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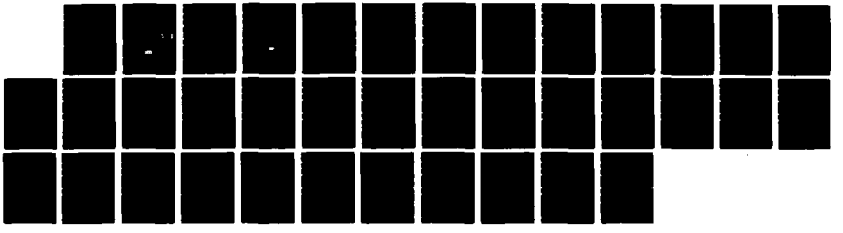

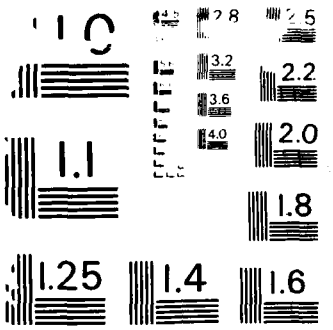

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AFP 110-31: International Law–The Conduct Of Armed Conflict And Air Operations And The Linebacker Bombing Campaigns Of The Vietnam War

by

George N. Walne

A Division of CNA *Hudson Institute*

CENTER FOR NAVAL ANALYSES

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INTRODUCTION

AFP 110-31, International Law--The Conduct of Armed Conflict and Air Operations, is the first pamphlet published by the United States Air Force on the law of war. Its purpose is to explain the principles of the law of armed conflict, particularly as they apply to air operations. Its chapters contain discussions of the context, determinants, applications, and observance of the law of armed conflict; the status of airspace and aircraft; the status of combatants, noncombatants, and civilians; air-to-air and naval operations; aerial bombardment; aerial weapons; uniform, insignia, and marking requirements; perfidy and ruses; espionage and sabotage; and enforcement measures. In addition, the pamphlet addresses the Geneva Conventions, states' obligations to observe and enforce the law, and individual criminal responsibility for acts violating it.

The part of the pamphlet of most concern to those who will plan, direct, and execute future bombing campaigns is chapter 5, "Aerial Bombardment," which sets forth restrictions on aerial bombardment designed to protect civilian populations from unnecessary suffering. It would be natural for any airman faced with these restrictions in a future campaign to question their practicality. Are the restrictions realistic? Is it possible to conduct aerial bombardment campaigns that are both in compliance with the restrictions and militarily effective?

This paper addresses these concerns by applying the standards in AFP 110-31 governing aerial bombardment to two particularly controversial aerial campaigns of the Vietnam War--Linebacker I and Linebacker II. It begins by briefly surveying the two campaigns and discusses in detail the rules of aerial bombardment contained in chapter 5. It then critiques the campaigns by examining the manner in which they were conducted in light of those rules. Finally, it assesses the campaigns' effectiveness by comparing their results to their military objectives.

This analysis concludes that the Linebacker campaigns were militarily effective and that, had AFP 110-31 been in effect in 1972, the campaigns, as they were actually conducted, would have conformed to the pamphlet's restrictions on aerial bombardment. These campaigns demonstrate that the pamphlet's rules on aerial bombardment are practical and can be complied with, given the proper technology and a conscious effort by commanders, their staffs, and aircrews. They also demonstrate that compliance does not preclude the attainment of legitimate military objectives.

THE LINEBACKER CAMPAIGNS

LINEBACKER I

By March 1972, U.S. troop strength in South Vietnam had been reduced drastically from its 1969 high of 542,000 men to less than 130,000.[1] Sensing opportunity in the dwindling American commitment to support South Vietnam, the North Vietnamese decided to end their strategy of attrition and force a quick decision of the war. Accordingly, on March 30, they launched a full-scale invasion of South Vietnam by 14 divisions and 26 independent regiments supported by armor and artillery.[2] Initially successful, the North Vietnamese captured Loc Ninh, Dong Ha, and Quang Tri City and laid seige to An Loc and Kontum; however, the nature and scope of the invasion made it vulnerable to the interdiction of its logistical support by aerial bombardment.

