 1988–1992
  - 6th Strategic Wing 1967–1988
  - 168th Air Refueling Wing 1986–1992
  - 4157th Strategic Wing 1962–1967
  - 97th Bomb Wing 1947–1948

(Rapid City AFB) Ellsworth AFB, 13 Jun 1953, Rapid City, SD (H)

- Namesake; Brig. Gen. Richard Elmer Ellsworth.
  - 12th Air Division 1988–1990
  - 821st Air Division 1959–1962
  - 821st Strategic Aerospace Division 1962–1971
    - 28th Bomb Wing 1955–1991
    - 28th Strategic Reconnaissance Wing 1953–1955

- 28th Wing 1991–1992
- 44th Missile Wing 1991–1992
- 44th Strategic Missile Wing 1962–1991
- 99th Strategic Weapons Wing 1989–1991
- 99th Tactical and Training Wing 1991–1992

Elmendorf AFB, Anchorage, AK (T)

- Namesake: Capt. Hugh Merle Elmendorf.
  - 4158th Strategic Wing 1963–1966

Ent AFB, Colorado Springs, CO (T)

- Namesake: Brig. Gen. Uzal Girard Ent.
  - Fifteenth Air Force 1946–1949

(Spokane AFB) Fairchild AFB 20 Jul 1951, Spokane, WA. (H)

- Namesake: Gen. Muir Stephen Fairchild'.
  - 18th Air Division 1959–1962
  - 18th Strategic Aerospace Division 1962–1968
  - 47th Air Division 1971–1987
  - 57th Air Division 1951–1956
    - 92d Bomb Wing 1951–1962
    - 92d Bomb Wing 1972–1991
    - 92d Strategic Aerospace Wing 1962–1972
    - 92d Wing 1991–1992
    - 98th Bomb Wing 1947–1948
    - 99th Bomb Wing 1955–1956
    - 99th Strategic Reconnaissance Wing 1953–1955
    - 141st Air Refueling Wing 1976–1992

Fairfield–Suisun AFB (Travis AFB 21 Apr 1951), Fairfield, CA (H)

- 5th Bomb Wing 1955–1968
- 5th Strategic Reconnaissance Wing 1949–1955
- 9th Bomb Wing 1950–1953
- 9th Strategic Reconnaissance Wing 1949–1950

(Topeka AFB) Forbes AFB 1 Jul 1948, Topeka, KS (H)

- Namesake: Maj. Daniel Forbes.
  - 21st Air Division 1951–1962
  - 21st Strategic Aerospace Division 1962–1964
  - 311th Air Division, Reconnaissance 1948–1949
    - 40th Bomb Wing 1960–1964
    - 40th Strategic Aerospace Wing 1964
    - 55th Strategic Reconnaissance Wing 1948–1949
    - 55th Strategic Reconnaissance Wing 1952–1966
    - 90th Bomb Wing 1951–1956
    - 90th Strategic Reconnaissance Wing 1956–1960
    - 190th Air Refueling Wing 1978–1992
    - 308th Bomb Wing 1951
    - 310th Bomb Wing 1952
    - 376th Bomb Wing 1951

Fort Worth AFB (Carswell AFB, 27 Feb 1948), Fort Worth, TX (H)

- 8th Air Force 1946–1948
  - 7th Bomb Wing 1947–1948
  - 43rd Bomb Wing 1960-1964
  - 58th Bombardment Group 1946
  - 448th Bombardment Group 1946

Francis E. Warren AFB, Cheyenne, WY (H)

- Namesake: Gov. Francis Emroy Warren
  - 4th Air Division 1973–1988
  - 4th Strategic Aerospace Division 1971–1988
  - 4th Strategic Missile Division 1971–1973
  - 13th Air Division 1963
  - 13th Strategic Missile Division 1963–1966
    - 90th Missile Wing 1991–1992
    - 90th Strategic Missile Wing 1963–1991
    - 389th Strategic Missile Wing 1961–1965
    - 706th Strategic Missile Wing 1958–1961
    - 4320th Strategic Wing (Missile) 1958

Geiger Field, WA

- Namesake: Maj. Harold C. Geiger.
  - 141st Air Refueling Wing 1976

General Billy Mitch ANGB, WI

- Namesake: Brig. Gen. William "Billy" Mitchell
  - 128th Air Refueling Wing 1976–1992

Glasgow AFB, Glasgow, MT (H)

- 91st Bomb Wing 1962–1968
- 4141st Strategic Wing 1958–1963

Grand Forks AFB, Grand Forks, ND (H)

- 4th Air Division 1964–1971
- 4th Strategic Aerospace Division 1971
- 42d Air Division 1988–1991
  - 319th Bomb Wing 1962–1991
  - 319th Wing 1991–1992
  - 321st Strategic Missile Wing 1964–1992
  - 449th Bombardment Group 1946
  - 4133d Strategic Wing 1958–1963

Grand Island AFB, Grand Island, NE

- 449th Bombardment Group 1946

Great Falls AFB (Malmstrom AFB 15 Jun 1956), Great Falls, MT (H)

- 407th Strategic Fighter Wing 1953–1956

Grenier AFB, Manchester, NH (T)

- Namesake: Lt. James D. Grenier
  - 82d Fighter Wing 1947–1949

Griffiss AFB 20 September 1948, Rome, NY (H)

- Namesake: Lt Col Townsend E. Griffiss
  - 416th Bomb Wing 1962–1991
  - 4039th Strategic Wing 1958–1963

(Bunker Hill AFB) Grissom AFB, 12 May 1968, Peru, IN (H)

- Namesake: Lt Col Virgil Ivan "Gus" Grissom
  - 305th Air Refueling Wing 1970–1992
- 305th Bomb Wing 1959–1970.
  - 434th Air Refueling Wing 1987–1992

Hill AFB, Ogden, UT (T)

- Namesake: Maj Plover Peter Hill
  - 4062d Strategic Wing (Missile) 1960–1962

Homestead AFB, Homestead, FL (H)

- 823d Air Division 1956–1968
  - 19th Bomb Wing 1956–1968
  - 379th Bomb Wing 1953–1961

Hunter AFB, Savannah, GA (H)

- Namesake: Maj Gen Frank O'D. Hunter.
  - 38th Air Division 1951–1959
    - 2d Bomb Wing 1950–1963
    - 308th Bomb Wing 1951–1959

K. I. Sawyer AFB, Marquette, MI (H)

- Namesake: Kenneth Ingalls Sawyer.
  - 410th Bomb Wing 1962–91
  - 410th Wing 1991–92
  - 4042d Strategic Wing 1958 – 63

Kearney AFB, Kearney, NE

- 27th Fighter Wing 1947–1949

Key Field ANGB, Meridian, MS

- Namesake: Al and Fred Key

- 186th Air Refueling Wing 1992

(Kinross AFB) Kincheloe AFB 25 Sep 1959, Kinross, MI (H)

- Namesake: Capt Iven Carl Kincheloe, Jr.
  - 416th Wing 1991–1992
  - 449th Bomb Wing 1962–1977
  - 4239th Strategic Wing 1959–1963

Lake Charles AFB (Chennault AFB, 14 Nov 1958), Lake Charles, LA (H)

- 806th Air Division 1952–1958
  - 44th Bomb Wing 1951–1958
  - 68th Bomb Wing 1952–1958
  - 68th Strategic Reconnaissance Wing 1951–1952

Ladd Field, AK (T)

- Namesake: Maj Arthur K. Ladd.

Larson AFB, Moses Lake, WA (H)

- Namesake: Maj Donald A. Larson.
  - 71st Strategic Reconnaissance Wing Fighter 1955–1957
  - 462d Strategic Aerospace Wing 1962–1966
  - 4170th Strategic Wing 1959–1963

Laughlin AFB, Del Rio, TX (H)

- Namesake: 1st Lt. Jack Thomas Laughlin.
  - 4080th Strategic Recon. Wing 1957–1960.
  - 4080th Strategic Wing 1960–1966

Loring AFB 1 Oct 1954), Limestone, ME

- Namesake: Maj Charles Joseph Loring Jr.
  - 45th Air Division 1954–1971
  - 42d Bomb Wing 1953–1954.
  - 42d Wing 1991–1992

Lincoln AFB, Lincoln, NE (H)

- 818th Air Division 1954–1962
- 818th Strategic Aerospace Division 1962–1965
  - 98th Bomb Wing 1954–1964
  - 98th Strategic Aerospace Wing 1964–1966
  - 307th Bomb Wing

Little Rock AFB, Jacksonville, AR (H)

- 825th Air Division 1955–1962
- 825th Strategic Aerospace Division 1962–1970
  - 70th Strategic Reconnaissance Wing 1955–1962
  - 308th Strategic Missile Wing 1961–1987
  - 384th Bomb Wing 1953–1964
  - 43rd Bomb Wing 1964-1970

Lockbourne AFB (Rickenbacker AFB 18 May 1974), Columbus, OH (H)

- 37th Air Division 1951–1952
- 801st Air Division 1952–1965
  - 26th Strategic Reconnaissance Wing 1952–1958
  - 70th Strategic Reconnaissance Wing 1955
  - 91st Strategic Reconnaissance Wing 1957
  - 301st Air Refueling Wing 1964–1974
  - 301st Bomb Wing 1958–1964
  - 376th Bomb Wing 1957–1965

Lowry AFB, Denver, CO (H)

- Namesake: A2c Wade Paul J Jr.
- 1st Lt. Francis Brown Lowry
  - 451st Strategic Missile Wing 1961–1965
  - 703d Strategic Missile Wing 1958–1961

MacDill AFB, Tampa, FL (H)

- Namesake: Col Leslie MacDill.
  - 8th Air Force 1946
    - 6th Air Division 1951–1961
      - 305th Bomb Wing 1950–1959

- 306th Bomb Wing 1948–1963
- 307th Bomb Wing 1947–1965
- 311th Reconnaissance Group 1946
- 311th Reconnaissance Wing 1946–1948
- 498th Bombardment Group 1946

(Great Falls AFB) Malmstrom AFB 15 Jun 1956, Great Falls, MT (H)

- Namesake: Col Einar Axel Malmstrom,
  - 22d Air Division 1960–1962
  - 40th Strategic Aerospace Division 1989–1991
  - 813th Air Division 1959–1962
  - 813th Strategic Aerospace Division 1962–1966
    - 301st Air Refueling Wing 1988–1992
    - 341st Missile Wing 1991–1992
    - 341st Strategic Missile Wing 1961–1991
    - 407th Strategic Fighter Wing 1956–1957
    - 4061st Air Refueling Wing 1956–1961

March AFB, Riverside, CA (H)

- Namesake: 2nd Lt Peyton Conway March.
  - Fifteenth Air Force 1949–1992
    - 12th Air Division 1951–1962
      - 1st Fighter Interceptor Wing 1950
      - 1st Fighter Wing 1949–1950
      - 22d Air Refueling Wing 1982–1992
      - 22d Bomb Wing 1949–1982
      - 44th Bombardment Group 1947–1950
      - 44th Bomb Wing 1950–1951
      - 106th Bomb Wing 1951–1952
      - 320th Bomb Wing 1952–1963
      - 330th Bomb Wing 1949–1951
      - 452d Air Refueling Wing 1978–1992

Mather AFB, Sacramento, CA (T)

- Namesake: 2nd Lt Carl Spencer Mather.
  - 320th Bomb Wing 1963–1989
  - 4134tth Strategic Wing 1958–1963

McConnell AFB, Wichita, KS (H)

- Namesake: Capt Fred McConnell and 2nd Lt Thomas Laverne McConnell.
  - 42d Air Division 1959–1962
  - 42d Strategic Aerospace Division 1962–1963
    - 381st Strategic Missile Wing 1961–1986
    - 384th Air Refueling Wing 1972–1987
      - 384th Bomb Wing 1987–1991
      - 384th Wing 1991–1992
      - 4347th Combat Crew Training Wing 1958–1963

(Pinecastle AFB) McCoy AFB 7 May 1958, Orlando, FL (H)

- Namesake: Col Michael Norman Wright McCoy.
  - 42d Air Division 1971–1973
  - 823d Air Division 1968–1971
    - 306th Bomb Wing 1963–1974
    - 321st Bomb Wing 1958–1961
    - 4047th Strategic Wing 1961–1963

McGhee Tyson ANGB, Knoxville, TN

- Namesake: Charles McGee Tyson (USNR)
  - 134th Air Refueling Wing 1976–1992

McGuire AFB, Wrightstown, NJ (T)

- Namesake: Maj Thomas Buchannan McGuire Jr.
  - 91st Strategic Reconnaissance Wing 1948–1949
  - 108th Air Refueling Wing 1991–1992
  - 170th Air Refueling Wing 1977–1992

Merced County Airport, Merced CA (H)

- 444th Bombardment Group 1946.

Miami International Airport, Miami FL (T)

- 456th Troop Carrier Wing (Reserves) 1952–1972

Minot AFB, Minot, ND (H)

- 57th Air Division 1975–1991
- 810th Air Division 1962
- 810th Strategic Aerospace Division 1962–1971
  - 5th Bomb Wing 1968–1991
  - 5th Wing 1991–1992
  - 906th Air Refueling Squadron 1959-1991
  - 91st Strategic Missile Wing 1968–1992
  - 450th Bomb Wing 1962–1968
  - 455th Strategic Missile Wing 1962–1968
  - 4136th Strategic Wing 1958–1963

Moody AFB, Valdosta, GA (T)

- Namesake: Maj George P. Moody
  - 146th Fighter – Bomber Wing 1951

Mountain Home AFB, Mountain Home, ID (H)

- 5th Strategic Reconnaissance Wing 1949
- 9th Bomb Wing 1953–1962
- 9th Strategic Aerospace Wing 1962–1966

Naval Air Station, Dallas TX

- 136th Air Refueling Wing 1976–1978

O'Hare International Airport, Chicago, IL (T)

- Namesake: LCDR Edward "Butch" O'Hare.
  - 126th Air Refueling Wing 1976–1992

Offutt AFB, Bellevue, NE (H)

- Namesake: 1st Lt Jarvis Offutt.
  - Strategic Air Command HQ 1948–1992
    - 1st Air Division (Meteorological Survey) 1955–1956
    - 5th Air Division 1951
      - 55th Strategic Reconnaissance Wing 1966–1991
      - 55th Wing 1991–1992

- 385th Strategic Aerospace Wing 1962–1964
- 544th Aerospace Reconnaissance Tech. Wing 1963–1979
- 544th Intelligence Wing 1991–1992
- 544th Strategic Intelligence Wing 1979–1991
- 3902d Air Base Wing 1979–1986
- 4231st Strategic Wing 1959–1962
- 4321st Strategic Wing 1959–1962
- 32nd Comm SQ Scribner air force 1964-1965<stationed there><site gone 1990

(Portsmouth AFB) Pease AFB 7 Sep 1956, Portsmouth, NH (H)

- Namesake: Capt Harl Pease Jr.
  - 45th Air Division 1971–1989
  - 817th Air Division 1956–1971
    - 100th Bomb Wing 1956–1966
    - 157th Air Refueling Wing 1975–1992
    - 509th Bomb Wing 1958–1992

Peterson AFB CO. (T)

- Namesake: 1st Lt Edward J. Peterson.

Phoenix Sky Harbor IAP, Phoenix, AZ

- 161st Air Refueling Wing 1976–1992

Pinecastle AFB (McCoy AFB 7 May 1958), Orlando, FL (H)

- 813th Air Division 1954–1956
  - 19th Bomb Wing 1954–1956
  - 321st Bomb Wing 1953–1958
  - 4047th Strategic Wing 1958–1963
  - 306th Bomb Wing 1963–1974

Pittsburgh ANGB, Pittsburgh IAP, Pittsburgh, PA

- 112th Air Refueling Wing 1991–1992
- 171st Air Refueling Wing 1976–1992

Plattsburgh AFB, Plattsburgh, NY (H)

- 820th Air Division 1956–1962
- 820th Strategic Aerospace Division 1962–1965
  - 308th Bomb Wing 1959–1961
  - 380th Air Refueling Wing 1991–1992
  - 380th Bomb Wing 1953–1964
  - 380th Bomb Wing 1972–1991
  - 380th Strategic Aerospace Wing 1964–1972
  - 497th Air Refueling Wing 1963–1964
  - 4180th Air Refueling Wing 1960–1963

Portsmouth AFB (Pease AFB 7 Sep 1956), Portsmouth, NH (H)

- 100th Bomb Wing 1953–1956

Presque Isle AFB, Presque Isle, ME (T)

- 702d Strategic Missile Wing 1958–1961

Randolph AFB, San Antonio, TX (T)

- Namesake: Capt William Millican Randolph.
  - 4397th Air Refueling Training Wing 1958–1962

Rapid City AFB (Ellsworth AFB, 13 Jun 1953), Rapid City, SD (H)

- 28th Bomb Wing 1947–1950
- 28th Strategic Reconnaissance Wing 1950–1953

(Lockbourne AFB) Rickenbacker AFB 18 May 1974, Columbus, OH (H)

- Namesake: Capt Edward "Eddie" V. Rickenbacker.
  - 160th Air Refueling Wing 1976–1992
  - 301st Air Refueling Wing 1974–1979

Robins AFB, Warner Robins, GA (H)

- Namesake: Brig Gen Augustine Warner Robins.
  - 19th Air Refueling Wing 1983–1992
  - 19th Bomb Wing 1968–1983
  - 465th Bomb Wing 1962–1968
  - 4137th Strategic Wing 1959–1963

Roswell AFB (Walker AFB 19 Jun 1949), Roswell, NM (H)

- 33d Fighter Wing 1947–1948
- 509th Composite Group 1946–1947
- 509th Bomb Wing 1947–1949

Salt Lake City IAP, Salt Lake City, UT

- 151st Air Refueling Wing 1976–1992.

Savannah AFB, Savannah, GA (H)

- 380th Bombardment Group 1947–1949

(Smoky Hill AFB) Schilling AFB 16 Mar 1957, Salina, KS. (H)

- Namesake: Col David C. Schilling.
  - 22d Air Division 1962–1963
  - 802d Air Division 1957–1960
    - 40th Bomb Wing 1957–1960
    - 310th Bomb Wing 1957–1962
    - 310th Strategic Aerospace Wing 1962–1965
    - 485th Bombardment Group 1946.

Sedalia AFB (Whiteman AFB 3 Dec 1955), Knob Noster, MO (H)

- 340th Bomb Wing 1952–1955

Selfridge AFB, Mt. Clemens, MI (H)

- Namesake: 1st Lt Thomas E. Selfridge
  - 56th Fighter Wing 1946–1948
  - 500th Air Refueling Wing 1963–1964
  - 4045th Air Refueling Wing 1959–1963

Seymour Johnson AFB, Goldsboro, NC (H)

- Namesake: LT Seymour Johnson, USN
  - 68th Air Refueling Wing 1986–1991
  - 68th Bomb Wing 1963–1986
  - 4241st Strategic Wing 1958–1963
  - 911th Air Refueling Wing 1958–1986

Sheppard AFB, Wichita Falls, TX (H)

- Namesake: U.S. Senator Morris E. Sheppard.
  - 494th Bomb Wing 1963–1966
  - 4245th Strategic Wing 1959–1963

Smoky Hill AFB (Schilling AFB, 16 Mar 1957), Salina, KS (H)

- 802d Air Division 1952–1957
  - 22d Bomb Wing 1948–1949
  - 40th Bomb Wing 1952–1957
  - 97th Bomb Wing 1948
  - 301st Bomb Wing 1947–1949
  - 485th Bombardment Group 1946

Spokane AFB (Fairchild AFB 20 Jul 1951, Spokane, WA (H)

- 92d Bomb Wing 1947–1951
- 90th Bomb Wing 1950–1951
- 111th Strategic Reconnaissance Wing 1951

Stead AFB, Reno, NV (T)

- Namesake: Lt Croston K. Stead
  - 3904th Composite Wing 1952–1954

Tinker AFB, Oklahoma City, OK (T)

- Namesake: Brig Gen Clarence L. Tinker
  - 506th Strategic Fighter Wing 1955–1957.

Topeka AFB (Forbes AFB 1 Jul 1948), Topeka, KS (H)

- 311th Air Division, Reconnaissance 1948–1949
  - 55th Strategic Reconnaissance Wing 1948–1949

(Fairfield–Suisun AFB) Travis AFB 21 Apr 1951, Fairfield, CA (H)

- Namesake; Brig Gen Robert Falligant Travis.
  - 14th Air Division 1951–1960
    - 5th Bomb Wing 1951–1968
    - 5th Bomb Wing 1955–1968

Turner AFB, Albany, GA (H)

- Namesake: Lt S. Preston Turner.
  - 40th Air Division 1951–1957
  - 82d Air Division 1959–1966
    - 12th Fighter Escort Wing 1950
    - 31st Fighter Escort Wing 1950–1953
    - 31st Strategic Fighter Wing 1953–1957
    - 108th Fighter Bomber Wing 1951
    - 484th Bomb Wing 1962–1967
    - 508th Fighter Escort Wing 1952
    - 508th Strategic Fighter Wing 1952–1956
    - 4080th Strategic Recon. Wing 1956–1957
    - 4138th Strategic Wing 1959–1963

(**Cooke AFB) Vandenberg AFB, Lompoc, CA 4 Oct 1958 (T)**

- Namesake: Gen Hoyt Sanford Vandenberg.
  - Twentieth Air Force 1991–1992
    - 1st Missile Division 1958–1961
    - 1st Strategic Aerospace Division 1961–1991
      - 310th Training and Testing Wing 1991–1992
      - 392d Strategic Missile Wing 1961
      - 704th Strategic Missile Wing 1958–1959
      - 4392d Aerospace Support Wing 1961
      - 4392d Aerospace Support Wing 1987–1991

(**Roswell AFB) Walker AFB 19 Jun 1949, Roswell, NM (H)**

- Namesake: Brig Gen Kenneth Newton. Walker.

- 47th Air Division 1951–1959
  - 6th Bomb Wing 1950–1962
  - 6th Strategic Aerospace Wing 1962–1967
  - 509th Bomb Wing 1949–1958

Westover AFB, Chicopee, MA (H)

- Namesake: Maj Gen Oscar Westover
  - Eighth Air Force 1955–1970
    - 1st Air Division 1954–1955
    - 57th Air Division 1956–1969
      - 99th Bomb Wing 1956–1974
      - 499th Air Refueling Wing 1963–1966
      - 4050th Air Refueling Wing 1955–1963

(Sedalia AFB) Whiteman AFB 3 Dec 1955, Sedalia, MO (H)

- Namesake: 2nd Lt George Allison Whiteman.
  - 17th Air Division 1959–1962
  - 17th Strategic Aerospace Division 1962–1963
  - 17th Strategic Aerospace Division 1965–1971
  - 17th Strategic Missile Division 1963–1965
  - 100th Air Division 1990–1991
    - 340th Bomb Wing 1955–1963
    - 34oth Bomb Wing 1958–1970
    - 351st Missile Wing 1991–1992
    - 351st Strategic Missile Wing 1962–1991

Wright–Patterson AFB, Dayton, OH (T)

- Namesake: Orville & Wilbur Wright and 1st Lt Frank Patterson.
  - 17th Bomb Wing 1963–1975
  - 4043d Strategic Wing 1959–1963

Wurtsmith AFB, Oscoda, MI (H)

- Namesake: Maj Gen Paul Bernard Wurtsmith.
  - 40th Air Division 1959–1988
    - 379th Bomb Wing 1961–1991
    - 379th Wing 1991–1992
    - 4026th Strategic Wing 1958–1961

U.S. Overseas (Outside CONUS)

Andersen AFB, Agana, Guam

- Namesake: Brig Gen James Roy Andersen.
  - Eighth Air Force 1970–1975
    - 3d Air Division 1954–1970
    - 3d Air Division 1975–1992
      - 43d Bomb Wing 1986–1990
      - 43d Strategic Wing 1970–1986
      - 72d Strategic Wing (P) 1972–1973
      - 92d Bomb Wing 1954–1955
      - 92d Bomb Wing 1956
      - 99th Bomb Wing 1956
      - 303d Bomb Wing 1956
      - 320th Bomb Wing 1956–1957
      - 509th Bomb Wing 1954
      - 1500th Strategic Wing (P) 1990–1991
      - 3960th Air Base Wing 1955–1956
      - 3960th Strategic Wing 1965–1970
      - 4133d Bomb Wing (P) 1966–1970

Hickam AFB, Honolulu, HI (T)

- Namesake: Lt Col Horace Meek Hickam.
  - 3d Air Division 1988–1992

Ramey AFB, Aguadilla, Puerto Rico

- Namesake: Gen Howard Knox Ramey
  - 55th Strategic Recon. Wing 1950–1952
  - 72d Bomb Wing 1955–1971
  - 72d Strategic Recon. Wing 1952–1955

Foreign Bases

Canada

Ernest Harmon AB, Newfoundland

- Namesake: Captain Ernest Emery Harmon
  - 4081st Strategic Wing 1957–1966

Goose AB, Labrador

- 95th Strategic Wing 1966–1976
- 4082nd Strategic Wing 1957–1966.

United Kingdom

Diego Garcia, Indian Ocean

- 17th Recon. Wing 1982–1992
- 4300th Bomb Wing (P) 1990

RAF Alconbury

- 17th Reconnaissance Wing 1982–1991

RAF Bassingbourn, Royston

- 2d Bomb Group 1951
- 55th Strategic Recon. Wing 1951
- 97th Bomb Group 1950–1951
- 301st Bomb Group 1950–1951

RAF Burtonwood, Warrington

- 5th Strategic Recon. Wing 1950

RAF Brize Norton

- 11th Bomb Wing 1952
- 43rd Bomb Wing 1953
- 68th Bomb Wing 1958
- 92d Bomb Wing 1958
- 97th Bomb Group 1950–1951
- 301st Bomb Group 1950–1951
- 301st Bomb Wing 1952–1953
- 305th Bomb Wing 1953
- 320th Bomb Wing 1954
- 380th Bomb Wing 1957
- 384th Bomb Wing 1957
- 3920th Strategic Wing 1964–1965
- SAC REFLEX Base 1959–1964

RAF Fairford

- 5th Strategic Recon. Wing 1954
- 7th Bomb Wing 1952–1953
- 11th Bomb Wing 1952–1953
- 43d Bomb Wing 1954
- 55th Strategic Recon. Wing 1954
- 303d Bomb Wing 1954
- 306th Bomb Wing 1953
- 806th Bomb Wing (P) 1991
- SAC REFLEX base 1959–1964

11th Strategic Group 1979-1990

RAF Greenham Common

- 40th Bomb Wing 1957
- 100th Bomb Wing 1957–1958
- 303d Bomb Wing 1954
- 310th Bomb Wing 1956–1957
- 320th Bomb Wing 1956

RAF High Wycombe

- 7th Air Division 1958–1965

RAF Lakenheath

- 2d Bomb Group 1948
- 2d Bomb Group 1950
- 7th Bomb Wing 1951
- 22d Bomb Group 1948–1949
- 22d Bomb Group 1949–1950
- 22d Bomb Wing 1951
- 40th Bomb Wing 1955
- 42d Bomb Wing 1955
- 43d Bomb Group 1949
- 55th Strategic Recon. Wing 1954
- 68th Bomb Wing 1954
- 93d Bomb Wing 1952
- 97th Bomb Wing 1952
- 98th Bomb Wing 1955–1956
- 301st Bomb Group/Bomb Wing 1950–1951
- 307th Bomb Group 1948–1949
- 307th Bomb Wing 1956
- 321st Bomb Wing 1954–1955
- 340th Bomb Wing 1955
- 384th Bomb Wing 1957
- 509th Bomb Group 1949
- 509th Bomb Wing 1951
- 509th Bomb Wing 1952
- 705th Strategic Missile Wing 1958
- SAC REFLEX base 1959–1964

RAF Manston

- 12th Fighter Escort Wing 1951
- 31st Fighter Escort Wing 1951
- 91st Strategic Recon, Wing 1951

RAF Marham

- 2d Bomb Group 1950
- (22d Bomb Group 1949–1950
- 43d Bomb Group 1949
- 93d Bomb Group 1950–1951
- 97th Bomb Group 1948–1949
- 307th Bomb Group 1948
- 307th Bomb Group 1949–1950
- 509th Bomb Group 1949

RAF Mildenhall

- 2d Bomb Group 1950
- 2d Bomb Wing 1951
- 22d Bomb Wing 1951
- 55th Strategic Recon. Wing 1953
- 55th Strategic Recon. Wing 1954
- 93d Bomb Group 1950–1951
- 93d Bomb Group 1951–1952
- 97th Bomb Wing 1952
- 100th Air Refueling Wing 1992
- 306th Strategic Wing 1978–1992
- 509th Bomb Wing 1951
- 509th Bomb Wing 1952

RAF Scampton

- 28th Bomb Group 1948
- 301st Bomb Group 1948–1949

RAF Sculthorpe

- 2d Bomb Group 1950
- 5th Bomb Group 1950
- 5th Recon. Group 1949–1950
- 5th Strategic Recon. Wing 1950
- 22d Bomb Group 1949–1950
- 22d Bomb Wing 1951
- 43d Bomb Group 1949
- 91st Strategic Recon. Wing 1951
- 92d Bomb Group 1949
- 97th Bomb Group 1950–1951
- 98th Bomb Group 1949
- 301st Bomb Group 1950–1951

RAF South Ruislip

- 7th Air Division 1951–1958
    - 705th Strategic Missile Wing 1958–1960

RAF Upper Heyford

- 2d Bomb Wing 1952
- 22d Bomb Wing 1953–1954
- 42d Bomb Wing 1955
- 97th Bomb Wing 1956
- 303d Bomb Wing 1954
- 310th Bomb Wing 1955
- 376th Bomb Wing 1955
- 509th Bomb Wing 1956
- 3918th Strategic Wing 1964–1965
- European Tanker Task Force 1970–1992
- SAC REFLEX base 1959–1964

RAF Waddington

- 97th Bomb Group 1948–1949
- 97th Bomb Group 1950–1951

RAF Wyton

- 2d Bomb Wing 1951
- 97th Bomb Group 1950–1951
- 509th Bomb Wing 1951
- SAC Dispersal Base

Egypt

Cairo

- 1706th Air Refueling Wing (P) 1990

French Morocco

Nouasseur AB

- 4310th Air Division 1958–1963

Rabat

- 5th Air Division 1951–1954

Sidi Slimane AB

- 5th Air Division 1954–1958
  - 4310th Air Division 1958

Ben Guerir AB

Greece

Hellinikon AB

- 803rd Air Refueling Wing (P)

Denmark

Thule AFB, Thule, Greenland

- 4083d Air Base Wing 1959–1960
- 4083d Strategic Wing 1957–1959

Japan

Kadena AB, Okinawa

- 307th Bomb Wing 1952–1954
- 376th Strategic Wing 1970–1991
- 4252d Strategic Wing 1965–1970

Misawa AB, Misawa

- 12th Strategic Fighter Wing 1954
- 27th Fighter Escort Wing/Strategic Fighter Wing 1952–1953
- 31st Strategic Fighter Wing 1953–1954

Yokota AB, Tokyo

- 98th Bomb Wing 1953–1954

Oman

Seeb

- 1702d Air Refueling Wing (P) 1990–1991

Portugal

Lajes/Terceira Island

- 802d Air Refueling Wing (P) 1990

Saudi Arabia

King Khalid International Airport

- 1703d Air Refueling Wing (P) 1990–1991

King Abdulaziz International Airport, Jeddah

- 1701st Air Refueling Wing(P) 1991
- 1701st Strategic Wing (P) 1990
- 1708th Bomb Wing (P) 1990

- 1709th Air Refueling Wing (P) 1990

Riyadh

- 17th Air Division (P) Provisional 24 Aug 1990.
    - 1700th Strategic Wing (P) 1990–1991
    - 1711th Air Redfueling Wing (P)

Spain

Madrid

- Sixteenth Air Force 1957–1958
    -
    - 65th Air Division 1957
        - 7602d Support Wing 1957
        - 3977th Support Wing 1957–1958

Moron AB, Seville

- 801st Air Refueling Wing(P) 1990
- 801st Bomb Wing (P) 1991
- 3973d Strategic Wing 1964–1966

Torrejon AB, Madrid

- Sixteenth Air Force 1958–1966
    - 65th Air Division 1957–1960
        - 98th Strategic Wing 1966–1976
        - 3970th Strategic Wing 1964–1966

Zaragoza AB, Zaragoza

Thailand

U-Tapao Royal Thailand Navy Air Force Base (RTNAFB)

- 17th Air Division 1972
  - 307th Strategic Wing 1970–1975
  - 310th Strategic Wing (P) 1972–1974
  - 4258th Strategic Wing 1966–1970

Turkey

Incirlik

- 804th Air Refueling Wing (P) 1990
- 810th Air Refueling Wing (P) 1990–1991
- 807th Air Refueling Wing (P) 1990

United Arab Emirates

Abu Dhabi

- 1712th Air Refueling Wing (P) 1990

Dubai

- 101st Air Refueling Wing 1990–1991
- 1713 Air Refueling Wing (P) 1990

West Germany

Ramstein AB, Kaiserslautern

- 7th Air Division 1978–1992

306th Strategic Wing 1976–1978

CHAPTER 4

Strategic Assets and Micromanagement -Vietnam 1965 – 1972

The Lyndon B. Johnson administration took over the John F. Kennedy administration's aims and goals following President Kennedy's assassination on November 22, 1963. The new president retained all the cabinet members and senior advisors from the previous administration. Among the most important of these were Dean Rusk as Secretary of State and Robert McNamara as Secretary of Defense. President Kennedy's agenda held two great tenants – first, keep America safe from a perceived monolithic communist plan to control the free world and, second, to spread civil rights to all disenfranchised races and ethnicities in the United States. The new president adopted both. President Johnson's first two years in office were consumed by challenges at home and abroad. His centerpiece legislation was the Civil Rights Act of 1964 followed by the Voting Rights Act of 1965. In foreign affairs, he was befuddled by an ever-increasing problem in Southeast Asia (SEA). Johnson inherited a rapidly deteriorating civil war in South Vietnam. American advisors, at the time of Kennedy's death, numbered less than 25,000 men. The corrupt president of South Vietnam, Ngo Dinh Diem, was assassinated two weeks prior to Kennedy's assassination.[131] The succeeding eight administrations fell to coups. The United States guaranteed the existence of South Vietnam. In so doing, it failed to perceive that the struggle in Vietnam was essentially a war of unification that was backed by North Vietnam, China, and the Soviet Union, rather than a conquest that would trigger the Domino Theory. This Cold War theory, now discredited, held that a communist government in one nation would inevitably lead to communist takeovers in neighboring states, each falling like a row of dominos.

President Johnson's chief advisor for SEA was his Secretary of Defense, Robert S. McNamara. McNamara was brilliant but flawed. He believed that every conceivable problem could be reduced to reading statistical data. McNamara had misguided and mismanaged the SEA issue under President Kennedy and he geometrically complicated matters under President Johnson. Johnson was certainly anti-communist, but had a tremendous fear of Russian and/or Chinese intervention if the United States put its full effort in ending the war. It colored his actions during the next five years. McNamara later confessed that his actions, and those of Kennedy and Johnson were misguided.[132] President Johnson allowed McNamara to manage the defense budget, examine and reconstruct the nation's nuclear strategy, and do all of this while trimming to budget. The Secretary of Defense ignored the Pentagon and particularly the Air Force's requests. The Air Force saw reductions in bomber wing men and materiel in favor of vastly increasing cheaper ICBMs. McNamara could not see the consequences of his actions until several years later. The war escalated from a civil war in South Vietnam with North Vietnam aiding the Viet Cong and the United States aiding South Vietnam, to a direct confrontation between North Vietnam and the United States with the two original combatants playing secondary roles. Between 1964 and 1968 body counts became the primary factor in proving success.[133] McNamara, approved by the President, set the pattern. Johnson often bragged that "Those boys can't hit an outhouse without my permission."[134] Lyndon Johnson and Robert McNamara forced rules of engagement (ROE) that were at times almost impossible to follow. They created their own

---

[131] Robert S. McNamara with Brian VanDeMark, *In Retrospect: The Tragedy and Lessons of Vietnam* (New York: Vintage Books, 1995), 81-87, 169-206.
[132] McNamara, "We Were Wrong, Terribly Wrong"; McNamara, *In Retrospect*, 172-73.
[133] McNamara, *In Retrospect*, 48; For a thorough analysis of the problems created by President Johnson, Robert McNamara, and their associates, see H. R. Mc McMaster, *Dereliction of Duty: Lyndon Johnson, Robert McNamara, The Joint Chiefs of Staff, and the Lies That Led to Vietnam* (New York: HarperCollins, 1997).
[134] Joe Patrick, "Air Force Colonel Jacksel 'Jack' Broughton & Air Force General John D.' Jack' Lavelle: Testing the Rules of Engagement During the Vietnam War," *Vietnam* Magazine, December 1997.

targeting lists that were seemingly incomprehensible. Johnson's main aim was to reduce the flow of supplies and men coming south along the jungle supply line called the Ho Chi Minh Trail. McNamara judged success only in one manner – did we kill more of their people than they killed of ours?

President Johnson and his military advisers in the White House early in 1968.

Figure 5. Image Source – Library of Congress, Secretary of Defense (right), President Lyndon Baines Johnson (right center) July 21, 1965, Leffler, Warren K. LC-U9-14298- 8A [P&P] | LC-DIG-ds-07431

The difference between strategic doctrine and tactical doctrine diverged during the early months of the Johnson Administration. Air campaign strategy quickly faced a divide with the president and his secretary of defense on one side and the Joint Chiefs of Staff (JCS) and the Strategic Air Command (SAC) on the other. The long-term consequences of this difference in views still reverberate today.

Air Force commanders did not want to see SAC committed to the war in Vietnam. SAC's mission was, and remained, to be the chief nuclear deterrent holding back the Soviets and the Chinese. General Carl A. Spaatz, the commanding general of the United States Army Air Force (USAAF), stated in 1946 that the Air Force's primary mission as the long-range striking power could destroy any enemy's industrial and war-making capacity anywhere on the globe.[135] Spaatz "gave first priority to 'the backbone of our Air Force – the long-range bomber groups and their protective long-range fighter groups organized in our Strategic Air Force.'"[136] This was to be accomplished by a force that decreased from 2.2 million people to 303,000 following the end of World War II.[137] SAC's doctrine followed this principle and, during the 1950s, consumed the lion's share of the defense budget. Tactical Air Command (TAC) received a miniscule share

[135] Earl H. Tilford, Jr. SETUP: What the Air Force Did in Vietnam and Why (Maxwell Air Force Base, Montgomery, AL: Air University Press, 1991), 8.
[136] Robert F. Futrell, *Ideas, Concepts, Doctrine: A History of Basic Thinking in the United States Air Force, 1907-1964* (Maxwell Air Force Base, Montgomery AL: Air University Press, 1974), 9.
[137] Herbert Molloy Mason, Jr., *The United States Air Force: A Turbulent History* (New York: Mason/Charter, 1976), 216.

of the operations budget. Under General Curtis LeMay, SAC became the premier defender of the United States and the West.

In January 1964, Chairman of the Joints Chief of Staff Army General Maxwell D. Taylor told Robert McNamara that it was time for the United to States to take "bolder actions" in Vietnam and that the Air Force and Navy should bomb North Vietnam.[138] Johnson did nothing until North Vietnamese patrol boats attacked the destroyer USS *Maddox* in August 1964 in the Gulf of Tonkin, which allowed Congress to pass the Tonkin Gulf Resolution.[139] Viet Cong units attacked U.S. military forces bases and facilities in South Vietnam almost immediately. The president refused all requests to bomb North Vietnam until February 24, 1965. On that day Operation ROLLING THUNDER commenced. This major aerial interdiction campaign gradually increased pressure against North Vietnam. It continued nearly four years.[140]

Army General William C. Westmoreland, the theatre commander, Military Assistance Command, Vietnam (MACV), asked that his ground force contingent be tripled to halt the gains of the Viet Cong. The United States had to decide whether to withdraw and simply support the South or put boots on the ground in major concentrations. Robert McNamara drafted a memorandum to President Johnson which gave General Westmoreland all his demands. Additionally, it ordered the Navy to mine Haiphong harbor and smaller ports, and for the Air Force to destroy the railyards and trackage between Hanoi, Haiphong and China and to bomb MiG air bases and SAM sites.[141] After spending a week in South Vietnam in August, McNamara rescinded the order to bomb the harbors and placed heavy restrictions on ROLLING THUNDER to prevent the Chinese from having an excuse to intervene.[142]

Air Force leaders, particularly General Curtis LeMay, did not believe that the war in Vietnam would remain limited. In January 1965, the JCS authorized Boeing to reconfigure the bomb bays of B-52 D and F models into so-called "Big Bellies." This changed the capability of the B-52s to only carry nuclear weapons, but to carry approximately 70,000 pounds of 500- and 750-lb bombs. The following month, the JCS order SAC to dispatch thirty B-52s to the Eighth Air Force at Andersen AFB, Guam.[143] The SAC commander, General Thomas S. Power opposed any modifications to the B-52s, citing the SIOP requirements. He was overruled.[144] B-52s began running bombing operations from Andersen Air Force Base in June 1965. An angry General LeMay wrote the next month, "The military task confronting us is to make it so expensive for the North Vietnamese that they will stop their aggression against South Viet Nam and Laos. If we make it too expensive for them, they will stop. They don't want to lose everything they have."[145] General Power

---

[138] Neil Sheehan *et al., The Pentagon Papers as Published by The New York Times* (New York: The New York Times & Bantam Books, 1971), 277; R. Cargill Hall, editor, *Case Studies in Strategic Bombardment* (Washington: Air Force History and Museums Program, 1998), 493.

[139] The Gulf of Tonkin Resolution or the Southeast Asia Resolution, Pub. L. 88–408, 78 Stat. 384, enacted August 10, 1964, was a joint resolution that the United States Congress passed on August 7, 1964, in response to the Gulf of Tonkin incident.

[140] Operation ROLLING THUNDER was aerial bombing operation that ran from February 24, 1965 to the end of October 1968. It was the longest aerial bombing campaign in history, although it was not continuous, with frequent halts imposed by President Johnson. It was conducted by the U.S. 2nd Air division, the U.S. Navy and the Republic of Vietnam Air Force. The primary targets of the campaign were sites along the triple canopy jungle that hid much of the Ho Chi Minh Trail. For a detailed analysis of ROLLING THUNDER, see Col. Dennis M. Drew, "Rolling Thunder 1965: Anatomy of a Failure" (Maxwell Air Force Base, AL: Air and Command Staff College, Air University, 1986.)

[141] Col Dennis M. Drew, "Vietnam, 'Wars of the Third Kind' and Air Force Doctrine," paper presented at Texas Tech University Center for the Study of the Vietnam Conflict, seminar on the Vietnam War, 18–21 April 1996, 22.

[142] Hall, *Case Studies,* 496.

[143] Drew, "Vietnam: Wars of the Third Kind," 22-23.

[144] Futrell, 2:257–58.

[145] Curtis E. LeMay with MacKinlay Kantor, *Mission With LeMay* (Garden City, NY: Doubleday 1965), 564.

Figure 6. Loading munitions on a B-52D "Big Belly" prior to an ARC LIGHT sorties. Image Source: United States Air Force.

continued his comments internally. Power told the Air Staff not to "talk to me about that; that's not our life. That's not our business. We don't want to get in the business of dropping any conventional bombs. We are in the nuclear business, and we want to stay there."[146] Air Force Major General Howard Davis remarked just after deploying B-52s to Guam in 1965 that , "he would have put anyone in a strait jacket who told him a few weeks before that he would be using B- 52s to drop iron bombs on guerrillas in Vietnam."[147] SAC, as an organization, did not want to risk its primary nuclear mission and its valuable bombers "in what was essentially a civil war halfway around the world."[148] "Conventional 'little wars' were unimportant compared with keeping SAC strong."[149] SAC brought forth three major objections about sending B-52s to Guam to be used in a counterinsurgency war: "First, it would detract from its SIOP and alert commitment; second, it would take too much time to reconfigure the aircraft and resume control for strategic operations, if needed; and third, the B-52's systems could be compromised in Southeast Asia, which would reduce its deterrent credibility in general war."[150] A fourth reason, which SAC would not admit to was that its aircrews

[146] Worden, *Rise of the Fighter Generals,* 173.
[147] Ibid., 174.
[148] Christopher M. Wilcox, "Lessons from Vietnam: Should B-52 Squadrons Perform Both Nuclear and Conventional Mission?" Research Report, (Maxwell Air Force Base, AL: Air and Command Staff College, Air University, 2009), 5-6.
[149] Marshall L. Michel III, *The 11 Days of Christmas" America's Last Vietnam Battle* (New York: Encounter Books, 2001), 166.
[150] Worden, *Rise of the Fighter Generals,* 174

were not "fully prepared to employ conventionally given the inflexibility of the missions they practiced."[151] "B-52 crews had a two-week course on conventional operations, then they went on a six-month rotation to Guam. They went 'with only the barest introduction to conventional tactics' and used modified nuclear bombing procedures. They lacked institutional innovation."[152]

President Johnson refused to listen. He also refused to allow the B-52s to go after a list of 99 targets identified by the JCS within the industrial and military centers in North Vietnam. This list reduced to 94 targets within one year. Instead he found himself involved in "a piddling pissant little country"[153] with the

Table 2. The original 99 target menu created by the Joint Chiefs of Staff.

JCS Working Group 99-Target List for North Vietnam, 22 May 1964

Target Sets	Category A	Category B	Category C	Total
Airfields	5	3	-	8
Road Line of Communications	4	1	-	5
Military Barracks	6	9	-	15
Ammunition Dumps	2	7	-	9
Military Headquarters	8	3	-	11
Supply Dumps	5	14	-	19
Military Training Center	-	1	-	1
Storage Areas	-	4	-	4
Ports	-	7	-	7
Storage Depot	-	1	-	1
Railroad/Highway Bridges	-	9	-	9
Railroad Yard/Shop Complexes	-	2	-	2
Chemical Plant	-	-	1	1
Iron/Steel Plant	-	-	1	1
Radio Broadcast Facilities	-	-	2	2
Thermal Power Plant	-	-	1	1
Machine Tool Factory	-	-	1	1
Industrial Plant (other)	-	-	2	2
TOTAL	30	61	8	99

Source: Lt Col William E. Long, *Target Selection Process: Categories and Decision Levels,* Air War College Research Report 3634 (Maxwell AFB, Ala.: Air University, April 1968), in the Air Force Historical Research Agency (AFHRA), file K239.042-3634, 14. Document is now declassified.

The above table outlines the targets selected by the JCS joint working group tasked to develop target options for execution against North Vietnam. It was presented to CINCPAC for comment and further development on 22 May 1964. Targets were grouped into three categories:

Category A – "included those targets the destruction of which was expected to bring an immediate reduction of DRV support to PL [Pathet Lao] and VC forces. These targets were near the national boundary (NVN/SVN and Laos/NVN), or on a key logistical route."

Category B – "included targets the destruction of which would reduce the DRV military capability to take action against Laos and SVN. These targets were somewhat more remote from the national boundaries, and key logistical routes."

Category C – "included selected industrial targets. Eight specific targets were listed."

Source: Charles Tustin Kamps, "*The JCS Target List: A Vietnam Myth That Distorts Military Thought," Air and Space Power Journal*, (Maxwell Air Force Base, AL: Air University Press, 2001), 71.

[151] Wilcox, "Lessons from Vietnam," 6.
[152] Worden, *Rise of the Fighter Generals,* 174.
[153] Jeffrey Record, *The Wrong War: Why We Lost in Vietnam* (Annapolis, MD: Naval Institute Press), 436.

President and his Secretary of Defense falling into a vicious cycle of gradual force buildup and limited use of strategic and tactical air power. Airpower was used as a cheap alternative to deploying massive numbers of ground troops. President Johnson's plan ignored the need to stabilize South Vietnam socially, politically, and economically. It was apolicy, coupled with the resilience of the enemy that—in retrospect— could not secure South Vietnam or defeat the VC Southern Communist guerrillas or the People's Army ofVietnam (PAVN). US airpower became a compromise weapon for Johnson. It limited the commitment of ground forces, especially reserves, and caused spectacular numbers and pictures of destruction.[154]

General John D. Ryan ascended to SAC command in December 1964. He was less concerned about using SAC B-52s in SEA as long as they were under SAC's control. The first 30 B-52Fs deployed to Andersen Air Force Base on Guam in February 1965.[155]

ARC LIGHT – B-52 Raids, 1965 – 1968

ARC LIGHT was the first concerted effort to use B-52s in ground support missions from high altitude over South Vietnam, Cambodia, and Laos. Like ROLLING THUNDER missions, some of which used B-52s, the primary target was the Ho Chi Minh Trail. They attempted to interdict North Vietnamese

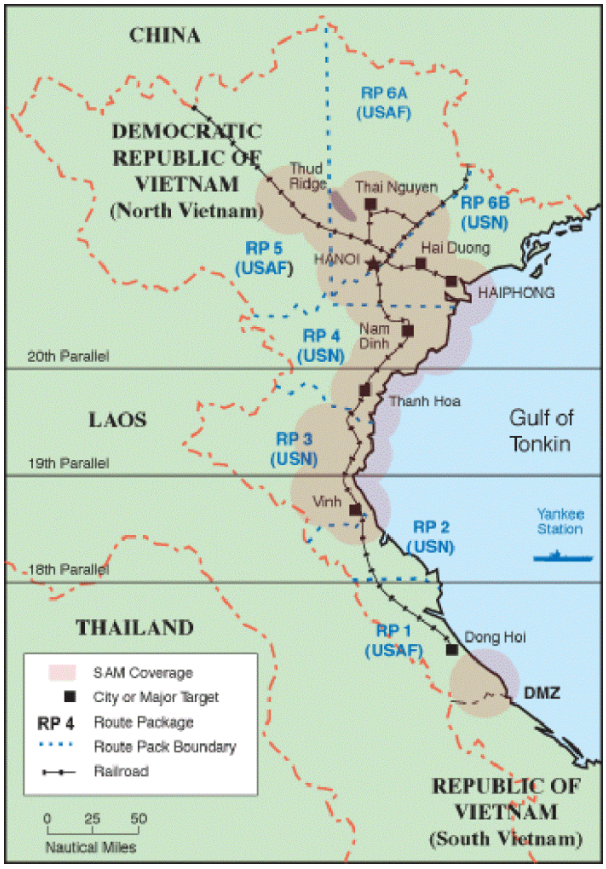


Figure 7. ARC LIGHT Route Packages. Source: Lee Brimmicombe-Wood, airbattle.co.uk.

[154] William P. Head, *War From Above the Clouds: B-52 Operations during the Second Indochina War and the Effects of the Air War on Theory and Practice*, Fairchild Paper, (Maxwell Air Force Base, AL: Air University Press, 2002), 12.
[155] Ibid., 18.

and Viet Cong from bringing troops and supplies from the north and support ground troops. The B-52s in the first three years of ARC LIGHT were based at Andersen Air Force Base on Guam, Kadena Air Force Base on Okinawa and from U-Tapao Royal Navy/ Air Force Base Thailand.[156] During the period through 1968, most ARC LIGHT sorties flew below the demilitarized zone (DMZ) on either side of the international boundary. Only 141 sorties flew between the DMZ at the 17th parallel and the 20th parallel.[157]

Air Force planners realized from the beginning that using BUFFs[158] as high-altitude artillery in SEA contained many heretofore unseen problems. The most important was the fact that the dense triple canopy jungle offered few, if any offset aiming points or specific ground references to bombing accuracy. All prior
missions for the BUFF's were for industrial or major urban areas.[159] Secondarily, any B-52s used in counterinsurgency sorties would remove them from their primary task of being part of the nuclear umbrella of the SIOP.[160] General Westmoreland, commanding MACV, made his case before the JCS that B-52s were more ideally suited for the job of carpet bombing jungles than fighters and fighter-bombers, because they could efficiently deliver a wide, even pattern over a large area [bombing target boxes].[161] The Air Force planners countered that:

> the concept of operational bombing procedures for large scale non-nuclear strikes was inconsistent with existing SAC materiel concepts, since B-52 crew training and doctrine were designed for strategic nuclear conflict. The basic Arc Light task of area bombing . . . required only a narrow spectrum of the available conventional weapons inventory,' which included M-117 750 lb. bombs, MK-82 500 lb., BLU-3B and BLU-26B antipersonnel bomblets, and AN-M65A1 general purpose and AN-M59A1 semiarmor-piercing 1,000 lb. bombs.[162]

From 1965 through 1968, ARC LIGHT assigned B-52s dropped high explosive (HE) bombs, which accounted for 97.2 percent of the total bomb loads.[163] General Westmoreland got his wish and SAC pilots

---

[156] John T. Correll, "Arc Light: The B-52s fought their war in Vietnam without ever leaving SAC" Air Force Magazine: January 2009, 58-62.

[157] John F. Guilmartin, Jr., "Arc Light," in *Encyclopedia of the Vietnam War,* ed. Stanley I. Kutler (New York: Charles Scribner's Sons, 1996), 48; Headquarters SAC, "Activity Input to Project Corona Harvest–Arc Light Operations, 1 Jan 65–31 Mar 68," USAF special study, 3 vols.; Carl Berger, ed., *The United States Air Force in Southeast Asia, 1961–1973: An Illustrated Account* (Washington, D.C.: AFHO, 1984); and John Schlight, *The Air War in South Vietnam: The Years of the Offensive, 1965–1968* (Washington, D.C.: AFHO, 1988).

[158] BUFF is the most common affection nickname for the B-52. Depending upon how politically correct the speaker or writer is, the acronym stands for "Big Ugly Fat Fucker" (or Fellow).

[159] *The Joint Chiefs of Staff and the War in Vietnam, 1960–1968*, pt. 2, 24-1, 2; History, SAC, January–June, 1965, 198; and Schlight, 49.

[160] *The Joint Chiefs of Staff and the War in Vietnam, 1960–1968*, pt. 2, 24-1, 2; History, SAC, January–June, 1965, 198.

[161] SAC, "Activity Input to Project Corona Harvest, Arc Light" (Offutt AFB, NB.: SAC/History Office, 1970), 2:2; History, SAC, January–June, 1964; Message, 140805Z MAY 65, Commander, US Military Assistance Command, Vietnam (COMUSMACV) to Commander in Chief Pacific Command (CINCPAC), May 14, 1965; Schlight, 50; Larry Cable, *Unholy Grail: The U.S. and the Wars in Vietnam, 1965–1968* (London: Routledge, 1991), 98–100, 109.

[162] Head, *War From Above the Clouds*, 18-19.

[163] SAC, "Activity Input to Project Corona Harvest, Arc Light," 2:2–3, 5–9, 12–13 (quote page 5); History, 3d Air Division, January–June 1967, 134; History, CINCPAC, 1967, 2:711; Corona Harvest (CH), *A Chronology of Important Airpower Events in Southeast Asia, 1950–1968* (Maxwell Air Force Base, AL.: Aerospace Studies

dutifully obeyed. The bomber pilots immediately realized that the SAC objections were correct. From high altitude, the jungle looked green and flat. There were few, if any landmarks, initial points, or visible targets along the Ho Chi Minh Trail.[164] For many of the crews, the daily routine became one of "bombing monkeys."[165] The B-52s that bore the brunt of the heavy bombing missions were, in all cases, strategic weapons taken out of their primary mission and converted to air support for ground troops. This was a hard lesson for SAC and its aircrews to learn.

The first bombing mission for the B-52s was conducted on June 18, 1965. The JCS demanded that no civilians in the target area, ten miles north of Saigon, be harmed.[166] This would be a difficult test of coordination of the air crews, a switchover from the nuclear mission protocols, and pinpoint bombing with multiple cells of three aircraft each saturating a defined small target. The target box was a one- by two-mile

Figure 8. A typical B-52 three ship cell dropping bombs during an ARC LIGHT sortie. Image Source: United States Air Force.

Institute, Air University, May 1, 1969), 222; Director of Operations, DCS, Plans and Operations, Headquarters USAF, study, "Analysis of B-52 Conventional Operations in SEA," October 29, 1965; and Head, *War From Above the Clouds*, fn 44.

[164] Schlight, 50; and History, SAC, July–December 1965, 2:267.

[165] Conversation with Philip Blaufuss, B-52 radar navigator, who participated in both Fail Sate and Vietnam missions including Linebacker II. Interviewed by Gary D. Joiner, Ph.D. and Ashley Dean on September 12, 2017.

[166] Schlight, 51–52; History, SAC, July–December 1965, 2:267.

rectangle.[167] The mission planning was logistically complex. The mission plan called for 30 B-52F models flying in ten three-ship cells flying from Andersen Air Force Base. Ordinance was mixed, with twenty-four BUFF's carrying fifty-one 750 lb. bombs and six carrying 1,000 lb. armor-piercing bombs.[168] The planes were scheduled to launch from Guam at 0100 hours (1 a.m. local time), meet KC-135 tankers over the island of Luzon in the Philippines, and then join up over the target.[169] Then, the complexity of the mission plans came into sharp focus:

> Things began as planned, but tailwinds from a typhoon in the eastern Pacific pushed the bombers ahead of schedule. When the first cell banked 360 degrees to slow for the arrival of the refuellers, they ran into the path of the second cell in the dark skies over the South China Sea. Two planes collided and crashed into the sea. Eight crew members perished, while the four survivors and one body were recovered. Only 27 of the bombers refueled. The 28th bomber, with a broken hydraulic pump and radar, landed in Okinawa. The remaining bombers crossed the Vietnamese coast at 0630 hours and dropped their first bombs 15 minutes later from about 20,000 feet. Guiding off a beacon placed in the area the night before, they bombed a one-by-two-mile target box with 1,300 bombs. Half the bombs hit inside the box. They then flew south to avoid the Cambodian border, and near Saigon they turned east toward Guam. One bomber was forced to land at Clark AB (formerly AFB), Philippines, because of electrical problems. The last bomber landed exactly 13 hours after the first one had departed.[170]

Figure 9. KC-135 refueling a B-52D during early an early ARC LIGHT mission c. 1965. Note that the B-52 does not yet have SEA camouflage. Image Source: United States Air Force.

[167] Schlight, 51–52
[168] Ibid.
[169] Ibid.
[170] Head, *War From Above the Clouds*, 19-20.

Post bombing ground survey discovered no Viet Cong dead and very little damage to their camp. The enemy was tipped off from a traitor in an Army of Vietnam (ARVN) unit.[171] The mission made worldwide news. The coverage was uncharacteristically negative. Most of the stories denounced the B-52 mission as "using a sledgehammer to kill gnats" or "using a sledgehammer to kill fleas."[172] The Air Staff understood that B-52 operations against the Viet Cong must be reconsidered to type and place. Flying BUFFs from Guam or Thailand left little in the formula for quick response.[173] As a result, more ARC LIGHT raids were conducted in the following months using fewer aircraft flying more missions. Missions were allowed to be staged with constant approval from senior leadership at MACV or the JCS for relatively short timed needs.[174] MACV and SAC created five "bomb free zones" for this (semi) rapid response. Each of the zones had pre-planned target folders. All were considered to be Viet Cong infested areas with limited chance of destroying "friendlies." Two zones were close to and north of Saigon. Two were in the Mekong Delta, near the southern tip of South Vietnam. The fifth, southeast and near Da Nang.[175] The JCS controlled final target approval and MACV was brought in when U.S. ground forces were in or near the target area.[176]

Figure 10. ARC LIGHT sortie bomb detonations. Image Source: United States Air Force.

[171] Ibid., 20.
[172] Hopkins and Goldberg, 131; Corona Harvest (CH), *A Chronology of Important Airpower Events in Southeast Asia, 1950–1968* (Maxwell Air Force Base, AL: Aerospace Studies Institute, Air University, May 1, 1969), 103.
[173] CH, *A Chronology of Important Airpower Events in Southeast Asia*, 104.
[174] Ibid., 114; History, SAC, July–December 1965, 2:270–71.
[175] Ibid.
[176] Ibid.

The first B-52 mission to directly support U.S. troops took place on November 14, 1965 and continued through the remainder of that month. U.S. 1st Cavalry Division troops routed a Viet Cong and North Vietnamese attack after an attack on a Special Forces (Green Beret) camp at Plei Me in the Central Highlands. The 1st Cav chased the enemy near Pleiku and found two North Vietnamese regiments in the Ia Drang Valley adjacent to the border with Cambodia. Fighting was fierce and the enemy forces came close to destroying the American units. The Cavalry officers called in for air strikes to allow them to slip out of the valley. Two days after the initial engagement, eighteen B-52s dropped 344 tons of bombs on the North Vietnamese troop concentrations. During the two weeks that followed, the SAC bombers flew ninety-six sorties and dropped 1,795 tons of bombs.[177]

B-52s ran most of the ARC LIGHT missions because TAC aircraft were tied up in ROLLING THUNDER missions. TAC was tasked to specifically "work in coordination with the Army Developments Command to develop mutually agreeable joint doctrinal manuals for submission to the Joint Chiefs of Staff."[178] This created friction among the Air Staff, MACV, the Navy Carrier Task Force 77, and the air crews. Fighters were in short supply since Air Force budgets were constantly tilted toward nuclear missions, aircraft and crews. The result was a confusing reassignment of tasks and missions by SAC and TAC. Robert Futrell wrote: "It was tragic irony that the air war in SEA would necessitate an agonizing relearning process and a hurried adaptation of weapon systems back into an arena thought to have been eliminated [conventional tactical fighter operations]."[179]

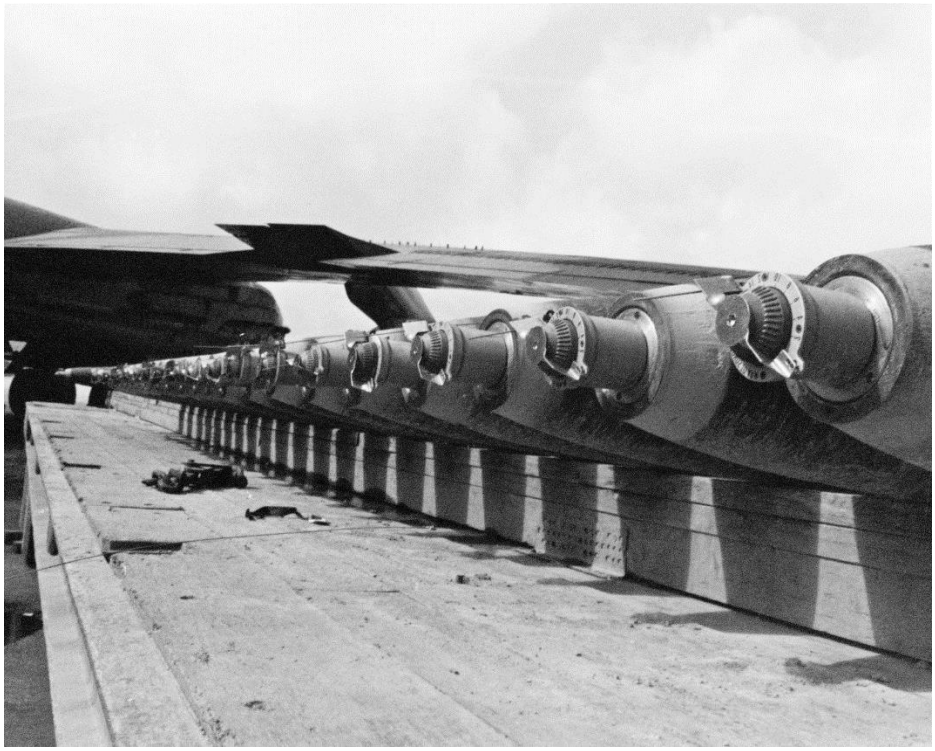


Figure 11. Munitions prepared for loading on a B-52D "Big Belly" prior to an ARC LIGHT sorties. Image Source: United States Air Force.

[177] William W. Momyer, *Air Power in Three Wars* (Washington, D.C.: GPO, 1978), 283–88; Pacific Air Forces (PACAF), CH, *Command and Control*, bk. 2, pt. 2, 4–20; PACAF, CH, *Out-Country Report*, bk. 1, 31, 83 and bk. 2, 60; Berger, *United States Air Force in Southeast Asia*, 150; History, SAC, July–December 1965, 279–86.
[178] Futrell, 2:191. Original quote in Air Force Regulation 1-1, *Aerospace Doctrine: Responsibilities for Doctrine Development*, March 20, 1963.
[179] Futrell, 2:288.

The Air Force found that to carry out the missions in Indochina it must increase the bomb capacity in some of its B-52s. It chose to keep, if it could, G and H models for use in "more significant SIOP role."[180] The older D models were chosen for reconfiguration and fitted for all-weather operations. This need was recognized in a RAND Corporation report in 1966: "The Air Force has no (conventional weapon) capability for all-weatherbombing in SEA."[181] All 155 D model BUFFs were reconfigured to carry eighty-four rather than twenty-seven 500 lb. bombs or forty-two instead of twenty-seven 750 lb. bombs internally. Including bombs fixed to the wing pylons of the bombers, the maximum bomb load increased from 38,000 to 60,000 lbs.[182] These became the "Big Bellies." In 1967, the B-52Ds began operating out of U-Tapao RTNAB in Thailand.[183] Of the 155 converted B-52Ds, twenty-two were lost in the Vietnam War.[184] The numbers of sorties increased with the capabilities of the B-52s. This led to bomb shortages, particularly in MK-82 bombs. This in turn caused shortages in ROLLING THUNDER missions.[185]

Figure 12. B-52 D dropping bombs during an early ARC LIGHT sortie in 1965. Image Source: United States Air Force.

In the words of Major General Theodore R. Milton, "the Army became over-dependent on air support, and air support of a kind highly vulnerable against a modern force."[186] The B-52 became the ultimate

[180] SAC, "Activity Input to Project Corona Harvest, Arc Light," 2:16–18.
[181] RAND Corporation, "Air Interdiction in Southeast Asia, 1966," iii.
[182] SAC, "Activity Input to Project Corona Harvest, Arc Light," 2:16–18.
[183] Ibid., 2:10–11.
[184] Ibid.
[185] CH, *A Chronology of Important Airpower Events in Southeast Asia,* 167; SAC, "Activity Input to Project Corona Harvest, Arc Light," 2:16–17.
[186] Bruce Palmer, ed., *Grand Strategy for the 1980s* (Washington, D.C.: American Enterprises Institute for Public Policy Research, 1978), 67.

weapon of last resort during ARC LIGHT.[187] As interdiction sorties became the norm along the Ho Chi Minh Trail, it became obvious that the North Vietnamese Army (NVA) and the Viet Cong feared what the big bombers could do.[188] The Ho Chi Minh Trail became the scene of one of the first interdiction sorties in April 1966. The Mu Gia Pass was a portion of the trail between North Vietnam and Laos that supported truck convoys. It contained road repair compounds and had its own anti-aircraft batteries. The BUFFs plastered the sites from April 12 through 26, 1966.[189] Immediately after the bombing, North Vietnamese work crews repaired the damage and the flow of supplies continued.[190] Air Force and SAC commanders grew concerned when the NVA placed Russian Surface to Air Missiles, model 2 (SAM-2) along the Ho Chi Minh Trail.[191]

Reaction time decreased for some missions beginning in July 1966 with the implantation of the Combat Skyspot rapid-response alert system. Six B-52s from Guam and six KC-135s from Kadena Air Base on Okinawa used a modified alert system, which reduced their response time to nine hours.[192] Most of the D models were based in U-Tapao. This brought several advantages. Because air crews could fly missions in two to five hours they did not need refueling. BUFFs flying from Guam required twelve to fifteen-hour missions and at least one refueling, usually at night over the Pacific Ocean.[193] The last of the Big Belly D's arrived on Guam in September 1967. By the end of the year, the amount of ARC LIGHT bomb tonnage doubled.[194] Operation JUNCTION CITY was executed between February to May 1967. B-52s flew 126 sorties and dropped 4,723 tons of bombs.[195] Seventy-five percent of the NVA and Viet Cong casualties were credited to B-52s.[196]

Combat Skyspot installation at Da Lat, South Vietnam.

Figure 13. Image Source, Bernard C. Nalty, *Air War over South Vietnam 1968-1975* (Washington: Air Force History and Museums Program, 2009), 131.

[187] Head, *War From Above the Clouds*, 26.
[188] History, SAC, January–June 1966, 138; Schlight, 152–53; and CH, *A Chronology of Important Airpower Events in Southeast Asia*, 177–82, 186.
[189] Schlight, 152–53.
[190] CH, *A Chronology of Important Airpower Events in Southeast Asia,* 185–86.
[191] Head, *War From Above the Clouds*, 28.
[192] CH, *A Chronology of Important Airpower Events in Southeast Asia,* 197–99.
[193] Ibid., 221.
[194] Ibid., 227, 231; History, SAC, January–June 1966, 145; History, SAC, January–June 1967, 131.
[195] Berger, 151–56; Schlight, 250–58.
[196] CH, *A Chronology of Important Airpower Events in Southeast Asia,* 235, 238.

ARC LIGHT missions contributed greatly to the fighting during the latter months of 1967. B-52s flew 228 sorties against thirty-two targets during battles between the US 4th Infantry Division and the NVA 1st Division near the Special Forces camp at Dak To.[197] They flew thirty-six more sorties in late November in support of US and ARVN forces fighting VC main force units near Loc Ninh.[198] They attacked storage areas and truck traffic 102 miles northwest of Con Thien.[199] Despite this, the Secretary of Defense convened what he called the "Jason Division" of Institute for Defense Analyses, which consisted of eighty-seven hand-picked scholars and scientists that would agree with him. They based their reports Central Intelligence Agency data. Their report stated: "the Jasons categorically reject bombing as an effective tool."[200] Rather than having been degraded, they determined that enemy transportation "actually had been improved because of added redundancy. Where one road had existed previously, several had been built."[201] Citing this evidence, they judged, "we are unable to devise a bombing campaign in the North to re- duce the flow of infiltrating personnel into [South Vietnam] SVN."[202]

The JCS countered this report by making ten recommendations to remove all restrictions from potential targets, to mine all North Vietnamese ports, and to increase the number of B-52s in theater.[203] President Johnson feared that war would spill over into China and that Russians might intervene. He wanted the JCS to bring him a conventional strategy that would work to thwart North Vietnamese intentions. The JCS responded with even more requests. Johnson wrote that their next request would be to "bomb targets in China."[204] He all but screamed to several senior officers at this time, "bomb, bomb, bomb, that's all you know."[205]

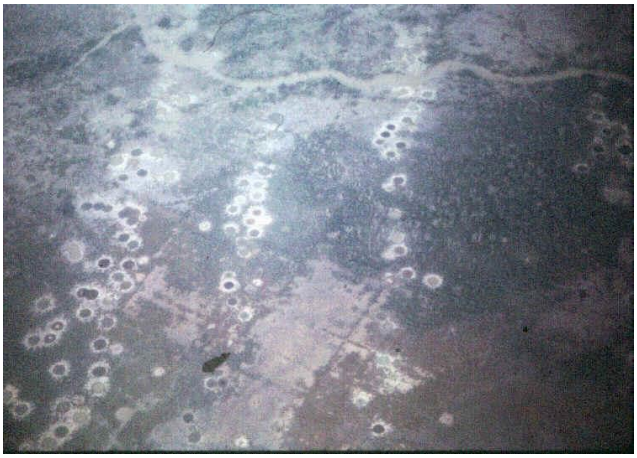


Figure 14. Damage from a three-ship cell of B-52s along the Ho Chi Minh Trail. Image Source: United States Air Force.

[197] Berger, 156; CH, *A Chronology of Important Airpower Events in South- east Asia*, 252, 254; History, SAC, July–December 1967, 18; and History, Seventh Air Force, 1 July–31 December 1967, 21.
[198] Ibid.
[199] Ibid.
[200] "Jason Report," *Pentagon Papers*, 4:227, 275; Tilford, 88, 96, 97; Head, *War From Above the Clouds*, 30.
[201] "Jason Report," *Pentagon Papers*, 275.
[202] Ibid.
[203] Tilford, 96–97; and Lawrence J. Korb, *The Joint Chiefs of Staff: The First Twenty-Five Years* (Bloomington, Ind.: University of Indiana Press, 1976), 181; Col Herbert Y. Schandler, "The President, the Secretary of Defense, and the Joint Chiefs of Staff: The Political Direction of the War," paper presented to the 1996 Vietnam Symposium, Texas Tech University, April 18, 1996.
[204] Korb, *The Joint Chiefs of Staff*, 176.
[205] Tilford, 96–97.

The siege of the Marine Base at Khe Sanh, from January 14 to March 31, 1968 illustrated how using strategic bombers for interdiction missions should work. The Marines were encircled on a hilltop surrounded by valleys, draws, and an outer ring of higher elevations. The situation could have easily become a repeat of the French defeat of Dien Bien Phu in 1954. Khe Sanh was supplied by aircraft using its airstrip

Figure 15. The U.S. Marine camp at Khe Sanh prior to the siege. Image Source: United States Department of Defense.

until it became untenable. The North Vietnamese had large amounts of both infantry, artillery, and anti-aircraft artillery. TAC airstrikes kept the base from being overrun, but weather, available munitions, and command and control issues hampered their assistance. B-52s became the go-to response. During the siege, the BUFFs flew 2,707 sorties and dropped 75,631 tons of bombs.[206] Ground controllers and their radars used a technique known as "Bugle Note," to keep a constant stream of three to six B-52s near Khe Sanh, rotating in and out every three hours.[207] The three aircraft cells hit enemy positions every three hours.[208] The B-52s navigated to predetermined points where they picked up by the Skyspot ground radar which guided them to a specific set of targets. Rather than five to nine- hour planning and flight schedule, targets could be changed as needed within two hours.[209] By increasing the frequency of inbound and outbound flights, the B-52s could, and sometimes did, pound the NVA without interlude.[210] Initially, the BUFFs bombed rear staging areas, supply dumps and artillery positions at least 3,300 yards outside the Marines' outer perimeter.[211] Reconnaissance units discovered the NVA had constructed underground bunkers within the

[206] History, SAC, July–December 1967, 152–53.
[207] CH, *Command and Control*, bk. 1, pt. 2, 25.
[208] Ibid.
[209] CH, *A Chronology of Important Airpower Events in Southeast Asia,* 261–63, 268; Berger, 156–57.
[210] History, SAC, July–December 1967, 152–53.
[211] CH, *A Chronology of Important Airpower Events in Southeast Asia,* 273–74.

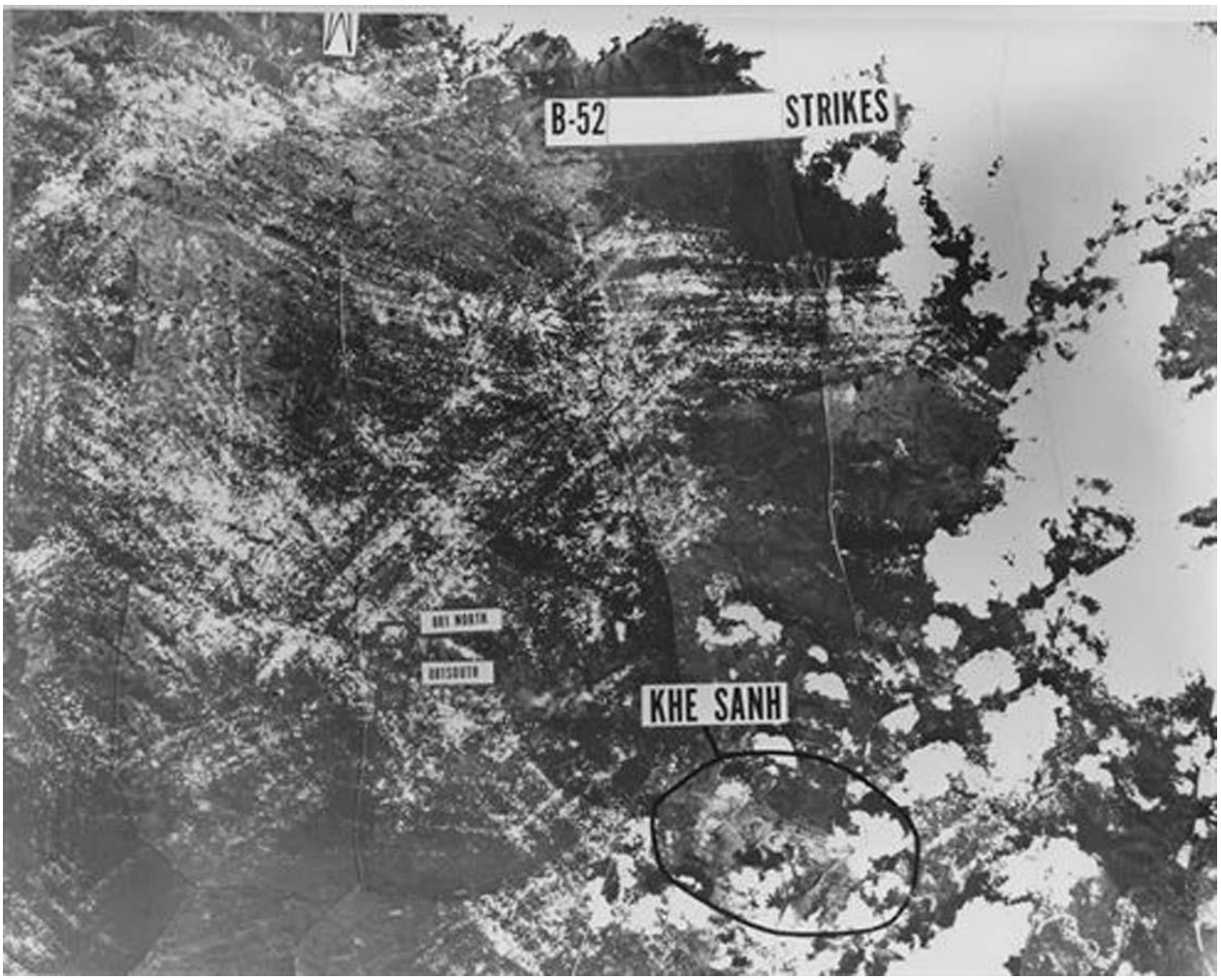


Figure 16. B-52 strike damage during the siege of Khe Sanh. Image Source: United States Air Force.

buffer zone. B-52s and TAC fighter-bombers both pounded a new buffer zone, slightly less than 300 yards from the outer perimeter.[212] The bomb was exceptionally accurate. The BUFFs conducted 589 close-in sorties with no damage to the Marines or their fortifications.[213] President Johnson stated that the Khe Sanh campaign was "the most overwhelming, intelligent, and effective use of airpower in the history of warfare."[214] General Westmoreland concurred, "The thing that broke their back basically was the fire of the B-52s."[215] A captured NVA officer, when interrogated, estimated that seventy-five percent of his 1,800-man regiment had been killed by a single ARC LIGHT strike.[216] As violent as the siege of Khe Sanh was, it was a precursor to the Tet Offensive of 1968.

[212] History, Seventh Air Force, 1 January–30 June 1968, xxii.
[213] Headquarters Seventh Air Force, "Weekly Air Intelligence Summary," Report, no. 6819, 11 May 1968; Berger, 156–57.
[214] Schlight, 292
[215] Berger, 157.
[216] Ibid.

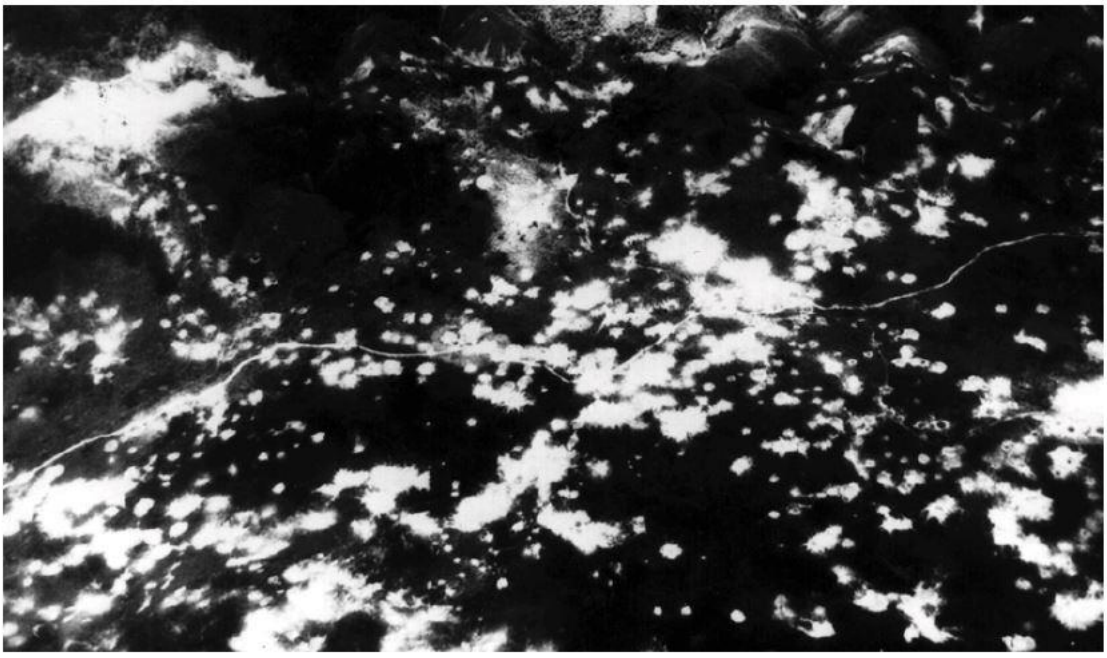
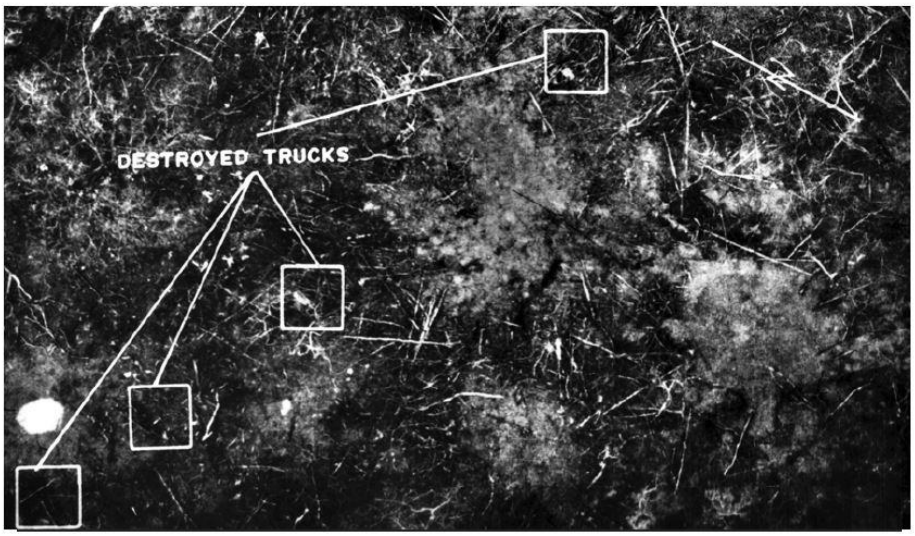


Figure 17. Craters from B-52 strikes in and near the Au Shau Valley. Image Source: United States Air Force.

From April to mid-summer, the B-52 supported a series of operations to interfere with massive troop convoys heading south on the Ho Chi Minh trail and in the Au Shau Valley in the Central Highlands west of Da Nang, These were followed by the major bombing of truck parks and storage areas along the Laotian border. The B-52 raids forced traffic backups and secondary raids hit the stalled convoys.[217] The air



Air Force aircraft destroyed these trucks on the Ho Chi Minh Trail.

Figure 18. Image Source: United States Air Force.

[217] CH, *A Chronology of Important Airpower Events in Southeast Asia,* 276; History, Seventh Air Force 1 January–30 June 1968, xxiv; and Berger, 157, 160.

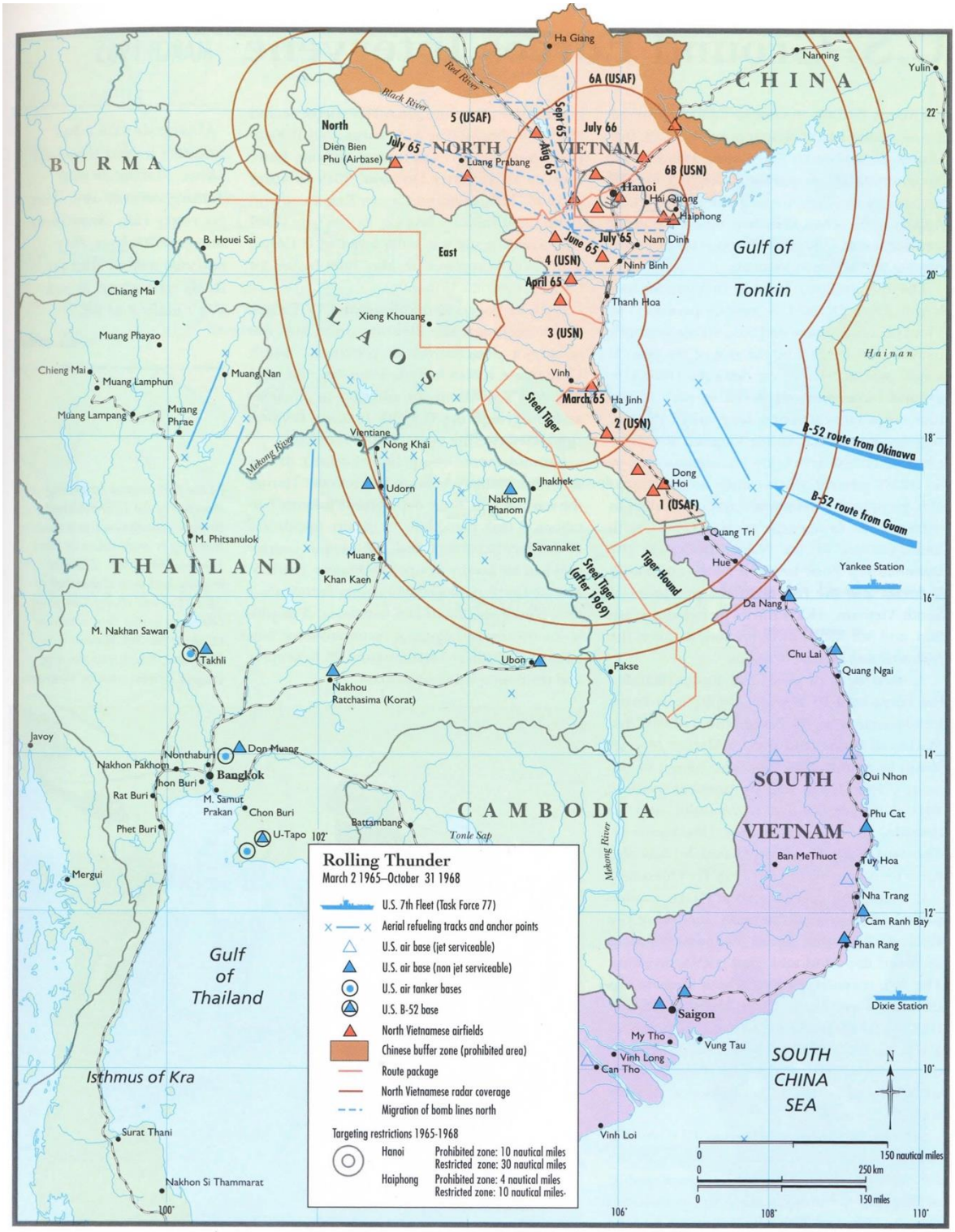


Figure 19. Operation ROLLING THUNDER theatre of operations, 1965-1968. Harry G. Summers, Jr. *Historical Atlas of the Vietnam War* (Boston, MA: Houghton Mifflin, 1995), 96.

raids combined with Army and Marine attacks thwarted the massive NVA ground attacks during the Tet Offensive. The NVA took massive casualties and the supply columns down the Ho Chi Minh trail were either destroyed or substantially slowed. In spite of these gains, President Johnson called for a bombing halt on October 31, 1968 of North Vietnam in an effort to bring the North Vietnamese to the bargaining table and begin peace negotiations. This gave the NVA time to regroup and resupply. Micromanagement from the President, his Secretary of Defense, Secretary of State, and their staffs cost tens of thousands of American and South Vietnamese lives. All of this in an effort to persuade Chinese not to interfere and to allow the North Vietnamese to end the struggle that they wholeheartedly believed they could win.

The bombing halt had little effect in South Vietnam. ARC LIGHT missions continued until 1973 and, when Johnson decided not to run for an additional term, President Richard M. Nixon expanded secret bombing (MENU) into Cambodia during 1969 and 1970 and seven Operation COMMANDO HUNT interdiction missions into Laos between 1968 and 1972.[218]

MENU Bombing

The Johnson Administration's air campaigns in the Vietnam War centered on ROLLING THUNDER and the B-52 ARC LIGHT missions. From 1965 to 1973, one million tons of munitions (twelve percent) were dropped on North Vietnam. Most of this was dropped south of the 20th parallel to exclude Hanoi and Haiphong. Four million tons were dropped on South Vietnam, three million tons on Laos, and 500,000 on Cambodia.[219] In 1968, President Nixon was elected on a platform of ending the Vietnam War. Any expansion of ground or air campaigns would not be funded by Congress. 1968 was the year that America almost tore itself apart with race and draft riots. Anti-War protests were seen all across the Western world. Nixon's bombing missions were publicly announced as "one-time protective reaction strikes" in the Panhandle southern regions of North Vietnam.[220] The secret air war shifted to Cambodia and Laos, as well as South Vietnam beginning in 1969.[221]

Nixon's new Secretary of the Air Force, Robert C. Seamans, Jr., spoke to the Air Force Association (AFA) on March 19, 1969. He described what would later be called "Vietnamization" and placed U.S. foreign policy in a global context: "There seems to be a trend toward viewing all national questions in the context of the frustrating struggle against aggression in Vietnam…But there is no doubt that, however frustrated we are with the conflict in Vietnam, the cost of failure to provide adequate forces for our security could be infinitely higher than the cost of Southeast Asia."[222]

President Nixon began a new strategy to curtail North Vietnam's supply routes that continually moved westward as the U.S. bombed the Ho Chi Minh Trail. The secret bombing of neutral Cambodia was known as "the Menu Operations."[223] Johnson's bombing halt allowed North Vietnam to regroup, send tens of thousands of soldiers and tens of millions of tons of supply south through Cambodia to the area closest

[218] CH, *A Chronology of Important Airpower Events in Southeast Asia,* 276 ff.
[219] Earl H. Tilford Jr., "Bombing Our Way Back Home: The Commando Hunt and Menu Campaigns of 1969–1973," in *Looking Back on the Vietnam War: A 1990s Perspective of Decisions, Combat, and Legacies,* ed. William Head and Lawrence Grinter (Westport, CN: Greenwood Press, 1993), 123–24.
[220] CH, *A Chronology of Important Airpower Events in Southeast Asia,* 276 ff.
[221] Tilford, "Bombing Our Way Back Home", 122-24.
[222] Robert C. Seamans Jr., Secretary of the Air Force, address at 1969 Air Force Association Convention, Houston, TX, March 19, 1969; and "Continuing Cooperation between NASA and DOD," *Air Force Magazine,* May 1969, 100.
[223] Henry A. Kissinger, *The White House Years* (Boston: Little, Brown and Co., 1979), 241–42.