On April 6, President Nixon reacted to the North Vietnamese onslaught by ordering full-scale bombing of North Vietnam. The following month, on May 8, he ordered the mining of Haiphong harbor and other North Vietnam ports. This aerial campaign against North Vietnam was eventually given the code name Linebacker I. Its objectives were to reduce the military resupply of North Vietnam from outside sources (mainly the Soviet Union and China), destroy stockpiles of equipment and supplies, destroy military targets in North Vietnam that supported the invasion in the South, and reduce the flow of forces and supplies into the South. The overall objective was to limit North Vietnam's ability to continue operations in South Vietnam, forcing it to resume meaningful negotiations.[3]

To achieve these objectives, the U.S. sent 41,653 B-52 and tactical bomber sorties over North Vietnam to drop 155,548 tons of bombs.[4] By the end of September, the North Vietnamese invasion had failed, and North Vietnamese delegates to the peace talks in Paris had become more cooperative. Satisfied with these results, President Nixon suspended all bombing north of the 20th parallel on October 23.

LINEBACKER II

North Vietnamese conciliation at the peace talks was short-lived, and by November 23 the discussions were stalled again. It was increasingly apparent that the North Vietnamese were using the talks to buy time while they rebuilt their forces and stocks of supplies for future operations in the South. Fed up with North Vietnamese intransigence and duplicity, Nixon, on December 14, decided to order reseeding

of the minefields at Haiphong and other ports and raids by B-52s and tactical bombers on North Vietnam, particularly on targets in the Hanoi and Haiphong areas.[5] This new effort, code-named Linebacker II, had two objectives. One was to halt the massive resupply effort that would enable the North Vietnamese to mount future large-scale efforts in the South. The more important objective was to shock the North Vietnamese into returning to the bargaining table in good faith.[6]

The bombing began on December 18 and continued around the clock for 12 days, with only a pause for Christmas day. During that period, 729 B-52 sorties and 2,123 tactical air sorties dropped 20,370 tons of bombs on transportation terminals, railyards, warehouses, power plants, airfields, and surface-to-air missile (SAM) sites.[7] On December 26, North Vietnam signaled its willingness to resume negotiations. Linebacker II was halted on December 29.

AFP 110-31, CHAPTER 5

The basis for this evaluation of the Linebacker campaigns is chapter 5 of AFP 110-31, "Aerial Bombardment," which discusses the application of the law of armed conflict to aerial bombardment. The chapter begins with a historical discussion of the development of the rules of warfare relative to aerial bombardment, from the Hague Balloon Declaration of 1899 to postwar measures such as the Geneva Conventions of 1949 and U.N. Resolution 2444 (XXIII). This discussion is followed by an explanation of the general restrictions on aerial bombardment designed to ensure compliance with the principle of general civilian immunity. Next, the chapter addresses the obligation of the parties to a conflict to separate their military activities from their civilian population and civilian objects. Following that is a discussion of the special protection to be afforded the sick and wounded; medical facilities; special neutral zones; religious, cultural, and charitable buildings and monuments; and prisoner-of-war camps. Finally, the chapter ends with a brief discussion of the dissemination of propaganda from aircraft.

GENERAL RESTRICTIONS ON AERIAL BOMBARDMENT

The most important part of the chapter is the explanation of the general restrictions designed to protect civilians from the effects of aerial bombardment. There are five of these restrictions: protection of civilian populations and objects, limit of attacks to military objectives, precautions in attack, restraints on attacks on works and installations containing dangerous forces, and prohibition of attacks against undefended areas. These restrictions arise from, and are intended to fulfill, the principle of humanity, which, according to chapter 1 of the pamphlet, "results in a specific prohibition against unnecessary suffering...[and]...confirms the basic immunity of civilian populations and civilians from being objects of attack during armed conflict."[8] Although this basic immunity prohibits direct attack on civilians, it

> ...does not preclude unavoidable incidental civilian casualties which may occur during the course of attacks against military objectives, and which are not excessive in relation to the concrete and direct military advantage anticipated.[9]

Chapter 5 enumerates and explains a set of rules to enforce each of the restrictions.

Protection of Civilian Populations

To uphold the first restriction, protection of civilian populations and objects, the pamphlet expressly forbids direct attacks on civilian populations and individ al civilians as well as attacks intended to terrorize civilians. However, the prohibition does not apply to civilians who take a direct part in actual fighting, for example, by manning antiaircraft weapons. Civilians also lose their immunity if they are used to "shield a defensive position, to hide military objectives, or to screen an attack." They are also without protection if they are employed in war activities such as building bridges or working in armaments factories.[10]

Along with the prohibition against direct attacks on civilians goes a prohibition against attacks on civilian objects, which the pamphlet defines as "all objects which are not military objectives."[11] Two factors determine whether an object is a civilian object: location and prior use.

Attacks Limited to Military Objectives

The second restriction prescribed by chapter 5 requires that attacks be strictly limited to military objectives. The pamphlet defines military objectives as

> ...those objects which by their own nature, location, purpose, or use make an effective contribution to military action and whose total or partial destruction, capture, or neutralization in the circumstances ruling at the time offers a definite military advantage.[12]

Although some objects such as fortified lines or positions, armored vehicles, or troops in the field are without doubt military objectives, there can be some dispute over the status of other objects. The pamphlet points out that it is not the inherent nature of objects that determines whether they are military objectives. Instead, it is

> ...whether they make an effective contribution to an adversary's military action so that their capture, destruction, or neutralization offers a definite military advantage in the circumstances ruling at the time.[13]

Precautions in Attack

Chapter 5's third restriction, precautions in attack, recognizes that an intention to attack only military objectives and to eschew direct attacks against civilians and civilian objects may not be enough to prevent severe loss of civilian life and extensive damage to civilian property. This unintended result would occur because

> ...states have not always separated military activities from civilian activities, [consequently,] a geographical and functional mixture of combatants and civilians and military objectives and civilian objects often results. The requirement for precautionary measures recognizes this reality.[14]

Accordingly, AFP 110-31 states that "those who plan or decide upon an attack must do everything feasible" to verify that objectives to be attacked are military and not civilian. They must also "take all feasible precautions in the choice of means and methods of attack" to at least minimize or, if possible, avoid incidental harm to civilians and damage to civilian objects. Further, they must "refrain from deciding to launch any attack" that could be expected to cause incidental harm to civilians and/or damage to civilian objects that "would be excessive in relation to the concrete and direct military advantage anticipated."[15]

When a choice is available between military objectives for attaining a similar military advantage, commanders and their staffs should elect to attack the military objective that exposes civilian lives and objects to the least danger. They must cancel or suspend an attack if they discover that their objective is not a military objective, that it is subject to special protection under international law, or that it is so situated that to attack it would result in harm to civilians or civilian objects "which would be excessive in relation to the concrete and direct military advantage anticipated." Finally, they are required to give advance warning of an attack "which may affect the civilian population unless circumstances do not permit."[16]

This last requirement is, perhaps, a bit quixotic. In fact, AFP 110-31 itself weakens it by acknowledging that

> ...the practice of states recognizes that warnings need not always be given. General warnings are more frequently given than specific warnings, lest the attacking force or the success of its mission be jeopardized.[17]

The fourth restriction discussed in the chapter places restraints on, but not prohibitions against, attacks on works and installations containing dangerous forces such as dams and nuclear power plants. The pamphlet explains that although many states have called for an absolute ban on attacks against such works and installations if such attacks would result in the release of the dangerous forces, the United States has not agreed to such a ban. It is the view of the United States that under certain circumstances such attacks are permissible. The decision of whether to attack should be guided by the principle of proportionality. An attack may be initiated if it would result in "a distinct and substantial military advantage" and if it did not cause "excessive" harm to civilians or civilian objects.[18]

Even though the United States refuses to accept an outright ban or special restriction on attacks against works and installations containing dangerous forces, it does recognize the potential for such attacks to result in widespread injury and damage. Consequently, the designation of such objects as targets is a "matter of national decision at appropriately high policy levels."[19]

Prohibition on Attacks Against Undefended Areas

The final restriction on aerial bombardment discussed in chapter 5 is a prohibition on attacks against undefended localities. The effect of this prohibition turns on the definition of an undefended locality. The United States considers any place behind enemy lines to be a defended place because it cannot be occupied without opposition. Under this view, military objectives in a city lacking any protection against aerial bombardment may be attacked lawfully if the city is in enemy-held territory and not open to occupation by ground forces.[20] In short, the United States considers any place behind enemy lines to be defended whether it is protected against aerial attack or not.