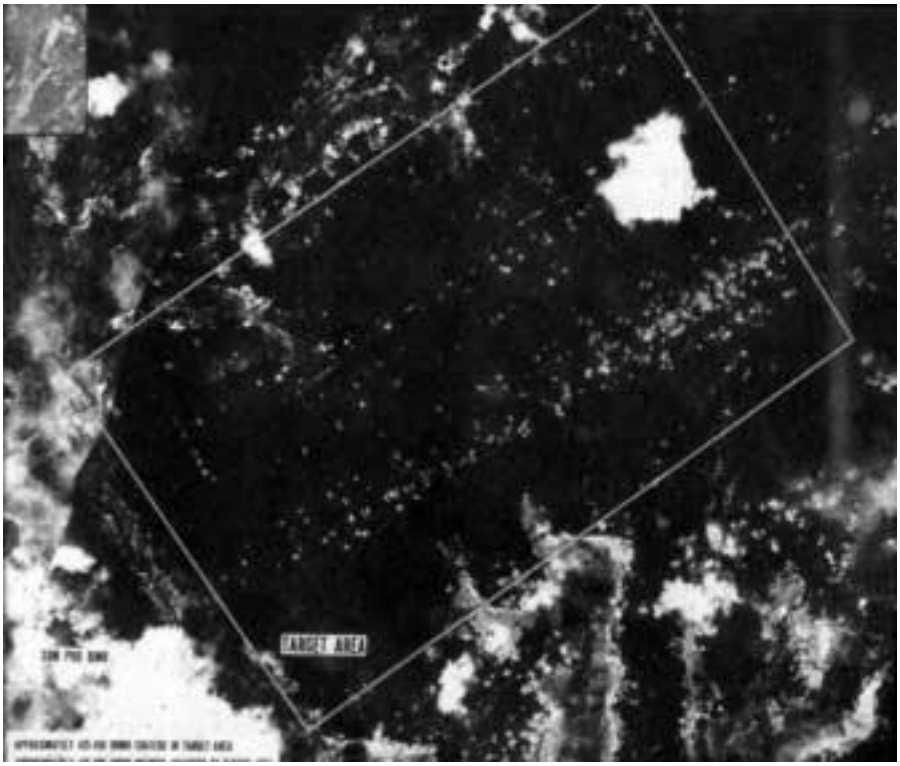


Figure 20. ARC LIGHT target box showing damage from B-52 ordnance. Image Source: United States Air Force.

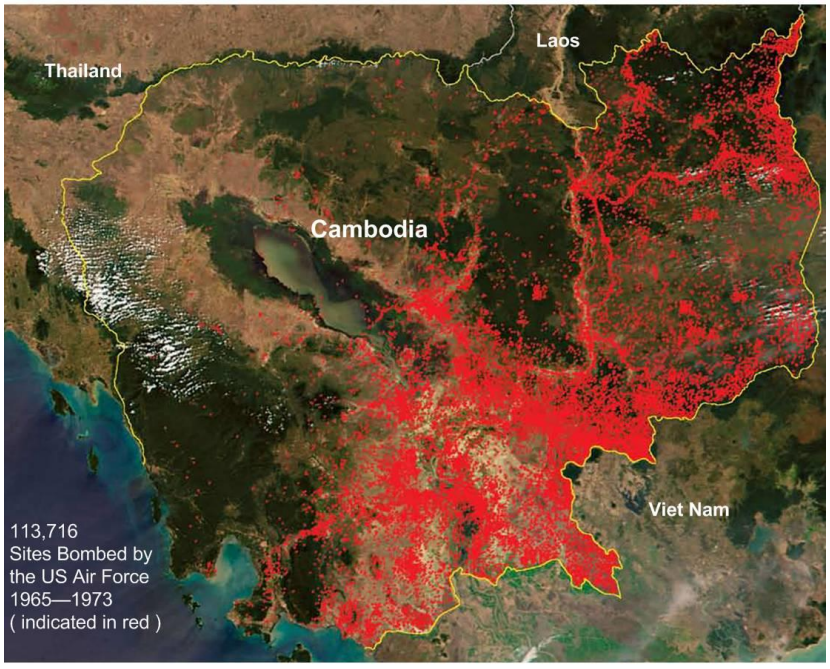


Figure 21. Extent of bombing in Cambodia during the Vietnam War. Bomb damage is in RED. Image Source: LANDSAT satellite image, United States Department of Defense.

to Saigon.[224] The raids began on March 18, 1969 under the code name BREAKFAST, and dropped ordnance only three miles into Cambodia. Those three miles effectively killed Cambodian neutrality, although the North Vietnamese had effectively done so earlier by using Cambodian lands for extensions of their supply trails. Nixon ordered additional raids in May, code named (SUPPER, LUNCH, DESSERT and SNACK), thus the term MENU bombing.[225] Nixon kept the operations secret from high level Air Force officials, the Air Force Chief of Staff, and the Secretary of the Air Force. Operational documents were falsified and required personnel were ordered to deceive their superiors under orders from the President.[226] The MENU raids were halted after they were exposed by the *New York Times* on May 26, 1970.[227] At the same time, the Cambodian Prime Minister, Norodom Sihanouk was overthrown. The Cambodian government then openly supported the United States. Cambodia joined in the war and the MENU operations became ARC LIGHT missions. Hindsight shows that the MENU operations possibly prevented a large-scale NVA attack.[228]

COMMANDO HUNT

President Johnson called his bombing halt of North Vietnam on October 31, 1968 and two weeks later on November 15, the first of seven COMMANDO HUNT operations began.[229] All targeted the Ho Chi Minh Trail segments. Each of the operations lasted six months and alternated from the winter/spring dry season (November–April) to summer/fall monsoon/wet season (May–September).[230] The sorties were based upon the strengths of three types of aircraft. Truck convoys on the trail network were attacked by AC-119 and AC-130 gunships.[231] Truck parks, river fords, bridges, and anti-aircraft and SAM sites were dedicated to TAC fighter-bombers using new laser-guided bombs.[232] The B-52s were most effective against stationary targets, particularly mountain passes and choke points filled with trucks waiting to head south.[233]

The Seventh Air Force created one-square-mile target boxes as a norm for these missions.[234] The B-52s averaged twenty-seven sorties per day, in three-ship cells.[235] During COMMANDO HUNT V, the sortie rate increased to 125 sorties per day.[236] All sorties used the "Igloo White" sensor system, which monitored movement on the ground.[237] During 1968, B-52s supported COMMANDO HUNT with 838 sorties in Laos, and 156 sorties to support STEEL TIGER SOUTH with twenty-one sorties per day below 16' 30^{O} north latitude.[238] During May 1969, the BUFFs dropped 500 lb. and 750. Iron bombs, which caused massive mud slides in the mountain passes during the wet season.[239]

---

[224] Seamans, 129; Henry A. Kissinger, *The White House Years* (Boston: Little, Brown and Co., 1979), 241–42.
[225] Berger, 160; Earl H. Tilford Jr., *Crosswinds: The Air Force's Setup in Vietnam* (College Station, TX: Texas A&M University Press, 1993), 125–26.
[226] Tilford, *Crosswinds*, 126–27; John Morocco, *Rain of Fire: Air War, 1969–1973,* ed., Robert Manning, Vietnam Experience Series (Boston: Boston Publishing Co., 1986), 12.
[227] *New York Times*, May 26, 1970.
[228] Kissinger, 240; Tilford, *Crosswinds*, 128.
[229] Berger, 109–19; Tilford, "Bombing Our Way Back Home," 126–27.
[230] Tilford, "Bombing Our Way Back Home," 127–28.
[231] see Jack S. Ballard, *The United States in Southeast Asia: Development and Employment of Fixed-Wing Gunships, 1962–1972* (Washington: AFHO, 1982).
[232] Berger, 109–19.
[233] Berger, 109–19; Tilford, "Bombing Our Way Back Home," 126–27.
[234] CH, *A Chronology of Important Airpower Events in Southeast Asia,* 296.
[235] Ibid.
[236] PACAF, CH Report, "United States Air Force Operations in Laos: 1 Jan 70–30 Jun 71," (Maxwell Air Force Base, AL: Air University Press, 1971), 25.
[237] J. William Gibson, *The Perfect War: Technowar in Vietnam* (Boston: Atlantic Monthly Press, 1986), 396–97.
[238] Ibid.
[239] Berger, 109–10.

The major obstacle to success in these operations was the thousands of NVA engineering troops placed at strategic points to repair the bomb damage within hours.[240] While they negotiated in Paris during bombing halts, they massed troops for campaigns in both 1970 and 1972.[241] COMMANDO HUNT VII (November 1, 1971 to March 31, 1972) used the greatest use of B-52s and also employed the latest airborne technology and weaponry.[242]

COMMANDO HUNT operations ceased on March 31, 1972, after North Vietnamese General Vo Nguyen Giap launched the Easter Offensive by invading South Vietnam as he did during the Tet Offensive in 1968. SAC, TAC, and the Navy simply did not have enough aircraft and crews to keep the enemy at bay in Laos and Cambodia while stemming the tide in South Vietnam.[243]

Table 3. The JCS 94 Target List. Source: Kamps, "*The JCS Target List*, 73-76.

The Joint Chiefs of Staff 94 Target List in North Vietnam	
Target Number	Target Description
1	Na San airfield
2	Dien Bien Phu airfield
3	{B} Hanoi/Gia Lam airfield [limited jet-capable] (plus petroleum, oil, lubricants [POL] storage 1965)
4	{R} Dong Hoi airfield [limited jet-capable] (airfield closest to South Vietnam)
5	{R} Vinh airfield [limited jet-capable]
6	{B} Phuc Yen airfield Uet-capable] (plus NNE POL storage 1966)
7	Hanoi/Bae Mai airfield [limited jet-capable]
8	{B} Haiphong/Cat Bi airfield Uet-capable] (plus POL storage 1965)
9	Haiphong/Kien An airfield [limited jet-capable] (plus POL storage 1965)
10	Ninh Binh railroad/highway bridge
11	Hai Duong railroad/highway bridge
12	Hanoi railroad/highway bridge (Red River)
13	Hanoi railroad/highway bridge (canal)
14	Thanh Hoa railroad/highway bridge
15	Viet Tri railroad/highway bridge (on Route 2: Hanoi- Lao Cai- Kunming, China)
16	Dap Cau railroad/highway bridge (on route from Hanoi to Chinese border)
17	Haiphong highway bridge (on Route 10: Haiphong to NE ORV and China)
18	Lang Son railroad/highway bridge
19	Yen Vien railroad yard
20	Hanoi railroad repair shops (Gia Lam)
21	Hanoi railroad yard/shops
22	Xuan Mai barracks SSW
23	Xuan Mai barracks NNW and headquarters

[240] Douglas Pike, *PAVN: People's Army of North Vietnam* (Novato, CA: Presidio Press, 1986), chapter 1 and Conclusion.
[241] Ibid.
[242] Head, *War From Above the Clouds*, 49.
[243] Eduard Mark, *Aerial Interdiction: Air Power and Land Battle in Three American Wars* (Washington: Center for Air Force History, 1994), 329.

24	{R} Chanh Hoa barracks SE and division headquarters
25	Son La barracks/supply depot/military region headquarters NW
26	Dien Bien Phu barracks
(27)	(Although in the "barracks" group, a target numbered 27 did not appear in any sources consulted.)
28	Ban Xom Lorn barracks
29	Quang Suoi barracks NE
30	Hanoi military headquarters; North Vietnam air defense headquarters
31	Ha Dong barracks/supply depot
32	{R} Vu Con barracks and supply depot
33	{R} Vu Con barracks and supply depot
34	Vinh Yen barracks /training area N
35	Son Tav barracks SW and supply depot
36	{B}{R} Vit Thu Lu barracks/storage area (guerrilla staging area)
37	Moc Chau barracks
38	Vinh barracks and headquarters military region IV
39	Vinh barracks and headquarters military region IV
40	Phu Qui ammunition depot SW
41	{R} Phu Van ammunition depot E (major depot)
42	{R} Phu Van POL storage and ammunition depot NE
43	Qui Hau ammunition depot W
44	Yen Bai ordnance depot
45	Haiphong ammunition depot SW (Kien An)
46	Ban Phieng Hay ammunition depot
47	Yen Son ordnance and ammunition depot
48	{B} Haiphong POL storage[+] (largest POL storage facility in North Vietnam)
49	{B} Hanoi POL storage[+]
50	Vinh POL storage
51	Nguyen Khe POL storage[+] (Thach Loi)
52	{R} Vinh supply depot E
53	{R} Phu Van supply depot SE
54	Thien Linh Dong supply depot S
55	{R} Vinh Son supply depot SW/SE
56	Phu Qui barracks/supply depot
57	Hanoi Ministry of National Defense/MZ Headquarters
58	Hanoi supply depot S/barracks
59	Hanoi supply depot N/barracks
60	Thai Nguyen supply depot N
61	Xom Chang barracks S
62	Van Dien supply depot/barracks
63	Thuan Chau barracks/supply depot
64	{R} Xom Bang ammunition depot (supports Pathet Lao in Laotian panhandle)
(65)	(Although in the "depot" group, a target numbered 65 did not appear in any sources consulted. In a later edition of the list, the number 65.8 was reserved for the Hanoi SAM support facility.)
66	Hanoi international radio communications transmitter facility
67	Hanoi international radio communications receiver facility

68	Cam Pha Port (mine laying and bombing targets)
69	Hon Gai Port (mine laying and bombing targets)
70	Haiphong Port (mine laying and bombing targets)
71	{R} Ben Thuy port facilities/transshipment center (mine laying and bombing targets)
72	Port Wallut naval base (mine laying and bombing targets)
73	Hanoi port facilities/Red River (mine laying and bombing targets)
74	Quang Khe Port approaches (mine laying area)
75	Viet Tri chemical plant (explosives)
76	Thai Nguyen iron and steel complex
77	Hanoi machine tool and engineering equipment plant
78	Haiphong phosphatic fertilizer plant (explosives)
79	Bae Giang chemical fertilizer plant (explosives)
80	Haiphong West thermal power plant[++]
81	Hanoi thermal power plant[++]
82	Uong Bi thermal power plant
83/84	Road/Rail Route 1 (Hamrong to Hanoi)
85/86	Road /Rail Route 1 (Vinh to Hamrong)
87/88	Road/Rail Route 5 (Hanoi to Haiphong)
89	Route 7 (Laos/North Vietnam border)
90	Route 8 (vicinity Nape, Laos to Roa Qua) (main supply route to Central Laos)
91	Route 12 (Laos/North Vietnam border to Xom Ma Na) (main supply route into southern Laos and South Vietnam)
92	Route 19
93	Route 6
94	Route alternate to Route 6

Table 4. Target Complexes. Source: Kamps, "*The JCS Target List*, 73-76.

Target Complexes

2 jet-capable airfields	7 ports and port approaches
5 limited jet-capable airfields	2 railroad repair facilities
2 non-jet-capable airfields	2 railroad yards
2 communications facilities	8 railroad/highway bridges
9 headquarters	1 highway bridge
22 barracks	3 railroad armed-reconnaissance routes
1 training area	9 highway armed-reconnaissance routes
2 ordnance depots	1 iron and steel plant
8 ammunition depots	1 machine tool plant
5 POL storage facilities	3 chemical/fertilizer plants (explosives)
1 storage area	3 thermal power plants
14 supply depots	

Table 5. ARC LIGHT B-52 Bases. Source Walter J. Boyne, "Linebacker II," *Air Force Magazine*; January 2009, 62.

Arc Light B-52 Organizations P=Provisional		
Andersen AFB, Guam		
1954-70	3rd Air Div	Hq for B-52 units at Andersen, U Tapao, and Kadena
1970-75	8th Air Force	Replaced 3rd Air Div as hq for Arc Light
1955-70	3960th Strategic Wg	SAC unit from pre-Vietnam period. Replaced by 43rd SW
1966-70	4133rd Bomb Wg (P)	Formed to receive rotational crews, inactivated 1970 when 43rd SW formed
1970-79	43rd Strategic Wg	Replaced 3960th SW when B-52 missions from Guam resumed in 1972, reported to 57th Air Div (P), continued as operating unit at Andersen
1972-73	57th Air Div (P)	Controlled both B-52 Arc Light wings on Guam
1972-73	72nd Strategic Wg (P)	Reported to 57th AD (P)
1972-73	303rd Consolidated Aircraft Maint Wg (P)	Reported to 57th AD (P)
U Tapao RTNAF, Thailand		
1966-70	4258th Strategic Wg	Reported to 3rd Air Div on Guam; in 1970, redesignated as
1970-74	307th Strategic Wg	For last part of war, reported to 17th AD (P)
1972-74	17th Air Div (P)	Reported to 8th AF on Guam
1972-74	310th Strategic Wg	Reported to 17th AD (P)
1972-74	340th Consolidated	Reported to 17th AD (P)
Kadena AB, Okinawa		
1965-70	4252nd Strategic Wg	
1970-74	376th Strategic Wg	Replaced 4252nd SW; did not fly Arc Light combat missions

CHAPTER 5

LINEBACKER I

The United States believed it was making progress in stemming the flow of the infiltration of men and supplies down the Ho Chi Minh Trail during the spring of 1972. The Air Force's COMMANDO HUNT operations ceased on March 31, 1972. On that date, the North Vietnamese launched a conventional armed attack on South Vietnam. The American policy of "Vietnamization," turning the war over to South Vietnam's army (ARVN), seemed to be going well. As American troop strength dwindled, American air power proved to be "guardian angel" of the ARVN. But this new combined arms attack appeared to be a second version of the Tet Offensive of 1968. The new attacks would be known as the "Easter Offensive." This time SAC, TAC, and the Navy simply did not have enough aircraft and crews to keep the enemy at bay in Laos and Cambodia while stemming the tide in South Vietnam.[244]

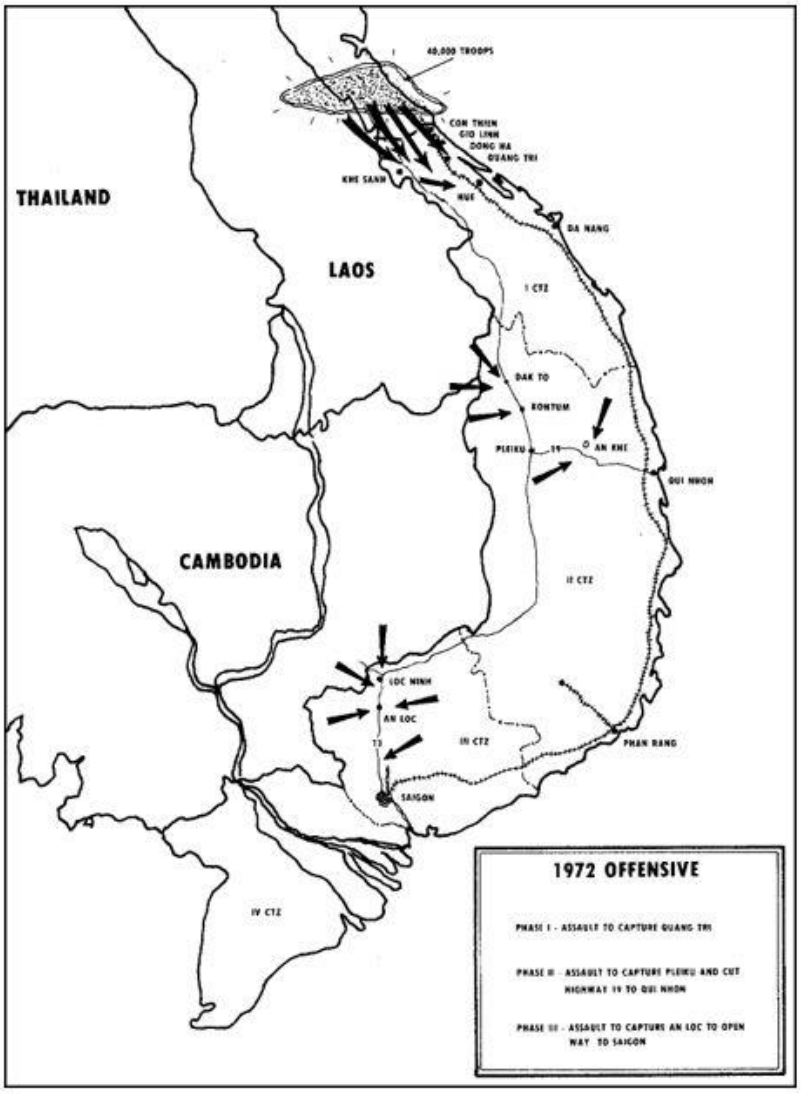


Figure 22. Map of the principle invasion routes at the beginning of the Easter Offensive. Source: William W. Momyer, *Air Power in Three Wars* (Washington, D.C.: GPO, 1978), 366.

[244] Eduard Mark, *Aerial Interdiction: Air Power and Land Battle in Three American Wars* (Washington: Center for Air Force History, 1994), 329.

The Johnson administration was constantly plagued by the fear of either Soviet or Chinese intervention in the Vietnam War, or perhaps both. The intermittent bombing halts at each point when success was at hand were gestures to the North Vietnamese to negotiate and to convince the two great communist powers that the United States was not threatening either of them nor did it wish to utterly destroy North Vietnam. The Nixon administration offered a different set of criteria. Richard Nixon promised prior to his first term in office to end the war. He was unsuccessful. However, Nixon, among the forefront of Cold Warriors, surprised everyone by seeking a détente with the Russians and even to the hardline Chinese with what later was termed "ping-pong diplomacy." The Chinese allowed American competitive ping-pong players to come to China to play against the Chinese national team. The United States reciprocated. President Nixon saw this potential thaw in Sino-American relations as a way to end America's involvement in Vietnam. The November elections were coming later that year. The President's National Security Advisor, Henry Kissinger, secretly visited Beijing and soon after, Nixon went to China in February 1972.[245] The Easter Offensive by the North Vietnamese was a ploy to derail these overtures and to remove the Americans once and for all from the complex equation that was the Vietnam War.

During Operation COMMANDO HUNT, in December 1971, U.S. Intelligence services picked up information that an offensive may be happening soon. The Air Force tasked TAC to fly approximately 1,000 sorties into the southern portion of North Vietnam between the 17th and 20th parallels.[246] The President ordered an additional 207 F-4 Phantom fighter-bombers into theatre and 161 additional B-52s were ordered to Andersen Air Force Base on Guam and to U-Tapao Royal Thai Navy/ Air Force Base (RTNAFB), bringing the total force of BUFFs to 210. This was more than half of all of SAC's B-52s.[247] This placed a tremendous strain on Fail-Safe Missions. The first thirty B-52s were sent to Guam under Operation BULLET SHOT in February.[248] The increase in airpower proved fortunate. Between April and July 1972, Air Force bomber and attack aircraft increased from 375 to 900, the Marines deployed 40 F-4 Phantom fighter-bombers to Da Nang, two squadrons of A-1 Sky Raider ground attack aircraft to Ben Hoa, and the Navy operated six carrier groups in the Gulf of Tonkin. Each aircraft carrier carried 60 attack aircraft.[249] Strike aircraft increased from 495 to 1,380 in the first three months of the offensive.[250]

President Nixon later described the timing "to go for broke and bring the enemy to his knees."[251] The President, having created stronger ties with Russia and China, believed he could force North Vietnam to negotiate. He intended to resume the bombing of North Vietnam and mining Haiphong Harbor.[252]

---

[245] For an in-depth account, see Nicholas Griffin, *Ping-pong Diplomacy: The Secret History Behind the Game That Changed the World* (New York: Skyhorse Publishing, 2015),

[246] History, Seventh Air Force, July 1, 1971– June 39, 1972, 273–77; Mark Clodfelter, "Nixon and the Air Weapon," in *An American Dilemma: Vietnam, 1964–1973,* ed. Dennis E. Showalter and John G. Albert (Chicago: Imprint Publishers, 1993), 169.

[247] History, PACAF, 1 July 1, 1971– June 30, 1972, vol. 1, 121–22; Clodfelter, "Nixon and the Air Weapon," 169; 145; Earl H. Tilford Jr., *Crosswinds: The Air Force's Setup in Vietnam* (College Station, TX: Texas A&M University Press, 1993), 145; and History, Seventh Air Force, Linebacker Operations, May 10 –October 23, 1972, 1973, 3–5, file K740.04-24, AFHRA, Maxwell AFB, Ala.

[248] Clodfelter, "Nixon and the Air War," 16; Capt Charles A. Nicholson, *The USAF Response to the Spring 1972 NVN Offensive: Situation and Redeployment* (Project CHECO, Seventh Air Force/DOAC, 1972), 21.

[249] Nicholson, *NVN Offensive*, 123-24; Clodfelter, "Nixon and the Air Weapon," 16.

[250] Ibid.

[251] Richard M. Nixon, *RN*, vol. 2, *The Memoirs of Richard Nixon* (New York: Warner Books, 1978), 606; Clodfelter, "Nixon and the Air Weapon," 172; Seymour M. Hersh, *The Price of Power: Kissinger in the Nixon White House* (New York: Summit Books, 1983), 506; and Melvin F. Porter, *Linebacker: Overview of the First 120 Days* (Project CHECO, Seventh Air Force/DOA, 1973), 14–15.

[252] Porter, *Linebacker: Overview,* 14-15.

B–52s cover Andersen's flightlines after the Bullet Shot deployments.

Figure 23. B-52Ds and G models on Guam in February 1972. Image Source: United States Air Force.

Air attacks began on April 2 with pinpoint strikes against anti-aircraft artillery (AAA) and surface to air (SAM) sites within 25 miles of the DMZ. These were followed by attacks within 60 miles of the DMZ as part of Operation FREEDOM TRAIN.[253] The NVA streamed supplies south through multiple routes and the air attacks did not greatly diminish their delivery. President Nixon then expanded the area of operations to parallel 20' 25^{o} or 231 miles north.[254] B-52s flew their first sorties on April 16, with eighteen BUFFs from the 307th Strategic Wing stationed at U-Tapao targeting oil storage facilities near Haiphong.[255] Nixon, after consultations with Henry Kissinger and the president's military assistant, Major General Alexander Haig, used TAC, Navy, and Marine aircraft in North Vietnam and utilized B-52s in South Vietnam under the codename Operation LINEBACKER.[256] President Nixon viewed LINEBACKER as the beginning of the end for America's presence in Vietnam. He intended to inflict direct pain on the North, explaining that "the bastards have never been bombed like they're going to be bombed this time."[257] The new effort began on May 10 and lasted until October 15, 1972.

Pentagon planners designed LINEBACKER to have three specific goals: "1) restrict resupply of North Vietnam from external sources; 2) destroy internal stockpiles of military supplies and equipment; and 3) restrict flow of forces and supplies to the battlefield."[258] These were to be achieved in four distinct

[253] Clodfelter, "Nixon and the Air Weapon," 170; MACV, *Linebacker Study* (unofficial/uncoordinated draft report), January 20, 1973, chap. 2, 2, File K712.041-19, AFHRA; Nixon, *RN*, 2:64–65; and PACAF, CH, *USAF Air Operations against NVN, 1 July 71–30 June 72*, 1973, 52–61.
[254] Clodfelter, "Nixon and the Air Weapon," 170.
[255] PACAF, CH, *USAF Air Operations against NVN, 1 Jul 71–30 Jun 72*, 1973, 52–61.
[256] Kissinger, 1118, 1176; Clodfelter, "Nixon and the Air Weapon," 170–71; and Nixon, *RN*, 2:81.
[257] David Fulghum and Terrence Maitland. *South Vietnam on Trial: Mid 1970-1972* (Boston, MA: Boston Publishing Co., 1984), 168.
[258] PACAF, CH, *Command and Control*, bk. 1, 1-24.

phases. First, destroy major railroad depots and rolling stock in and near Hanoi and the primary trunk line toward China. Second, demolish railroad marshalling yards and storage areas surrounding Hanoi. Third, destroy provisional storage and transshipment points created as a response to the first two phases. Fourth, destroy enemy defenses, particularly ground control intercept radar sites, command and control, MiG airfields, SAM and AAA sites, and associated logistics depots and support facilities.[259]

Part Two of the operation, Operation POCKET MONEY, mined North Vietnamese ports. Following mine seeding, the mines had a 36-hour delay in arming. All international ocean traffic was notified. From the day the mines came alive through September, no vessels entered or left any North Vietnamese ports.[260] Supply vessels were forced to remain outside the twelve mile limit from shore to the edge of the minefield. At the same time, North Vietnamese small vessels attempted to ferry off loaded supplies to shore. They were attacked by TAC, Navy and Marine aircraft.[261]

Operation FREEDOM TRAIN was active from April to June 1972. US forces flew 27,745 attack and support sorties, 1,000 of which were flown with B-52s.[262] The United States lost 52 planes—17 to SAMs, 11 to AAA, three to small arms, 14 to MiGs, and seven to unknown causes.[263] The enemy fired 777

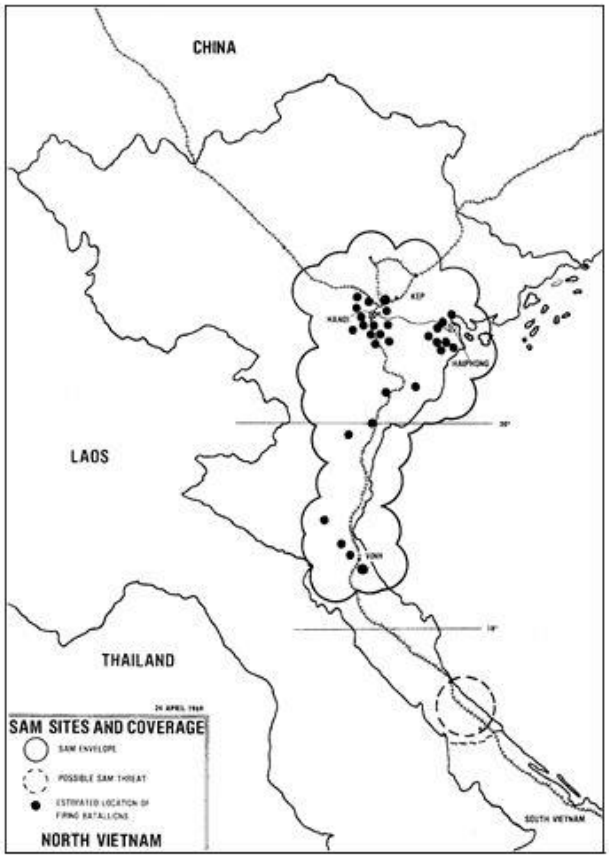


Figure 24. SAM coverage in North Vietnam during LINEBACKER. Source: William W. Momyer, *Air Power in Three Wars* (Washington, D.C.: GPO, 1978), 140.

[259] PACAF CH, *USAF Air Operations against NVN*, 90–91; Momyer, *Air Power in Three Wars*, 33; Tilford, *Crosswinds,* 149–50; and PACAF CH, *Command and Control*, bk. 1, 1–24.
[260] Clodfelter, "Nixon and the Air Weapon," 171.
[261] Ibid.
[262] PACAF, CH, *USAF Air Operations against NVN*, 65, 121–31; PACAF, SEA Report, "Air Operations Summaries, April, May, and June 1972," File K717.3063, AFHRA.
[263] Ibid.

SAMs in April, 429 in May, and 366 in June.[264] The Air Force countered with a new type of hunter-killer team to ferret out SAM radars. F-105 Wild Weasels found the sites and F-4 Phantoms destroyed them with cluster bombs or High Explosive ordnance.[265]

North Vietnam possessed 4,000 23mm to 100mm AAA guns, of which half were located in and near Hanoi and Haiphong.[266] They also had more than 200 MiGs, 70 of which were newer MiG 21s.[267] The MiGs used a tactic that involved following heavy-laden attack aircraft and firing on them as they slowed airspeed to prepare for attacks or before they could use evasive maneuvers.[268] From March through July, the U.S. lost twenty-six aircraft while the North Vietnamese lost thirty-two.[269] The Air Force countered with a new system called "Teaball," a weapons control center in Thailand that linked data from Laos and the Gulf of Tonkin to triangulate aircraft movements, both friendly and enemy.[270] From August 1st through October 1st, the number of kills dropped to five for the U.S. and nineteen for North Vietnam.[271] PACAF announced in June that "the enemy has shown no signs of response to the interdiction . . . ; therefore it is estimated that only a small amount of material is entering NVN [North Vietnam] via the highway system."[272]

B-52 strikes were concentrated on supporting ground operations in South Vietnam to help stem the tide of the North Vietnamese invasion. These included massive strikes on either side of the DMZ against supply cantonments, road choke points, and staging areas.[273] Of particular importance, the BUFF's averaged thirty sorties every day against bridges on Route Package 1 (RP1).[274]

President Nixon removed many of the restrictions that plagued ROLLING THUNDER. Pentagon planners changed the target priority list, moving some targets to the top of the list. Among them were rail trunk lines between Hanoi and the Chinese border and those between Haiphong and the DMZ, oil and gas processing plants (Petroleum Oil and Lubricants [POL]), power stations, and rolling stock and storage areas.[275] At the same time, restrictions were placed on a thirty-mile buffer south of the Chinese border, dams, dikes, civilian watercraft, civilian population centers, and non-Vietnamese seaborne shipping.[276]

TAC F-4s focused on destroying bridges as quickly as the North Vietnamese could rebuild them, sometimes in a matter of hours.[277] B-52s flew sortie missions to An Loc, laying bombs within 1,000 meters of the defenders and neutralizing North Vietnamese attackers.[278] The B-52 raids in South Vietnam were

---

[264] Ibid.
[265] Ibid.
[266] Eduard Mark, *Aerial Interdiction: Air Power and Land Battle in Three American Wars* (Washington, D.C.: Center for Air Force History, 1994), 379.
[267] Ibid.
[268] PACAF, CH, *USAF Air Operations against NVN,* 132–36; and History, Seventh Air Force, Linebacker Operations, 1973, 51–52.
[269] Ibid.
[270] Ibid.
[271] Ibid.
[272] PACAF, *North Vietnamese Current Assessment,* vol. 7, *U.S. Air Force Operations in Defense of RVN,* June 1, 1972, CH Document Collection, File K717.03-219, AFHRA.
[273] Mark, 382.
[274] Ibid.
[275] PACAF, CH, *USAF Air Operations against NVN,* 91–95; and Momyer, *Air Power in Three Wars,* 174–75, 183–96.
[276] Mark, 385–86; PACAF, CH, *USAF Air Operations against NVN,* 98–103; and Clodfelter, "Nixon and the Air Weapon," 172.
[277] Mark, 395–97.
[278] Ibid.

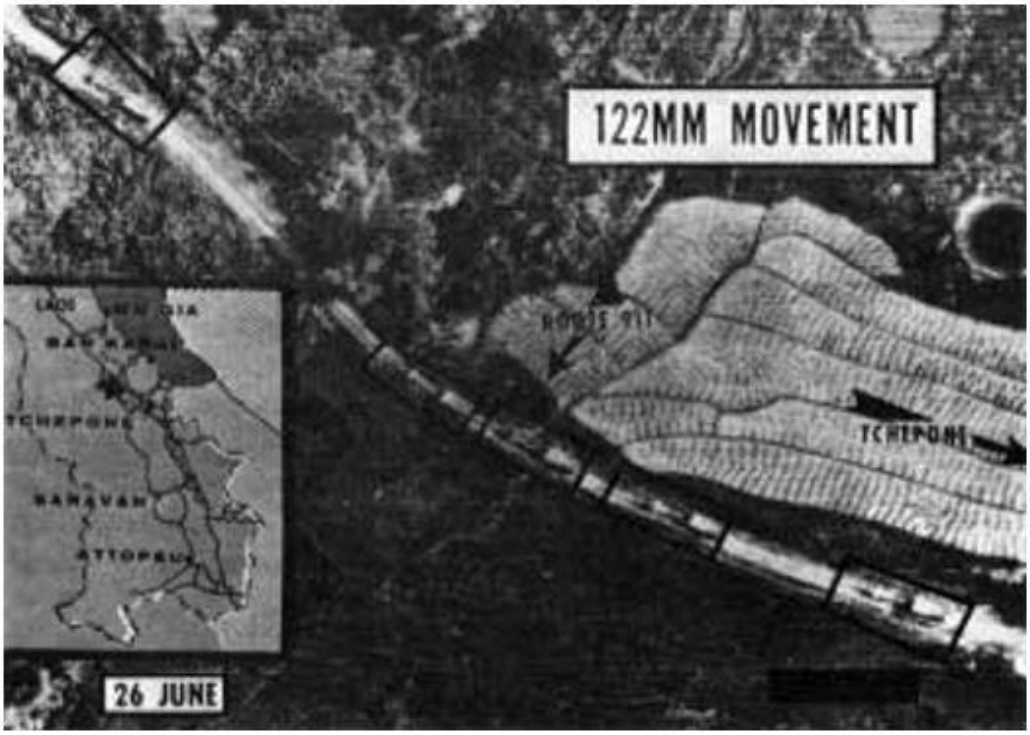
Reconnaissance photo taken 22 July 1972 shows a series of anti-aircraft emplacements along a dike near Thai Binh, some 30 miles south of Haiphong.

Figure 25. Source: William W. Momyer, *Air Power in Three Wars* (Washington, D.C.: GPO, 1978), 150.

credited with slowing down the NVA timetable, forcing them spend needed time in taking Quang Tri City before losing it back to the ARVN troops and not taking Hue.[279]

LINEBACKER dropped, between April 5 and October 23, 1972, 155,548 tons of bombs on North Vietnam, or, approximately twenty-five percent of the total dropped during ROLLING THUNDER.[280] The net effect on the North Vietnamese was the loss of seventy percent of electricity generating capacity and severe damage to their road and rail networks.[281] However, the NVA still occupied most of the rural areas of South Vietnam, and they planned to use this as a bargaining chip in the Paris negotiations.[282] There is no

[279] Ibid.
[280] Clodfelter, *The Limits of Air Power*, 173
[281] Ibid.
[282] History, MACV, January 1972–March 1973, July 15, 1973, Saigon, Republic of Vietnam, 53, 74, 79.



Heavy North Vietnamese traffic along the Ho Chi Minh Trail in Laos.

Figure 26. Source: William W. Momyer, *Air Power in Three Wars* (Washington, D.C.: GPO, 1978), 96.

doubt that American air power halted the collapse of the South Vietnamese regime during the Easter Offensive.[283] An unintended consequence of LINEBACKER was that the sheer amount of effort needed to stem the tide of the North Vietnamese forces within South Vietnam left the Ho Chi Minh Trail in Laos and Cambodia largely untouched for several months. Even with the tremendous buildup of air assets by the United States, the Central Intelligence Agency (CIA) and the Defense Intelligence Agency (DIA) estimated that the North Vietnamese hade 14,000 trucks that were untouched and available for use.[284] They also reported that despite the harbor mining and rail interdiction, between 55,000 and 75,000 tons of supplies crossed the Chinese border into North Vietnam each month.[285]

International political considerations altered the continuation of LINEBACKER. President Nixon went to Moscow in mid-summer and curtailed some bombing sorties. Henry Kissinger believed the timing was right to reopen the Paris peace talks. Hanoi accepted, but the President, with recent diplomatic triumphs in Beijing and Moscow, and the November election nearing, decided he could use more airpower to push the North Vietnamese even harder.[286] Kissinger counseled against using more B-52s because it "would cause a domestic outcry and that in any case such attacks were unnecessary."[287] Nixon did not fully adhere to Kissinger's suggestions. He authorized a continuation of bombing sorties by B-52s and ground

[283] Ibid.
[284] William P. Head, *War From Above the Clouds: B-52 Operations during the Second Indochina War and the Effects of the Air War on Theory and Practice*, Fairchild Paper, (Montgomery, AL: Air University Press, 2002), 72.
[285] Ibid.
[286] Clodfelter, "Nixon and the Air Weapon," 172; *The Limits of Air Power*, 159–60.
[287] Kissinger, 1102; and History, Headquarters Eighth Air Force, vol. 1, narrative, 148–49.

attack fighters averaging thirty per day throughout October.[288]This round of missions was concentrated near the DMZ and targeted command and control and storage facilities.[289]

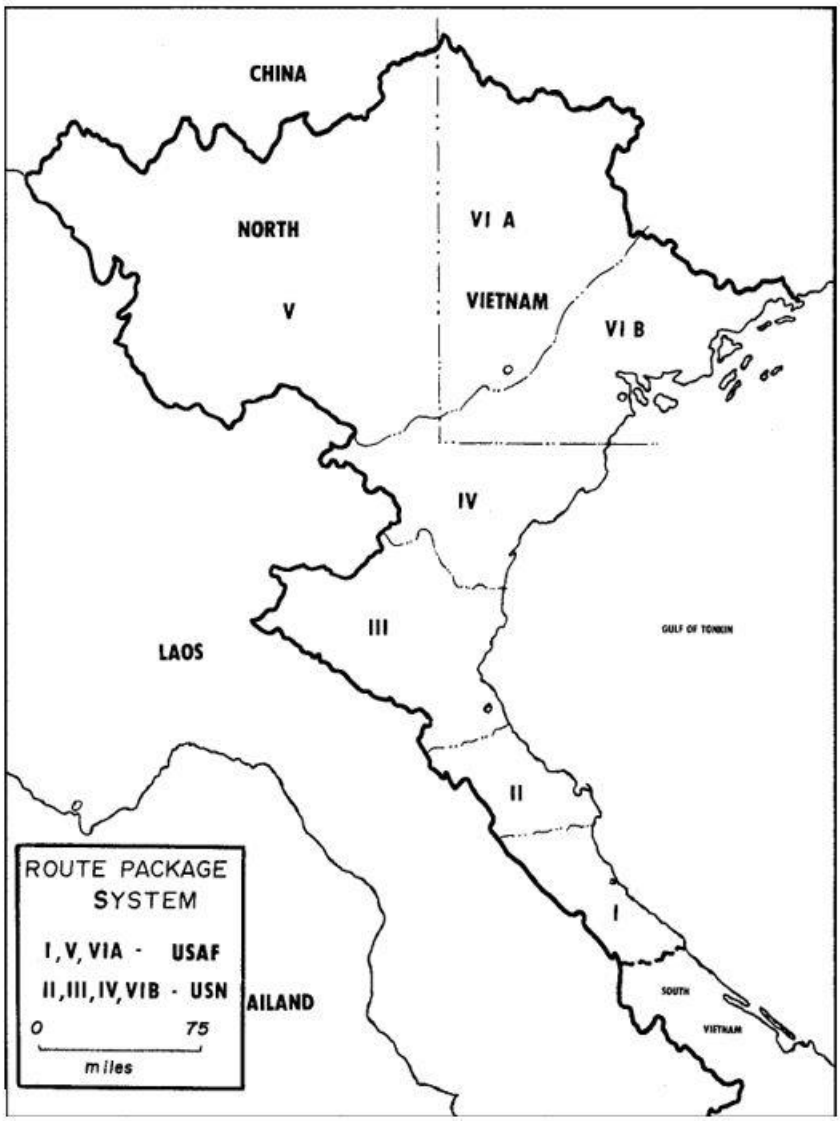


Figure 27. Route Package system in North Vietnam during LINEBACKER. Source: William W. Momyer, *Air Power in Three Wars* (Washington, D.C.: GPO, 1978), 107.

The North Vietnamese were not motivated to enter into serious negotiations. The Paris Peace Talks began in late July, but it was evident that they wanted to wait until the November elections. Nixon cabled Admiral John McCain on August 8, to "notify his subordinate commanders that Linebacker would begin to hit the North harder."[290] Target planners created new lists and increased sorties to forty-eight per day in RP 5 and RP 6. The Navy was responsible for RP B and the Air Force worked on RP 6 A and RP 5.[291] The B-52s were held

[288] Clodfelter, "Nixon and the Air Weapon," 172; Clodfelter, *The Limits of Air Power*, 159–60; Kissinger, 1102; and History, Headquarters Eighth Air Force, vol. 1, narrative, 148–49.
[289] Ibid.
[290] Clodfelter, *The Limits of Air Power*, 159–61.
[291] Ibid.

back in deference to the presidential election and Kissinger' wishes.[292] The vast majority of the bombing was conducted by TAC, the Navy, and the Marines.[293] A new weapon was added to the Air Force arsenal at the end of September when 48 F-111 Aardvarks deployed to Takhli Royal Thai Air Force Base (RTAFB).

Figure 28. F-111s in formation. Image Source: United States Air Force.

The Aardvarks flew in all weather, day and night, at very low altitudes and at supersonic speed. By the middle of October, the F-111s conducted an average of twenty-four sorties per night, half of all missions.[294]

North Vietnamese combat forces within South Vietnam reached between 150,000 and 200,000 troops in October 1972.[295] Their negotiating strategy was to ask for a ceasefire. Nixon did not halt or lessen the bombing.[296] By early summer 1972 the NVA inserted fourteen new divisions into South Vietnam and this placed a heavy burden on the South Vietnamese government.[297] Despite American airpower, Saigon would probably be forced to concede by the end of the year. Nixon crushed South Dakota Senator George McGovern in the election, but failed to reach a Republican majority in Congress. When Congress resumed session in January 1973, it promised to invoke the War Powers Act, which would end all funding for the

[292] Kissinger, 1102; and History, Headquarters Eighth Air Force, vol. 1, narrative, 148–49.
[293] History, Headquarters Eighth Air Force, vol. 1, narrative, 148–49.
[294] Clodfelter, *The Limits of Air Power*, 159–61. 198. Ibid., 161–62.
[295] Tilford, *Crosswinds*, 153.
[296] Ibid.
[297] Ibid., 148.

Vietnam War.[298] The President knew that if could end the war on his terms, he must do it before January 1973.[299]

[298] The *War Powers* Resolution (also known as the *War Powers* Resolution of 1973 or the *War Powers Act*) (50 U.S.C. 1541–1548) limits United States to an armed conflict without the consent of the U.S. Congress.
[299] Clodfelter, "Nixon and the Air Weapon," 173–74; Nixon, *RN*, 2:222–27, 230; Kissinger, 1411–12, 1416; and Clodfelter, *The Limits of Air Power*, 177–79.

CHAPTER 6

LINEBACKER II

Peace talks between the United States and North Vietnam began on February 21, 1970, with President Richard Nixon's National Security Advisor Henry Kissinger negotiating for the Americans and Le Duc Tho, for the North Vietnamese.[300] The three-year intermittent dialogue was largely frustrating for the Americans. The North Vietnamese relentlessly argued over minutiae such as the shape of the table, and if the South Vietnamese and the Viet Cong would be allowed to sit at the table.[301] Each time the American air offensives pressured the North Vietnamese into asking for concessions, the United States backed away from forcing an end to the war. The concept that a completely devastated North Vietnam might entice the Chinese to occupy it loomed large.

During the Lyndon Johnson presidency, micromanagement of military operations created an unmanageable environment to conduct the war. During most of his five years in office, President Johnson believed he could win the war with enough men and materiel. He failed. His consummate fear was a new version of the Korean War in which China sent in enormous numbers of troops. In the end, the Vietnam War broke him. He left a quagmire that completely overshadowed his great strides in domestic policy.