SEPARATION OF MILITARY ACTIVITIES

Having discussed restrictions on aerial bombardment designed to uphold the principle of civilian immunity, chapter 5 next turns to the corollary duties of belligerents to protect their civilian populations and civilian objects from attack. In order to ensure that their civilian populations and objects receive the benefits of the restrictions, belligerents should take steps to separate those populations and objects from military activities. To the extent feasible, belligerents should evacuate civilians from the vicinity of lawful military objectives and not place military objectives in or near densely populated areas. To protect civilian objects, such as churches, museums, schools, and

hospitals, belligerents may mark them with distinctive and visible signs and must not use them for military purposes.[21]

The pamphlet then discusses the consequences of failure to take these precautions:

> A party to a conflict which places its own citizens in positions of danger by failing to carry out the separation of military activities necessarily accepts, under international law, the results of otherwise lawful attacks upon valid military objectives in their territory.[22]

According to the pamphlet, one of the most effective ways to protect civilians would be for the belligerents to agree to the establishment of safety zones or demilitarized zones in which their populations would be immune from attack as long as the zones were maintained in accordance with international law.[23]

SPECIAL PROTECTION

Chapter 5 next explains special protections afforded by international law to certain persons, structures, and areas. The first of these are the wounded and the sick; medical units and hospitals; and medical means of transport. Under the 1949 Geneva Conventions, these must not be knowingly attacked or unnecessarily prevented from discharging their proper function. If they are located among or near military targets, however, and are accidently injured or damaged by attacks on those targets, the defender has no just cause for complaint.[24] Special hospital and neutralized zones established under the Geneva Conventions or by other agreement among belligerents are also immune from aerial bombardment.[25]

Immunity from attack is also granted to religious, cultural, and charitable buildings and monuments, but they must be distinctively and visibly marked and may not be used for military purposes. Lawful military objectives are still liable to attack even if located near such structures.[26]

Prisoners of war and the camps in which they are held are also protected under the law. Belligerents may not use POWs to shield military objectives and must shelter the POWs against aerial bombardment to the same extent as their civilian populations. Belligerents must also convey to each other complete information on the location of their camps. If circumstances permit, belligerents are to clearly mark their POW camps during daytime with the letters "PW" or "PG."[27]

CRITIQUE OF THE LINEBACKER CAMPAIGNS

Chapter 5 of AFP 110-31 is a clear statement of the rules of international law governing aerial bombardment as interpreted by the United States. If somewhat diluted in their effect by this interpretation, the rules, nevertheless, place definite restrictions on aerial bombardment and establish corollary responsibilities for belligerents toward their civilian populations. As will be seen, the conduct of the Linebacker campaigns demonstrates that the rules are practical and can be complied with, given the proper technology and a conscious effort by commanders, their staffs, and aircrews.

CIVILIAN POPULATIONS AND OBJECTS

The Linebacker campaigns were conducted in full compliance with the prohibition on direct attacks against civilian populations and civilian objects. No orders were given to aircrews to attack civilians or civilian structures.[28] On the contrary, during Linebacker I, the JCS instructed local commanders to take reasonable precautions to minimize incidental civilian casualties and avoid collateral damage to civilian structures.[29] Similarly, in its message initiating Linebacker II, the JCS specifically directed the Commander-in-Chief, Pacific, and the Commander-in-Chief, Strategic Air Command, to "exercise precaution to minimize risk of civilian casualties...."[30] These instructions clearly demonstrate an intent to avoid--not to inflict--civilian casualties and destruction of civilian objects.

This intention to avoid civilian casualties and destruction of civilian structures is reflected in the results of the campaigns, particularly Linebacker II in which B-52s were used in heavy raids in the Hanoi and Haiphong areas. These raids led to strident charges of "carpet bombing" and "barbarism" by Hanoi and the U.S. media and antiwar activists. A pair of newspaper editorial headlines that appeared at the time of the campaign give the impression that unlimited havoc was wreaked on North Vietnam: "Terror From the Skies" (New York Times, December 22, 1972) and "Terror Bombing in the Name of Peace" (Washington Post, December 28, 1972).[31]

Such charges notwithstanding, actual civilian casualties in the Hanoi and Haiphong areas were very low. North Vietnam reported a total of 1,318 people killed in Hanoi between December 18 and December 29, 1972. In Haiphong, 305 people were killed.[32] As Hays Parks points out, the Hanoi casualties amount to only 0.08 deaths per

ton of bombs dropped on the city. In contrast, there were 50.33 deaths per ton in a one-night raid on Tokyo that killed 83,793 people in March 1945 and 8.03 deaths per ton in a one-night raid on Hamburg that killed 42,600 people in July 1943.[33] The casualties in Hanoi and Haiphong were also low in comparison to the 25,000 South Vietnamese killed during the first weeks of the March 1972 offensive by the North Vietnamese, who deliberately shelled large crowds of fleeing refugees.[34]

Damage to civilian objects was also limited, contrary again to North Vietnamese propaganda and charges by the U.S. media and antiwar groups, which attempted to portray collateral damage as evidence of direct attacks on civilian structures. Perhaps the most well-known of these facilities was the Bach Mai Hospital, a 940-bed complex of buildings located less than 1,500 feet from two lawful military targets in the Hanoi area: Bach Mai Airfield and Bach Mai military storage facility. Though not targeted for attack, despite the emplacement of antiaircraft guns on its grounds to protect the nearby airfield and storage complex, the hospital was, nevertheless, inadvertently damaged by bombs that were scattered when a B-52 was hit by two SAMs.[35] Aerial photographs show, however, that although some buildings were hit, there was clearly insufficient damage to support one report that the hospital had been "blown to smithereens, blown to bits, completely destroyed."[36]

Another significant "civilian" structure damaged during Linebacker II was the terminal building at Gia Lam International Airport. Gia Lam was not only a commercial airport, but also a base for all of North Vietnam's first-line MiG-21 fighters.[37] The terminal was accidently damaged during attacks on those aircraft and the airport runway. It was not itself an object of attack and, despite Hanoi's claim that it was leveled, was actually only slightly damaged.[38]

Some villages and residential areas were also damaged. A French journalist reported that Hanoi's Kham Thien Street, located near a railroad yard, was "carpet bombed." Aerial photographs showed, however, that damage was limited and was incidental to attacks on the railroad yard--not the result of a deliberate attack on the street.[39] A U.S. reporter shown the area in March of the following year estimated that some 60 houses had been destroyed and 20 damaged. The North Vietnamese reported that 215 people from the area had been killed. Considering the neighborhood's population density of 75,000 per square mile, these figures do not support the charge of carpet bombing even when consideration is given to the possibility that many residents had been evacuated.[40]

Some of the most convincing evidence that the United States did not deliberately target civilians or civilian objects is contained in reports filed by correspondents, some of whom opposed the Vietnam War and the Linebacker bombing. These reports were based on on-site inspections of damage made during trips to Vietnam in the spring of 1973. Malcolm Browne, a strong critic of Nixon's Vietnam policies, reported in the New York Times that "the damage caused by American bombing was grossly overstated by North Vietnamese propaganda." Peter Ward wrote in the Baltimore Sun that "the evidence on the ground disproves charges of indiscriminate bombing. Several bomb loads obviously strayed into civilian residential areas, but damage there is minor compared to the total destruction of selected targets." And Tammy Arbuckle observed in the Washington Star that "pictures and some press reports had given a visitor the impression that Hanoi had suffered badly in the war--but in fact the city is hardly touched."[41]

The fact that the city was hardly touched is evidence that the United States did not target civilian objects and also helps account for the relatively low civilian casualties. Another factor in the low casualties is that two-thirds of the populations of Hanoi and Haiphong may have been evacuated prior to the bombing. Some commentators state this as a fact.[42] During Congressional hearings, however, Admiral Thomas H. Moorer, Chairman of the Joint Chiefs of Staff, testified that although the U.S. was aware that plans existed for the evacuation of all civilians except production, transportation, and communications personnel, there were conflicting reports on the degree to which they were implemented. According to Admiral Moorer, there were indications that evacuation was only a "limited success."[43]

ATTACKS AGAINST MILITARY OBJECTIVES

If the United States did not attack civilians and civilian objects during the Linebacker campaigns, it naturally follows that it limited its attacks to military objectives--assuming the United States was justified in considering railroads, power plants, and communications centers to be valid military objectives. During Linebacker I, the list of targets in North Vietnam comprised vehicle repair facilities; storage areas for war-making industries; petroleum, oil, and lubricants (POL); port facilities; SAM sites; airfields located away from the Hanoi and Haiphong areas; truck parks; military storage areas; military camps; headquarters; and assembly areas.[44] Sixty percent of Linebacker II's targets were part of the North Vietnamese transportation and logistical system. The other 40 percent included power plants, airfields, SAM sites, communications installations, and command-and-control facilities.[45] The highest priority was given to transportation system targets

and military supplies. Most of these, along with communications, electric power, and airfield targets were located within 10 to 15 miles of Hanoi and Haiphong.[46]

All of these targets are lawful military objectives that meet the criteria set forth in chapter 5 of AFP 110-31. As the pamphlet explains, it is not an object's inherent nature that determines whether it is a military objective; rather it is the object's ability to make an effective contribution to an enemy's military capabilities and the military advantage gained by destroying it. Accordingly, it is fair to conclude that North Vietnam's railroads, power plants, and communications centers were legitimate targets. The railroad system was obviously crucial to North Vietnam's ability to move through the country the large quantities of heavy military equipment, supplies, and POL needed by the main force units operating in South Vietnam. The electric power facilities were critical to the operation of North Vietnam's war economy, primitive though it may have been, and the communications facilities enabled the North Vietnamese to control both its forces in the South and its political, economic, and military infrastructure in the North.