American foreign policy took a new shift in 1972, when President Nixon went to both Moscow and Beijing and a new sense of détente filled the air. Henry Kissinger believed the timing was right to reopen the Paris peace talks. Hanoi accepted, but Nixon, with recent diplomatic triumphs in Beijing and Moscow, and the November election nearing, decided he could use more airpower to push the North Vietnamese even harder.[302] Kissinger was enthusiastic that the process might be nearing its end. Too soon, on October 26, 1972, he announced in a press conference in Paris and in three White House telephone conversations with the President that "We believe that peace is at hand. What remains to be done can be settled in one more negotiating session with the North Vietnamese negotiators, lasting, I would think, no more than three or four days."[303]

North Vietnam had reason to believe otherwise. North Vietnam Army (NVA) troop levels reached between 150,000 and 200,000 within South Vietnam that same month.[304] Although the Soviet Union and China were weary of the war, Le Duc Tho believed that if the Easter Offensive, launched earlier that year, could be sustained, the American presidential election might help their cause.[305] They did not get their wish, but neither did President Nixon. Nixon handily won the November election, but the Republicans failed to carry Congress. According to several reports, the new Congress would invoke the War Powers Act, which would end all funding for the Vietnam War.[306]

Kissinger was surprised on December 13 when Le Duc Tho halted the peace talks and returned to Hanoi for additional consultations.[307] He was furious at this tactic, stating "There was no intractable, substantive issue separating the two sides, but rather an apparent North Vietnamese determination not to

---

[300] Stanley Karnow, *Vietnam, A History* (NY: Penguin Books, 1984), 638.
[301] Ibid.
[302] Mark Clodfelter, "Nixon and the Air Weapon," in *An American Dilemma: Vietnam, 1964–1973,* ed. Dennis E. Showalter and John G. Albert (Chicago: Imprint Publishers, 1993).
[303] *New York Times*, January 25, 1973. Nixon tapes, October 26, 1972, telephone conversations. WHCA Sound Recordings Collection H-665, Richard M. Nixon Presidential Library and Museum, Yorba Linda, CA.
[304] Earl H. Tilford Jr., *Crosswinds: The Air Force's Setup in Vietnam* (College Station, TX: Texas A&M University Press, 1993), 153.
[305] Ibid. 148.
[306] The War Powers Resolution (also known as the War Powers Resolution of 1973 or the War Powers Act) (50 U.S.C. 1541–1548) limits United States to an armed conflict without the consent of the U.S. Congress.
[307] Henry A. Kissinger, *The White House Years* (Boston: Little, Brown and Co., 1979), 1441.

allow the agreement to be completed."[308] Simultaneously, The South Vietnamese government, opposed to the proposed terms of the ceasefire that was offered, began to make demands that the United States could not and would not meet.[309] North Vietnam made a grievous error in interpreting Nixon's resolve.[310] Henry Kissinger wrote in his memoirs, that Nixon was never more dangerous than when he was left with no remaining options.[311] If the President were to end the war on his own terms, he must do so before Congress returned in January 1973.[312]

President Nixon took these myriad issues and used them to his advantage. He saw a limited set of goals ahead. First, he must bring the North Vietnamese back to Paris. In order to end the war before January "on our terms" and achieve a "peace with honor."[313] Kissinger assessed the situation in his memoirs: "We had only two choices, taking a massive, shocking step to impose our will on events and end the war quickly, or letting matters drift into another round of inconclusive negotiations, prolonged warfare, bitter national divisions, and mounting casualties."[314] There was only one weapon in the U.S. Air Force arsenal that could deliver the desired results, SAC's B-52s. Adequate numbers of the big bombers were already in theatre. They were highly accurate, could fly day or night in all kinds of weather, and carried immense bomb loads. They terrified the North Vietnamese. The issue was whether the President would allow them to attack the lucrative targets in and around the capital of Hanoi and the principal port of Haiphong.[315]

The plan that became Operation LINEBACKER II was conceived as a winter continuation of Operation LINEBACKER, which was halted in October. LINEBACKER II operated with significantly less restrictive Rules of Engagement (ROE). The only major constraint was to avoid civilian casualties whenever possible.[316] Nixon gave Hanoi an ultimatum on December 15 to return to the peace talks within seventy-two hours "or else."[317] Prior to this message, the President ordered Admiral Thomas Moorer, Chairman of the Joint Chiefs of Staff, to prepare massive air strikes targeting major infrastructure in and around Hanoi, as well as docks and shipyards in Haiphong.[318] Nixon told Admiral Moorer, "I don't want any more of this crap about the fact that we couldn't hit this target or that one. This is your chance to use military power effectively to win this war, and if you don't, I'll consider you personally responsible."[319] The Joint Chiefs of Staff originally planned for a three-day campaign with possible extensions. The aims were not as grandiose as those of the Johnson administration. This operation was to halt the fighting and allow the United States to exit gracefully. The operation placed massive pressure upon North Vietnam north of the 20th parallel.[320] This plan included attacking both Hanoi and Haiphong. Seventy-two hours after Hanoi rejected Nixon's demand, Operation LINEBACKER II began. The President made overtures to

[308] Earl H. Tilford, *SETUP: What the Air Force Did in Vietnam and Why* (Maxwell Air Force Base, AL: Air University Press, 1991), 252; and Kissinger, *The White House Years,* 1444.
[309] Kissinger, *The White House Years,* 1446.
[310] Gregory S. Clark, "Linebacker II: Achieving Strategic Surprise" (Newport, RI: Naval War College, 2002), 7.
[311] Kissinger, *The White House Years,* 1446.
[312] Clodfelter, "Nixon and the Air Weapon," 173–74; Nixon, *RN,* 2:222–27, 230; Kissinger, *The White House Years,* 1411-12.
[313] Richard Nixon, *No More Vietnams* (New York: Arbor House, 1985), 158; John T. Smith, *The Linebacker Raids: The Bombing of North Vietnam,1972* (London: Arms and Armour Press, 1998),118.
[314] Kissinger, *The White House Years,* 1448.
[315] Tilford, *SETUP,* 254.
[316]Ibid.
[317] Karnow, *Vietnam,* 667.
[318] Ibid.
[319] Nixon, *RN,* 734: Smith, *Linebacker Raids,* 118.
[320] Lewis Sorley, *A Better War: The Unexamined Victories and Final Tragedy of America's Last Years in Vietnam* (New York: Harcourt Brace and Company, 1999), 355.

Hanoi offering meetings any day after the 26th of December, hoping to bring Hanoi back to the table and to soothe the South Vietnamese.[321]

Strategic Air Command planners had several issues to consider. Not all of them had precedents during the Vietnam War. The decision to use B-52 was logical, as they were the largest bomb carriers in the U.S. inventory. They had been used in Vietnam since 1965, albeit on targets that were in jungles and in ground support roles. This mission necessitated a harkening back to the saturation bombing of World War II and, to a lesser extent, Korea. Dr. Futrell, one of the foremost intellectuals of Air Force doctrine, wrote "Although B-52 strategic bombers had long been committed to single-integrated operational plan (SIOP), general war strikes against route and terminal air defenses in the Soviet Union, the problem confronting them in the Linebacker II strikes . . . was immensely more complex."[322] Lone bombers on nuclear missions did not have the same training on formation sorties. All SAC crews were extensively trained in nuclear missions, not World War II style missions. Lieutenant General Gerald W. Johnson, the commander of the Eighth Air Force, sent concept plan to SAC headquarters in November to conduct the more traditional bomber missions. The plan was designed to conduct "extensive attacks against Hanoi and Haiphong using multiple-bomber formations simultaneously attacking from different directions."[323]

Lt Gen Gerald W. Johnson
Commander of the Eighth Air Force during Linebacker II

Figure 29. Lt. Gen. Gerald Johnson. Image Source: United States Air Force.

[321] Nixon, *RN*, 242–46.
[322] Robert Frank Futrell, *Ideas, Concepts, and Doctrine:* vol. 2, *Basic Thinking in the United States Air Force, 1961–1984* (Maxwell Air Force Base, AL: Air University Press, 1989), 2:296.
[323] William P. Head, *War From Above the Clouds: B-52 Operations during the Second Indochina War and the Effects of the Air War on Theory and Practice*, Fairchild Paper, (Maxwell Air Force Base, AL: Air University Press, 2002), 76.

Air Force Vice Chief of Staff John C. Meyer was concerned about civilian casualties and the President's mandate not to create them.[324] Rather than using Johnson's plan, Meyer had his staff create a variation. History would prove Johnson's plan to be superior and Meyer's plan to be far too constricting. Meyer's planners turned the new concept around in three days. The crews would fly in their three-ship cells as usual, but each cell must follow the planned course precisely and fly in a trail formation.[325] To make the bombing more accurate, the cells must stabilize the flight path for four full minutes to avoid collisions.[326] This was a direct reflection of World War II bombing missions over Germany and Japan. It sounded good on paper, but in practice ground defenses would potentially have a field day with bombers flying straight and level for four minutes. When the Eighth Air Force planners saw the changes, they estimated B-52 losses in the sixteen to eighteen percentile realms. Meyers used the SIOP plan estimated losses at three percent.[327] Meyers used single aircraft sortie plans rather than formations of three-aircraft cells flying in trail formation over the same point on the ground at a predetermined and inflexible altitude.[328] Both Johnson's and Meyer's plans targeted major "rail yards, storage areas, power plants, communications centers, and airfields located on Hanoi's periphery."[329]

The B-52s stayed at least ten miles from Hanoi to reduce the potential of civilian casualties. Many targets were in urban areas. The precision needed to destroy the intended targets fell to the Seventh Air Force Navy and Marine tactical aircraft using "smart bombs" that would fall or glide to their destination with high degrees of accuracy.[330] Most tactical strikes were launched during daylight hours and the B-52s hammered at night. There was to be no rest for the North Vietnamese.

LINEBACKER II was the campaign the Air Force generals wanted since 1965. It differed from LINEBACKER I significantly: "Where LINEBACKER I had been an interdiction campaign directed against supply routes throughout NVN, LINEBACKER II was a sustained maximum effort using airpower to destroy all major target complexes located in the Hanoi and Haiphong areas."[331] Tactical, political, and strategic considerations changed the plans into three separate parts chronologically. "The first lasted from 18 to 20 December and featured 314 nighttime B-52 sorties against rail and supply assets around Hanoi. The second lasted from 21 to 24 December and focused 120 B-52 sorties against targets near Haiphong. The third phase followed the Christmas bombing pause and lasted from 26 to 29 December. These attacks marked an increased effort during which 295 B-52 sorties attacked 13 targets and five SAM sites around Hanoi."[332]

---

[324] Futrell, *Ideas*, 2:296; Clodfelter, "Nixon and the Air Weapon," 178; Headquarters PACAF, Project CHECO, *Linebacker Operations, September–December 1972* (Washington, D.C.: Air Force History Office , 1974), 57–60; Report (S), Headquarters PACAF/OA, "Linebacker II Air Operations Summary, 18–29 December 72," March 1973.
[325] Futrell, *Ideas*, 2:296–97.
[326] Ibid.
[327] Clodfelter, "Nixon and the Air Weapon," 178
[328] Ibid.; USAF interview of Lieutenant General Gerald W. Johnson by Charles K. Hopkins, April 3, 1973, AFHRA, File K239.0512-813, 6–7; Head, 78.
[329] Clodfelter, *The Limits of Air Power*, 184–85.
[330] Ibid.
[331] Maj Calvin R. Johnson, Headquarters PACAF, Project CHECO, *Linebacker Operations, September–December 1972* (Washington, D.C.: AFHO, 1974), 55.
[332] Head, *War From Above the Clouds*, 79.

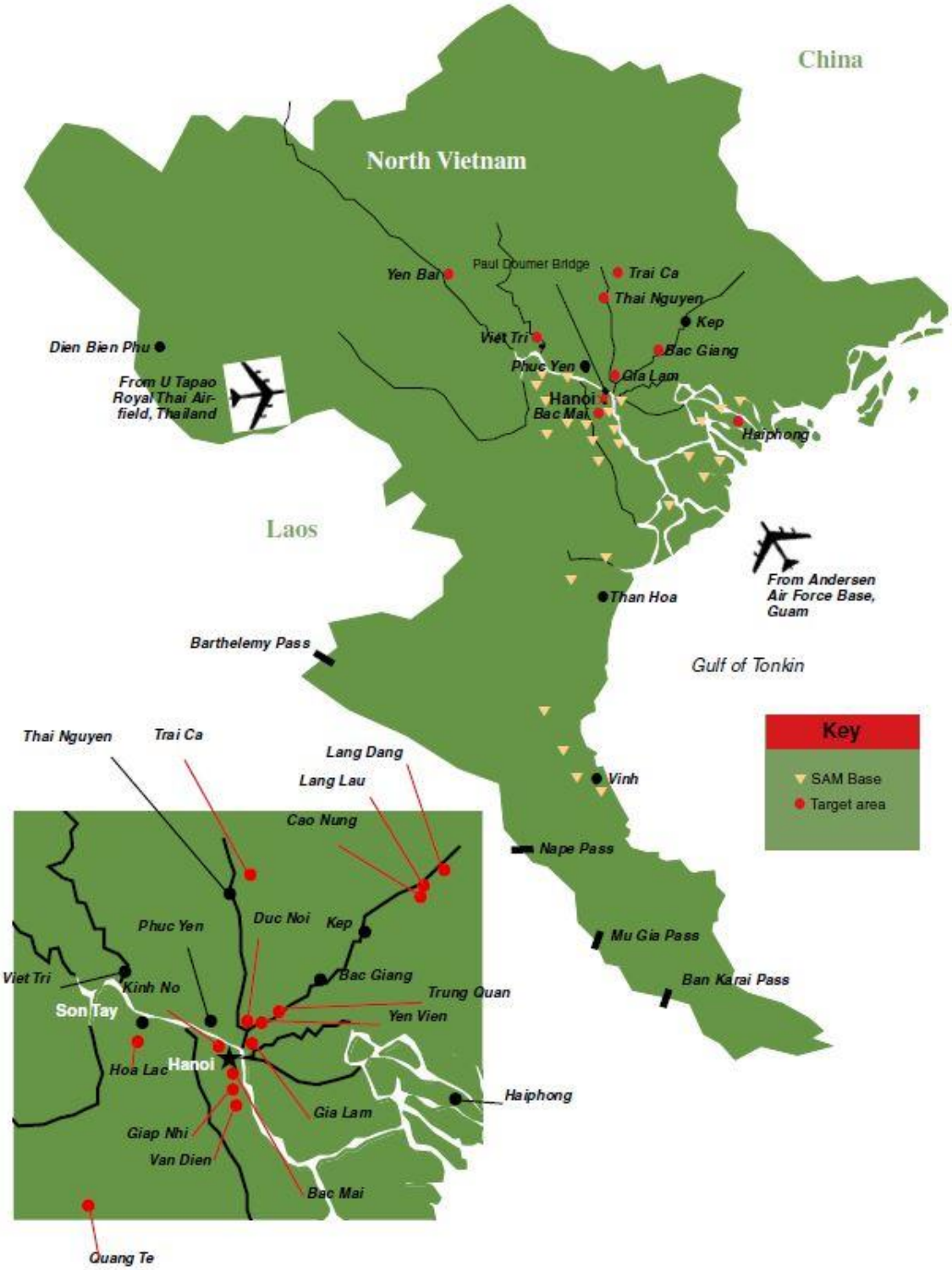


Figure 30. LINEBACKER II targets in North Vietnam. Source: Walter J. Boyne, "LINEBACKER II" *Air Force Magazine*, November 1997, 53.

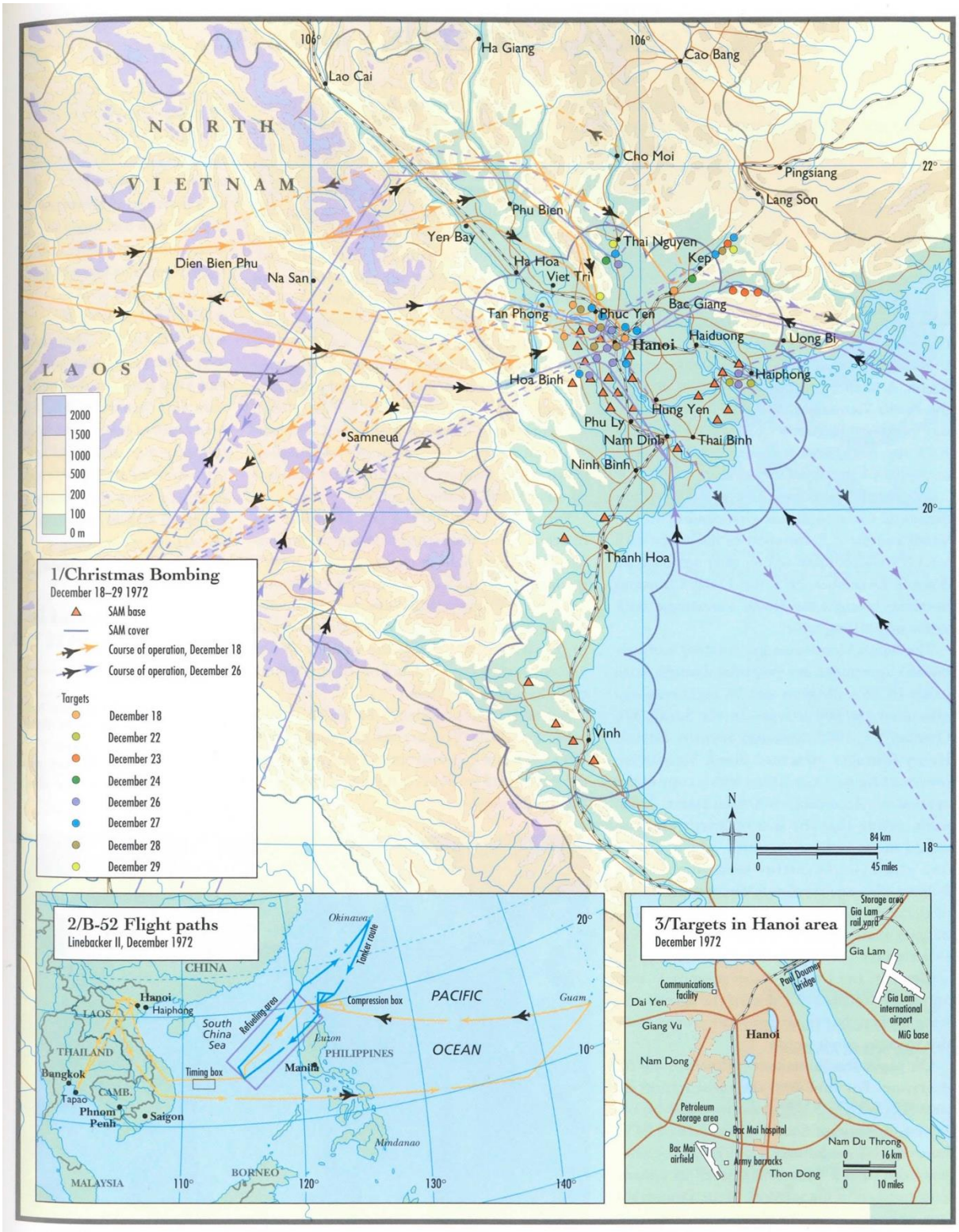


Figure 31. LINEBACKER II operations in North Vietnam. Harry G. Summers, Jr. *Historical Atlas of the Vietnam War*, 180.

North Vietnam had seven years to build up its defenses. It became, by 1972, "the most extensive and strongest integrated air defense system in the world."[333]

> North Vietnam had amassed a defense that included 145 MiG fighters, 26 SA-2 Guideline surface-to-air missile sites (21 in the Hanoi–Haiphong area), a heavy concentration of anti-aircraft artillery, and a complex, overlapping radar network that served an efficient and many-times-redundant command-and-control system. In addition, the radar network secretly had been improved in recent times by introduction of a new fire-control radar that improved the accuracy of the SA-2 weapons.[334]

Prior to the first day's launch, Andersen Air Force Base on Guam was crowded with 99 B-52Gs and 53 B-52Ds.[335] U-Tapao RTNAFB in Thailand was home to another 54 B-52Ds.[336]

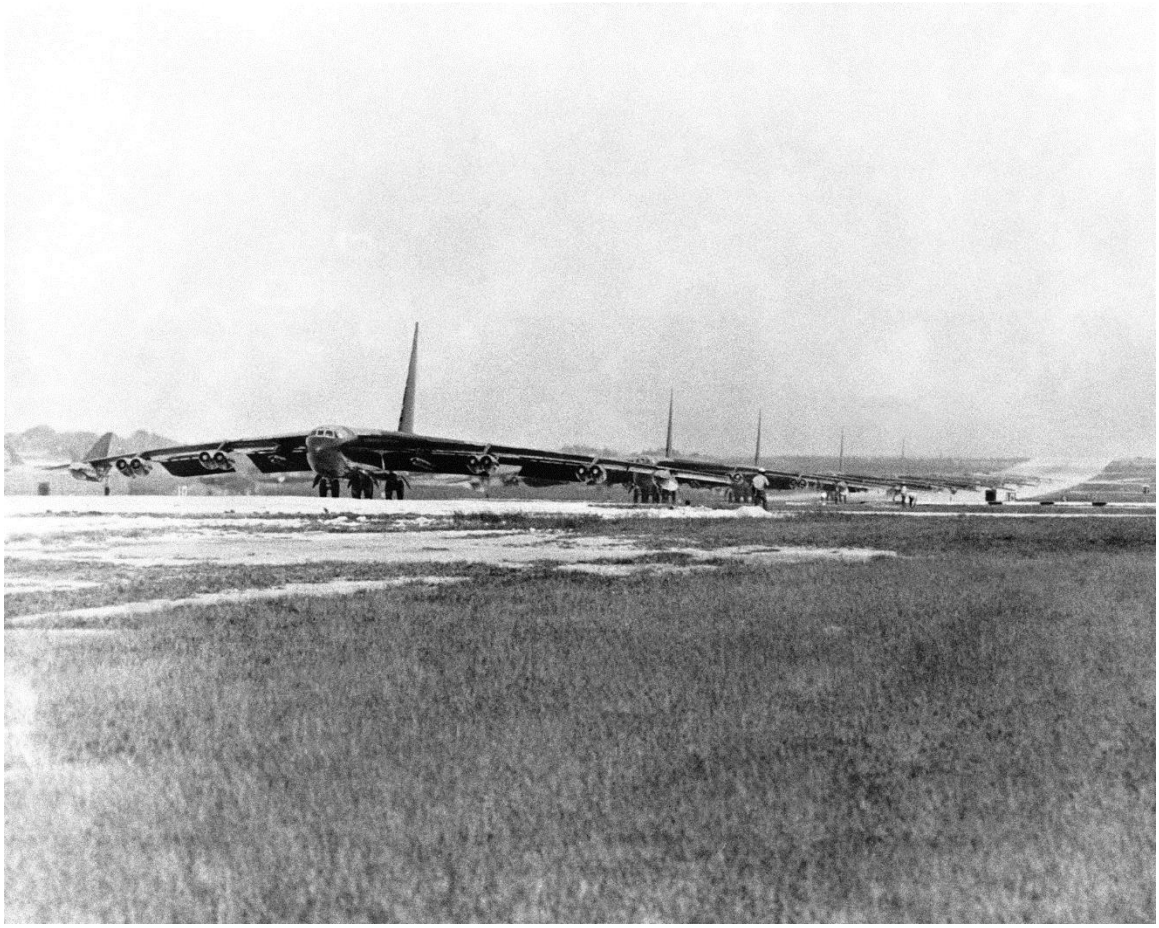


Figure 32. An "elephant walk," as B-52Ds prepare for take-off in LINEBACKER II mission at Andersen Air Force Base, Guam. Image Source: United States Air Force.

[333] Walter J. Boyne, "LINEBACKER II," *Air Force Magazine*, November 1997, 52.
[334] Ibid.
[335] Ibid., 54.
[336] Ibid.

Figure 33. B-52Ds on the ramp at U-Tapao Royal Thai Navy Air Force Base during LINEBACKER II. Image courtesy of Bill Fauth and United States Air Force.

Figure 34. B-52Ds at Andersen Air Force Base, Guam. Image Source: United States Air Force.

Day 1 – December 18, 1972

On the morning of December 17, which was the morning of December 18 on Guam, the Joint Chiefs of Staff sent the following attack message:

> You are directed to commence at approximately 1200Z,[337] 18 December 1972, a three day maximum effort, repeat, maximum effort, of B-52/TACAIR strikes in the Hanoi/Haiphong area . . . Objective is maximum destruction of selected targets in the vicinity of Hanoi/Haiphong. Be prepared to extend beyond three days, if necessary.[338]

Colonel James R. McCarthy, commander of the 43rd Strategic Wing, gave the pre-mission briefing at Andersen Air Force Base. His first words were "Gentlemen, your target for tonight is HANOI."[339] The crews excited. They hadn't been "Downtown" thus far in the conflict.[340] The missions were to be conducted using "press-on" rules, meaning that aircraft would press-on to their targets regardless of enemy SAM, AAA, or MiG activities.[341] Formation flying was controlled at specified altitudes and a four-minute straight line flight before bomb drop. The first mission flew at night, at high altitude, using radar bombing and in three waves. Each wave arrived on target varying between four and five hours apart.[342] Each wave consisted of three ship cell components (several comprising the wave), each at ten-minute intervals. Air-to-air intervals within each cell were from one to two miles with lateral spacing and 500 feet vertically.

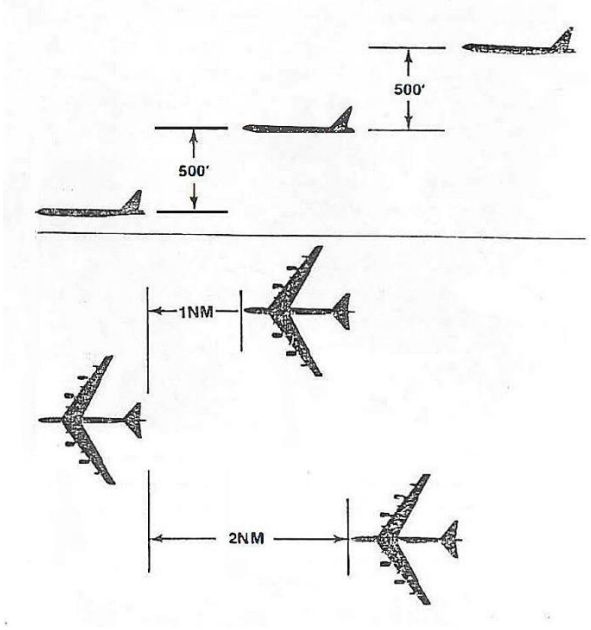


Figure 35. B-52 cell diagram. Source: Teixeira, "Linebacker II," 11.

[337] 1200Z or "Zulu" time is the universal time based on the Greenwich (England) Observatory. All time zones are east and west of the longitude of Greenwich. It allows for commanders anywhere on earth to coordinate time.
[338] Charles K. Hopkins, *SAC Bomber Operations in the Southeast Asia War*, 5 vols. (Lincoln, NB: Strategic Air Command, Offutt AFB, 1983), 4: 17.
[339] McCarthy, *View From the Rock*, 50.
[340] Leonard D.G. Teixeira, "Linebacker II: A Strategic and Tactical Case Study," (Maxwell Air Force Base, AL: Air War College, Air University, 1990), 17.
[341] McCarthy, *View From the Rock*, 32.
[342] Ibid., 46-47.

The mission planners selected a route coming from the northwest to allow the radar aiming points to be positively identified and to have minimal exposure to SAMs.[343] Following the bomb drop, the cells made a post target turn (PTT) that circled the aircraft over the target again.[344] Every cell of every wave attacked the same target, all along the same navigation track at the same altitudes. They used the same initial point (IP) to begin their final four-minute turn and the same point for their PTT. No aircraft could perform evasive maneuvers. This was for an overwhelming concern over possible air-to-air collisions. The plan also allowed for a maximum of forward electronic countermeasure jamming of enemy radars.[345]

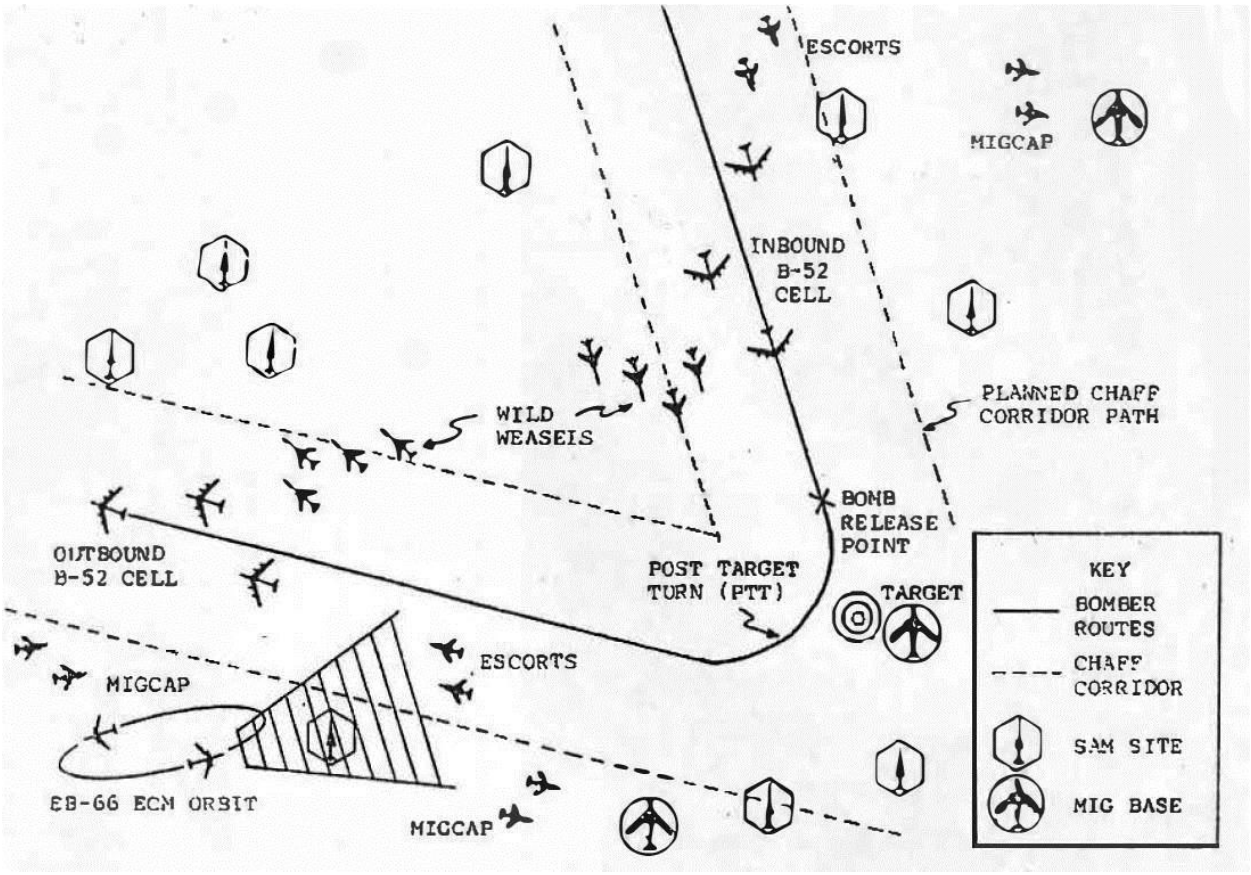


Figure 36. Ingress and egress of a target during the first three days of LINEBACKER II. Source: Teixeira, "Linebacker II," 11A and Karl J. Eschmann, *LINEBACKER: The Untold Story of the Air Raids Over North Vietnam* (New York: Ballantine, 1989), 31-42.

The B-52s could not conduct these missions alone. Numerous tactical air support (TACAIR) aided. They flew SAM suppression, swept enemy airfields, discharged clouds of chaff[346] to confuse enemy raiders, and provided close support to sweep the area of MiGs. F-4, F-111, and A-7 aircraft attacked enemy airfields

[343] McCarthy, *View From the Rock, 41.*
[344] Teixeira, "Linebacker II," 11.
[345]See McCarthy, *View From the Rock*, 46-47 and Teixeira, "Linebacker II," 11, for the technical aspects of material in this paragraph.
[346] Chaff is composed of metallic or coated fiberglass ribbons that are dispensed and then free fall very slowly. This degrades enemy radar into believe that the return could be rain squalls, large flights of birds, or a hidden stream of bombers. Chaff worked best when there was no wind. If blown free of the entry or target zone, it became all but useless.

and SAM sites with cluster bombs to damage the runways, interfere with radar equipment, and damage roads used for resupplying ordnance.[347]

Electronic surveillance aircraft gathered electronic intelligence (ELINT) data from enemy transmissions while others jammed enemy radars. Typically, F-4s would precede the BUFFs and lay clouds of chaff. Next in flight order were EB-66, EA-3, and EA-6 aircraft, used to create a wall of electronic noise in front of the bombers. They would orbit outside the flight paths of the bomber stream and provide constant electronic countermeasures (ECM) jamming. Hunter-Killer teams of pairs of F-4s and F-105 "Wild Weasels" swept nearby airfields and watched for SAM "Fan Song" radars to eliminate them before the batteries could fire. The Hunter-Killers would sweep ahead and to each side of the bomber stream. Lastly, other F-4s flew with and behind the bombers to provide MiG Combat Air Patrol (MiG CAP) duties, just as their forbearers had done in the skies over Germany and Japan.[348]

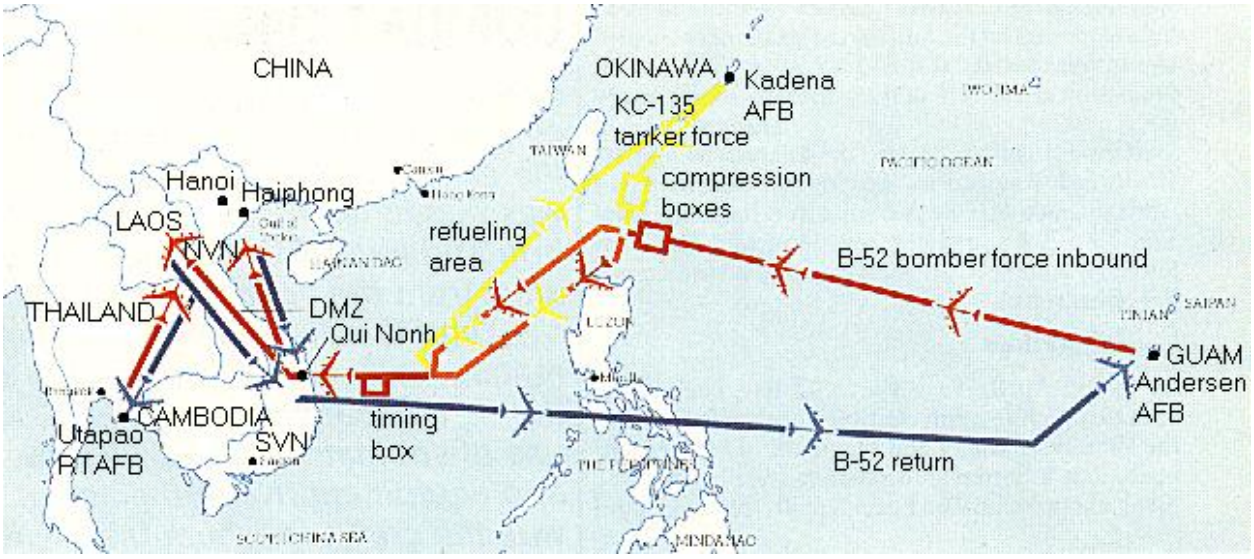


Figure 37. Routes to and from targets during LINEBACKER II sorties from Andersen Air Force Base, Guam and U-Tapao, RTNAFB, Thailand. Red lines are routes to targets. Blue lines are routes from targets. Yellow lines are KC-135 tanker routes and compression boxes (refueling tracks). Source: geocities.ws.

The targets for the first night included the Kinh No storage complex, the Yen Vien rail yard, the principal Hanoi radio station and three airfields on Hanoi's outskirts (Hua Lac, Kep, and Phuc Yen).[349] The first wave of 129 B-52s included 54 G and 33 D models from Andersen Air Force Base and 42 D models from U-Tapao.[350] The Wave I bombers from Andersen completed their prestrike refueling near the island of Luzon in the Philippines. Following this, they reported they had 20,000 pounds less fuel than they should have.[351] This was the same amount needed as a reserve to return to Andersen. The Air Force responded by

[347] Teixeira, "Linebacker II," 11.
[348] See McCarthy, *View From the Rock*, 46-47; Teixeira, "Linebacker II," 11; Karl J. Eschmann, *LINEBACKER: The Untold Story of the Air Raids Over North Vietnam* (New York: Ballantine, 1989), 31-42 for the technical aspects of material in this paragraph.
[349] Headquarters SAC/History Office, *Chronology of SAC Participation in Linebacker II* (Lincoln, NE: Offutt Air Force Base: SAC/History Office, August 12, 1973), 95–96; Boyne, LINEBACKER II, 55.
[350] Ibid.
[351] McCarthy, *View From the Rock*, 55-56.

ordering KC-135s from Kadena Air Base on Okinawa to conduct post target refueling.[352] The same post target refueling missions were order for the second and third waves. The problem was the result of stronger than anticipated headwinds that increased the amount of fuel burned.[353] Following this mission, all subsequent Andersen sorties carried orders for additional fuel for inbound waves.[354]

Figure 38. B-52D cell during LINEBACKER II. Note that the B-52s have not yet spread to 500-foot vertical separation. Image Source: United States Air Force.

[352] Ibid.
[353] Teixeira, "Linebacker II," 12.
[354] McCarthy, *View From the Rock,* 56.

The first wave hit at 7:45 p.m. local time.[355] The second hit the same complexes at midnight and the third wave struck at 5 a.m.[356] Fifteen minutes prior to the arrival of each wave, the ground attack and ECM aircraft swept in, attacking the MiG airfields, operating radars, SAM sites and jammed all of the enemy's radio frequencies.[357] Staff Sergeant Samuel Turner, a tail gunner on Brown 03 became the first tail gunner in B-52 history to down a MiG-21.[358]

Figure 39. Gunner's station on a B-52 D. Image source: United States Air Force.

[355] *Chronology of SAC Participation,* 95-96.
[356] Ibid.
[357] Karl J. Eschmann, *The Role of Tactical Air Support: Linebacker II* (Maxwell Air Force Base, AL: Air War College, 1985) 56.
[358] Boyne, "LINEBACKER II," 55.

All three waves plastered their targets. The NVA fired 200 SAMs, but there was no observed AAA fire and MiGs. Although AAA fire and MiGs were present, they made no serious attempts to attack these bombers.[359] The first night's attacks scored ninety-four percent hits on their targets.[360] Three B-52s and one F-111 completely lost, with two more B-52s severely damaged.[361] The loss rates were 2.3 percent, less than the anticipated loss of three percent.[362]

Crew debriefings brought strong criticism toward the stringent use of World War II bomber formation tactics.[363] The bomber stream stretched for seventy miles at the same altitudes over the same track. The crews also complained that although all cells used the same ingress and egress IPs and constant speed and altitudes, the PTT was the most dangerous part of the mission.[364] By design, the BUFFs made a one hundred degree turn back over the target. This allowed the ground radars to get good images of the huge wing area and belly of the bombers because their internal ECM gear faced forward.[365] Mission planners for the following day ignored the crews.

Figure 40. Briefing crews early in LINEBACKER II. Image Source: United States Air Force.

Day 2 – December 19, 1972

The mission for December 19 was the Thai Nguyen thermal power plant and Yen Vien rail yard complex using 93 B-52s.[366] Time compression between missions from Andersen were tight. Changes could not be cleared for the first two days. As the Day 1 crews were debriefed, the Day 2 crews headed to their

[359] McCarthy, *View From the Rock,* 65.
[360] Tilford, *Crosswinds,* 165–66; Clodfelter, *Limits of Air Power,* 186; McCarthy, *View From the Rock* 50–64: *Chronology of SAC Participation,* 95-96.
[361] McCarthy, *View From the Rock,* 65.
[362] Ibid.
[363] Robert E. Wolff, "Linebacker II: A Pilot's Perspective," *Air Force Magazine* (September 1979): 86-91.
[364] Ibid.
[365] Ibid.
[366] Clodfelter, "Nixon and the Air Weapon," 179; *Chronology of SAC Participation,* 106, 109–11, 121, 140–43.

aircraft.[367] The crews had different targets, but every other facet remained the same except for the increase in inbound refueling amounts.[368]

The crews expressed concern of the identical mission tracks and altitudes. They were told under no circumstances were they to fly evasive maneuvers despite the SAM and AAA threat. The targets were very near the previous day's locations and the PTT was identical. Colonel [later General] McCarthy told them that level flight for four minutes was necessary for accuracy and that evasive maneuvering would destroy the forward ECM jamming from each cell.[369] "He [McCarthy] issued an unpopular warning that any 43rd Strategic Wing aircraft commander who disrupted cell integrity to evade SAMs would be considered for court martial."[370]

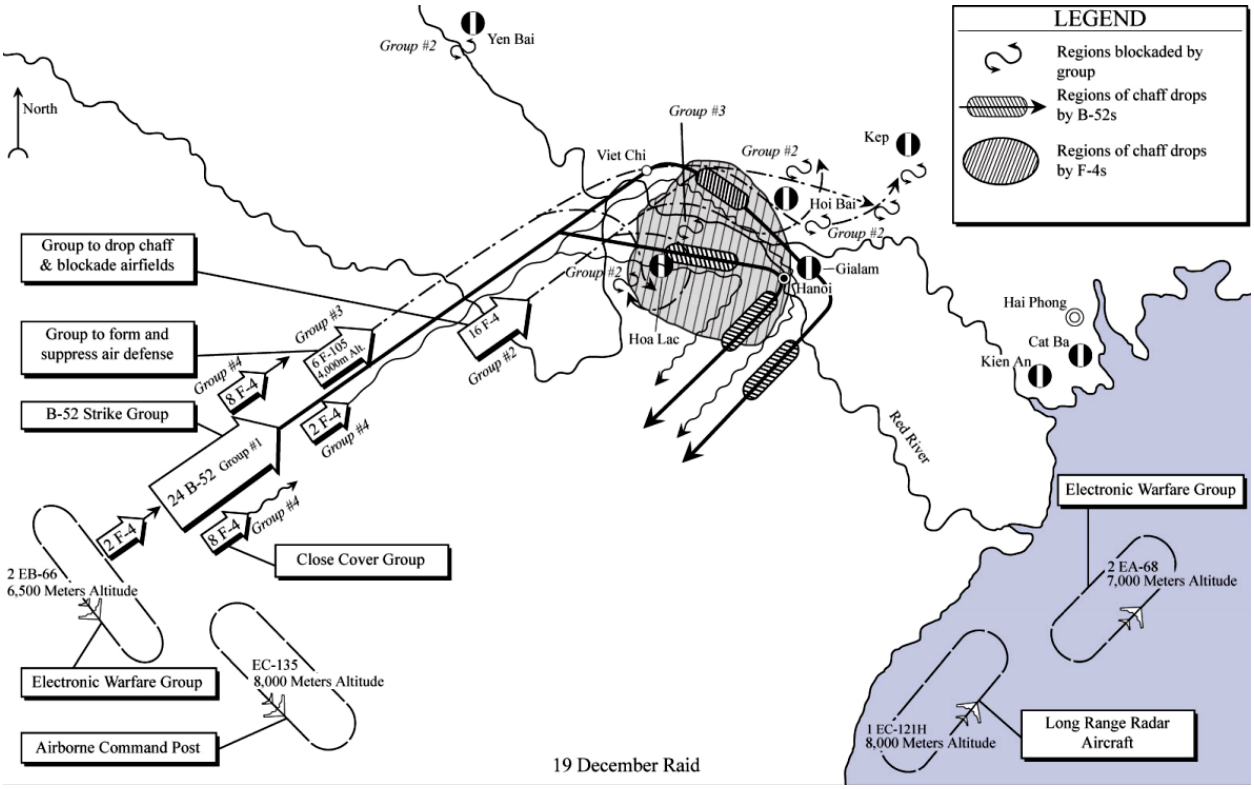


Figure 41. Day 2 mission target data, course, jamming, and WAVE tracks. Source: commons.wikimedia.org.

No changes in the plan were permitted until the first wave dropped their bombs on target. Then, and only then, were minor changes instituted. The cells still had to remain as a cohesive unit without evading SAMs. Every aspect of SAC training told these crews that if the bomb bay doors were to be opened a certain number of seconds before target, then that was gospel. The crews, now using conventional ordnance and flying in formation over SAM rich territory, squabbled over how early to open bomb bay doors before release. They were concerned that in the line up to target and the PTT, SAM missileers would have an

[367] McCarthy, *View From the Rock,* 67.
[368] Ibid.
[369] Ibid., 68; Teixeira, "Linebacker II," 13.
[370] McCarthy, *View From the Rock,* 68.

easier time aiming at the massive wings and bellies of the BUFFs. This was especially true when the bomb bay doors were open and the cavernous bay filled with irregularly shaped bombs would offer enhanced returns on the SAM ground radar screens.[371]

The NVA again fired about 200 SAMs at the bombers. Many of these were in volleys in hopes of hitting multiple aircraft and destroying cohesion within the formations.[372] Two more BUFFs were damaged but none were lost. With no losses on the second night, CINCSAC decided to keep with the successful model of the first two days, rather than creating a new attack plan.[373] Mission planners believed that the North Vietnamese ground defenders had not recognized or defined the routing sequence for the raids and, knowing that change orders took valuable time, they prepared for the third day of raids using the same routes.[374] This was a ghastly mistake and the aircrews would pay dearly for it.

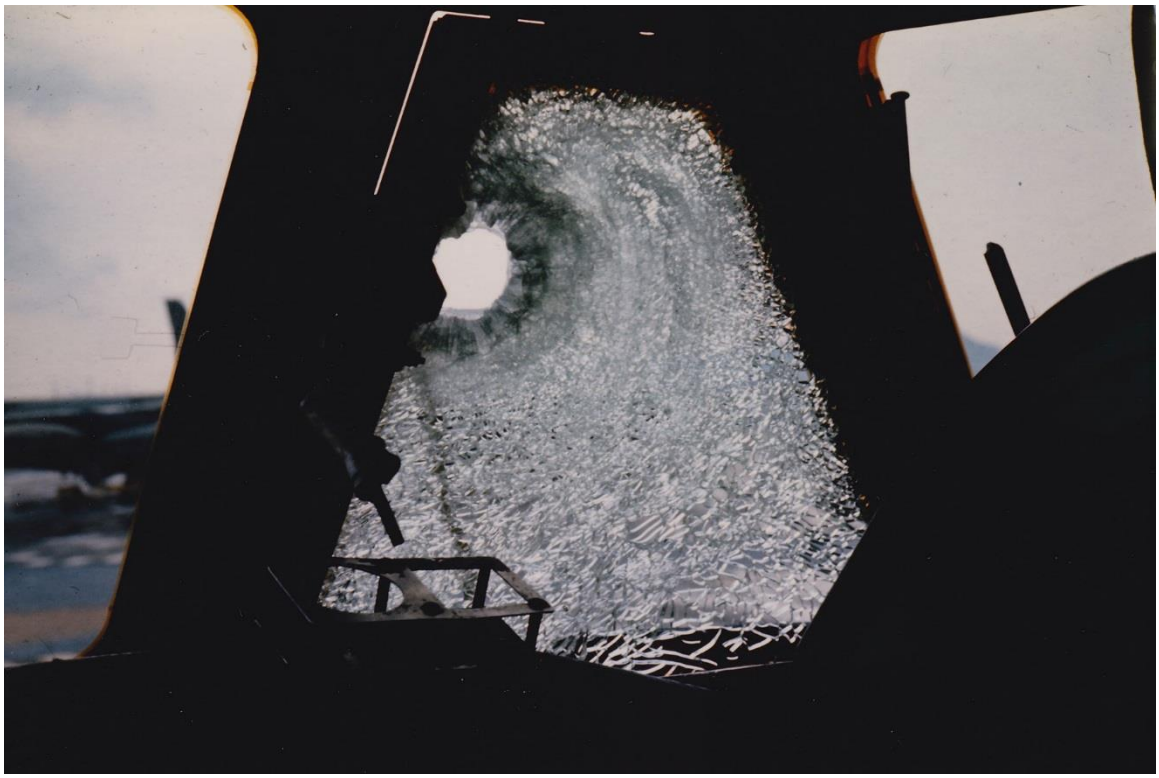


Figure 42. SAM fragment damage on the pilot's "cheek" window during LINEBACKER II. Image Source: United States Air Force.

Day 3 – December 20, 1972

Day three missions were composites of the first two days. The bombers were to strike the Kinh No petroleum oil and lubricant (POL) storage complex, the Yen Vien rail yard, the Thai Nguyen thermal power plant, and the Yen Vien rail yard complex. The planes approached from a narrow corridor from the northwest toward Hanoi.[375] During the prestrike briefing, some of the crews suggested making a slight PTT

[371] McCarthy, *View From the Rock,* 74.
[372] Teixeira, "Linebacker II," 14.
[373] McCarthy, *View From the Rock,* 77.
[374] Clodfelter, "Nixon and the Air Weapon," 179.
[375] Teixeira, "Linebacker II," 14.

and head straight for the Gulf of Tonkin to the safety of the Navy Task Force 77.[376] According to Colonel McCarthy, the mission orders arrived late, coming from SAC headquarters at Offutt Air Force Bases.[377] This created problems with the tactical support aircraft orders while SAC, TAC, Navy, and Marine commanders sorted out last minute changes.[378]

Figure 43. Soviet built Surface to Air Missile (SAM)-2 in 1968. Image Source; Marc Riboud.

The North Vietnamese gunners learned their lessons from the two previous days. Although some sources disagree, the SAM crews tended to let the first cell pass overhead or nearby and concentrate on Cells Two and Three, and later waves.[379] MiGs seemed timid. Rather than attacking the B-52s, they

[376] McCarthy, *View From the Rock*, 79.
[377] Ibid.
[378] Ibid.
[379] See, for example: *Supplemental History on Linebacker II (18-29) December, 43rd Strategic Wing and Strategic Provisional Wing, 72nd* vol I (Andersen Air Force Base, Guam: 30 July 1972), iv.; Teixeira, "Linebacker II," 15, among others. The principal opponent to this theory was Marshall L. Michel, III, *The 11 Days of Christmas: America's last Vietnam Battle* (New York: Encounter Books, 2002), 243. Michel states that opposite is correct.

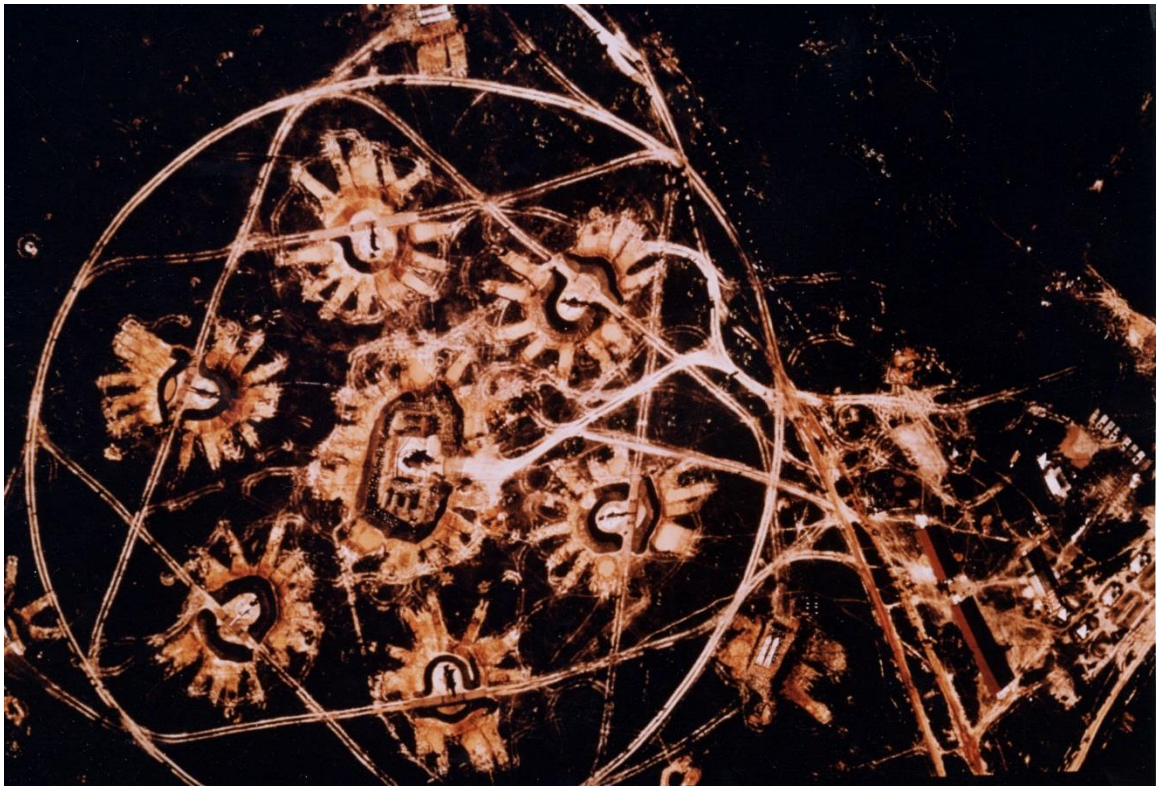


Figure 44. The classic "Star of David" pattern of a SAM site. Note the missiles loaded in each of the six launch sites. Image Source: National Museum of the United States Air Force.

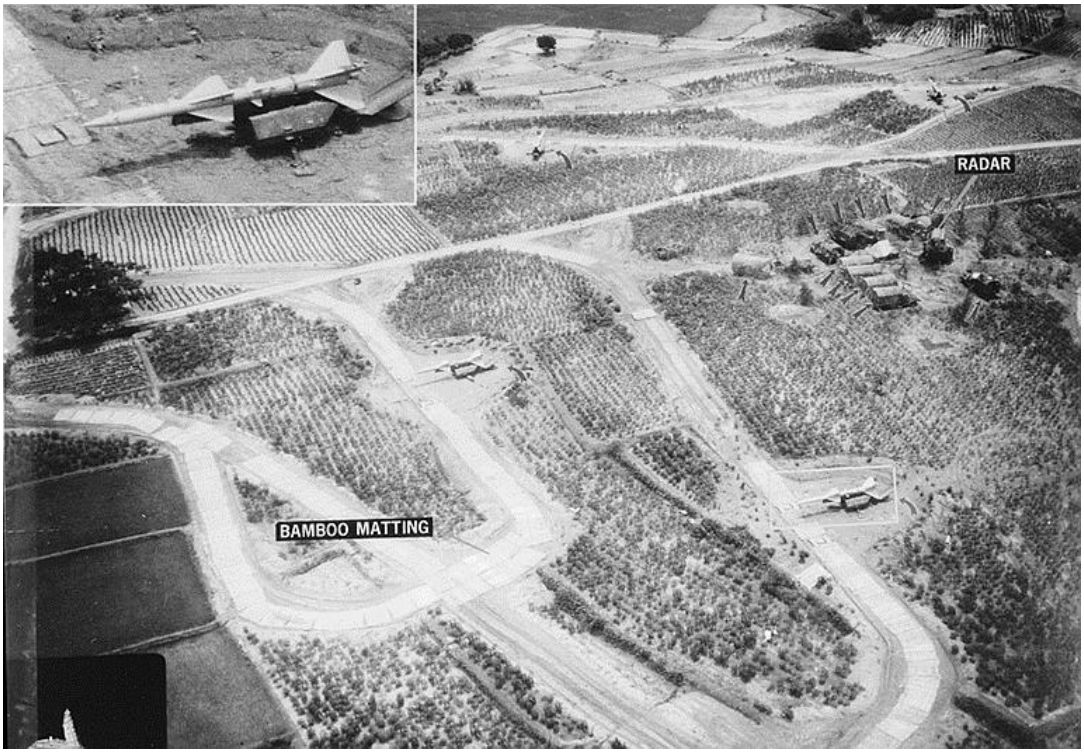


Figure 45. Detail of a SAM battery showing one of the launch sites and the ground radar installation. Image Source: United States Air Force and Air Power Australia.

shadowed them, providing airspeed and altitude information.[380] The AAA and SAM gunner could then estimate where to fire their weapons, as the BUFFs had to fly straight and level for four long minutes or when and where they would execute their PTT.[381] The ground defenses claimed four B-52G models and two B-52 D models destroyed and another B-52D seriously damaged.[382]

President Nixon became livid when he heard of the losses on Day 3. He "raised holy hell about the fact that [B-52s] kept going over the same targets at the same times."[383] General Meyer, too late, recognized the errors of his ways. The B-52s were the highest profile nuclear bombers in the arsenal. New orders were cut on December 22 for the December 24th and 26th missions.[384]

All the B-52Gs lost on Day 3 had not been modified or upgraded with new ECM systems. Four of the downed bombers and one heavily-damaged BUFF were hit following bomb release.[385] Despite the great damage they inflicted upon their targets, a new plan must be formulated quickly. The B-52s could not continue with these tactics. Day 3 ended the first phase of LINEBACKER II. The next phase would bring different results.

Post-strike reconnaissance photos clearly showed that none of the SAM sites engaged had spare missiles. General Meyer had his planners target SAM sites and their storage areas in and near the inbound and outbound corridors.[386] General Meyer also moved mission planning to Guam under General Johnson.[387] SAM sites and storage dumps became the new primary targets.[388] The missions beginning the day after would avoid Hanoi and its environs and target the Port of Haiphong, but that was two days away.[389]

Day 4 – December 21, 1972

General Meyer listened to the crews' concerns after the aircraft losses of Day 3. Changes were made operations and tactics. Gone were bomber streams seventy miles long with cells flying lock-step to those ahead of them. Gone too were 90 to 100 plane raids. World War II tactics did not work in the modern environment of SAM missiles, sophisticated ground radar, and MiG interceptors.

Meyer and his planners reduced the number of B-52s engaged to thirty.[390] While they worked on the complicated logistics, thirty U-Tapao BUFFs conducted the missions that day. No complicated air-to-air refueling was necessary and the mission length was four hours. Crew briefings and debriefings garnered valuable input for the Day 4 missions:

> There was finally unanimous agreement that tactics and routes should be varied so that the enemy defenders could not establish a pattern and predict routes of flight or altitudes. Several suggested changes were already in effect for the Day 4 strikes. Release time

---

[380] *Supplemental History on Linebacker II (18-29),* iv.; Teixeira, "Linebacker II," 15. Again, Michel disagrees, Michel, *The 11 Days of Christmas,* 244-45.
[381] McCarthy, *View From the Rock,* 63
[382] *Supplemental History on Linebacker II (18-29*, iv. ff; Clodfelter, "Nixon and the Air Weapon," 179; Headquarters SAC/HO, *Chronology of SAC Participation in Linebacker II,* 106, 109–11, 121, 140–43.
[383] Clodfelter, "Nixon and the Air Weapon," 179; and McCarthy, Allison, and Rayfield, 121.
[384] Clodfelter, "Nixon and the Air Weapon," 179.
[385] Teixeira, "Linebacker II," 16.
[386] Futrell, 2:297–98; Calvin R. Johnson, Headquarters PACAF, Project CHECO, *Linebacker Operations, September–December 1972* (Washington, D.C.: Air Force History Office, 1974), 64–66.
[387] Clodfelter, *The Limits of Air Power*, 187; *Chronology of SAC Participation in Linebacker II*, 153–59, 185–86; and McCarthy, Allison, and Rayfield, 91–98 (revised).
[388] Clodfelter, *The Limits of Air Power*, 187; *Chronology of SAC Participation in Linebacker II*, 153–59, 185–86
[389] Clodfelter, *The Limits of Air Power*, 187;
[390] *Supplemental History on Linebacker II (18-29),* iv. ff.

intervals between cells were compressed from ten to four minutes and then again to 90 seconds. Base altitude and altitude between cells were changed. Also, for the first time, the cells attacking Hanoi were to fly on across the high threat area without making the PTT, thereby flying "feet wet" to the Gulf of Tonkin for egress routing. Target selection for the bombing campaign was initially focused on maximum psychological and logistic impact. Now, with greater concern for the losses of Day 3, something had to be done about the SAMs. SAM storage sites finally became a prime target. [391]

Figure 46. A KC-135 Tanker sits at the end of the runway at U-Tapao while a B-52D returns from a LINEBACKER II mission. Image Source: United States Air Force.

The thirty B-52Ds from U-Tapao were assigned three targets near Hanoi, six to Quang Te airfield, twelve to the Ven Dien supply depot, and twelve to the Bac Mai airfield/storage area.[392] The Quang Te and Ven Dien sorties dropped their bombs with many SAM firings, but no damage to the aircraft. However, the Bac Mai BUFFs had equipment problems with the lead aircraft's bombing radar failing, necessitating a reordering of the cell.[393] Scarlet One (the call sign for the lead aircraft) switched positions with Scarlet Two and moved back to trail Scarlet Three. Scarlet Three suffered another malfunction when its critical jammer overloaded and failed.[394] The plane was then perfectly visible to the ground radars. The SAM batteries near the airfield launched four missiles – the first two missed and the second pair hit the bomber.[395]

[391] Teixeira, "Linebacker II," 17-18.
[392] Robert O. Harder, *Flying from the Black Hole: The B-52 Navigator-Bombardiers of Vietnam* (Annapolis, MD: Naval Institute Press, 2009), 229.
[393] Ibid.
[394] Ibid.
[395] Ibid.

The next cell's leader, Blue One, was hit by a salvo of six SAMs with only thirty seconds before bomb release.[396] Remarkably, the crew was able to eject. Although most of the crew were wounded, they all lived to survive the war.[397] All targets were struck within 15 minutes, a significant change from previous missions, with excellent bombing results.[398] During Day 4, seventy-five tactical aircraft were in support.[399] On a tragic note, one of the downed B-52's bombs fell on the Bac Mai hospital, causing extensive damage.[400] Twenty-five staff members were killed, including fifteen nurses.[401] The patients had been evacuated just prior to the Hanoi raids. The North Vietnamese made the damage into a huge public relations bonanza.

Figure 47. Maintainers work the outboard engines of a B-52D at Guam during LINEBACKER II. Image Source: United States Air Force.

[396] Harder, *Flying from the Black Hole*, 229.
[397] Ibid.
[398] Teixeira, "Linebacker II," 18.
[399] Boyne, "LINEBACKER II," 55.
[400] Michel, *The 11 Days of Christmas*, 173.
[401] John Morrocco, *Rain of Fire: Air War, 1969–1973*, ed. Robert Manning, Vietnam Experience Series (Boston: Boston Publishing Co., 1986), 157.

Figure 48. Post-strike reconnaissance bomb damage assessment (BDA) image of the Day 4 strike taken the following day. Image Source: United States Air Force.

Day 5 – December 22, 1972

General Meyer gave orders concerning tactical changes to his planners on December 22nd for implementation on December 26.[402] The Commander-in-Chief of Pacific Air Forces) sent a message to the Seventh Air Force that "Events of the past four days produced significant B-52 losseswhich obviously are not acceptable on a continuing basis... Vary B- 52 flight altitudes with the chaff corridor on ingress. Change release altitudes and the ingress/egress headings on a daily basis."[403] The plans for next three days were to target rail yards and POL storage facilities.[404]

Again, thirty B-52s from U-Tapao carried out the missions. The cells feinted attacks against Hanoi and then turning, diverted on Haiphong. Each route and altitude was different.[405] All thirty B-52 approached and egressed over water at Haiphong, entering from the south but split into three tracks to approach their targets.[406] Each of the three aircraft components split again, then finally approach six separate targets, "staggered in time, distance, and altitude."[407]

The SAM gunners were further confused due to F-4s spreading extensive chaff corridors and Navy aircraft using smart bombs on the SAM complexes to keep their Fan Song radars down.[408] The F-4s used a different technique than that employed in LINEBACKER I. During LINEBACKER I, an F-4 would begin dispense chaff on a run-in to the Radar site, then turn roughly one hundred degrees away from the radar while the aircraft was directly overhead. The c chaff stream continued through the entire maneuver. This was thought to spread more chaff unevenly to confuse the gunners. [409] The F-4s used a different technique during sorties in LINEBACKER II. The chaff cloud was concentrated directly over the Fan Song radar unit, making it thicker and more difficult to "burn through."[410] As long as the winds were calm, the chaff gave the bombers a greater chance of attacking the target unless the ground gunners fired wildly, which they often did. The NVA launched forty-three SAMs, much less than one-quarter of the previous days' efforts.[411] The attack plan overwhelmed the Haiphong defenders. The plan worked. Only one B-52 damaged, one destroyed, and an F-111was shot down over the Kinh No Railroad complex.[412]

---

[402] Maj Calvin R. Johnson, *Linebacker Operations*, 1974, 62.
[403] Message (U), 221935Z DEC 72, AFSSO PACAF, to Seventh Air Force, December 22, 1972; Message (U), 222020Z DEC 72, CINCSAC, to CINCPACAF, December 22,1972.
[404] Harder, *Flying from the Black Hole*, 230.
[405] *Chronology of SAC Participation in Linebacker II*, 170–75, 187–90, 202–5, 223–27, 230; Clodfelter, *The Limits of Air Power*, 188
[406] Teixeira, "Linebacker II," 18.
[407] Ibid.
[408] Ibid.
[409] William W. Momyer, *Air Power in Three Wars* (Washington, D.C.: GPO, 1978), 146.
[410] Momyer, *Air Power in Three Wars*, 147.
[411] George R. Jackson, *Linebacker II – An Examination of Strategic Use of Airpower* (Maxwell Air Force Base, AL: Air War College, n.d.), 41-42.
[412] *Chronology of SAC Participation in Linebacker II*, 170–75, 187–90, 202–5, 223–27, 230

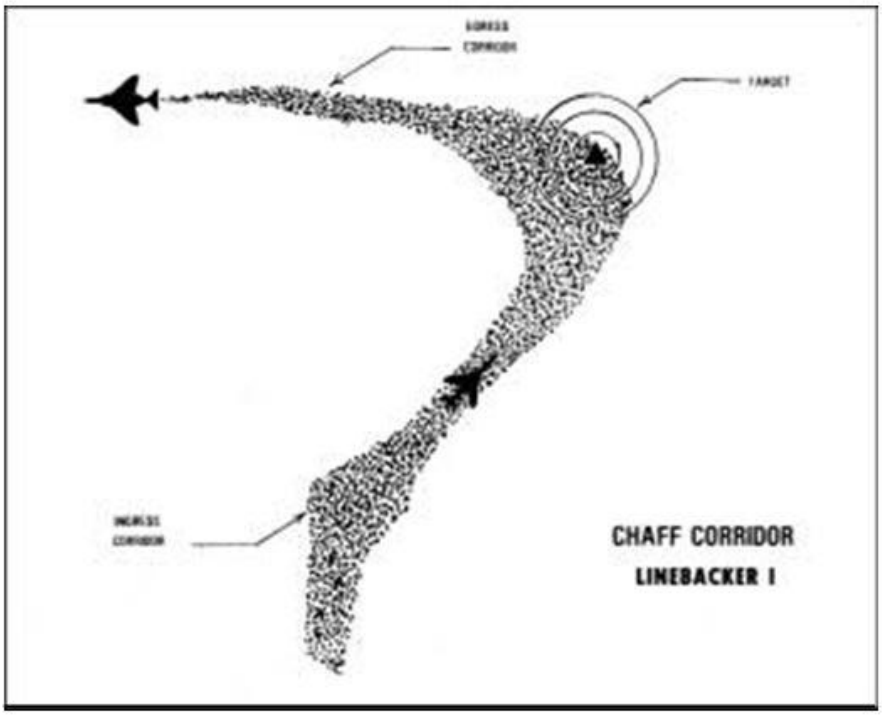


Figure 49. Chaff corridor, LINEBACKER I. William W. Momyer, *Air Power in Three Wars* (Washington, D.C.: GPO, 1978), 146.

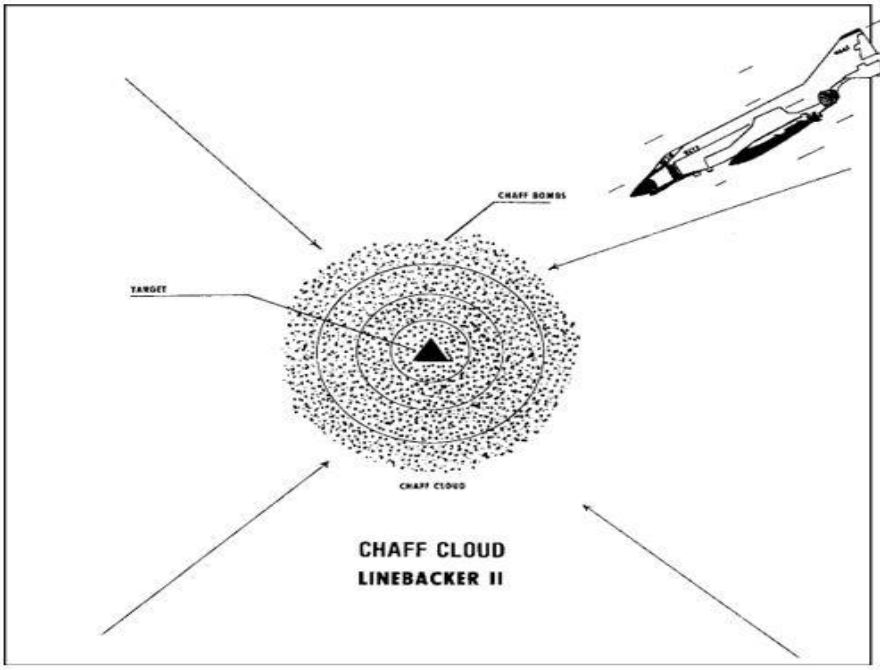


Figure 50. Chaff cloud, LINEBACKER II. William W. Momyer, *Air Power in Three Wars* (Washington, D.C.: GPO, 1978), 147.

Day 6 – December 23, 1972

The mission planners had another surprise in store for the North Vietnamese. Rather than striking targets in and around Hanoi and Haiphong, the mission for night of December 23 attacked the Lang Dang railyards north of Haiphong and three SAM sites close to the Chinese border near the Chinese buffer zone established by the Johnson Administration.[413]

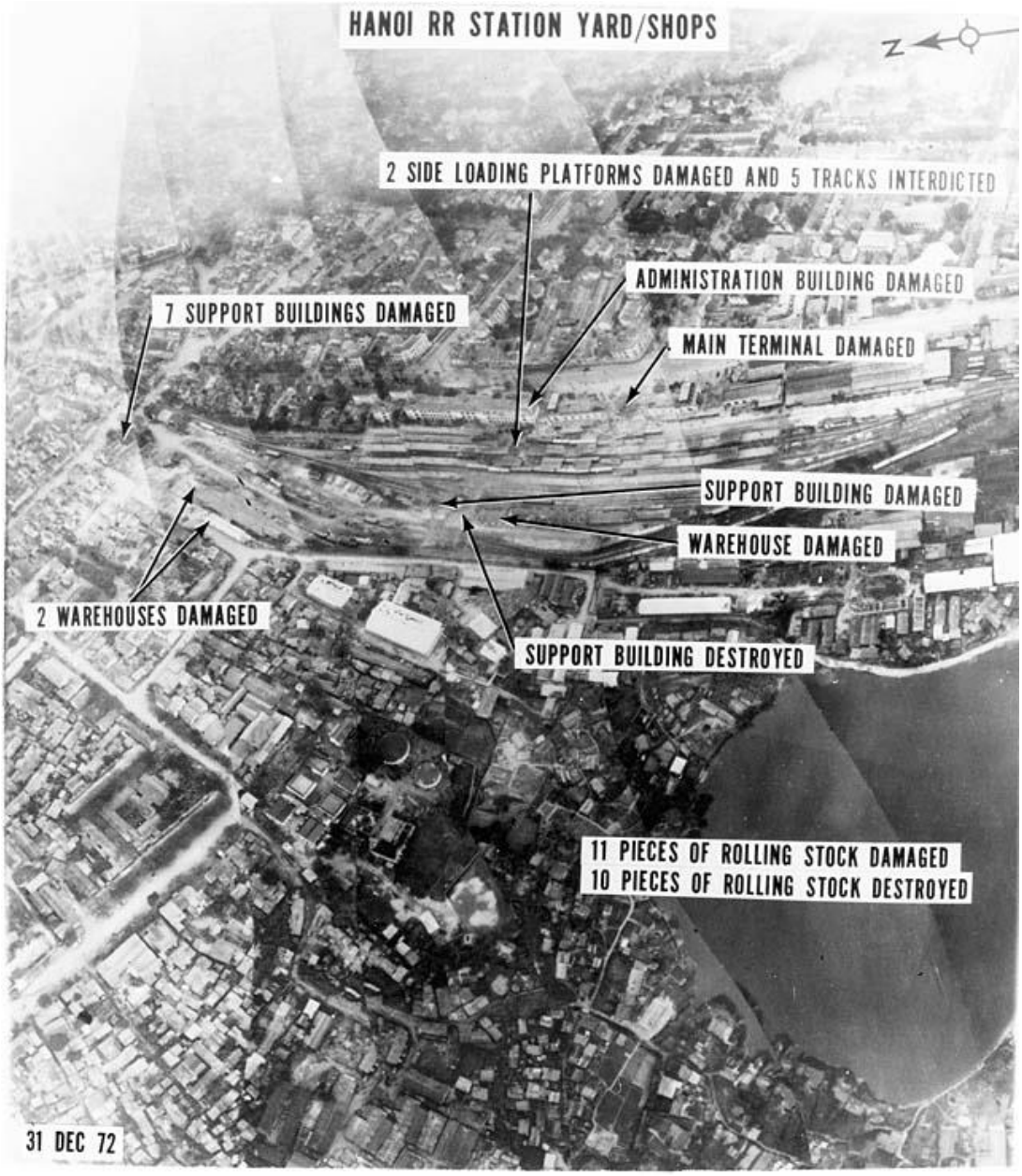


Figure 51. Hanoi's principal railyard north of Hanoi. Image Source: United States Air Force.

[413] Harder, *Flying from the Black Hole*, 230.

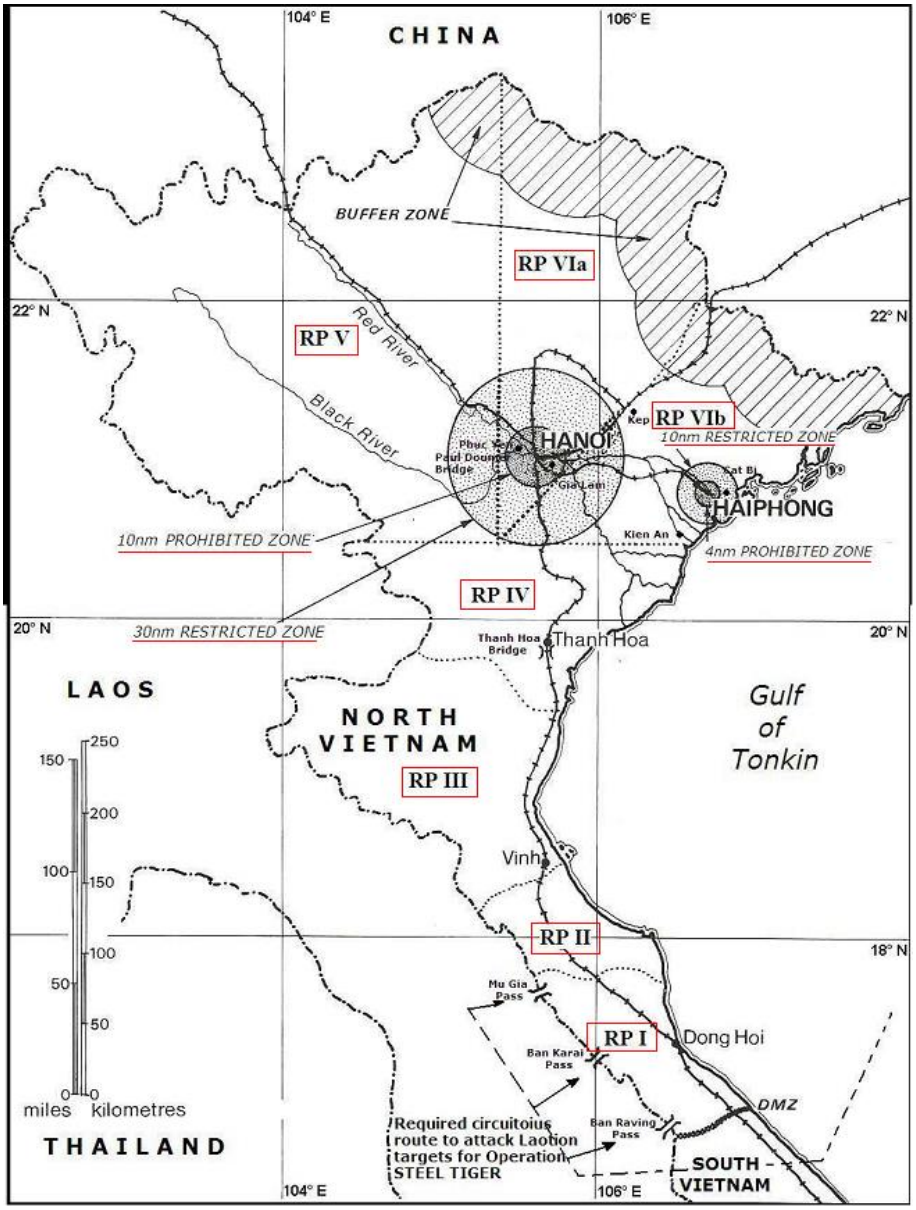


Figure 52. Buffer zones established by the Johnson Administration and retained by the Nixon Administration prior to LINEBACKER operations. Source: https://geographicalimaginations.com/tag/lyndon-b-johnson/.

The force mix for Day 6 included eighteen B-52Ds from U-Tapao and twelve from Andersen.[414] Most Seventh Air Force tactical aircraft raids were canceled by inclement weather. [415] Using B-52s against SAM sites offered different problems than the crews had experienced so far during LINEBACKER II. The bombers had to fly directly over the SAM sites to hit them. Their normal three-ship cell using ECM protection was dramatically reduced.[416] For this strike only, the bomber cells split up into separate aircraft. The first aircraft of each cell would strike the same targets, and the same with the second and third aircraft. Enemy gunners were holding back and 'going to school' on the first cells so that they could zero in on follow-on cells. Hopefully,

[414] Harder, *Flying from the Black Hole*, 230.
[415] Head, *War From Above the Clouds*, 80; Eschmann, *The Role of Tactical Air Support*, 81-82.
[416] Teixeira, "Linebacker II," 19.

by the time the SAM sites realized they were the targets, it would be raining bombs. After bombs away, the cells intermingled at various altitudes and maneuvered using small changes in heading. The combination of no pre-strike activity, a feint attack on Hanoi and last minute turn toward their targets caught the North Vietnamese gunners off-guard.[417] The North Vietnamese gunners only fired five SAMs and the B-52s received no damage.[418]

Day 7 – December 24, 1972

The U-Tapao B-52Ds conducted all sorties on Day 7 and, again, for the fourth consecutive day, thirty BUFFs were launched.[419] The North Vietnamese had no idea from where the bombers would come; they simply knew that they would. The mission planners decided to return to the routes used on the first three days, flying northwest out of Laos.[420] The targets were the Thai Nguyen and Kep Rail yards and the Haiphong Thermal Power Plant West.

Figure 53. The North Vietnamese major rail system. Source: William W. Momyer, *Air Power in Three Wars* (Washington, D.C.: GPO, 1978), 210.

[417] Teixeira, "Linebacker II," 19.
[418] McCarthy, *View From the Rock,* 107-111.
[419] Harder, *Flying from the Black Hole*, 231.
[420] Ibid.

Figure 54. Bomb damage assessment of Haiphong Thermal Power Plant West following the raid on December 24, 1972. Image Source: United States Air Force.

The bombers arrived from the northwest, splitting into two waves on a southerly track. The B-52s then used multiple vectors to approach the targets. This maneuver allowed all of the aircraft to complete their bombing runs within ten minutes.[421] Both waves split into two formations again as they executed the PTT and then vectored in different headings.[422] No bombers were lost during this mission; however, flak from AAA hit one BUFF, the only occurrence of hit of this kind during LINEBACKER II.[423] Two cells were engaged by MiGs during this mission. Airman First Class Moore shot down a MiG when he crossed too close behind one of the BUFFs. This was the second and final confirmed kill by a tail gunner.[424]

Following yet another successful mission with no bomber losses, politics came back into play. President Nixon sent a message to Hanoi requesting a meeting on January 3. If they accepted, he promised to halt bombing north of the 20th parallel on December 31 and continue this commitment while talks continued. As a goodwill gesture, the President announced a 36-hour bombing halt during Christmas.[425] Hanoi refused any response, but used the respite to reposition and resupply. President Nixon resumed the bombing on December 26.

Day 8 – December 26, 1972

December 26 saw a return to the massive raid structure of the first days of LINEBACKER II. In an early version of what would be called "Shock and Awe," 120 B-52s struck ten targets, all within fifteen minutes.[426] Four waves comprised of 72 BUFFs hit four targets in and near Hanoi from four different directions.[427] Additionally, another eighteen B-52s plastered the Thai Nguyen again.[428] At the same time two other waves, each of fifteen bombers, attacked Haiphong simultaneously from the east and west.[429] Accompanying the big bombers were 114 tactical aircraft. F-4s flew MiGCap and dispensed clouds of chaff, while F-105 Wild Weasels hit SAM sites when they turned on their Fran Song Radars.[430] F-111s and Navy Vought A-7s pummeled airfields while Navy and Marine F-4s flew MiGCAP and BARCAP (Barrier Combat Air Patrols to protect the fleet).[431]

The North Vietnamese fired volleys of SAMs, downing two B-52s. Day 8 was the largest effort in LINEBACKER II. It was evident that Hanoi could not withstand much more of this pounding. Shortly after the aircraft were recovered, the North Vietnamese told Washington that they were ready to resume talks between Henry Kissinger and Le Duc Tho on January 2.[432] The agreed not to reopen any positions already discussed and resolved.[433] President Nixon agreed not to bomb north of the 20th parallel once the BNorth followed through on these promises.[434]

---

[421] Teixeira, "Linebacker II," 20
[422] Ibid.
[423] Harder, *Flying from the Black Hole*, 231.
[424] Ibid.
[425] McCarthy, Allison, and Rayfield, 99–123 (revised); *Chronology of SAC Participation in Linebacker II*, 170–75, 187–90, 202–5, 223–27, 230; and Clodfelter, *The Limits of Air Power*, 188.
[426] Head, *War From Above the Clouds*, 83.
[427] Ibid.
[428] Ibid.
[429] Ibid.
[430] Boyne, "LINEBACKER II," 56.
[431] Ibid.
[432] Tilford, *Crosswinds*, 168–69; Clodfelter, *The Limits of Air Power*, 188–89.
[433] Ibid.
[434] McCarthy, Allison, and Rayfield, 121–39; idem, 126–44 (revised); *Chronology of SAC Participation in Linebacker II*, 122; Tilford, *Crosswinds*, 168–69; Clodfelter, *The Limits of Air Power*, 188–89; Clodfelter, "Nixon and the Air Weapon," 179–80.

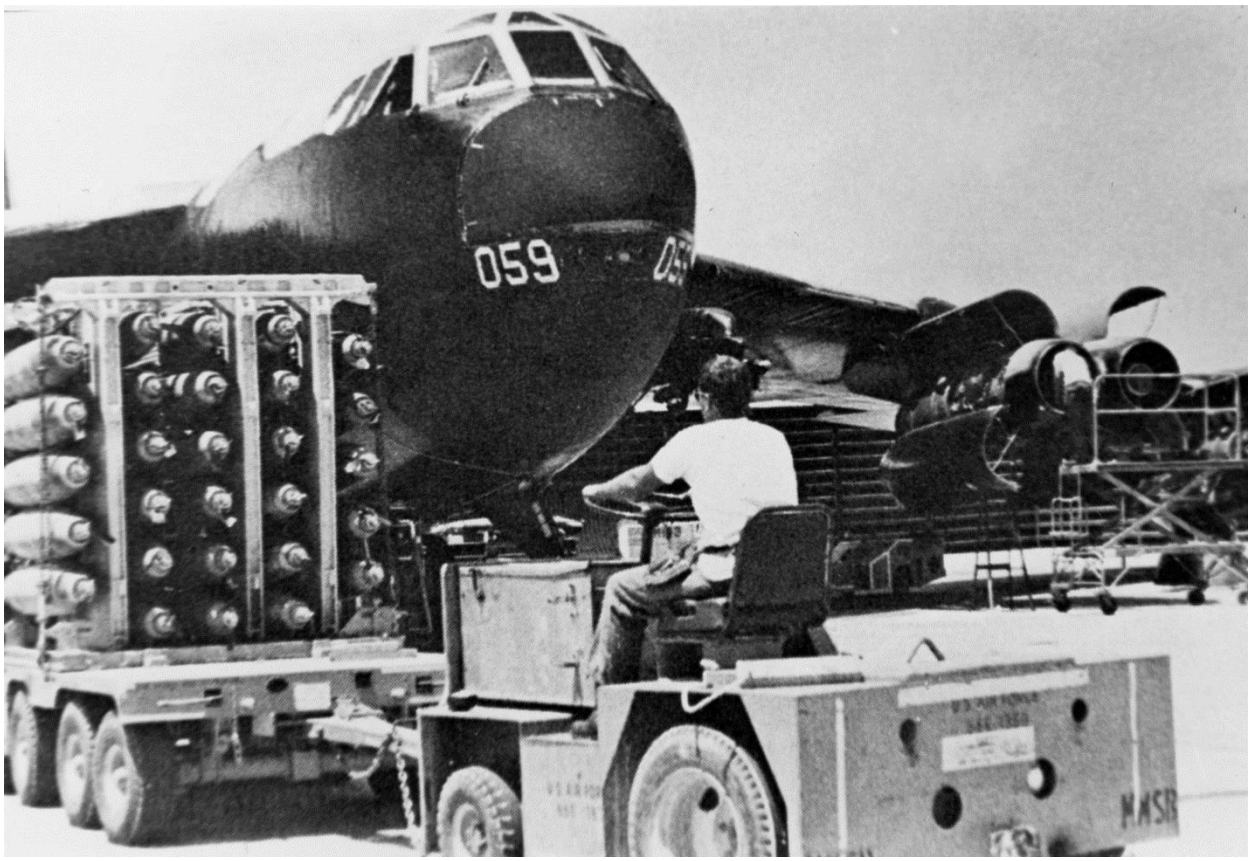


Figure 55. A B-52D Big Belly being re-armed at Andersen Air Force Base on Guam during LINEBACKER II. Image Source: United States Air Force.

Figure 56. Loading bombs on one of the wing pylons of a B-52D during LINEBACKER II. Image Source: United States Air Force.

Figure 57. A Republic F-15 Wild Weasel configuration. Note WW designation on the tail. These elite crews were the deadly mongoose to the SAM cobras. Image Source: United States Air Force.

Figure 58. A General Dynamics F-111 and a Vought A-7 during LINEBACKER II. Image Source: Boyne, LINBACKER II, 56. Photo credit: Ed Skowron via Warren Thompson.

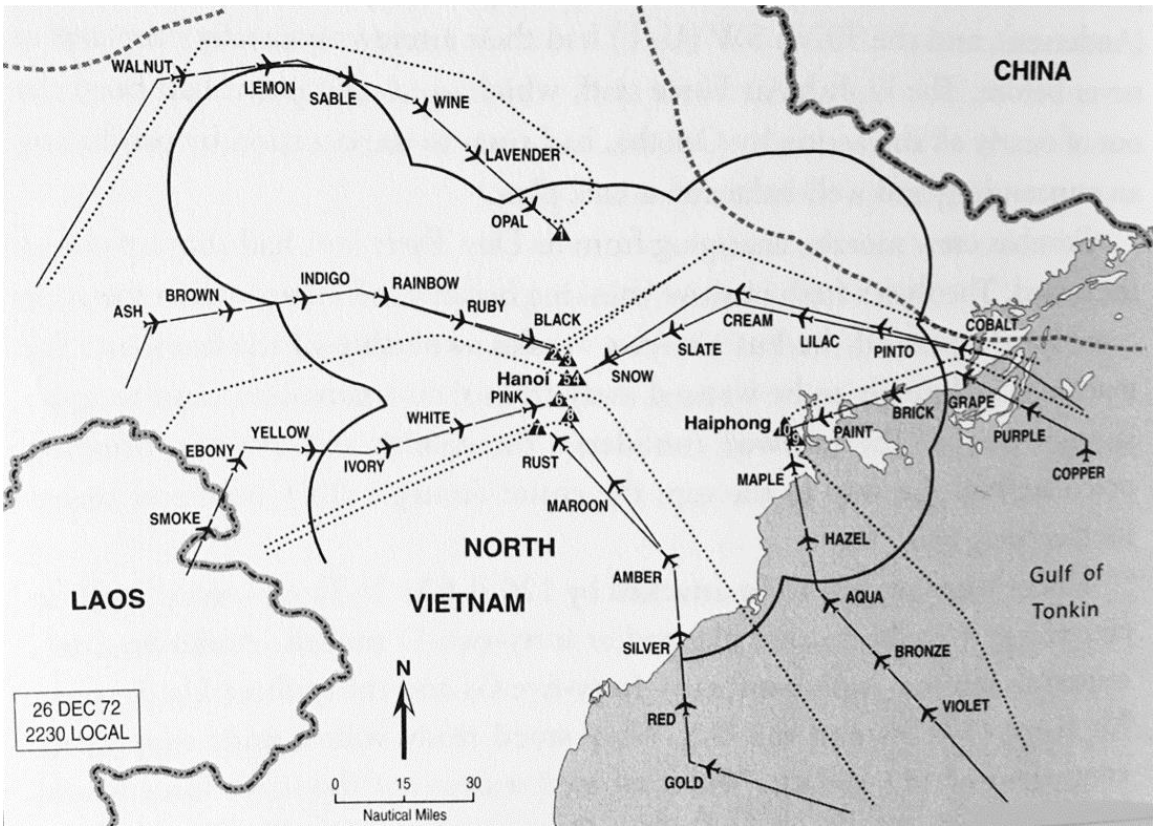


Figure 59. Mission profiles of the December 26 raids. Source: James R. McCarthy, George B. Allison, and Robert E. Rayfield, *Linebacker II*, vol. 6, *A View from the Rock,* USAF Southeast Asia Series, monograph 8 (Maxwell Air Force Base, AL: Air War College, 1979).

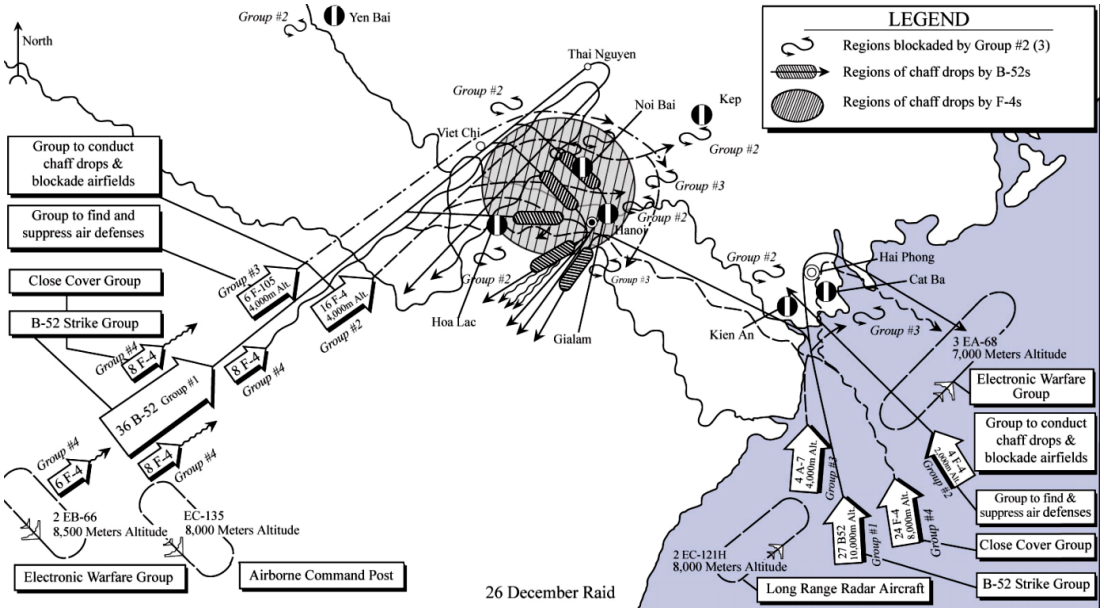


Figure 60. Mission profiles of the December 26 raids illustrating specific mission components. Source: commons.wikimedia.org.

Day 9 – December 27, 1972

Day 9 featured thirty B-52s from Andersen and thirty from U-Tapao. Twenty-one were G models and thirty-nine were D models.[435] The targets were three SAM sites near Hanoi, the Van Dien supply depot and the Lang Dang, Duc Noi, and Trung Quang rail yards.[436] "General Meyer [still stinging from the rebuke from the President], CINCSAC, wanted to ensure that the SAM sites were destroyed as quickly as possible, even if it meant using Stratofortresses to do it. He was still feeling pressure associated with the loss of our strategic bombers, and was being pressed into what was, to him, a violation of basic air doctrine."[437] SAC planners, headed by General Meyer, violated this doctrine during the first three days of LINEBACKER II at great cost from inappropriate use of B-52s and the loss of their crews.

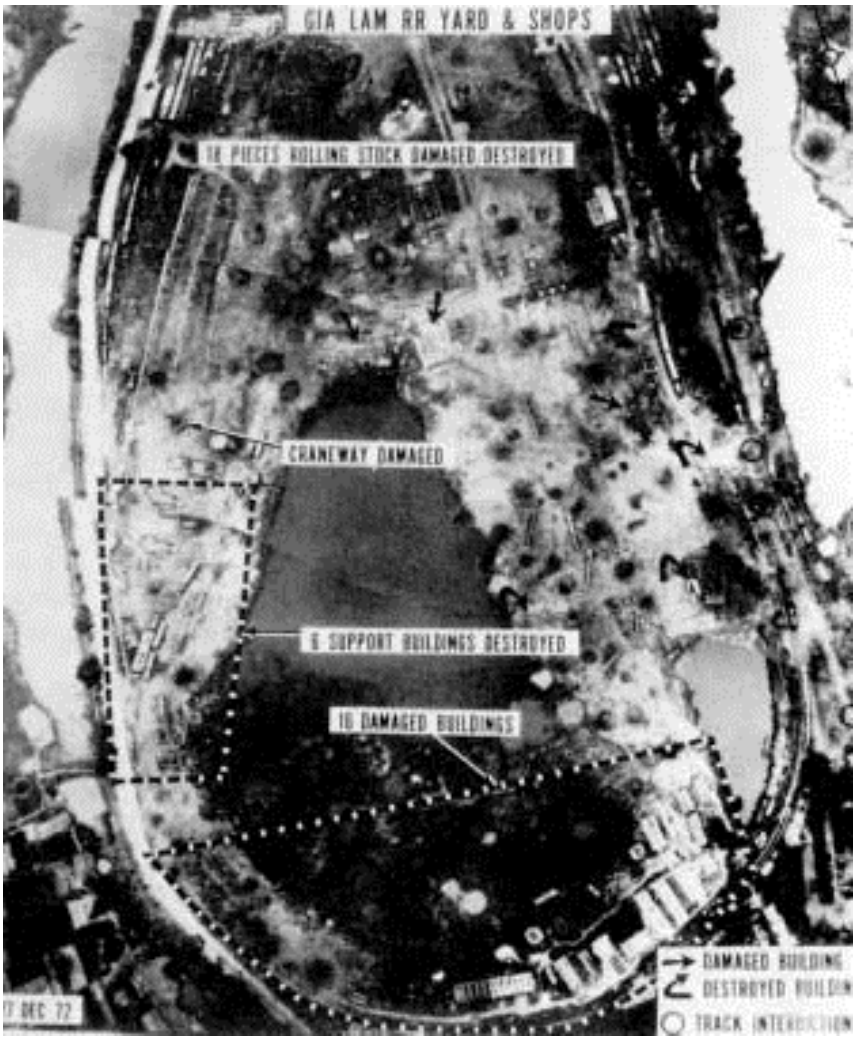


Figure 61. Bomb damage assessment, from the raid of December 27, of the Gia Lam Railyard from F-4 and F-105F Hunter-Killer teams destroyed a SAM site near the yard in Hanoi. B-52s hit rail targets further from the city center. Image Source: United States Air Force.

[435] Harder, *Flying from the Black Hole*, 237.
[436] Ibid.
[437] McCarthy, *View From the Rock*, 150.

One of the first commandments for the employment of strategic air power is to initially destroy enemy air defenses and gain air superiority. Military and industrial targets can then be struck with little loss to the attacker.[438]

The North Vietnamese decided one more attempt at firing volleys of SAMs,, which downed two B-52s. Of the two stricken BUFFs was able to stay in the air long enough to return to U-Tapao. The crew made it back to the main runway, attempted to land, then went nose up and crashed.[439]

> The bomber passed Charlie tower at eye-level, traveling so slowly that [Colonel Bill Maxon, commander of U-Tapao's maintenance wing] Maxson knew with a sinking feeling it was about to stall about 150 feet above the ground and with no runway left ahead of it. 'I simply cannot describe the horror I felt as I saw the wing navigation lights starting to rotate as the aircraft stalled, rolled and crashed upside down just off the end of the runway. After hours of struggle on the part of the aircrew to bring this shot up 'bird' back home safely, after all of the efforts by those of us on the ground to save her, we had lost. I had seen B-52s and other aircraft crash before, but never had I felt such anguish and helplessness and despair for the valiant crew.'[440]

Both aircraft lost were D models flying as part of two-ship cells because one member of their three ship-cell had to abort enroute.[441] Flight orders were that if one aircraft dropped out of formation, the other two would join with the cell in front of them and form a five-ship cell.[442] Neither were able to join the larger formation.

Day 10 – December 28, 1972

The North Vietnamese agreed to President Nixon's demands to continue preliminary talks between Henry Kissinger and Le Duc Tho. The talks were to set to resume on January 2, 1973. These demands included not reopening any previously resolved topics. Nixon promised to cease bombing north of the 20th parallel, contingent on strict adherence to his demands. Nixon forcefully told Hanoi that time was running out.[443] The President then ordered a bombing halt of all missions north of the 20th parallel to commence thirty-six hours later at 7 p.m. Washington time on December 29th. Until then, there were two more bombing missions to run.

The targets on Day 10 were essentially a repeat of Day 9: Three SAM sites and rail facilities. Sixty B-52s and 99 support aircraft hammered the targets.[444] Captain John R. Allen later reported that "By the tenth day there were no missiles, there were no MiGs, there was no AAA— there was no threat. It was easy pickings."[445]

Although the BUFFs could and did bomb in all kinds of weather, most of the SAM sites remained intact because these tactical aircraft could not visually spot them. Throughout the whole course of

---

[438] McCarthy, *View From the Rock,* 145; Teixeira, "Linebacker II," 23.
[439] Michel, *The 11 Days of Christmas*, 197-99.
[440] Ibid., 199.
[441] Teixeira, "Linebacker II," 22.
[442] McCarthy, *View From the Rock,* 145.
[443] *Chronology of SAC Participation in Linebacker II*, 122; Tilford, *Crosswinds*, 168–69; Clodfelter, *The Limits of Air Power*, 188–89; Clodfelter, "Nixon and the Air Weapon," 179–80.
[444] Teixeira, "Linebacker II," 25.
[445] Clodfelter, *The Limits of Air Power*, 189.

LINEBACKER II, there were only twelve hours of good daylight visual bombing weather in twelve days."[446]

Rather than the straight-ahead tactics of the previous nine days of missions, the formations returned to their SAC training, weaving and crisscrossing their paths. This aerial ballet required some cells and waves to execute flyovers while others executed sharp PTTs.[447] All aircraft executed simultaneous initial Times On Target (TOT) and twenty-seven bombers flew (at different altitudes) within five miles of each other.[448]

Figure 62. Briefing crews early in LINEBACKER II. Image Source: United States Air Force.

Day 11 – December 29, 1972

The missions for Day 11 mirrored those of the previous day. Sixty B-52s with 102 support aircraft attacked their targets in three waves, each with cells. Release times were coordinated and the bomb releases were simultaneous. The approach in to the targets were identical to Day 10.[449] The NVA gunners had

[446] Hearings Before Sub-Committees of the Committee on Appropriations, House of Representatives, 93rd Congress (Tuesday, January 18, 1973) (Washington, GP0, 1973), 4.
[447] Teixeira, "Linebacker II," 25.
[448] McCarthy, *View From the Rock,* 155-59.
[449] Teixeira, "Linebacker II," 26.

already launched almost all their missiles. On Day 11, only twenty-three SAMs were fired at the BUFFs.[450] No aircraft were damaged and all returned safely.

After all aircraft were recovered, CINCPAC received orders to terminate all military activity north of the 20th parallel that day, and President Nixon announced the resumption of the Paris peace talks.[451]

TABLES

Table 6. LINEBACKER II targets. Source PACAF, table from Walter Boyne, "LINEBACKER II," 52.

Targets Hit by B-52s

Target	Planned Sorties
Lang Dang railroad yard	86
Kinh No military complex	78
Yen Vien military complex	63
Gia Lam railroad yard	54
Thai Nguyen TPP*	42
Van Dien supply depot	39
Hanoi Radio	36
Thai Nguyen railroad yard	36
Bac Giang TSP*	33
Haiphong railroad siding	27
Phuc Yen SAM storage site	23
Hanoi POL storage site	21
Trai Ca SAM support facility	20
Phuc Yen SAM support facility	18
Giap Nhi railroad yard	18
Duc Noi railroad yard	18
Haiphong POL storage site	18
Haiphong transfer station	15
Hanoi Bac Mai storage site	12
Kep railroad yard	12
Trung Quan railroad yard	12
Duc Noi storage site	12
Kep airfield	9
Quang Te airfield	6
Hoa Lac airfield	6
Phuc Yen airfield	6
VN 549 SAM site	3
VN 234 SAM site	3
VN 243 SAM site	3
VN 266 SAM site	3
VN 158 SAM site	3
VN 537 SAM site	2
VN 660 SAM site	2
VN 563 SAM site	2
Total	**741**

Source: Pacific Air Forces

TPP stands for Thermal Power Plant; TSP for Transshipment Point.

[450] McCarthy, *View From the Rock,* 155-59.
[451] Teixeira, "Linebacker II," 26

Table 7. LINEBACKER II sorties. Source Walter Boyne, "LINEBACKER II, 54."

Linebacker II Total Night USAF Sorties

Day / Date	B-52 Attack	SEAD	CAP/Escort	Chaff	Total
1: Dec. 18	129	17	63	22	231
2: Dec. 19	93	19	61	24	197
3: Dec. 20	99	18	55	26	198
4: Dec. 21	30	13	23	9	75
5: Dec. 22	30	15	27	15	87
6: Dec. 23	30	13	12	3	58
7: Dec. 24	30	16	22	16	84
8: Dec. 26	120	18	34	23	195
9: Dec. 27	60	23	32	23	138
10: Dec. 28	60	7	28	23	118
11: Dec. 29	60	11	33	25	129
Totals	**741**	**170**	**390**	**209**	**1,510**

Of 741 planned B-52 sorties, 12 were aborted. The Air Force SEAD (Suppression of Enemy Air Defenses) mission was carried out by F-105, F-4C, and F-4E fighters. CAP (combat air patrol), escort, and chaff dispersal were carried out by numerous types. In addition, US Navy and US Marine aircraft flew a total of 277 night support sorties in A-6, A-7, and F-4 aircraft.

Table 8. LINEBACKER II losses. Source Walter Boyne, "LINEBACKER II, 57."

USAF Aircraft Losses Dec. 18–29, 1972

Date	Type	Call Sign	Target (Mission)	Cause
Dec. 18	F-111A	Snug 40	Hanoi Radio	unk.
Dec. 18	B-52G	Charcoal 01	Yen Vien complex	SA-2
Dec. 18	B-52G	Peach 02	Yen Vien complex	SA-2
Dec. 18	B-52D	Rose 01	Hanoi Radio	SA-2
Dec. 20	B-52D	Quilt 03	Yen Vien complex	SA-2
Dec. 20	B-52G	Brass 02	Yen Vien complex	SA-2
Dec. 20	B-52G	Orange 03	Yen Vien complex	SA-2
Dec. 20	B-52D	Straw 02	Gia Lam rail yard	SA-2
Dec. 20	B-52G	Olive 01	Kinh No complex	SA-2
Dec. 20	B-52G	Tan 03	Kinh No complex	SA-2
Dec. 21	B-52D	Scarlet 03	Bac Mai airfield	SA-2
Dec. 21	B-52D	Blue 01	Bac Mai airfield	SA-2
Dec. 22	F-111A	Jackle 33	Hanoi port facility	unk.
Dec. 23	EB-66C	Hunt 02	(non-combat)	engine out
Dec. 26	B-52D	Ebony 02	Giap Nhi rail yard	SA-2
Dec. 26	B-52D	Ash 01	Kinh No complex	SA-2
Dec. 27	F-4E	DeSoto 03	(strike escort)	MiG-21
Dec. 27	F-4E	Vega 02	(MiGCAP)	MiG-21
Dec. 27	HH-53	Jolly Green	(rescue)	small arms
Dec. 27	B-52D	Ash 02	SAM site	SA-2
Dec. 27	B-52D	Cobalt 02	Truang Quan rail yard	SA-2

Source: Pacific Air Forces

Table 9. Day by day record of all air crews lost during LINEBACKER II and their status. Courtesy of www.linebacker2.com/page_2_59bi.html

Day **1**
December 18, 1972

B-52 G "Charcoal 01"
340th BS, 97th BW, 72nd SW
Blytheville AFB, AR; Andersen AFB, Guam

POSITION	NAME	STATUS
Pilot	Lt. Col. Donald L. Rissi	KIA
Co-Pilot	1st Lt. Robert J. Thomas	KIA
Radar Navigator	Major Richard E. Johnson	POW
Navigator	Capt. Robert G. Certain	POW
EWO	Capt. Richard T. Simpson	POW
Gunner	MSgt. Walter L. Ferguson	KIA

B-52 G "Peach 02"
2nd BW, 72nd SW
Barksdale AFB, LA; Andersen AFB, Guam

POSITION	NAME	STATUS
Pilot	Major Clifford B. Ashley	Recovered
Co-Pilot	Capt. Gary L. Vickers	Recovered
Radar Navigator	Major Archie C. Myers	Recovered
Navigator	1st Lt. Forrest E. Stegelin	Recovered
EWO	Capt. James T. Tramel	Recovered
Gunner	MSgt. Kenneth E. Conner	Recovered
Deputy Airborne Commander	Lt. Col. Hendsley R. Conner	Recovered

B-52 D "Rose 01"
99th BW, 307th SW
Westover AFB, MA; Andersen AFB, Guam

POSITION	NAME	STATUS
Pilot	Capt. Hal K. Wilson	POW
Co-Pilot	Capt. Charles A. Brown	POW
Radar Navigator	Major Fernando Alexander	POW
Navigator	Capt. Richard Cooper	KIA
EWO	Capt Henry C. Barrows	POW
Gunner	TSgt. Charlie S. Poole	KIA

F-111A "Snug 40"
430th TFS, 474th TFW
Takhli, Thailand

POSITION	NAME	STATUS
	Lt. Col. Ronald Jack Ward 	KIA
	Major James Richard McElvain 	KIA

A-7C
VA-82, USN
USS America

POSITION	NAME	STATUS
	Lt. Carl T. Wieland	POW

DAY 2
December 19, 1972

OV - 10 A
20 TASS, 6498 ABW
Da Nang, South Vietnam

POSITION	NAME	STATUS
Pilot	Capt. Francis Xavier Egan 	KIA
Observer	1st Lt. Jonathan F. Patterson	Recovered

DAY 3
December 20, 1972

B-52 G "Quilt 03"
456th BW, 72nd SW
Beale AFB, CA; Andersen AFB, Guam

POSITION	NAME	STATUS
Pilot	Capt. Terry M. Geloneck	POW
Co-Pilot	1st Lt. William Y. Arcuri	POW
Radar Navigator	Capt. Warren R. Spencer 	KIA
Navigator	1st Lt. Michael R. Martini	POW
EWO	Capt. Craig A. Paul 	KIA
Gunner	SSgt. Roy Madden	POW

B-52 G "Brass 02"
42nd BW, 72nd SW
Loring AFB, MA; Andersen AFB, Guam

POSITION	NAME	STATUS
Pilot	Capt. John D. Ellinger	Recovered
Co-Pilot	Capt. Lawrence A Casazza	Recovered
Radar Navigator	Major Charles E. Archie	Recovered
Navigator	1st Lt. Robert A Clement	Recovered
EWO	Capt. Silverio A. Barroqueiro	Recovered

Gunner	TSgt. George H Schryer	Recovered

B-52 D "Orange 03"
99th BW, 307th SW
Westover AFB, MA; Utapao, Thailand

POSITION	**NAME**	**STATUS**
Pilot	Major John F. Stuart 	KIA
Co-Pilot	1st Lt. Paul L. Granger	POW
Radar Navigator	Major Randolph A. Perry 	KIA
Navigator	Capt. Thomas J. Klomann	POW
EWO	Capt. Irwin S. Lerner 	KIA
Gunner	MSgt. Arthur V. McLaughlin 	KIA/MIA

B-52 D "Straw 02"
306th BW, 43rd SW
March AFB, CA; Andersen AFB, Guam

POSITION	NAME	STATUS
Pilot	Capt. Deverl H. Johnson	Recovered
Co-Pilot	1st Lt. James T. Farmer	Recovered
Radar Navigator	Major Frank A Gould 	MIA
Navigator	Capt. Vincent F. Russo	Recovered
EWO	Capt. Paul J. Fairbanks	Recovered
Gunner	TSgt. James R. Barclift	Recovered

B-52 G "Olive 01"
92nd BW, 72nd SW
Fairchild AFB, WA; Blytheville AFB, AR; Andersen AFB, Guam

POSITION	NAME	STATUS
Pilot	Lt. Col. James Y. Nagahiro	POW
Co-Pilot	Capt. Donovan K. Walters 	KIA
Radar Navigator	Major Edward H. Johnson  _	KIA
Navigator	Capt. Lynn R. Beens	POW
EWO	Capt. Robert R. Lynn  _	KIA
Gunner	A1C Charles J Bebus  _	KIA
Deputy Airborne Commander	Lt. Col. Keith R. Heggen  _	POW - died after capture

B-52 G "Tan 03"
97th BW, 72nd SW
Blytheville AFB, AR; Andersen AFB, Guam

POSITION	NAME	STATUS

Pilot	Capt. Randall J. Craddock 	KIA
Co-Pilot	Capt. George B. Lockhart 	KIA
Radar Navigator	Major Bobby A. Kirby 	KIA
Navigator	1st Lt. Charles E. Darr 	KIA
EWO	Capt. Ronald D. Perry 	KIA
Gunner	SSgt. James L. Lollar	POW

A-6 A
VA-196, USN
USS Enterprise

POSITION	NAME	STATUS
	Cdr. Gordon R. Nakagawa	POW
	Lt. Kenneth Hill Higdon	POW

DAY **4**
December 21, 1972

B-52 D "Scarlet 03"
22nd BW, 307th SW
March AFB, CA; Utapao, Thailand

POSITION	NAME	STATUS
Pilot	Capt. Peter J. Giroux	POW
Co-Pilot	Capt. Thomas W. Bennet, Jr 	KIA
Radar Navigator	Lt Col. Gerald W. Alley 	KIA
Navigator	1st Lt. Joe Copack, Jr 	KIA
EWO	Capt. Peter P. Camerota	POW
Gunner	MSgt. Louis L. LeBlanc 	POW

B-52 D "Blue 01"
7th BW, 307th SW
Carswell AFB, TX; Utapao, Thailand

POSITION	NAME	STATUS
Pilot	Lt. Col. John H. Yuill	POW
Co-Pilot	Capt. David L. Drummond	POW
Radar Navigator	Lt. Col. Louis H. Bernasconi	POW
Navigator	1st Lt. William T. Mayall	POW
EWO	Lt. Col. William W. Conlee	POW
Gunner	SSgt. Gary L. Morgan	POW

A-6 A
VA-75, USN
USS Saratoga

POSITION	NAME	STATUS

	Lt. Cdr Robert Stewart Graustein 	KIA
	Lt Cdr Barton Scott Wade 	KIA

AC-130 A
16th SOS, 56th SOW
Ubon, Thailand

POSITION	NAME	STATUS
	Capt. Harry Roy Lagerwall 	KIA
	Capt. Stanley Neal Kroboth 	KIA
	Major Paul Oswald Meder 	KIA
	Major Francis Anthony Walsh, Jr 	KIA
	Capt. Joel Ray Birch 	KIA
	Capt. Thomas Trammell Hart, III 	KIA
	Capt. Robert Leonel Liles, Jr. 	KIA
	2nd Lt. George D. MacDonald 	KIA
	1st Lt. Delma Ernest Dickens 	KIA
	A1C Charles Frederick Fenter 	KIA
	TSgt. Robert Thomas Elliott 	KIA
	TSgt. John Quitman Winningham 	KIA
	A1C Rollie Keith Reaid 	KIA
	Sgt. Richard Williams	Recovered
	Sgt. Carl E. Stevens	Recovered

DAY **5**
December 22, 1972

F-111 A "Jackal 33"
429th TFS, 474th TFW
Takhli, Thailand

POSITION	NAME	STATUS
	Capt. Robert D. Sponeybarger	POW
	1st Lt. William W. Wilson	POW

DAY **6**
December 23, 1972

F-4 J
VMFA-333, USMC
USS America

POSITION	NAME	STATUS

	Lt. Col. John K Cochran	Recovered
	Major H.S. Carr	Recovered

EB-66 B
42nd TEWS, 388th TFS
Korat, Thailand

POSITION	NAME	STATUS
	Major Henry James Repeta 	KIA
	Major George Frederick Sasser 	KIA
	Capt. William Robert Baldwin 	KIA

DAY **7**
December 24, 1972

A-7 D
353rd TFS, 354th TFW
Korat, Thailand

POSITION	NAME	STATUS
Mid-air collision with Raven 01 - "Bird Dog"	Capt. Charles Francis Riess	POW
	Capt. Paul Vernon Jackson, III 	KIA

A-7 E
VA-113, USN
USS Ranger

POSITION	NAME	STATUS
	Lt. Philip Spratt Clark, Jr. 	KIA

DAY **8**
December 26, 1972

B-52 D "Ebony 02"
449th BW, 307th SW
Kincheloe AFB, MI; Seymour Johnson AFB, NC; Utapao, Thailand

POSITION	NAME	STATUS
Pilot	Capt. Robert J. Morris, Jr. 	KIA
Co-Pilot	1st Lt. Robert M. Hudson	POW
Radar Navigator	Capt. Michael H. LaBeau	POW
Navigator	1st Lt. Duane P. Vavroch	POW
EWO	Major Nutter J. Wimbrow, III 	KIA
Gunner	TSgt. James R.Cook	POW

B-52 D "Ash 01"
22nd BW, 307th SW
Robins AFB, GA; Westover AFB, MA; Utapao Thailand

POSITION	NAME	STATUS

Pilot	Capt. James M. Turner 	KIA
Co-Pilot	1st Lt. Robert J. Hymel 	Recovered
Radar Navigator	Lt. Col. Donald A Joyner 	KIA
Navigator	Major Lawrence J. Marshall 	KIA
EWO	Capt. Roy T. Tabler 	KIA
Gunner	TSgt. Spencer L. Grippin 	Recovered

DAY **9**
December 27, 1972

B-52 D "Cobalt 01"
7th BW, 43rd SW
Mather AFB, CA; March AFB, CA; Andersen AFB, Guam

POSITION	NAME	STATUS
Pilot	Capt. Frank D. Lewis	POW
Co-Pilot	Capt. Samuel B. Cusimano	POW
Radar Navigator	Major James C. Condon	POW
Navigator	1st Lt. Ben L. Fryer 	KIA
EWO	Major Allen L Johnson 	KIA
Gunner	MSgt. James C. Gough	POW

B-52 D "Ash 02"
28th BW, 307th SW
Ellsworth AFB, SD; Carswell AFB, TX; Utapao, Thailand

POSITION	NAME	STATUS
Pilot	Capt. John Mize	Recovered
Co-Pilot	Capt. Terrence J. Gruters	Recovered
Radar Navigator	Capt. William E. North	Recovered
Navigator	1st Lt. William L. Robinson	Recovered
EWO	Capt. Dennis W. Anderson	Recovered
Gunner	TSgt. Peter E. Whalen	Recovered

F-4 E "Desoto 03 "
13th TFS, 432nd TRW
Udorn, Thailand

POSITION	NAME	STATUS
	Major Carl H. Jeffcoat	POW
	1st Lt. Jack R. Trimble	POW

HH-53 "Jolly 73 (1)
40th ARRS
Nakon Phanom, Thailand

AC	Rick Shapiro	Recovered
Co-Pilot	Miguel Pierra	Recovered
Flight Engineer	Chuck Rouhier	Recovered
PJ	John Carlson	Recovered
PJ	Robert Jones	Recovered
Photographer	Jim Cockerill	Recovered

F-4E "Vega 02"
Udorn AB, Thailand

	Capt John Wesley Anderson	POW
	1st Lt Brian Ward	POW

A-6 A
VMA (AW)-533, MAG-15, USMC
Nam Phong, Thailand

POSITION	NAME	STATUS
	Capt. Ralph Jim Chipman 	KIA
	1st Lt. Ronald Wayne Forrester 	KIA

DAY **10**
December 28, 1972

RA-5C
RVAH-13, USN
USS Enterprise

POSITION	NAME	STATUS
	Lt. Cdr Alfred Howard Agnew	POW
	Lt. Michael Firestone Haifley 	KIA

DAY **11**
December 29, 1972

EA-6 A
VMCJ-2, USMC
NAS Cubi Point, Phillippines

POSITION	NAME	STATUS
	Capt. Hal L. Baker	Recovered
Co-Pilot	MSgt. Frederick E. Killebres	Recovered

CHAPTER 7

Consequences and Changes in Strategic Thought

Operation LINEBACKER II, like any major military operation, has been discussed, researched, dissected, argued over, written about, and judged for its worth. Forty-five years after the 11-Day operation, scholars still find it worthy of contemplation. Several questions are at the forefront of LINEBACKER II's legacy. Was it successful? Could the war have been ended earlier without LINEBACKER II? Did it matter considering the political climate at home and abroad? What changes did it bring about in strategic thinking? Was Air Force doctrine influenced by the campaign? Where does the campaign fit in the study the history of aerial warfare? Was the campaign influential in later operations, even today? What were the lessons learned and legacies from LINEBACKER II? This essay will sample the literature and attempt to both answer some of these questions and, hopefully, will shed new light on the legacy of Operation LINEBACKER II.

Was LINEBACKER II successful?

Operation LINEBACKER II was successful on the three primary fronts: political, economic, and military. Politically, it forced the North Vietnamese to return to the negotiating table in Paris with no stalling tactics and assured they would come to terms quickly. Finally, after nine years of micromanagement from two presidents, The Air Force was allowed conduct a full-scale conventional air war. It fit in well with the lessons of history, particularly strategic bombing in Europe and the Pacific in World War II.

LINEBACKER II was "a classic example of the use of a well-planned and executed military operation to achieve a political goal."[452] The relaxation of Rules of Engagement (ROE) allowed the war to be taken to the enemy's heartland, without excessive civilian casualties, and "overwhelm the enemy's military and industrial complex, and, thus, its will to continue the war."[453]

Economically, as former Presidential advisor and Secretary of State Henry Kissinger described, "Linebacker II cost much less than the continuation of the war, which was the other alternative."[454] Speaking of the economics and political implications of continuing the war, Kissinger added:

> Any other course would almost certainly have witnessed an endless repetition of the tactics of December. Faced with the prospect of an open-ended war and continued bitter divisions, considering that the weather made the usual bombing ineffective, Nixon chose the only weapon he had available. His decision speeded the end of the war; even in retrospect I can think of no other measure that would have.[455]

With prior artificial, sometimes arbitrary, geographic constrictions placed upon American airpower, LINEBACKER II enforced the primary tenant of strategic warfare: it imposed an irrevocable change in the will of the North Vietnamese to continue the war. It became too costly for them to continue.[456] Admiral U. S. Grant Sharp quoted Sir Robert Thompson, the former chief of the British Advisory Mission to Vietnam concerning success of LINEBACKER II:

---

[452] Warren L. Harris, *The Linebacker Campaigns: An Analysis* (Maxwell Air Force Base, AL: Air University, 1987), 25.
[453] Harris, "The Linebacker Campaigns," 23.
[454] Henry A. Kissinger, *White House Years* (Boston: Little Brown and Company, 1979), 1457.
[455] Kissinger, *White House Years*, 1461.
[456] U. S. Grant Sharp, *Strategy for Defeat: Vietnam in Retrospect* (San Rafael, CA: Presidio Press, 1979), 255.

> In my view, on Dec 30, 1972, after 11 days of B-52 attacks on Hanoi area, you had won the war. It was over! They had fired 1,242 SAM's; they had none left save for a mere trickle which would come in from China. They and their whole rear base at that point were at your mercy. They would have taken any terms. And that is why, of course, you actually got a peace agreement in January, which you had not been able to get in October.[457]

One view that is not often mentioned is that of Soviet advisors on location in North Vietnam during LINEBACKER II. The most important of these was Colonel-General Anatoliy Ivanovich Khyupenen, who arrived in Hanoi in 1972 to direct the Soviet air defense advisory effort.[458] Colonel-General Khyupenen directed the after-action report entitled *Combat Actions of the Air Defense Forces and Air Forces of the Vietnamese Peoples' Army in December 1972*.[459] Although most statistical information came from the North the Vietnamese, the observational remarks are strikingly accurate.

> Operation "Linebacker-2" began on the evening of 18 December 1972 as US aviation simultaneously struck all the principle fighter airbases of the air forces of the DRVN. Throughout the years, the large collection of B-52 strategic bombers conducted the initial combat strike, which developed into the primary combat strike. Participating in the operation were all the B-52 strategic bombers located at Andersen airbase on the island of Guam and at U Tapao airbase in Thailand.[460]
>
> It must be noted that the B-52s were used only during nighttime, their actions were thoroughly planned and they were supported by a significant force of fighters providing cover for the strike force, sealing the airbases, suppressing the air defenses with ordnance and radio-electronic combat and also conducting observation of the airspace over the territory of the DRVN.[461]
>
> Thus, operation "Linebacker-2" planned for the use of massed B-52s, so the American command had to thoroughly organize and support their combat actions. The essence of the combat use of the strategic bombers included: mass force for the strikes; attach tactical aviation for combat support of the B-52s; carefully select the targets; the times to inflict the strikes and the flight routes; use massed electronic combat means.[462]
>
> Massing force to inflict strikes on targets in the DRVN during the operation dictated the necessity of achieving important military-political goals in a short time. Characteristically, up until December 1972, the significant bombing attacks on targets in

---

[457] Ibid.

[458] Moscow Russian Television station RTR, 1700 GMT 03 March 2001 in Russian with reporter Natalya Krapivina. Quoted in Dana Drenkowski and Lester W. Grau's, *Patterns and Predictability: The Soviet Evaluation of Operation Linebacker II* (Fort Leavenworth, KS: U. S. Army Defense Technical Information Center, 2007), 4. www.dtic.mil/dtic/aulimp/citations/gsa/2007_117432/142557.html

[459] Colonel-General Anatoliy Ivanovich Khyupenen was overall editor and Marshal of the Soviet Union P. G. Batikskogo. The writers collective consisted of Khyupenen (the director) and D. K. Bedenko, S. A. Varyukhin, V. G. Manukhin, D. I. Fomin and A. K. Reminnogo. The writers collective was assisted by K. S. Babenko, M. I. Fesenko, S.V. Aleshkin, Yu. S. Garnaev and other Soviet military specialists who were serving in the Democratic Republic of Vietnam at the time. A. I. Khyupenen, "Strategicheskkaya aviatsiya SShA v operatsii "Laynbeker-2" [US Strategic Aviation in Operation "Linebacker-2", *Voenno-istoricheskii zhurnal* [Military-Historical Journal], February 2005, 30; Drenkowski and Grau, "Patterns and Predictability," 4.

[460] Drenkowski and Grau, "Patterns and Predictability," 4.

[461] Ibid. DRVN refers to the Democratic Republic of Vietnam (North Vietnam).

[462] Ibid.

the DRVN involved only a single B-52 or a small group, while the massed strikes by strategic aviation were carried out only in South Vietnam, Laos and Cambodia where it was necessary for the American command to disrupt the preparations of the patriotic forces of liberation and to conduct powerful offensive operations against them.[463]

The second characteristic peculiar to the use of B-52s was the careful thought and excellent organization of the combat support by tactical aviation. The combat formation of aviation in a mass raid consisted of strike groups of B-52 bombers, groups for passive ECM and blocking airfields, groups for finding and suppressing air defenses and groups to provide direct cover against Vietnamese fighters. The B-52 combat formation, as a rule, consisted of a "column of squadrons" (from two to seven), separated by a time interval of five to seven minutes. [464]

The combat support group constituted 60-70% of the aircraft participating in the raid. Tactical aviation, supporting the strategic bomber raid, provided uninterrupted cover of the B-52 formations throughout their entire flight over the DRVN, particularly during strikes on Hanoi, Hai Phong and targets in the central provinces. F-4 and F-105 fighters, based in Ubon and Udorn, Thailand were attached for this mission. They joined the bomber groups over Laos near the city of Sam Neua. The primary mission of the F-105 was to find and suppress air defense systems along the B-52 flight path and in the strike area. F-4 fighters provided direct cover to every B-52 detachment and they flew close to the B-52 combat formations.[465]

The third characteristic particular to the use of strategic aviation in these operations was the careful selection of the B-52 flight path, the direction of approach to the target and the delivery of the strike. The B-52 flight from U Tapao and Andersen airbase merited particular attention. A B-52 from Andersen airbase carried a bomb load of nine-ten tons (27-29 bombs weighing 340 kilograms each) in the fuselage. The flight to the target passed through a refueling area which was located east of the Philippines. At check point "Lima" (150-200 kilometers southeast of Da Nang), the flight routes were divided with the objective of overcoming the weaker air defense systems of the DRVN. To breakthrough the air defenses from the southwest and west, the operational-tactical flight direction from checkpoint "Lima" proceeded west to the Mekong River, then north to Laos to the vicinity of Sam Neua, [195800 Latitude and 1044100 Longitude–translator] and then into the DRVN to the cities of Phu Tho, Yen Bai or Viet Chi (depending on the designated target and the selection of the combat course) and then the flight path went directly to the target.[466]

In the majority of cases, the breakthrough of the air defenses occurred in the western and southwestern approaches, since it was a shorter approach to the target (particularly from U Tapao), using ground orientation. Having dropped their bombs, the B-52s withdrew over Laos (in the majority of cases) or over the Tonkin Gulf. If the bombers were returning to Andersen Airbase, they had to have a fuel reserve of 56 to 65 tons of fuel remaining after dropping their bombs. If it was necessary, they could conduct an aerial refueling at an altitude of 7000-7,500 meters and a speed of 680-720

[463] Ibid.
[464] Ibid., 5.
[465] Ibid..
[466] Ibid., 5-6.

kilometers/hour. A B-52 would take on an average of 20 tons of fuel during air refueling. The KC-135 aircraft was used for this mission.[467]

B-52 bombers flying from U Tapao flew over Korat when selecting the southeast breakthrough of the air defenses) or Vientiane and Sam Neua (when selecting the western or southwestern breakthrough of the air defenses). The time from takeoff to landing took 12-13 hours from Andersen Airbase and 4-5 hours from U Tapao Airbase. On the flight route, the B-52s averaged 840-870 kilometers/hour at an altitude of 10,000-11,000 meters. Some 60-70 kilometers from the objective, the B-52 detachment lay on a combat course assuming the height and speed that they would maintain until they released their bombs. Afterward, this course was immediately changed with a turn of not less than 40-50 degrees and the B-52s dropped chaff.[468]

The fourth characteristic particular to the use of strategic aircraft in these operations was the high level of use of radio-electronic combat employed by the American command. Without this radio-electronic combat, the slow-moving B-52s would have been a much easier target for the air defense missiles of the Vietnamese Peoples Army.[469]

Strategic bombers were also used for carrying out single strikes (using one or two detachments) against targets located south of the 20th parallel where the air defense system was weaker. These targets were primarily concentrations of troops and equipment at crossing points, on road marches and in assembly areas. Usually, the sorties for these missions were flown out of U Tapao airbase. The bombing was conducted from a horizontal plane from a height of 10,000-11,000 meters. The combat support, in this case, was simply direct cover by F-4s along the entire flight route and the staging of EB-66 aircraft for jamming which joined them temporarily over Laos and the Gulf of Tonkin.[470]

When flying the air route over the DRVN, the B-52s were covered by special groups of F-4s flying direct protection against the Vietnamese fighters. The F-4s flew 1,000-2,000 meters lower than the main strike groups. During the flight over the DRVN, the F-4s flew the "snake" anti-missile maneuver several times and, in the region of the B-52 strike, they moved 15-20 kilometers away from the formation. If they detected air defense missile battalions, radar companies or command posts, they bombed them, after which the F-4s re-occupied their positions in the formation.[471]

The airborne command post maintained two-way radio traffic with the B-52 raiding aircraft and also the covering F-4s and F-105s as they approached the link-up site. As the mission continued, it became one-way traffic between the airborne command post and the B-52 crews until they completed their mission and exited from DRVN airspace. The fighters providing direct cover used the navigation lights of the strategic bombers for orientation.[472]

---

[467] Ibid., 6.
[468] Ibid.
[469] Ibid., 7.
[470] Ibid.
[471] Ibid., 9.
[472] Ibid.

Colonel-General Khyupenen also pointed out weaknesses in Air Force procedures which aided the North Vietnamese in countering the B-52 strikes.[473] He states, "the American command was able to reduce the effectiveness of the electronic equipment of the [People's Army of Vietnam Anti-Aircraft Defenses]." However, "the jammers were turned on in the entire wave range before the [B-52s] approached the RT [Radar Troops] zones."[474] When the B-52 EWOs tested their ECM equipment at Andersen AFB and U-Tapao RTNAFB, the North Vietnamese assets saw giant blooms on their radar screens and that provided the warning of the coming missions.[475] Later, the jammers were turned at the range the jammers would be effective and his would alert the missile and AAA batteries of when to expect the attacks.[476] Khyupenen noted: "Premature switching on of EW equipment and continuous jamming (without taking into account the operating time of the target radar) enabled the PAVN's electronic and air defense forces to detect B-52 strike groups in time, provide target acquisition data to the ADMF, and prepare the necessary initial firing data."[477] These practices were remedied after five of the LINEBACKER II campaign.

There are opposing opinions of the effectiveness of LINEBACKER II, of course. The most vocal is Kenneth P. Werrell, who asserts:

> I disagree. First, the bombing of North Vietnam was fatally flawed by the lack of proper targets. Second, while political restrictions inhibited the airmen, inadequate tactics and equipment contributed significantly to the high losses and lack of results. Third, the bombing did not have decisive political/diplomatic results.[478]

Werrell lists the gamut of thought from 1973 through 1987. He groups them by concepts.[479]

> The U.S. should have demanded its own terms as opposed to following the discussions from the previous October.[480]
>
> a. The U.S. could have used a LINEBACKER II type operation earlier to end the war much sooner.[481]
> b. The campaign was a "classic example" of using a military force to achieve a rapid end to hostilities.[482]

---

[473] A. I. Khyupenen, "Organizatsiya VVS SSHA radioelektronikoy bor'by v khode operatsii "Laynbeker-2' [USAF Electronic Warfare During Operation Linebacker II"], *Voyenno-istoricheskiy zhur*nal [Military-historical journal], July 2005, 36.
[474] Ibid.
[475] Drenkowski and Grau, "Patterns and Predictability," 12.
[476] Khyupenen, "Organizatsiya VVS…" 36.
[477] Ibid.
[478] Kenneth P. Werrell, "Linebacker II: The Decisive Use of Airpower?" *Air University Review* (January-March 1987): 49-51.
[479] Ibid., 51.
[480] Thomas Moorer, "The Christmas Bombing of Hanoi—or How the POWs Got Home," Naval Aviation Museum Foundation, March 1981; U. S. Grant Sharp, *Strategy for Defeat*, 258; Alan Dawson, *55 Days: The Fall of South Vietnam* (Englewood Cliffs, N.J.: Prentice-Hall, 1977), 123.
[481] "What Christmas Bombing Did to North Vietnam," *US News and World Report* (5 February 1973): 18; Alan Gropman, "Air power in Vietnam: Lost Opportunities," paper delivered 17 January 1986, Raleigh, N.C., 39; George Keegan in *The Lessons of Vietnam*, ed. W. Scott Thompson and Danaldson Frezzell (New York: Crane, Russak, 1977), 143; Barry Goldwater, "Airpower in Southeast Asia," *Congressional Record*, 93d Congress, 1st session, 1973, pt. 5:5346; *Vietnam Settlement: Why 1973, Not 1969?* (Washington, D.C., 1973), 190; Douglas Pike, "The Other Side," n. 77, and Alan Gropman, "Commentary: The Air War," 84 (both in Peter Braestrup, ed., *Vietnam As History: Ten Years After the Paris Peace Accords* (Washington, D.C.: University Press of America, 1984).
[482] Dave R. Palmer, *Summons of the Trumpet: US-Vietnam in Perspective* (San Rafael, Calif.: Presidio Press, 1978), 259.

c. The campaign was an exercise in futility: morally bankrupt, militarily ineffective, and diplomatically unnecessary.[483]
d. The bombing alone brought the North Vietnamese back to the Paris peace talks.[484]

At the end of his review Werrell cites his reasons for his beliefs:

> Could bombing have been decisive? Those who believe so emphasize the lack of political will by the civilian decision makers, at least up until December 1972. These critics underestimate the power of public opinion in a democracy, both domestically and internationally, and clearly Johnson felt very much constrained in both areas. He also feared, with good reason, the reactions of the Russians and Chinese. Certainly political factors restricted American use of air power.
>
> Nevertheless, strategic bombing of North Vietnam was unable to achieve decisive results for two other reasons. First and foremost, there were no vital strategic targets in the North, with the possible exception of people. Second, American airmen were neither adequately equipped nor tactically ready to carry out decisive nonnuclear operations. Linebacker II was not, and could not be, decisive in the Vietnam War.[485]

Werrell's comments are thoughtful and concerted, however, if strategic air power and tactical airpower were properly used early in the war, the outcome would most likely have yielded positive results. By not allowing the Air Force to do its job in 1964-1966, i.e. bombing the incipient military industrial complexes in and around Hanoi and Haiphong, making the lives of North Vietnamese citizens a nightmarish reality, and convincing the Russians and Chinese to stay out of it, the tables would be turned. The lack of strategic targets did not mean that there was nothing worth bombing north of the 20th parallel. His comments about aircrew training are well taken. SAC crews were solely trained in the nuclear mission role. Crews were forced into extremely short training cycles to learn or re-learn the lessons of World War II-style bombing missions.

Gregory S. Clark authored a paper for the Naval War College on LINEBACKER II.[486] In his "Linebacker II: Achieving Strategic Surprise," he states:

> We are analyzing Linebacker II as a military campaign. President Nixon clearly stated his political objective [ends]. Strategic airpower providing the [ways] of achieving this objective. Linebacker II was the plan that provided the [means] by which military

[483] Gareth Porter, *A Peace Denied: The United States, Vietnam, and the Paris Agreements* (Bloomington, IN: Indiana University Press, 1975), 137, 158-59.
[484] "Moorer on Airpower," *Aviation Week* (September 17, 1973): 7; Gropman, "Airpower," 39; Guenter Lewy, *America in Vietnam* (New York: Oxford University Press, 1978), 414-15; William Momyer, *Air Power in Three Wars* (Washington, D.C.: Department of the Air Force, 1978), 243; R. Mark Clodfelter, "By Other Means: An Analysis of the Linebacker Bombing Campaigns as Instruments of National Policy," Master's thesis, University of Nebraska, 1983,131-32; Timothy Lomperis, *The War Everyone Lost—And Won: America's Intervention in Viet Nam's Twin Struggles* (Baton Rouge: Louisiana State University Press, 1984), 94; Porter, 136-37, 156-65; *Vietnam Settlement*, 120-21; Allan E. Goodman, *The Lost Peace: America's Search for a Negotiated Settlement of the Vietnam War* (Stanford, CA: Hoover Institution Press, 1978), 161-63.
[485] Werrell, 49-51.
[486] Gregory S. Clark, *Linebacker II: Achieving Strategic Surprise* (Newport, RI: Naval War College, 2002), 2.

> power would be employed. The final [cost] was a two percent loss rate. The use of unrelenting and overwhelming force rapidly dominated the battle space producing the synergistic effects of "shock and awe" on Hanoi's psyche. With the will of the people broken, air defense systems depleted, and the government demoralized, the Paris Accords were signed.[487]

SAC aircraft, including nuclear role attack aircraft, for example, the F-105 Thunderchief, were forced into missions they were not intended to conduct. They became excellent platforms. The B-52D models configured to the "Big Belly" allowed more internal bomb loads of conventional munitions. Without these rapid enhancements, the B-52s, lethal as they were, could not create the damage needed to thwart the elusive targets under the triple-canopy jungle cover.

Werrell's comments about aircraft sent into battle without adequate upgrades also merit discussion. The B-52G models lost during the first three days of LINEBACKER II did not possess upgraded electronic warfare platforms. Aircraft there were deployed to assist the bombers sometimes caused inadvertent problems. Radio jamming aircraft, especially the EB-66s, designed to degrade the SAM Fan Song radars, also jammed American radio channels.[488]

Over control by SAC headquarters, and using tactics that did not fit the aircraft in the conditions of the jungle war in Southeast Asia, do not dismiss the central fact – LINEBACKER II was a major success.

Could the war have been ended earlier without LINEBACKER II?

Air Force Chief of Staff and former commander of the Strategic Air Command, General Curtis LeMay, stated that the Air Force could have ended it [the war] in any ten-day period you wanted to, but they would never bomb the target list we had."[489] LeMay wanted to implement a ninety-four-target plan devised to bomb North Vietnam. It was based upon his history as the commander of the 20th Air Force in the Pacific during World War II. The plan was abandoned by President Johnson and his advisers and it was resurrected by the Air Force strategists for Operations LINEBACKER and LINEBACKER II.

The consensus of historians and military leaders, particularly Air Force commanders, is that the war could have been greatly shortened. The Johnson Administration badly mishandled the entire Southeast Asia political and military issue. The Nixon Administration inherited a morass of problems from the previous administration and it still took four years to complete the task. During the Johnson White House, the Joint Chiefs of Staff forcefully argued for "dramatic, forceful, application of air power. Instead the U.S. adopted a strategy of a graduated military response."[490] The Johnson Administration allowed itself to be hamstrung by a fear that the Soviet Union or the Peoples Republic of China would enter the war militarily as China had done in the Korean War. President Johnson made this fear into a shroud that covered all of this thinking about Southeast Asia.

The graduated approach is analogous to the carrot and stick theory. The Johnson Administration believed that the United States could militarily win the war using conventional tactics. The president and his closest advisors, particularly Secretary of Defense Robert McNamara, did not understand asynchronous warfare, particularly a major guerilla insurgency like that employed by the Viet Cong and the North Vietnamese. This problem was geometrically compounded by a succession of corrupt South Vietnamese

---

[487] Ibid., 12.
[488] Karl Eschmann, *The Role of Tactical Air Support; Linebacker II* (Maxwell AFB, AL: Air Command and Staff College thesis, 1985), 60, 63; Clodfelter, "By Other Means," 121.
[489] Curtis LeMay, "Strategic Air Warfare: An Interview with Generals Curtis E. LeMay, Leon Johnson, David A. Burchinal, and Jack J. Catton," Office of Air Force History, 1988.
[490] Harris, "The Linebacker Campaigns," 25; Sharp, *Strategy for Defeat*, 268-69.

regimes. At every juncture when massive military airpower was brought to bear on the enemies, successes were frittered away by bombing halts, refusal to allow the Air Force, Navy, and Marine bombers and ground attack aircraft to punish the North Vietnamese in and around their capital, Hanoi, and their primary port, Haiphong. The "carrot" consistently failed. The North Vietnamese did not negotiate in good faith until late December 1972. The "stick" approach worked.

The North Vietnamese made two attempts to win the war by using conventional military strategy. The first was in the Tet Offensive in 1968 and the second was the Easter Offensive in 1972. In both cases the enemy created mass chaos and captured large amounts of real estate. In both cases airpower caused them huge numbers of casualties. The 1972 Easter Offensive was neutralized by Operation LINEBACKER I, but it took LINEBACKER II to complete task of bringing the North Vietnamese to negotiations with sincerity.[491]

With the earlier major bombing campaigns of ARC LIGHT and, particularly, ROLLING THUNDER, mismanaged under the Johnson Administration, it was General LeMay's concept, resurrected during the third year of the Nixon Presidency, that finally fulfilled the mission of extricating the United States from the quagmire of Vietnam.[492] Among those disagreeing with LeMay is Mark Clodfelter. In his *The Limits of Air Power: The American Bombing of Vietnam*, the author asserts that strategic bombing did not work in Vietnam.[493] Clodfelter believes because Vietnam was a limited war with few legitimate targets. He does believe LINEBACKER II was a successful military operation, but that it succeeded because it "was based in the campaign's limited objective of forcing the North Vietnamese to negotiate."[494]

Did the campaign matter considering the political climate at home and abroad?

Admiral U. S. Grant Sharp, in his treatise *Strategy for Defeat: Vietnam in Retrospect*, was justifiably harsh on the civilian leaders, particularly in the early years of the war. As he termed it, their "strategy of equivocation," was particularly harmful.[495] He complained bitterly that the "no-win" strategy ultimately eroded and destroyed our national unity.[496]

Huge anti-war protests that continued from the Democratic National Convention in Chicago in 1968 through the end of Nixon's first term in office split this nation more than since the Civil War. Nixon, like his predecessor, failed to win the war through escalation and coercion.[497] President Nixon's promise to end the war by preserving "Peace with Honor," meant that he would use any means to settle the war diplomatically, but with new a coercive initiative to make the peace talks fruitful. The President's new course of action reflected what the American military learned from Operation LINEBACKER I and reflected the mood of the Congress, the press, and an impatient public to end the war.

President Nixon used an infusion of material and emergency aid to South Vietnam to ensure their seat at the negotiating table. The President's delicate handling of the wayward ally was essential to ending the war. This was done despite the presence of 150,000 to 200,000 North Vietnamese troops within South

---

[491] Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996), 209-210.
[492] Phillip S. Michael, *The Strategic Significance of Linebacker II: Political, Military, and Beyond* (Carlisle Barracks, PA: U.S. Army War College, 2003) 4-14.
[493] Mark Clodfelter, *The Limits of Air Power: The American Bombing of North Vietnam* (New York: Free Press, 1989), 203-10.
[494] Michael, *The Strategic Significance of Linebacker II*, 13.
[495] Sharp, *Strategy for Defeat*, 269-70.
[496] Ibid.
[497] Trong Q. Phan, *An Analysis of Linebacker II Air Campaign: The Exceptional Application of US Air Coercion Strategy* (Lubbock, TX: Texas Tech University, 2002), 21.

Vietnam at the beginning of LINEBACKER II.[498] The presidential administrations from Eisenhower through Johnson miscalculated the political philosophy of the North Vietnamese, who were absolute Marxist-Leninists, closer at that point than even the Soviets. Nathan Leites observed in 1951:

> that the Communist code affirms that neither "feelings of distress about retreating," nor "conceptions of dignity" should be allowed to keep the Party from executing an expedient retreat: And retreat is expedient when the experience gained in attempting to hold an attacked position shows that not to retreat would involve greater losses. In Lenin's words, "to think we shall not be thrown back is utopian."[499]

Hanoi believed that the Easter Offensive would have a similar effect on America as the Tet. Anti-war protests would topple a president as it had done with Lyndon Johnson. Their misjudgment was in the difference in the resolve of the presidents. "Although Nixon continued to worry about the antiwar movement and its possible impact on Congress, he had survived the agitation that followed the invasion of Cambodia and the shootings at Kent State University and seemed increasingly likely to win reelection."[500] General William Momyer wrote of the 1972 Easter offensive and U.S. reactions:

> With the U.S. withdrawing, they probably thought the U.S. public wouldn't permit a bombing campaign against their homeland. The fact that the U.S. sus-pended the peace talks on 4 May as the offensive was in full swing must have also been cause for concern among the North Vietnamese leadership. Surely their miscalculations on the employment of U.S. airpower, both in South Vietnam and against the homeland, were two most significant factors in their turn around in attitude about the negotiations.[501]

It was Richard Nixon, who was the anti-communist's role model, that broke the mold and reached out to Soviets and Chinese to begin détente. This wedge between the North Vietnamese and their benefactors made LINEBACKER II successful.

Headlines in American and European newspapers, describing LINEBACKER II, decried the "carpet bombing of a densely populated city, an interpretation based principally on the reports of a French journalist at Hanoi."[502]

---

[498] Earl H. Tilford Jr., *Crosswinds: The Air Force's Setup in Vietnam* (College Station, TX: Texas A&M University Press, 1993), 153.
[499] Nathan Leites, The Operational Code of the Polit Bureau (New York: _, 1951), 61, 83-84 quoted in Charles Wolf, Jr., "The Logic of Failure: A Vietnam 'Lesson,'" (Santa Monica, CA: Rand Corporation paper P-4654-1), 3.
[500] John Schlight, *A War Too Long: The USAF in Southeast Asia 1961-1975* (Washington, D.C." Air Force History and Museums Program, GPO, 1996), 88.
[501] William W. Momyer, *Airpower in three Wars (WWII, Korea, Vietnam)* (Maxwell AFB, AL: Air University Press, Maxwell Air Force Base, 2003), 372-73.
[502] Schlight, *A War Too Long*, 100.

What changes did LINEBACKER II bring about in strategic thinking?

Edward E. Rice wrote a remarkable treatise on the effects of Third World warfare in 1988, entitled *Wars of the Third Kind: Conflict in Underdeveloped Countries*.[503] The author penned what could be an obituary of the U.S. involvement in Vietnam:

> Wars of the third kind,[504] besides devastating the lands in which they are fought, can pose serious dangers to powers that become involved in them. These risks are of two kinds: they can lead to military disaster, and they can undermine the polity of the state. These dangers arise from initial underestimation of the problems that wars against the weak can pose for the strong, and subsequent inability to bring them to a successful conclusion.
>
> Frustration over inability to bring a war of the third kind to a successful conclusion and unwillingness to cut their losses tend to cause a country's leaders to look beyond the theater in which it is being fought for the root of their difficulties. In doing so they are likely both to extend the geographic scope of the conflict and to enlarge the dimensions of their problem. Leadership implies an ability to choose right paths, whereas turning back would imply admission of error. Because such admissions are seldom willingly made, it is in the democracies, with their freedom of the press, their competition between political parties, and their provisions for the peaceful transfer of power, that there is the best chance of abandoning a wrong course before it ends in disaster.[505]

The Vietnam War remains a perplexing realty to both strategic thinkers and historians. The so-called "wars of the third kind," that is wars in the Third World, offer many lessons but are not easily observed. Counterinsurgency conflict, such as Vietnam, "remains the forgotten stepchild of strategy."[506] American politicians and strategists had either never learned about historical parallels, particularly the Philippine Insurrection, fighting Poncho Villa in Mexico, or, most egregiously, forgot the French debacle in Vietnam. Vietnam was considered to be a "one-of" in these circles. It was so painful to the national psyche that it was all but ignored in post war planning. Some lessons are derived from Edward Rice's treatise—never extend local wars to adjacent states and do not make comparative analogies with war scenarios that are more comfortable, conventional wars.[507]

The war offered many questions among war planners, both ground and air, about in what types of scenarios should certain weapons systems be used and whether massive numbers of ground troops should be deployed. In an almost pure guerilla insurgency, can large scale insertion of ground troops control whole areas the sizes of provinces? The Spanish-American philosopher said in an often-repeated quote that "Those who cannot remember the past are condemned to repeat it." The maxim can be traced back at least to the Crusades, when the Christian kingdoms owned the Holy Land during the day and patrolled from their protected castles in armed sweeps. The Muslims owned the night and eventually swallowed the Christian kingdoms. The United States and its ally South Vietnam did not learn this lesson. Insurgents swarmed by the tens of thousands, even during the major bombing campaigns.

---

[503] Edward E. Rice, *Wars of the Third Kind: Conflict in Underdeveloped Countries* (Oakland, CA: University of California Press, 1988).
[504] Wars of the First Kind are nuclear confrontations. Wars of the Second Kind are conventional wars.
[505] Rice, *Wars of the Third Kind,* 118.
[506] Gregory F. Treverton, "Wars pf the Third Kind: Conflict in Underdeveloped Countries," *Foreign Affairs* (Winter 1988/89), review of Edward E. Rice, *Wars of the Third Kind: Conflict in Underdeveloped Countries* (Berkeley, CA: University of California Press, 1988).
[507] Rice, *Wars of the Third Kind,* 119-149.

One question that arose from this was "could coercion from the pure use of airpower work on an enemy who adopted a conventional warfare vulnerable to air power?" The answer is yes. The massive use of air power blunted both the Tet Offensive (1968) and the Easter Offensive (1972). During Hanoi's switch to conventional warfare in 1972, Hanoi's capabilities "were severely weakened due to the destruction of their war making materiel and infrastructure."[508]

The reverse of the above scenario is also pertinent. If an enemy is willing to bear the cost of demoralizing damage, might it be impervious to coercion? Again, the answer in Vietnam was yes, up to a point. The misguided strategies of two American presidents to dangle enticements, with hopes to lure the North to come to the negotiating table actually aided North Vietnam in its quest to unify the Vietnams. The north had little to lose and foreign aid from Russia and China to replenish its materiel losses. It was only the détente begun by President Nixon that separated the Russians and Chinese from the client state that allowed the Linebackers to succeed. Hanoi's population was largely indifferent to coercion during the Johnson Administration.[509] Only when President Nixon broke with Johnson's strategy of ARC LIGHT and ROLLING THUNDER missions, and unleashed LINEBACKER I and LINEBACKER II, did the American's achieve their goal of getting out of Vietnam.[510]

From post-World War II to the beginning of the Vietnam War, strategic bombers existed to execute their missions as part of the Strategic Air Command in a nuclear war. Vietnam changed that. After the "Big Belly" conversion of B-52D models, and use of wing pylons for additional ordnance, strategic bombers delivered massive non-nuclear devastation at a relatively low economic cost. The LINEBACKER II missions allowed planners and designers to allow for such missions with the B-1 Lancer and the B-2 Spirit.[511] Warfare in an environment that is prone to constant cloud cover and monsoonal seasons meant that all-weather bombers could attack the enemy when tactical strike aircraft could not. It also forced Air Force planners to mix ordnance using guided smart weapons and unguided munitions.[512]

The nature of how campaigns are fought and the political landscape behind them is evident in the differences between the Johnson and Nixon administrations. "Unlike President Johnson, who preferred close personal control over individual targets, President Nixon tended, with some exceptions, to authorize strikes against areas or classes of targets and leave the details to his military commanders."[513]

Was Air Force doctrine influenced by the campaign?

Airpower doctrine evolved directly from both Linebacker campaigns. LINEBACKER I prepared the way for precision engagement and LINEBACKER II proved the concept, first espoused by Giulio Douhet, that airpower is a tool of influence.[514] Since the end of the Vietnam War, airpower doctrine theorists have studied two distinct ideas: precision attack at little cost to aircraft and crews, and the ability to deliver widespread destruction to coerce the enemy to bowing to one's will.[515] These concepts came to maturity in 1972.

---

[508] Phan, "An Analysis of Linebacker II," 22.
[509] Pape, *Bombing to Win*, 209-210.
[510] Edgar Ulsamer, "The Lessons of Vietnam: USAF Prepares for Future Contingencies," *Air Force Magazine* (June 1973): 36.
[511] Phan, "An Analysis of Linebacker II," 22.
[512] Ulsamer, "The Lessons of Vietnam," 36-38.
[513] Schlight, *A War Too Long*, 91.
[514] Giulio Douhet, *The Command of the Air* (Washington, D.C.: Office of Air Force History, 1983), 126.
[515] Robynn C. Rodman, *Hanoi to Baghdad: Linebacker's Impact on Modern Airpower* (Maxwell AFB, AL: Air University, 2006), 20.

Technological advances in precision guided munitions (PGM) came into mainstream combat during LINEBACKER I and LINEBACKER II. Tactical attack aircraft, particularly F-4 Phantoms and F-105 Thunderchief "Wild Weasels" hit SAM radars with regularity as soon as they turned on their search radars ("Fan Songs"). During the first three days of LINEBACKER II, tactical escort fighters did not accompany the B-52s. Loss estimates prior to the campaign placed a probability of three percent. The total number of BUFFs lost during the eleven-day was fifteen. The loss of these big bombers, the pride of SAC, and the ultimate extension of airpower to the United States, created many problems in tactics and in morale. The B-52s dropped iron "dumb" bombs, but in massive amounts – 15,000 tons. TAC, Navy, and Marine aircraft dropped the "smart" bombs.

The ultimate questions asked and lessons learned were in what manner and at what time specific weapons systems should be used. Post-Vietnam airpower doctrine can be traced through the Air Force Manual (AFM) 1-1. The role of the Air Force focused on fighting a conventional war in which the opponent is a first or second world nation.[516] The manual showed little change in its 1984 revision, but the 1992 edition published immediately following Operation DESERT STORM, placed strategic bombing at a lower priority.[517] Theorist Raymond W. Leonard believes that this was probably due to the end of the Cold War.[518] The 1992 edition also places airpower in a secondary role in non-conventional wars.[519]

Leonard also asserts that strategic thought about LINEBACKER II changed during the 1980s.[520] Theorists split into two divergent camps. The traditionalists emphasized the success of the massive bombing campaign, devastating North Vietnamese defenses and infrastructure. The revisionists focused on the Air Force's shortcomings in Vietnam and how strategic air power doctrine failed.[521]

The answer lies somewhere in the middle. The destructive power of strategic bombers is immense. Deployment of B-52s, B-1 Lancers, and B-2 Spirits has been a regular feature of conflicts in Europe, the Middle East and Asia. These weapons platforms can and do carry a wide variety of specialized munitions used in stand-off missions. This allows the bombers to fire their ordnance at targets while at great distances and keep them relatively safe from harm. Air Power did not fail in the Vietnam War, particularly once rules of engagement were relaxed. Proper deployment of strategic bombers in conventional roles brought the North Vietnamese to their knees. At the same time, this could not have been sustained without massive assistance from specialized tactical fighter-bombers and electronic counter-warfare measures (ECM) aircraft.

Prior to Vietnam, SACs mission was to deliver thermonuclear weapons in a war with the Soviet Union. That was the entire reason for its existence. SAC did not want to be part of the Vietnam War. Its air crews were trained for the missions of conventional carpet bombing, as were their predecessors in World War II and Korea. The political whims of three U.S. presidents changed that mission forever. The prestige of the B-52s made them a powerful tool in coercive diplomacy. The loss of some those great bombers opened the door to other views and other missions.

---

[516] Michael, "The Strategic Significance of Linebacker II," 14.
[517] Ibid.
[518] Raymond W. Leonard, "Learning From History: LINEBACKER II and U.S. Air Force Doctrine," *The Journal of Military History* (April 1994): 267.
[519] Ibid.
[520] Ibid.
[521] Ibid.

Where does the campaign fit in the study and history of aerial warfare?

LINEBACKER II is often referred to as an 11 Day War.[522] It compressed destruction dramatically in time and intensity to achieve political will over the enemy that took years in World War II. General William W. Momyer penned perhaps the best summary of the campaign's place in history:

> The 11-day campaign came to a close on the 29th of December 1972 when the North Vietnamese responded to the potential threat of continued air attacks to the economic, political, social, and military life of their country. It was apparent that airpower was the decisive factor leading to the peace agreement of 15 January 1973. The concentrated application of airpower produced the disruption, shock, and disorganization that can be realized only by compressing the attack and striking at the heart with virtually no restraints on military targets which influence the enemy's will to fight.[523]

LINEBACKER II became the gold standard for planners in subsequent campaigns. It ushered in completely new ways of thinking about how to use air assets, both individually and in concert with others. LINEBACKER I and LINEBACKER II illustrated the limitations of thought about what strategic bombers should be used for, how they should be used, what were the limits of supporting them from maintenance, escort aircraft, refueling, and the targets for which they were appropriate. The United States demonstrated, particularly in Iraq and Afghanistan, that bombers from the Continental United States or from forward bases in the western Pacific or Indian oceans, can strike targets anywhere. B-52s and their sisters can use force multiplier weapons, such as air launched cruise missiles (ALCMs) with nuclear or conventional warheads (CALCMs) to deliver pinpoint accuracy precision anywhere. LINEBACKER II was the origin of this capability.

Was the campaign influential in later operations, even today?

Without a doubt. The following list of operations illustrates how later campaigns built upon the knowledge and expertise gained from LINEBACKER II.[524]

1986 – Operation EL DORADO CANYON

During the fourteen intervening years between LINEBACKER II and the next mission to use the attack principles developed in that operation, the Air Force honed new skills and tactics. The United States intended to make a broad statement about fostering terrorism and perhaps remove one of its principal players. Operation EL DORADO CANYON used several FB-111s, dropping Laser Guided Bombs (LGBs) on a private compound in Libya to either kill President Muammar el-Qaddafi, or to dissuade him from his global terror activities.[525] The Aardvarks flew the entire route to and from the target over water

[522] Alan G. Dugard, *When the Wolf Rises: Linebacker II, The Eleven Day War* (Bloomington, IN: AuthorHouse, 2011).
[523] William W. Momyer, *Airpower in three Wars (WWII, Korea, Vietnam)* (Maxwell AFB, AL: Air University Press, 2003), 274.
[524] An excellent list and brief explanation for the following operations is found in Barbara Salazar Torreon,"U.S. Periods of War and Dates of Recent Conflicts," (Washington: Congressional Research Service, October 11, 2017).
[525] Rodman, "Hanoi to Baghdad," 20.

to eliminate the threat of terror attacks on allies.[526] Although the raid did not kill Qaddafi, it did remove one of his sons and some of his top aides. The raid achieved its purpose in proving that precision airpower can coerce a foe into changing his behavior.[527] EL DORADO CANYON moved airpower to the forefront of military planning and political thinking by the early 1990s.[528]

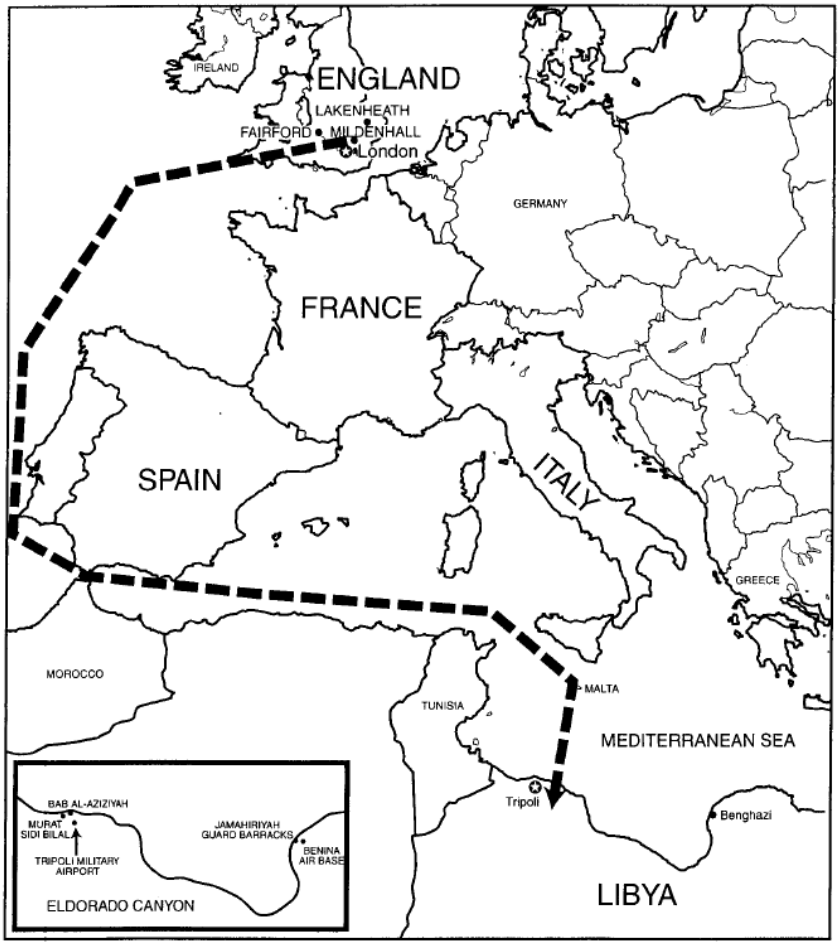


Figure 63. Operation EL DORADO CANYON. Source: Judy G. Endicott, "Raid on Libya: Operation Eldorado Canyon." http://www.afhso.af.mil/shared/media/document/AFD-120823-032.pdf, 147.

1990-1991 – Operations DESERT SHIELD and DESERT STORM

Iraq invaded Kuwait in 1990 and the United States and its allies responded by reconquering Kuwait and driving the Iraqis back toward Baghdad. Air Force planners did not want a repeat of the years of problems associated with the Vietnam War. The final plan, after hard-fought ideological battles, was to use

[526] For a more complete examination of Operation EL DORADO CANYON, see Gary D. Joiner, "OPERATION SENIOR SURPRISE: The Secret Squirrels and the opening of Operation Desert Storm," Report of the Strategy Alternatives Consortium (Shreveport, LA: Strategy Alternatives Consortium, 2016), 10-12.
[527] Marshall L. Michel, *The Eleven Days of Christmas: America's Last Vietnam Battle*, 1st ed. (San Francisco: Encounter Books, 2002), 234.
[528] Rodman, "Hanoi to Baghdad," 20.

Colonel John Warden's five concentric-ring theory.[529] This turned Clausewitzian theory on his head. Clausewitz, the great strategic thinker of the Napoleonic wars, believed that "Armies would clash on the periphery of each side's territory and then penetrate to the interior. This time, the Air Force would wage war from the inside out, the first truly strategic air war."[530] Warden called his plan INSTANT THUNDER, an homage to ROLLING THUNDER in Vietnam.[531] It was an unfortunate analogy, LINEBACKER would have been better. INSTANT THUNDER became the first portion of Operation DESERT STORM.

> Not everyone endorsed Warden's plan. Lt Gen Chuck Horner, the Joint Air Component Commander for Desert Storm, did not personally like Warden or his plan. General Colin Powell, Chairman of the Joint Chiefs, did not like the plan because it did not call for any strikes on Iraqi ground troops that had invaded Kuwait. Navy planners referred to the plan as Distant Blunder. Distant because Warden worked at the Pentagon and Blunder because they believed attacking Baghdad at the beginning of the campaign was a miscalculation.[532]

Warden's plan did indeed work. The opening mission of Operation DESERT STORM was Operation SENIOR SURPRISE. Seven B-52s from Barksdale Air Force Base, Louisiana, carried out the first raid of the war. They used the first weapons of their type – Conventional Air Launched Cruise Missiles (CALCMs). This opening round blinded the Iraqi forces, took out most of their power generating capacity, and eliminated their communication ability.

Figure 64. Second Bomb Wing B-52 H from Barksdale AIR FORCE BASE launching a AGM-86C CALCM. Source: Federation of American Scientists file photo.

[529] Michael R. Gordon and General Bernard E. Trainor, *The Generals' War* (New York: Little Brown and Company, 1995), 78-79.
[530] Ibid., 80.
[531] Benjamin S. Lambeth, *The Transformation of American Air Power*, *Cornell Studies in Security Affairs* (Ithaca, NY.: Cornell University Press, 2000), 105.
[532] Michael, "The Strategic Significance of Linebacker II," 15.

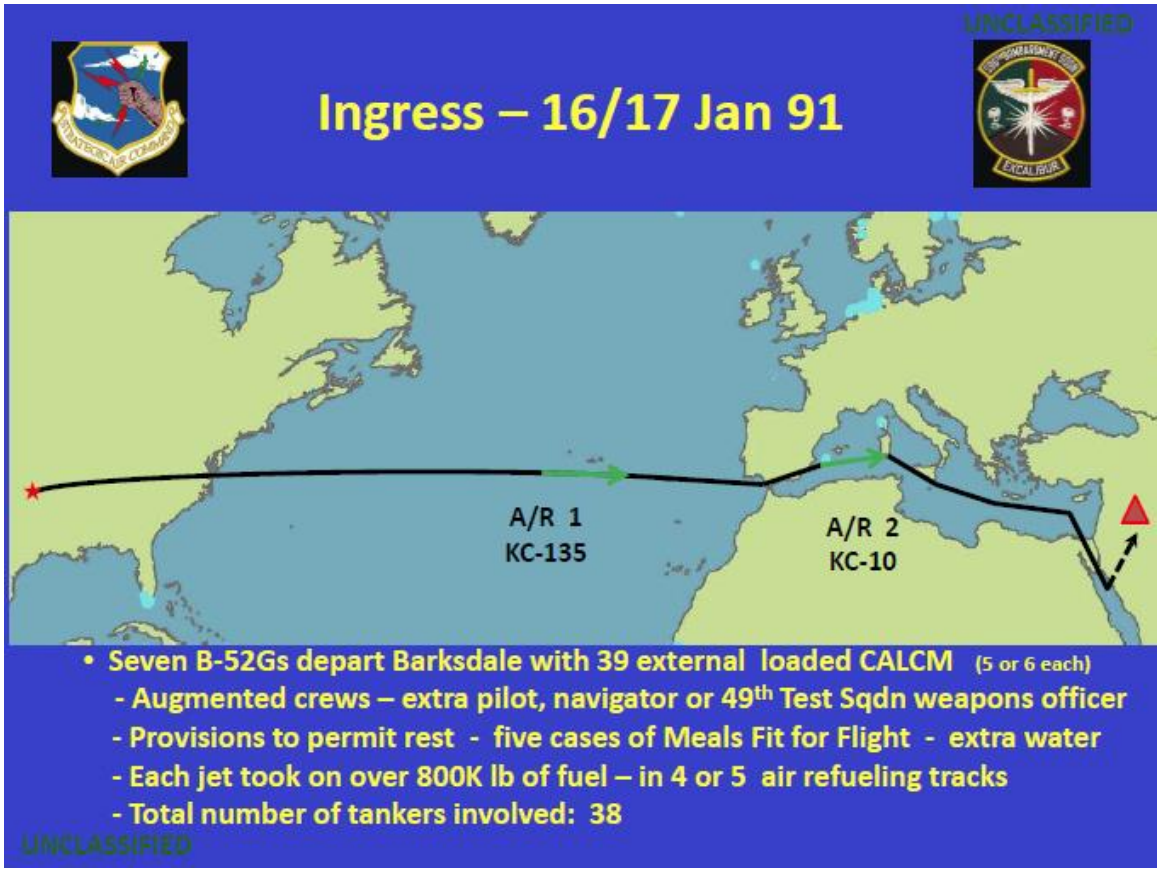


Figure 65. Map of Ingress, or the mission to the target, for SENIOR SURPRISE. Source: Courtesy of Col (ret) Warren Ward, USAF.

The Iraqi defenders fired blindly into the night of January 16, 1991, not knowing that their adversaries never crossed into their air space. SAC intelligence officers rated the damage assessment between 80 and 91 percent.[533] SENIOR SURPRISE, nicknamed SECRET SQUIRREL due its highly secret status, was the longest combat mission in history until that time. Its planning heritage was LINEBACKER II sorties and the FB-111 mission of EL DORADO CANYON. This time, however, the massive ordnance load capability of the venerable B-52 matched with the long-range destructive nature of the CALCM, gave new life to the both the bomber and increased its necessity as a major weapons platform.

1995 – Operation DELIBERATE FORCE

The former Yugoslavia was wracked by civil strife among its many ethnic groups after the end of the Cold War. Bosnian Serbs all but destroyed the city of Sarajevo. Negotiations continued over three years before the United Nations, NATO, and the United States took action. This was the first time in which air

[533] Report (Unclassified), 2BW/CCE, "Mackay Trophy Mission Narrative," n.d.; For a complete history of this raid see, Joiner, "OPERATION SENIOR SURPRISE, 16-28.

power, with no troops on the ground, brought about a peace agreement.[534] Coercive air power was the key to bringing the Serbs to the negotiating table.

1999 – Operation NOBLE ANVIL / ALLIED FORCE

The remnants of Yugoslavia, principally Serbia and Herzegovina, continued military operations and attacked its former component state, Kosovo. NATO responded. The action was opposed by China, Russia, and the United States, however, NATO went ahead with the operation. This was the first instance in which NATO conducted an operation without the approval of the United Nations Security Council.[535] The air component in this operation was decisive. A RAND Corporation assessment of the air component validated Clausewitz's concept that war is an extension of diplomacy by other means[536]:

> The most remarkable thing about Operation Allied Force is not that it defeated Milosevic in the end, but rather air power prevailed despite a NATO leadership that was unwilling to take major risks and an alliance that held together only with often paralyzing drag… After years of false promises by its outspoken prophets, air power has become an unprecedentedly capable instrument of force employment in joint warfare. Even in the best of circumstances, however, it can never be more effective than the strategy it is intended to support.[537]

2002 – Operation ANACONDA

The first operation on the War on Terror, which began with the suicide aircraft disasters on September 11, 2001, was an attempt to eliminate the terrorist plotters from their hideouts in Afghanistan. Operation ANACONDA was a combined arms affair with U.S. Army troops, CIA operatives, and local allies attempted to destroy al-Qaeda and Taliban forces, fighting high in the Shahi-Kot Valley and Arma Mountains southeast of Zormat.

Army personnel were forced to fight in the high mountains without artillery support and relied upon Air Force bombers for close support. The Taliban evacuated with heavy casualties after heavy fighting. Army generals, particularly the commander in Afghanistan, Major General Franklin Hagenbeck, complained about Air Force response to his forces' needs.[538] Thirty years after LINEBACKER II, the role of close support for ground troops remained controversial.[539] Despite the Army's criticism, it is highly unlikely that the ground forces would have carried the day in the engagement.

---

[534] Michael, "The Strategic Significance of Linebacker II," 16.
[535] *"15 years on: Looking back at NATO's 'humanitarian' bombing of Yugoslavia — RT News". www.rt.com.*
[536] Carl von Clausewitz. *On War*. Edited and Translated by Michael Howard and Peter J. Peret (Princeton, NJ: Princeton University Press, 1976).
[537] Rand Corp, "NATO's Air War Over Kosovo: A Strategic and Operational Assessment" (Santa Monica, CA: RAND Corporation, 2001).
[538] Michael, "The Strategic Significance of Linebacker II," 17.
[539] Ibid.

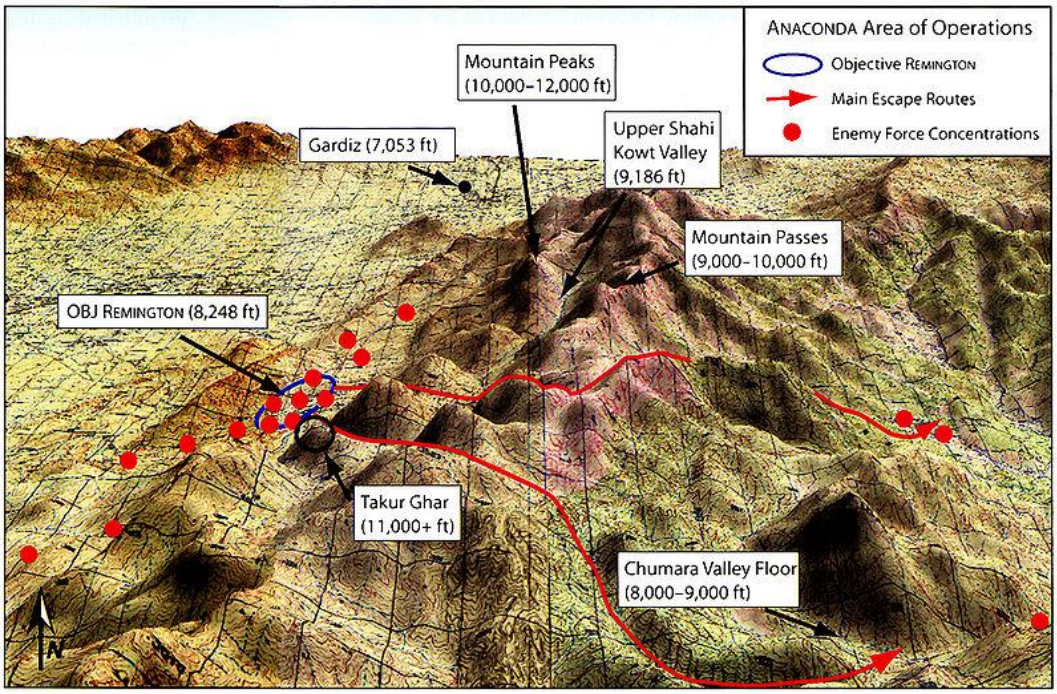


Figure 66. Area of operations, ANANCONDA, March 2 – March 10, 2002. Source: ConnecticutMagazine.org via Wikicommons.

2003 –2010 – Operation IRAQI FREEDOM

The destruction of Saddam Hussein's regime in Iraq was the focus of Operation IRAQI FREEDOM. U.S. Central Command (CENTCOM) chose 'Shock and Awe' for the name of the pending air operation. As in LINEBACKER II, airpower was envisioned as the means to coerce the enemy to change its behavior.[540] Shock and Awe was indeed impressive, but targeters made great mistakes. They hoped that the aerial assault would be so impressive that the Iraqi people would topple the dictator. Several principal targets in and near Baghdad were intentionally left off the list.[541] One planner at CENTCOM explained, "There was a hope that there would be a complete and utter collapse of the regime early on. In order to let that come to fruition, [air commanders] initially held back those targets."[542] The Iraqis stood by their dictator in this first crucial action in the war. The crucial lesson from LINEBACKER II was to create target lists that minimized civilian casualties and focus on military units and facilities. The full brunt of aerial bombing fell upon the elite Iraqi Republican Guards Medina, Baghdad, and Hammurabi divisions two weeks after Shock and Awe devastated Baghdad.[543] Following cessation of hostilities, coalition troops remained in Iraq. President Obama declared the mission completed with reduced forces put in place to assist in nation building and to fight ISIS.[544]

---

[540] Rodman, "Hanoi to Baghdad," 23.
[541] Williamson Murrary and Robert H. Scales, *The Iraq War: A Military History* (Cambridge, MA: Harvard University Press, 2005), 167.
[542] Ibid.
[543] Ibid., 174-75.
[544] The White House, Office of the Press Secretary, "Remarks by the President in Address to the Nation on the End of Combat Operations in Iraq," August 31, 2010, at https://obamawhitehouse.archives.gov/the-press remarks-president-office/2010/08/31/address-nation-end-combat-operations-iraq

2001 – 2014 – Operation ENDURING FREEDOM

Operation ENDURING FREEDOM was the continuation of Operation ANACONDA. This operation saw massive American ground troop involvement supported by Air Force bombers. The Second Iraq War pulled much of the ground force from Afghanistan, but troop levels increased again in 2009.[545] President Obama announced the end of ENDURING FREEDOM on December 28, 2014, however, combat still continues today.[546] Airpower played a huge part in this operation, particularly blasting away at mountain strongholds held by the Taliban and al-Qaeda. Precision weapons continued to be the weapon of choice, targeting caves and training camps while leaving villages unharmed. Two B-2 bombers from the 509th Bomb Wing in Whiteman Air Force Base, Missouri, conducted the longest bombing mission in history on November 13, 2014.[547]

2010 – 2011 – Operation NEW DAWN

Operation NEW DAWN was the new name for military operations in Iraq effective September 1, 2010.[548] On December 15, 2011, U.S. Armed Forces in Baghdad marked the official end of the war in Iraq.[549]

2015 – Present – Operation FREEDOM'S SENTINEL

Beginning January 1, 2015 and continuing today, Operation FREEDOM'S SENTINEL is the continuation of ENDURING FREEDOM. Basically, this operation is a reduced troop strength training operation for Afghani forces to aid in state building. Air strikes remain to combat Taliban concentrations. As in previous Afghan operations, strategic bombers are deployed from outside bases as needed.[550]

2014 – Present Islamic State-Operation INHERENT RESOLVE

Beginning October 15, 2014 and continuing, Operation INHERENT RESOLVE targets the

[545] The White House, Office of the Press Secretary, "Remarks by the President in Address to the Nation on the Way Forward in Afghanistan and Pakistan," press release, December 1, 2009. https://obamawhitehouse.archives.gov/the-press-office/remarks-president-address-nation-way-forward-aghanistan-and-pakistan.
[546] U.S. Department of Defense (DOD), "Obama, Hagel Mark End of Operation Enduring Freedom," news release, December 28, 2014, at https://www.defense.gov/News/Article/Article/603860/obama-hagel-mark-end-of-operation-enduring-freedom/ http://www.defense.gov/news/newsarticle.aspx?id=123887.
[547] Mel Deaile, "The Longest Bombing Run Ever," *On Patrol* (Winter 2014-2015), http://usoonpatrol.org/archives/2014/11/13/b-2-pilot-flew-longest-combat
[548] U.S. Army, "Operation New Dawn," August 31, 2010, at https://www.army.mil/article/44526/operation_new_dawn
[549] Kenneth Katzman and Carla E. Humud, "U.S. Policy Response to the Islamic State in Iraq," in CRS Report RS21968, *Iraq: Politics and Governance*.
[550] The White House, Office of the Press Secretary, "Statement by the President on Afghanistan," October 15, 2015, at https://obamawhitehouse.archives.gov/the-press-office/2015/10/15/statement-president-afghanistan

Islamic State (IS, ISIS, ISIL, Daesh) in Iraq and Syria.[551] Coalition forces are heavily engaged in both areas in what is, perhaps, the most complex political, military, and ethnic strife since the Yugoslavian issues of the 1990s. U.S. Air Force tactical and strategic bombers provide close air support to allied ground troops. Separately, Russia provides aircraft, advisors, and naval units provide assistance to the Syrian government against the Islamic State. The two sides are not mutually compatible.[552]

What were the lessons learned and legacies?

Military operations always yield results that may be hoped for or feared. In this case, the December 1972 bombing of North Vietnam yielded the desired response. North Vietnam returned to the negotiating table in Paris for the very first time with sincerity. The peace accords were signed less than three weeks after the attacks. If history is that simple, this operation would simply be a marker in a longer list of missions and that would end its study. LINEBACKER II must be considered in multiple contexts.

The first consideration is the timing of the operation, which was launched late in 1972 after the very successful LINEBACKER I missions of earlier that year. President Nixon halted that campaign, just as his predecessor Lyndon Johnson had done many times. The simple reason was to allow the North Vietnamese to see that the United States was sincere about negotiating. Every attempt to use this tactic allowed the North Vietnamese to rest, resupply, and become more entrenched in South Vietnam.

Second, planning from higher command headquarters, the Pentagon, and the White House must be viewed through the lens of commanders in direct contact with the enemy or their immediate superiors. LINEBACKER II made certain "truths" obsolete:

1. World War II saturation bombing was too predictable. Massed heavy bombers without fighter protection and using unchanged paths of ingress and egress yields loss of aircraft and crews.
2. Crew information MUST be used in planning upcoming raids.
3. Combined air offensive with TAC and Navy assets MUST be used to suppress defensive systems.
4. High Altitude Reconnaissance images (visual and multi-spectral) are required to properly assess damage on infrastructure and must be used real-time.
5. Numbered Air Force level leadership MUST be able to alter or interpret higher orders (within reason).
6. The one-day halt on Christmas emboldened North Vietnamese leaders and gave them time to resupply. The following days remedied that.
7. Constant pressure MUST be placed on the enemy. No rest. 24-hour raids.

Third, "smart" weapons and "dumb" weapons each have a place in the modern munitions inventory. Precision guided weapons (PGMs) are the weapon of choice for most missions. Targets in densely

[551] DOD, Operation Inherent Resolve, at http://www.inherentresolve.mil/About-Us/.

[552] The difference in the terms "IS, ISIS, and ISIL" is associated with the speaker's or writer's leanings rather than the terror group. IS refers to the so-called Islamic State, a self-imposed caliphate, based in Syria, but with factions in other countries. ISIS refers to the Islamic State in Syria. ISIL refers to the Islam State in the Levant (the eastern Mediterranean coast and hinterland from south of Turkey to the Gaza Strip. This term is used by those who do not want to recognize the State of Israel. Daesh" (or Da'ish) is an Arabic acronym formed from the initial letters of the group's previous name in Arabic - "al-Dawla al-Islamiya fil Iraq wa al-Sham." It does not have a meaning in Arabic. An excellent article on the terms is found in Faisal Irshaid, "Isis, Isil, IS or Daesh? One group, many names" BBC Monitoring http://www.bbc.com/news/world-middle-east-27994277 posted December 2, 2015.

populated areas or near high value cultural sites can be destroyed without harming (hopefully) civilians.[553] A significant drawback to PGMs is that although highly accurate, less force lessens the shock factor.[554] The Shock and Awe phase of Operation IRAQI FREEDOM looked great on television and took out command and control centers and defense communications targets, but it did not convince the Iraqi populace to rise up and remove their dictator. One Iraqi commented on the precision weapon attack on the Baghdad telephone exchange: "Speaking logically, they are precise, even if the goal is inhuman…With all the American's power, we expected the strike to be more devastating, we expected it to be leveled to the ground."[555] Iron bombs, or "dumb" bombs still have their place in the threat environment. Afghanistan and Syria are recent significant examples.

Fourth, prior to Vietnam, SACs sole purpose was the nuclear mission. When the big bombers were sent to the SEA theatre, crews had to learn a different set of skills, mentally retrofitting to World War II era tactics. This new set of procedures fit well into SACs method of rigid rules. However, the first three days of LINEBACKER II proved that the old bomber formations used over Germany and Japan did not translate to modern defenses, particularly SAMs. Not all crews were trained equally. Although all B-52s in the Vietnam War conducted conventional missions, some crews suffered from this during the First Iraq War.[556] Following that war, Air Combat Command (ACC) replaced SAC, shifting focus from nuclear to conventional. Now, crews trained for either nuclear or conventional roles by Wing and Squadron. The new century brought a revolution in weaponry that increased the flexibility and responsiveness, while the required training time shrunk.[557] This included training for ground crews as well as air crews. An incident in 2007 in which a B-52 from Barksdale Air Force Base accidentally brought a live nuclear warheaded cruise missile back to Louisiana from Minot Air Force Base (where the nuclear stockpiles were stored) illustrated a large gap in attention to rules and defining the seriousness of everyday procedures. The pendulum had swung far toward the conventional side.[558]

Fifth, Dr. Richard Hallion noted in *Storm Over Iraq* that the principal airpower lessons garnered between LINEBACKER II and the First Gulf War were technological.[559] The Air Force still utilizes the now much-upgraded B-52s. Newer bombers have joined the fleet, but it is still the B-52 that has the weapons capacity to delivery massive loads of ordnance.

Sixth, Dr. William P. Head posited perhaps the most telling legacy of the airpower strategy following Vietnam.

> In many ways, the Vietnam experience has had a reverse impact on operations. Airpower has been applied in America's most recent operations (e.g., the Persian Gulf War, Bosnia, and Kosovo) not according to the old theory of tactical aircraft per-forming only tactical roles and strategic aircraft performing only strategic roles but bomber, fighter, and

[553] John J. Nichols, *Three Reasons For Linebacker II's Success* (Montgomery, AL; Air Command and Staff College, Air University, Maxwell Air Force Base, 2006), 2
[554] Rodman, "Hanoi to Baghdad," 25.
[555] Murrary and Scales, *The Iraq War: A Military History*, 168.
[556] Ryan E. Gorecki, "Finding Balance for Dual-Role Bombers" Master's thesis (Maxwell AFB, AL: School of Advanced Air and Space Studies, 2011), v.
[557] Ibid.
[558] Ibid.
[559] Richard P. Hallion, *Storm over Iraq: Air Power and the Gulf War* (Washington: SmithsonianInstitution Press, 1992).

> fighter-bomber air assets—often carrying precision ordnance—accomplishing a variety of tactical and strategic missions. In these cases, circumstances dictate usage. Airmen no longer refer to aircraft as tactical or strategic aircraft, rather tactical or strategic assets that they realize can perform a variety of missions. Does this suggest that all future air campaigns will be fought under the same conditions as the Persian Gulf? The Bosnian and Kosovan intervention suggests, this will not be the case. Thus, one must ask: What if the United States finds itself in a low-intensity insurgency conflict containing jungle terrain and climate? Will Air Force doctrine and theory provide airmen with the foundation necessary to successfully prosecute such a war?[560]

Seventh, Lee Kennett authored a chapter in *Case Studies in Strategic Bombardment* entitled "Strategic Bombardment: A Retrospective," in which he pondered the need for strategic bombers.

> A half-century has passed since the incineration of Hiroshima and Nagasaki. Although it certainly would be premature to speak of the current epoch as "postnuclear," the menace of this form of city killing no longer looms so heavily as once it did. During this period, land- and sea-based ballistic missiles largely replaced the bomber in the strategic nuclear role, while fighter-bombers increasingly displaced it in the precision bombardment role. Configured for the contemporary come-as-you-are contingency war, however, the strategic bomber may yet know something of a renaissance and achieve some of the hopes held for it when it was still only an idea. It possesses features and capabilities that promise much: an internal bomb bay offers heavier, more diverse weapon loads; a multiperson crew permits extended, long-range missions; stealth technology masks its presence to the enemy; and by means of air-launched cruise missiles and laser-guided bombs, in recent years it has acquired the ability to direct incredible destructive power with extreme accuracy. We still have a great deal to learn from the Gulf War, but it has offered us a glimpse of a strategic air weaponry of extraordinary "efficacy."[561]

Eighth, and perhaps the most forward reaching subject from a leadership point, is the transition from bomber commanders to fighter commanders since the end of the Vietnam War. Two of the most prolific thinkers on this legacy are Mark Clodfelter and Mike Worden.

Clodfelter, in his *Limits of Air Power: The American Bombing of North Vietnam*, describes the evolution and chronology of bombing during the Vietnam War. He describes the view from the senior commanders throughout the war as being ham-strung by political restrictions and the final loosening of requirements during 1972 by the Nixon Administration.[562] He compares the Johnson Era war plans to that of the politicians and commanders in 1914, with continued blundering with no end in sight and no firm vision to either win or end war.[563] Clodfelter states: "Difficult to fathom is the air chiefs' lingering conviction that their doctrine was right throughout Vietnam – and that it is right for the future."[564] Speaking

---

[560] William P. Head, *War From Above the Clouds: B-52 Operations during the Second Indochina War and the Effects of the Air War on Theory and Doctrine* (Maxwell AFB, AL: Air University Press, 2002), 91.
[561] Lee Kennett, "Strategic Bombardment: A Retrospective," *in Case Studies in Strategic Bombardment*, R. Cargill Hall, editor (Washington: Air Force History and Museums Program, GPO, 1998), 631.
[562] Mark Clodfelter, *Limits of Air Power: The American Bombing of North Vietnam* (Lincoln, NE: University of Nebraska Press, 2006), passim.
[563] Clodfelter, *Limits of Air Power*, 209.
[564] Ibid.

of bomber general air chiefs in particular, he adds "Unlike generals after World War I, post-Vietnam air commanders have advocated no sweeping doctrinal changes. They parade Linebacker II as proof that bombing will work in limited war, and they dismiss the notion that too much force could trigger nuclear devastation."[565] Clodfelter is referring to Air Force Doctrine, which tends to ignore the lessons learned by the Vietnam War except for the conventional war actions by the North Vietnamese.

Rather than seeing a single-minded approach to deploying strategic airpower in every potential limited war, Clodfelter sees five variables that each result in required questions being answered. The result is a sliding scale of appropriateness. His variables are: 1. Nature of the enemy, 2. The type of war waged by the enemy, 3. Nature of the combat environment, 4. Magnitude of military controls, and 5. Nature of political objectives.[566] Using these five variables, it is difficult to agree with the decisions made by the Johnson White House and the early Nixon White House (1968-1971). Winning the Vietnam War by airpower alone was not possible and in many cases, should hot have been employed in the jungle warfare of most of the war. Airpower was successful against conventional war scenarios during the Tet Offensive in 1968 and the Easter Offensive in 1972. Richard Nixon's decision to not win the war, but extricate America from it, made the goals of the two LINEBACKER campaigns successful.

Mike Worden created the most in-depth study of the transition of Air Force leadership from "bomber generals" to "fighter generals."[567] Although the data is now largely outdated and suffers from realignments of commands and the creation of new Major Commands (MAJCOMs) from 1992 through the present, his points are still relevant.

Worden divides Air Force Air Force leadership by when they graduated from West Point or other universities and their ascension to power during World War II, at the end of World War II, the early Cold War, the early years of Vietnam, and beyond. The strategies and tactics evolved from the 1920s through the Korean War were almost purely created by men who had risen through the ranks in the bomber commands. Their efforts reached a pinnacle of success during the massive campaigns against Germany and Japan. Worden calls these generals "absolutists." The most stalwart of these leaders was General Curtis LeMay.[568] The development of the Strategic Air Command, largely under LeMay, was designed to do one thing – defend the United States with nuclear weapons while destroying any enemy (the Soviet Union) to the degree that only American would survive an all-out nuclear war. The most visible, and arguably the pinnacle of SACs power came during the Cuban Missile Crisis in October 1962.[569]

SAC all but gutted Tactical Air Command of funds in its quest for more bomber wings, more nuclear weapons, and more bases.[570] The fighter wings under SACs control were all nuclear capable.[571] The SAC commanders believed there would be no reason to have TAC if the enemy was the USSR and the war was thermonuclear.

When the United States became involved in Vietnam, SAC wanted no part of the operations. They were drawn in under the umbrella of Flexible Response.[572] For the first time, B-52s would be used in a type of warfare in which they were not designed to perform. Bombing unseen targets under a triple canopy of jungle could not guarantee results. As Kenneth P. Werrell suggested, the B-52s were not the correct weapon in Vietnam because there were few, or perhaps no, worthy targets.[573] There certainly were viable targets in North Vietnam, particularly in and around Hanoi and Haiphong, but they were out of bounds due to severe political restrictions during the Lyndon Johnson presidency. The senior Air Force commanders, all bomber

---

[565] Ibid., 209-10.
[566] Ibid., 218-21.
[567] Mike Worden, *Rise of the Fighter Generals: The Problem of Air force Leadership 1945-1982* (Maxwell AFB, AL: Air University, 1998), passim.
[568] Worden, *Rise of the Fighter Generals*, 55-89.
[569] Ibid., 103-125.
[570]
[571]
[572] Worden, *Rise of the Fighter Generals*, 133-152.
[573] Werrell, "Linebacker II: The Decisive Use of Airpower," 49-51.

generals, except for TAC, were overwhelmingly bound by tight ROE.[574]

Following the election of Richard Nixon as president, Air Force leaders were slowly allowed more leeway in ROE. Operations LINEBACKER and LINEBACKER II in 1972, unleased the power of the SAC heavy bombers, and finally ended with North Vietnam coming to the peace talks in earnest in January 1973. LINEBACKER II was such a powerful *coup de grâce*, that it was almost a separate war by itself. This was the vindication of the bomber generals.

Vietnam also saw a great need for TAC to be increased substantially. Funding for tactical fighter and fighter-bomber aircraft increased exponentially and bomber funding was reduced.[575] Within a seven-year period, the need for fighter pilots and ground crews increased with the multitude of new mission types.[576] Fighter pilots were and are trained differently than bomber crews. They are taught to be individual risk takers and make snap judgments. Worden and others believe that is why they have come to preeminence in command positions.[577]

During the two decades between 1973 and 1993, the primacy of bomber generals gave way to fighter generals in drastic fashion. Julie Bird cited the fact that by 1993, seven percent of all officers in the United States Air Force were fighter pilots, while seventy percent of all MAJCOMs were fighter pilots.[578] Simultaneously, all Air Force four-star generals were fighter pilots and more than half of three-star generals were as well.[579] Finally, eighty-five percent of all three- and four-star generals were rated (pilots).[580]

Air doctrine has seemingly ignored the Vietnam War as a "one-of." Limited war is viewed as the primary threat around the world rather than the Mutual Assured Destruction (MAD) theory of the Cold War. SACs success in LINEBACKER II may have been the beginning of its undoing. The training of the SAC crews and the perception of saving the B-52s from harm allowed mission planners to abort bombing missions if there was a perceived threat from SAMs.[581] When, as early as 1967, B-52s sortied into ground threat environments, Seventh Air Force TAC fighters covered them, suppressed SAM and AAA sites and performed air-to-air protection (MiGCAP).[582]

The preconception among SAC commanders that the B-52s could force their way into the high-threat areas of North Vietnam above the twentieth degree parallel with no fighter suppression and MiGCAP brought disaster to the BUFFs. During the campaign, fifteen of the heavy bombers were lost. Tactics used were simply World War II and Korea vintage carpet bombing techniques which will not work in a hostile environment that can launch hundreds of SAMs at a time. The losses decreased and ended during the middle and particularly the end of the operation. The North Vietnamese Army simply ran out of missiles and their supply lines were cut. The B-52s handled that part beautifully, but it was the tactical aircraft of the Seventh Air Force and the Navy's Task Force 77's tactical fighter-bombers, that kept the SAM and AAA fire down.

Another issue was the type of ordnance the B-52s delivered. The typical payload was a combination of 500 lb. and 750 lb. "dumb" bombs for saturation bombing. The fighter-bombers utilized high precision television or laser guided "smart" munitions. This increased accuracy, made the delivery "cheaper," and changed the minds of military planners and Congress toward the efficacy of all-purpose weapons platforms. If a fighter-bomber could carry the equivalent payload of a World War II B-17 or greater, what is the need

---

[574] Worden, *Rise of the Fighter Generals*, 57-177.

[575] Robert F. Futrell, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force, 1961-1984*, vol. 2 (Maxwell AFB, AL: Air University Press, 46, 121.

[576] Worden, *Rise of the Fighter Generals*, 185-20.

[577] Ibid., x-xi; Carl H. Builder, *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore, MD: Johns Hopkins University Press, 1989), 6-8.

[578] Julie Bird, "Fighter Mafia Taking Over," *Air Force Times*, February 1, 1993: 12-13.

[579] Ibid.

[580] Ibid.

[581] Momyer, *Air Power in Three Wars*, 283.

[582] Futrell, *Ideas, Concepts, Doctrine*, 288; Jack Broughton, *Going Downtown: The War Against Hanoi and Washington* (New York: Orion Books, 1988), x, 96, 104-5, 194, 233-38, 265, 280; Jack Broughton, , *Thud Ridge* (New York: Bantam Books, 1969), xv, 143; Frederick C. Blesse, *Check Six: A Fighter Pilot Looks Back* (New York: Ivy Books, 1987), 192-93; Robert F. Dorr, *Air War Hanoi* (London: Blandford Press, 1988), 72.

for strategic bombing platforms? The days of carpet bombing were thought to be over. The necessities of flying a bomb run straight and level for several minutes before bomb release and then making a sharp predictable turn afterward, invite almost sure death in the modern threat environment.

The next notable mission to use smart weaponry in strategic bombers came in 1986 with FB-111s using laser-guided munitions (LGMs) in Operation EL DORADO CANYON. Although imperfect, it led the way for strategic aircraft to deploy stand-off weapons. The opening night of the First Gulf War featured B-52s from Barksdale Air Force, Louisiana, fly from their base on an extremely long mission (Operation SENIOR SURPRISE), deploy Conventional Air Launched Cruise Missiles (CALCMs) and return home to Barksdale.

SAC and TAC were combined following the end of the First Gulf War. The Air Combat Command was believed to be a major cost cutting measure to integrate the two communities (strategic and tactical). The concept did not work as hoped. The styles of training, the philosophies of mission planning, the need for different personality types to command and conduct bomber and fighter missions are too diverse. It was widely perceived that due to cost cutting and a laxity of attitudes, training, and operational awareness reached an all-time low. A new MAJCOM came into existence on August 7, 2009 following an unintended nuclear weapons transfer from Minot Air Force Base to Barksdale Air Force Base in 2007.[583] ACC retained TAC fighter assets as well as tanker aircraft. All B-52s and B-2s were placed under the Air Force Global Strike Command (AFGSC). Recently both B-1 wings were reacquired by AFGSC. Strike Command houses all intercontinental ballistic missile wings, making it the operator of two thirds of the nuclear triad. AFGSC is headquartered at Barksdale Air Force Base, Louisiana and is commanded by a four-star rank general (General Robin Rand.) Without the official moniker attached, "SAC is back."

Tactical thinking changed the way strategic bombers evolved in the post-Vietnam world. The weapons used by TACAIR saw new life in a changing mission role for the strategic bombers. With the advent of the B-1 Lancer, and later the B-2 Spirit, the United States Air Force now has three different platforms for different missions. The B-52 is still a premier penetrator platform using CALCMs. It can also use nuclear war-headed Air Launched Cruise Missiles (ALCMs) in a nuclear threat environment. The B-1, due to politically enforced design changes (during the Jimmy Carter Administration) lost its penetrator role, but retains the ability to deploy massive amounts of ordnance in a stealthy configuration. The B-2 is a true stealth penetrator platform, but the cost per aircraft forced Congress to limit the number of them. The newly designed B-21 Raider will, theoretically, replace the B-1 and augment the B-52 and B-2 fleets.

Ultimately, the legacy of LINEBACKER II is that strategic bombers are relevant to the doctrine, needs, and duties to the United States Air Force. They operate over extremely long distances that tactical aircraft cannot perform without extensive refueling requirements. They carry geometrically more ordnance than their smaller cousins, can deploy cruise missiles hundreds of miles away and leave before detonation. Ultimately, they project American power and force of will anywhere in the world, as SAC believed. Strategic bomber theory, espoused by Douhet and Mitchell, remains pertinent.

[583] See https://en.wikipedia.org/wiki/2007_United_States_Air_Force_nuclear_weapons_incident for the details and fallout of the incident.

BIBLIOGRAPHY

"15 years on: Looking back at NATO's 'humanitarian' bombing of Yugoslavia." *RT News.* www.rt.com.

Atomic Heritage Foundation, "Project Silverplate," June 18, 2014. http://www.atomicheritage.org/history/project-silverplate

Ball, Desmond and Jeffrey Richelson, eds., *Strategic Nuclear Targeting.* Ithaca, NY: Cornell University Press, 1986.

Ballard, Jack S. *The United States in Southeast Asia: Development and Employment of Fixed-Wing Gunships, 1962–1972*. Washington D.C.: Office of Air Force History, 1982.

Berger, Carl, ed. *United States Air Force in Southeast Asia, 1961-1973: An Illustrated Account*. Washington, D.C.: Office of Air Force History, 1977.

Bird, Julie, "Fighter Mafia Taking Over," *Air Force Times* (February 1, 1993): 12-13.

Blaufuss, Phillip. Interviewed by Gary D. Joiner, Ph.D. and Ashley Dean on September 12, 2017.

Blesse, Frederick. *Check Six: A Fighter Pilot Looks Back*. New York: Ivy Books, 1987.

Bowie, Robert R. and Richard H. Immerman. *Waging Peace: How Eisenhower Shaped an Enduring Cold War Strategy*. New York: Oxford University Press, 1998.

Boyne, Walter J. *Boeing B-52: A Documentary History.* London: Jane's, 1981.

_____. "Linebacker II," *Air Force Magazine* (November 1997): 50-57.

Braestrup, Peter, ed., *Vietnam As History: Ten Years After the Paris Peace Accords*. Washington, D.C.: University Press of America, 1984.

"Briefing on Weapons Systems Evaluation Group (WSEG) Report No 12," April 6, 1955, *International Security* 6 (winter 1981-1982), 34.

Brodie, Bernard, ed. *The Absolute Weapon: Atomic Power and World Order*. New York: Harcourt, Brace, & World, 1946.

_____. *The Anatomy of Deterrence.* Santa Monica, CA: RAND Corporation, 1958.

Broughton, Jack. *Thud Ridge*. New York: Bantam Books, 1969.

Builder, Carl H. *The Masks of War: American Military Styles in Strategy and Analysis*. Baltimore, MD: Johns Hopkins University Press, 1989.

Bundy, McGeorge. *Danger and Survival.* New York: Random House, 1988.

Burk, Vernon. *The USAF in the United Kingdom, 1948-1973: Organization*. USAFE Historical Monograph. Ramstein Air Base, Germany: Headquarters, United States Air Forces, Europe, 1977.

Cable, Larry. *Unholy Grail: The U.S. and the Wars in Vietnam, 1965–1968.* London: Routledge, 1991.

Clark, Gregory S. *Linebacker II: Achieving Strategic Surprise*. Newport, RI: Naval War College, 2002.

Clodfelter, Mark. "By Other Means: An Analysis of the LINEBACKER Bombing Campaigns as Instruments of National Policy," Masters Thesis, University of Nebraska, 1983.

_____. "Nixon and the Air Weapon," in *An American Dilemma: Vietnam, 1964–1973*, ed. Dennis E. Showalter and John G. Albert. Chicago, IL: Imprint Publishers, 1993.

_____. *The Limits of Air Power: The American Bombing of North Vietnam*. New York: Free Press, 1989.

Cochran, Thomas B., William M. Arkin, and Milton M. Hoenig. *Nuclear Weapons Data- book.* Cambridge, MA: Ballinger, 1984.

Coffey, Thomas M. *Iron Eagle: The Turbulent Life of General Curtis LeMay.* New York: Crown Publishers, 1986.

Condit, Doris M. *History of the Office of the Secretary of Defense: The Test of War, 1950-1953.* Washington, D.C.: Historical Office, Office of the Secretary of Defense, 1988.

Correll, John T., "Arc Light: The B-52s fought their war in Vietnam without ever leaving SAC," *Air Force Magazine* (January 2009): 58-62.

Cosmas, Graham A. *The Joint Chiefs of Staff and the War in Vietnam.* Washington, D.C.: Office of Joint History, 2012.

Cronin, Thomas E. and Sanford D. Greenberg, eds., *The Presidential Advisory System.* New York: Harper & Row, 1969.

Dawson, Alan. *55 Days: The Fall of South Vietnam.* Englewood Cliffs, NJ: Prentice-Hall, 1977.

Deaile, Mel, "The Longest Bombing Run Ever," *On Patrol* (Winter 2014-2015), http://usoonpatrol.org/archives/2014/11/13/b-2-pilot-flew-longest-combat.

Director of Operations, DCS, Plans and Operations, Headquarters USAF, study, "Analysis of B-52 Conventional Operations in SEA," October 29, 1965.

Dorr, Robert F. *Air War Hanoi*. London: Blandford Press, 1988.

Douhet,Guilio. *The Command of the Air.* Washington, D.C.: Office of Air Force History, 1983.

Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb (Film). Directed by Stanley Kubrick. Culver City, CA: Columbia Pictures, 1964.

Drew, Col Dennis M. *Rolling Thunder 1965: Anatomy of a Failure*. Maxwell Air Force Base, AL: Air and Command Staff College, Air University, 1986.

_____. "Vietnam, 'Wars of the Third Kind' and Air Force Doctrine," paper presented at Texas Tech University Center for the Study of the Vietnam Conflict, seminar on the Vietnam War, 18–21 April 1996.

Drenkowski, Dana and Lester W. Grau. *Patterns and Predictability: The Soviet Evaluation of Operation Linebacker II.* Fort Leavenworth, KS: U. S. Army Defense Technical Information Center, 2007. www.dtic.mil/dtic/aulimp/citations/gsa/2007_117432/142557.html.

Dugard, Alan G. *When the Wolf Rises: Linebacker II, The Eleven Day War*. Bloomington, IN: AuthorHouse, 2011.

Engelhardt, Tom. *The End of Victory Culture: Cold War America and the Disillusioning of a Generation*. Amherst, MA: University of Massachusetts Press, 2007.

Enthoven, Alain C. and K. Wayne Smith. *How Much Is Enough? Shaping the Defense Program, 1961-1969.* New York: Harper & Row, 1971.

Eschmann, Karl. *The Role of Tactical Air Support: Linebacker II.* Maxwell Air Force Base, LA: Air Command and Staff College, 1985.

Fail Safe (Film). Directed by Sidney Lumet. Culver City, CA: Columbia Pictures, 1964.

Federation of American Scientists (FAS). "Polaris A1". https://fas.org/nuke/guide/usa/slbm/a-1.htm

Fryklund, Richard. *100 Million Lives: Survival in a Nuclear War*. New York: Macmillan, 1962.

Fulghum, David and Maitland, Terrence. *South Vietnam on Trial: Mid-1970–1972*. Boston, MA: Boston Publishing Company, 1984.

Futrell, Robert F. *A Chronology of Important Airpower Events in Southeast Asia, 1950–1968.* Maxwell Air Force Base, AL.: Aerospace Studies Institute, Air University, May 1, 1969.

_____. *Ideas, Concepts, Doctrine: A History of Basic Thinking in the United States Air Force, 1907-1964.* Maxwell Air Force Base, AL.: Air University Press, 1974.

_____. *The United States Air Force in Korea, 1950-1953*. Washington, D.C.: AFCHO, 1983.

_____. *The United States Air Force in Southeast Asia: The Advisory Years to 1965*. Washington, D.C.: Office of Air Force History, 1981.

Gardner, Gen Trevor, Memorandum to Gen Nathan Twining, "ICBM Program, January 27, 1954," Twining Papers, box 72, Secretary of the Air Force Correspondence 1954, folder 2.

_____. Memorandum to Talbott and Gen Nathan Twining, "ICBM Acceleration Plan, March 2, 1954," Twining Papers, box 122, Top Secret file 1952-57, folder I, LC.

Gibson, J. William. *The Perfect War: Technowar in Vietnam*. Boston: Atlantic Monthly Press, 1986.

Goldberg, Alfred. ed. *A History of the United States Air Force, 1907-1987*. Princeton, NJ: D. Van Nostrand, Co., 1987.

Goldwater, Barry, "Airpower in Southeast Asia," *Congressional Record*, 93d Congress, 1st session, 1973, pt. 5:5346.

Goodman, Allan E. *The Lost Peace: America's Search for a Negotiated Settlement of the Vietnam War.* Stanfod, CA: Hoover Institution Press, 1978.

Goodpaster, Col A. J., "Conference with the President, Kistiakowsky, et al., November 25, 1960 and December 1, 1960," Eisenhower Presidential Papers, Dwight D. Eisenhower Library.

_____. "Conference with the President on November 4, 1957, November 6, 1957," Eisenhower Presidential Papers, Dwight D. Eisenhower Library.

_____. "Meeting of November 8, 1956, on Policy Questions Affecting Department of Defense, November 9, 1956," Eisenhower Presidential Papers, Dwight D. Eisenhower Library.

_____. "Meeting of December 19, 1956, on DoD Budget, Dec 20, 1956," Department of Energy Diary Series, Eisenhower Presidential Papers, Dwight D. Eisenhower Library.

Gordon, Michael R. and Gen Bernard E. Trainor. *The Generals' War.* New York: Little Brown and Company, 1995.

Gorecki, Ryan E., "Finding Balance for Dual-Role Bombers," Masters Thesis, Maxwell Air Force Base, AL: School of Advanced Air and Space Studies, 2011.

Griffin, Nicholas. *Ping-pong Diplomacy: The Secret History Behind the Game that Changed the World.* New York: Skyhorse Publishing, 2015.

Gropman, Alan, "Air power in Vietnam: Lost Opportunities," paper delivered 17 January 1986, Raleigh, N.C.

Guilmartin, Jr., John F. "Arc Light," *Encyclopedia of the Vietnam War.* Stanley I. Kutler, ed. New York: Charles Scribner's Sons, 1996.

Hall, R. Cargill, ed. *Case Studies in Strategic Bombardment*. Washington, D.C.: Air Force History and Museums Program, 1998.

Hallion, Richard P. *Storm over Iraq: Air Power and the Gulf War.* Washington, D.C.: Smithsonian Institute Press, 1992.

Harris, Warren L. *The Linebacker Campaigns: An Analysis.* Maxwell Air Force Base, AL: Air University, 1987.

Head, William P. *War From Above the Clouds: B-52 Operations during the Second Indochina War and the Effects of the Air War on Theory and Practice*. Maxwell Air Force Base, AL: Air University Press, 2002.

Hersh, Seymour M. *The Price of Power: Kissinger in the Nixon White House.* New York: Summit Books, 1983.

Hewlett, Richard G. and Francis Duncan, *A History of the United States Atomic Energy Commission*. Washington, D.C.: U.S. Atomic Energy Commission, 1972.

Hitch, Charles J. *Decisionmaking for Defense*. Berkeley, CA: University of California Press, 1965.

Hopkins, J. C. and Sheldon A. Goldberg. *The Development of Strategic Air Command, 1946-1986.* Offutt Air Force Base, NB: Office of the Historian, HQ SAC, 1986.

Joiner, Gary D. PhD., Alexander Mikaberidze PhD., and Ashley Dean. *Deterrence: A Brief History and a Case Study in Cold War Practice, Part I: 1945-1953*. Shreveport, LA: Strategy Alternatives Consortium: 2016.

Joiner, Gary, PhD. *Operation SENIOR SURPRISE: The Secret Squirrels and the Opening of Operation DESERT STORM.* Shreveport, LA: Strategy Alternatives Consortium, 2016.

Joint Chiefs of Staff, "JCS 1259/27, Unified Command Plan, Dec 2, 1946, and decision on December 12, 1946, RG 341, DCS/Ops, Dir of Plans, PO 323.361," November 8, 1943, National Archives and Records Administration.

Joint Chiefs of Staff, "JCS 2101/284," December 4, 1957, RG 218, Modem Military Division, National Archives and Records Administration.

Joint Chiefs of Staff, "Evaluation Board for Operation CROSSROADS, Final Report," June 30, 1947, RG 330, Records of the Office of the Secretary of Defense, National Archives and Records Administration.

Kahn, Herman. *On Thermonuclear War*, 2nd edition. New York: Free Press, 1960.

Kamps, Charles Tustin. *The JCS Target List: A Vietnam Myth That Distorts Military Thought, Air and Space Power Journal*. Maxwell Air Force Base, AL: Air University, 2001.

Kaplan, Fred. *The Wizards of Armageddon*. New York: Simon & Schuster, 1983.

Karalekas, Anne, *History of the Central Intelligence Agency.* Washington, D.C.: U.S. Government Printing Office, 1976.

Katzman, Kenneth and Carla E. Humud, "U.S. Policy Response to the Islamic State in Iraq," in CRS Report RS21968, *Iraq: Politics and Governance*.

Kaufmann, William W. *The McNamara Strategy*. New York: Harper & Row, 1964.

Keegan, George. *The Lessons of Vietnam*, ed. W. Scott Thompson and Danaldson Frezzell. New York: Crane, Russak, 1977.

Kennett, Lee. "Strategic Bombardment: A Retrospective," in *Case Studies in Strategic Bombardment*. R. Cargill Hall, editor. Dayton, OH: Air Force History and Museums Program, 1998.

Khyupenen, I. "Strategicheskkaya aviatsiya SShA v operatsii "Laynbeker-2" [US Strategic Aviation in Operation "Linebacker-2," *Voenno-istoricheskii zhurnal* (February 2005).

Killian, James R. *Sputnik, Scientists, and Eisenhower: A Memoir of the First Special Assistant to the President for Science and Technology*. Cambridge, MA: MIT Press, 1977.

Kissinger, Henry A. *The White House Years.* Boston: Little, Brown and Company, 1979.

Kohn, Richard H. and Joseph P. Harahan, eds. *Strategic Air Warfare: An Interview with Generals Curtis E. LeMay, Leon W. Johnson, David A. Burchinal, and Jack J. Catton.* Washington, D.C.: Office of Air Force History, 1988.

Korb, Lawrence J. *The Joint Chiefs of Staff: The First Twenty-Five Years.* Bloomington, IN.: University of Indiana Press, 1976.

Kozak, Warren. *Curtis LeMay: Strategist and Tactician*. Washington, D.C.: Regnery History, 2009.

Krapivina, Natalya. Moscow Russian Television station RTR, 1700 GMT, 03 March 2001.

Lambeth, Benjamin S. *NATO's Air War for Kosovo.* Santa Monica, CA: RAND Corporation, 2001.

_____. *The Transformation of American Air Power.* Ithaca, NY: Cornell University Press, 2000.

LeMay, Lt Gen Curtis E., Memorandum to Gen Thomas D. White, "B-52 Penetration Aids Modification Program," February 20, 1959.

_____. "Briefing Given to the Representatives of All Services at SAC Headquarters," *International Security* 6 (winter 1981-1982): 26-28.

_____. cable to Gen Nathan Twining, "SAC Capabilities, May 15, 1953," LeMay Papers, box B-203, B-27106 folder, Library of Congress.

_____. letter to Gen Nathan Twining, "Reece and Intelligence Capabilities," April 26, 1951.

_____. "Strategic Air Warfare: An Interview with Generals Curtis E. LeMay, Leon Johnson, David A. Burchinal, and Jack J. Catton," Washington, D.C., AFHO, 1988.

_____. "The Present Pattern," *Air University Quarterly Review* 12, no. 3 (winter and spring 1960-1961): 25-39.

_____. Memorandum to Gen Thomas D. White, "Vulnerability of SAC Bombers in Early 1960s," February 18, 1959.

LeMay, Curtis with MacKinlay Kantor, *Mission With LeMay: My Story.* Garden City, NY: Doubleday, 1965.

Leonard, Raymond W., "Learning from History: LINEBACKER II and U.S. Air Force Doctrine," *The Journal of Military History 58* (April 1994): 267-303.

Lewy, Guenter. *America in Vietnam*. New York: Oxford University Press, 1978.

Library of Congress, "President Johnson and his military advisers in the White House," Image, 1968.

Little, R. D., "Foundations of an Atomic Air Force and Operation SANDSTONE, 1946-1948" in *The History of Air Force Participation in the Atomic Energy Program, 1943-1953.* Pentagon: AF/CHO, n.d.

Lomperis, Timothy. *The War Everyone Lost – And Won: America's Intervention in Viet Nam's Twin Struggles.* Baton Rouge, LA: LSU Press, 1984.

Long, Lt Col William. *Target Selection Process.* Maxwell Air Force Base, AL: Air University Press, 1968.

MacKinlay, Kantor. *Mission With LeMay*. Garden City, NY: Doubleday 1965.

MACV, "History, January 1972–March 1973, July 15, 1973, Saigon, Republic of Vietnam."

MACV, *Linebacker Study* (unofficial/uncoordinated draft report), January 20, 1973, chap. 2, 2, File K712.041-19, AFHRA.

Mark, Eduard. *Aerial Interdiction: Air Power and Land Battle in Three American Wars.* Washington: Center for Air Force History, 1994.

Mason, Jr., Hubert Molloy. *The United States Air Force: A Turbulent History*. New York: Mason/Charter, 1976.

McCarthy, James R., and George B. Allison. *Linebacker IL· A View From the Rock.* Maxwell Air Force Base, AL: Air Power Institute, 1979.

McMaster, H. R. *Dereliction of Duty: Lyndon Johnson, Robert McNamara, The Joint Chiefs of Staff, and the Lies That Led to Vietnam*. New York: HarperCollins, 1997.

McNamara, Robert S. *Blundering into Disaster: Surviving the First Century of the Nuclear Age.* New York: Pantheon Books, 1986.

_____. *The Essence of Security: Reflections in Office*. New York: Harper & Row, 1968.

_____. "The 'No-Cities' Doctrine," in Robert J. Art and Kenneth N. Waltz, eds., *The Use of Force: International Politics and Foreign Policy.* Lanham, MD: University Press of America, 1983.

_____. "We Were Wrong, Terribly Wrong," *Newsweek*, April 16, 1995.

McNamara, Robert S. with Brian VanDeMark. *In Retrospect: The Tragedy and Lessons of Vietnam*. New York: Vintage Books, 1995.

Michael, Phillip S. *The Strategic Significance of Linebacker II: Political, Military, and Beyond.* Carlisle Barracks, PA: U.S. Army War College, 2003.

Michel III, Marshall L. *The 11 Days of Christmas: America's Last Vietnam Battle*. New York: Encounter Books, 2001.

Momyer, William W. *Airpower in Three Wars (WWII, Korea, and Vietnam)*. Washington, D.C.: Department of the Air Force, 1978.

Moody, Walton S. *Building a Strategic Air Force*. Dayton, OH: Air Force History and Museums Program, 1995.

Moorer, Thomas, "The Christmas Bombing of Hanoi – or How the POWs Got Home," Naval Aviation Museum Foundation, March 1981.

Morocco, John. *Rain of Fire: Air War, 1969–1973*, ed. Robert Manning, Vietnam Experience Series. Boston: Boston Publishing Co., 1986.

_____. *The Vietnam Experience: Thunder From Above, The Air War 1961-1968*. Boston, MA: Boston Publishing Company, 1984.

Nalty, Bernard C. *Air War over South Vietnam.* Washington, D.C.: Air Force History and Museums Program, 2009.

National Security Council Consultants Meeting, June 29, 1950, in *Foreign Relations of the United States*, 1950, 327-330.

National Security Council, "NSC 68, A Report to the National Security Council by the Executive Secretary on United States Objectives and Programs for National Security, Apr 14, 1950," *Naval War College Review* 27 (May-June 1975): 51-108.

National Security Council, "NSC Action No 1691b (I)," 318th Meeting, NSC, April 4, 1957.

New York Times, May 26, 1970.

Nichols, John J. *Three Reasons for Operation LINEBACKER II's Success.* Maxwell Air Force Base, AL: Air Command and Staff College, 2006.

Nicholson, Capt Charles A. *The USAF Response to the Spring 1972 NVN Offensive: Situation and Redeployment.* Hickam AFB, HI: PACAF HQ, Project CHECO/CH Division, Seventh Air Force, 1972.

Nixon, Richard M. *RN, The Memoirs of Richard Nixon*. New York: Grosset and Dunlap, 1978.

"Operations Crossroads," Washington, D.C.: Atomic Heritage Foundation, 2014. www.atomicheritage.org.

PACAF. *Command and Control*. Hickam AFB, HI: PACAF HQ, Project CHECO/CH Division, Seventh Air Force, 1973.

PACAF, "History, 1 July 1, 1971– June 30, 1972."

PACAF. *North Vietnamese Current Assessment,* vol. 7, *U.S. Air Force Operations in Defense of RVN.* Hickam AFB, HI: PACAF HQ, Project CHECO/CH Division, Seventh Air Force, 1972.

PACAF. *United States Air Force Operations in Laos: 1 Jan 70–30 Jun 71.* Hickam AFB, HI: PACAF HQ, Project CHECO/CH Division, Seventh Air Force, 1971.

PACAF. *USAF Air Operations against NVN, 1 Jul 71–30 Jun 72.* Hickam AFB, HI: PACAF HQ, Project CHECO/CH Division, Seventh Air Force, 1973.

Palmer, Bruce. *Grand Strategy for the 1980s*. Washington, D.C.: American Enterprises Institute for Public Policy Research, 1978.

Palmer, Dave R. *Summons of the Trumpet: US-Vietnam in Perspective.* San Rafael, CA: Presidio Press, 1978.

Pape, Robert A. *The Strategic Significance of Linebacker II: Political, Military, and Beyond.* Carlisle Barracks, PA: U.S. Army War College, 1996.

Park, W. Hays. "Linebacker and the Law of War." *Air University Review* 34 (Jan-Feb 1983): 2-30.

Patrick, Joe. "Air Force Colonel Jacksel 'Jack' Broughton & Air Force General John D. 'Jack' Lavelle: Testing the Rules of Engagement During the Vietnam War," *Vietnam* Magazine (December 1997): 45-52, 60-61.

Phan, Trong Q. *An Analysis of Linebacker II Air Campaign: The Exceptional Application of US Air Coercion Strategy*. Lubbock, TX: Texas Tech University, 2002.

Pike, Douglas. *PAVN: People's Army of North Vietnam*. Novato, CA: Presidio Press, 1986.

Porter, Capt Melvin. *Interdiction in Southeast Asia, 1965-1966.* Project CHECO, Southeast Asia Monograph Series, 1966.

Porter, Gareth. *A Peace Denied: The United States, Vietnam, and the Paris Agreements.* Bloomington, IN: Indiana University Press, 1975.

Porter, Melvin F. *Linebacker: Overview of the First 120 Days.* Hickam AFB, HI: PACAF HQ, Project CHECO/CH Division, Seventh Air Force, 1973.

Power, Thomas S. *Design for Survival.* New York: Coward-McCann, 1966.

_____. Memorandum to General Nathan Twining, "Command and Control of Polaris, Mar 6, 1959," Thomas D. White Papers, box 27, Command SAC folder, LC.

Prados, John. *The Soviet Estimate: U.S. Intelligence Analysis and Russian Military Strength.* New York: Dial Press, 1982.

Pringle, Peter and William Arkin. *S.I.O.P.: The Secret U.S. Plan for Nuclear War*. New York: W.W. Norton, 1983.

Quanbeck, Alton H. and Archie L. Wood, *Modernizing the Strategic Bomber Force.* Washington, D.C.: Brookings Institution, 1976.

Rearden, Steven L. *History of the Office of the Secretary of Defense: The Formative Years, 1947-1950.* Washington, D.C.: Historical Office, Office of the Secretary of Defense, 1984.

_____. "U.S. Bombardment Doctrine since 1945," *Case Studies in Strategic Bombardment*, R. Cargill Hall, ed. Washington, D.C.: Air Force History and Museums Program, 1998.

Record, Jeffrey. *The Wrong War: Why We Lost in Vietnam*. Annapolis, MD: Naval Institute Press, 1998.

Rice, Edward, E. *Wars of the Third Kind: Conflict in Underdeveloped Countries.* Oakland, CA: University of California Press, 1988.

Rodman, Robin C. *Hanoi to Baghdad: Linebacker's Impact on Modern Airpower.* Maxwell Air Force Base, AL: Air University, 2006.

Rosenberg, David. "A Smoking Radiating Ruin at the End of Two Hours: Documents on American War Plans for Nuclear War with the Soviet Union 1954-55," *International Security* 6, no. 3 (winter 1981/82): 3-38.

_____. "The Origins of Overkill: Nuclear Weapons and American Strategy, 1945-1960," *International Security* 7, no. 4 (spring 1983): 3-71.

_____. "U.S. Nuclear Stockpile, 1945 to 1950," *Bulletin of the Atomic Scientists* 38 (May 1982): 25-30.

Schaffer, Ronald. *Wings of Judgment: American Bombing in World War II.* New York: Oxford University Press, 1985.

Schandler, Col Herbert Y., "The President, the Secretary of Defense, and the Joint Chiefs of Staff: The Political Direction of the War," paper presented to the 1996 Vietnam Symposium, Texas Tech University, April 18, 1996.

Schlight, John. *A War too Long: The USAF in Southeast Asia 1961-1975.* Washington, D.C.: Air Force History and Museums Program, 1996.

_____. *The Air War in South Vietnam: The Years of the Offensive, 1965–1968.* Washington, D.C.: Office of Air Force History, 1988.

Seamans Jr., Robert C., Secretary of the Air Force, address, "Continuing Cooperation between NASA and DOD," 1969 Air Force Association Convention, Houston, TX, March 19, 1969.

Security Resources Panel of the Science Advisory Committee. *Deterrence and Survival in the Nuclear Age.* Washington, D.C.: U.S. Government Printing Office, 1957.

Seventh Air Force, "History, 1 July–31 December 1967."

Seventh Air Force, "History, 1 January–30 June 1968."

Seventh Air Force, "History, July 1, 1971– June 39, 1972."

Seventh Air Force, "History, Linebacker Operations, May 10 –October 23."

Seventh Air Force, "Weekly Air Intelligence Summary," Report, no. 6819, 11 May 1968.

Sharp, Ulysses S. Grant. *Strategy for Defeat, Vietnam in Retrospect*. San Rafael, CA: Presidio Press, 1978.

Sheehan, Neil, et al. *The Pentagon Papers as Published by the New York Times*. New York: The New York Times & Bantam Books, 1971.

Spatz, Gen Carl, "Air Power Pre-Eminent," Business Advisory Council, Hot Springs, VA, Oct 27, 1945, Spaatz Papers, box 268, Library of Congress, Washington D.C.

Strategic Air Command, "Activity Input to Project Corona Harvest, Arc Light," Offutt AFB, NB.: SAC/History Office, 1970.

Strategic Air Command, "History, January–June 1966."

Strategic Air Command, "History, January–June 1967."

Strategic Air Command, "History, July–December 1967."

Sullivan, John H. *The War Powers Resolution: a special study of the Committee on Foreign Affairs.* Washington, D.C.: U.S. Government Printing Office, 1982.

Summers, Jr., Harry G. *Historical Atlas of the Vietnam War.* Boston, MA: Houghton Mifflin, 1995.

Technological Capabilities Panel of the Science Advisory Committee, "Meeting the Threat of Surprise Attack," Feb 14, 1955, I: *5*, 37-46, Eisenhower Presidential Papers, Dwight D. Eisenhower Library.

The Gulf of Tonkin Resolution, August 10, 1964.

The White House, Office of the Press Secretary, "Remarks by the President in Address to the Nation on the End of Combat Operations in Iraq," August 31, 2010, at https://obamawhitehouse.archives.gov/the-press remarks-president-office/2010/08/31/address-nation-end-combat-operations-iraq.

The White House, Office of the Press Secretary, "Remarks by the President in Address to the Nation on the Way Forward in Afghanistan and Pakistan," press release, December 1, 2009. https://obamawhitehouse.archives.gov/the-press-office/remarks-president-address-nation-way-forward-aghanistan-and-pakistan.

The White House, Office of the Press Secretary, "Statement by the President on Afghanistan," October 15, 2015, https://obamawhitehouse.archives.gov/the-press-office/2015/10/15/statement-president-afghanistan.

Thompson, James C. *Rolling Thunder, Understanding Policy and Program Failure*. Chapel Hill, NC: University of North Carolina Press, 1980.

Tilford Jr., Earl H. *Crosswinds: The Air Force's Setup in Vietnam*. College Station, TX: Texas A&M University Press, 1993.

_____. *SETUP: What the Air Force Did in Vietnam and Why*. Maxwell Air Force Base, AL: Air University Press, 1991.

_____. "Bombing Our Way Back Home: The Commando Hunt and Menu Campaigns of 1969–1973," *Looking Back on the Vietnam War: A 1990s Perspective of Decisions, Combat, and Legacies.* William Head and Lawrence Grinter, eds. Westport, CN: Greenwood Press, 1993.

Tillman, Bennett. *LeMay*. New York: Palgrave Macmillan, 2007.

Todd, Lt Gen Walter E., "Evolution of Aerospace Power," *Air University Quarterly Review* 12 (winter-spring 1960-1961): 9-24.

Trest, Warren A. *Air Force Roles and Missions: A History*. Washington, D.C.: Air Force History and Museum Program, 1998.

Truman, Harry S. *Memoirs: Years of Trial and Hope*. Garden City, NY: Doubleday, 1956.

Ulsamer, Edgar, "The Lessons of Vietnam: USAF Prepares for Future Contingencies," *Air Force Magazine 56* (June 1973):34-40.

United States Army, "Operation New Dawn," August 31, 2010, https://www.army.mil/article/44526/operation_new_dawn.

United States Commission on the Organization of the Government for the Conduct of Foreign Policy, *Appendix K: Adequacy of Current Organization: Defense and Arms Control.* Washington, D.C.: U.S. Government Printing Office, June 1975.

United States Congress, Senate, Subcommittee of the Committee on Appropriations and the Committee on Armed Services, *Department of Defense Appropriations: Hearings on H.R. 10939*, 88th Cong, 2d sess, 1965, pt. 1.

_____. The Gulf of Tonkin Resolution or the Southeast Asia Resolution, Pub. L. 88–408, 78 Stat. 384, enacted August 10, 1964.

United States Department of Defense, "Obama, Hagel Mark End of Operation Enduring Freedom," news release, December 28, 2014, at https://www.defense.gov/News/Article/Article/603860/obama-hagel-mark-end-of-operation-enduring-freedom/ http://www.defense.gov/news/newsarticle.aspx?id=123887.

_____. "Operation Inherent Resolve," http://www.inherentresolve.mil/About-Us/.

_____. *The Pentagon Papers: The Senator Gravel Edition*, 4 vols. Boston: Beacon Press, 1971.

United States Department of Defense and Department of Energy, Press Release, "Summary of Declassified Nuclear Stockpile Information," June 1994.

United States Strategic Bombing Survey (USSBS). *Summary Report (European War).* Washington, D.C.: U.S. Government Printing Office, September 30, 1945.

von Clausewitz Carl. *On War.* Edited and Translated by Michael Howard and Peter J. Peret. Princeton, NJ: Princeton University Press, 1976.

Werrell, Kenneth P., "Linebacker II: The Decisive Use of Airpower?" *Air University Review 38,* 2 (January-March 1987): 49-51.

_____. "The Strategic Bombing of Germany in World War II: Cost and Accomplishments," *Journal of American History* 73 (December 1986): 702-713.

"What Christmas Bombing Did to North Vietnam," *US News and World Report* (5 February 1973): 18.

Wilcox, Christopher M. *Lessons from Vietnam: Should B-52 Squadrons Perform Both Nuclear and Conventional Mission?* Maxwell Air Force Base, AL: Air and Command Staff College, Air University, 2009.

Williamson, Murray, and Robert H. Scales, *The Iraq War: A Military History.* Cambridge, MA: Harvard University Press, 2005.

Wohlstetter, Albert J. *A Little Answer and Some Big Questions for the Target Systems Analysis.* Santa Monica, CA: RAND Corporation, 1952.

_____. *Protecting U.S. Power to Strike Back in the 1950s and 1960s.* Santa Monica, CA: RAND Corporation, 1956.

_____. *Selection and Use of Strategic Air Bases.* Santa Monica, CA: RAND Corporation, 1954.

_____. *Special Staff Report: The Selection of Strategic Air Bases.* Santa Monica, CA: RAND Corporation, 1953.

_____. *The Delicate Balance of Terror.* Santa Monica, CA: RAND Corporation, 1958.

Wolf, Jr., Charles. *The Logic of Failure: A Vietnam 'Lesson.'* Santa Monica, CA: RAND Corporation, 1971.

Wood, Lee, "ARC LIGHT Route Packages," airbattle.co.uk.

Worden, Mike. *Rise of the Fighter Generals: The Problem of Air Force Leadership 1945-1982*. Maxwell Air Force Base, AL: Air University Press, 1998.

Ziemke, Caroline, "In the Shadow of the Giant: USAF Tactical Air Command in the Era of Strategic Bombing, 1945-1955." PhD dissertation, Ohio State University, 1989.