PRECAUTIONS IN ATTACK

The relatively low civilian casualties and light damage to civilian objects suffered by Hanoi and Haiphong are testimony to the care that was taken by the planners of the Linebacker campaigns to ensure not only that military objectives alone were attacked, but also that any incidental harm to civilians and collateral damage to civilian property were minimized. The precautions taken included careful targeting, proper selection of platforms and weapons (with a few unfortunate exceptions), and the utilization of tactics designed to enhance bombing accuracy even at the risk of exposing aircrews to increased possibility of being shot down.

Targeting

During Linebacker I, one of the criteria used in target selection was minimum possibility of incidental civilian casualties and collateral damage. Each potential target was carefully evaluated using aerial photography and other means of intelligence. If the evaluation resulted in a determination that the target could not be attacked without high risk of collateral damage, the target was either designated for attack with smart bombs or rejected. Final approval of all targets thus screened was made by General Vogt, Commander, 7th Air Force.[47] As the campaign progressed, bomb-damage assessments were made, not only to

verify the success of missions, but also to ensure that targeting and other operational restrictions were being adhered to.[48] An attempt was made through post-strike photography to locate bomb impact points and account for every bomb dropped--even duds.[49]

Similar precautions were taken during Linebacker II. Potential targets had to be precisely identified as military objectives and even then might not be placed on the validated target list if there was a likelihood of excessive collateral damage. For example, some three days into the campaign, Air Force Intelligence located suspected SAM storage sites, which it asked JCS to authorize as targets. JCS refused to authorize one of the sites because it was located in a heavily populated section of Hanoi and because its identity as a storage site was not completely certain.[50] Even if authorized, targets were not assigned to B-52s unless they were identifiable by radar and large enough to be attacked by a cell of three B-52s with minimum probability of bombs falling outside the target.[51]

Platform and Weapon Selection

The use of B-52s in raids on the Hanoi and Haiphong areas was the most controversial aspect of Linebacker II (aside from the fact that the campaign was conducted at all). Inaccurate accounts in the press repeatedly insisted that the B-52s bombed a target area of a half-mile by a mile and a half.[52] This and other misconceptions about the B-52 attacks were given credence by the misinformed or malintended statements of opinion leaders such as Senator McGovern, who declared that the bombing was "mass murder" and "the most immoral action that this nation has ever committed in its national history."[53]

Although such extreme criticism was nothing less than ridiculous, there is some room for more reasoned questioning of the use of B-52s. As Hays Parks points out,

> From a targeting and weaponeering standpoint, B-52s were not the optimum weapons system for many of the targets; TACAIR with or without PGM [precision-guided munitions] would have been the preferred weapon platform in many cases had operational commanders been able to choose the time and the weather.[54]

The weather, along with the shock effect, was a major factor in the decision to use B-52s in the campaign.[55] Throughout the 12 days of Linebacker II, the weather was clear for only 12 hours. The remainder of the time, it was generally overcast with a ceiling of 3,000 to 6,000 feet, making visual bombing impossible.[56] Nevertheless, the

B-52s' all-weather capability enabled them to attack any target large enough to provide sufficient radar return.[57] With a CEP of 1,000 to 3,000 feet, however, they could not be used against pinpoint targets or targets in or near densely populated areas.[58] As a result, they were, for the most part, assigned only targets on the outskirts of Hanoi or targets large enough to minimize the possibility of bombs missing them and causing unintended damage.

Smaller targets, such as bridges, and targets located in densely populated areas, such as railroad spurs in Hanoi, were assigned to tactical aircraft. When the possibility of harm to civilians was especially high and the weather permitted, laser or optically guided bombs were used. In contrast to the large CEPs of bombs dropped by B-52s, the CEPs of these "smart" bombs were only about 30 feet.[59] A graphic example of the effectiveness of these weapons is the attack on the Hanoi thermal power plant during Linebacker II in which one flight of F-4s destroyed the main generator building with laser-guided bombs. Aerial photos showed no collateral damage to nearby civilian structures.[60]

Smart bombs were also used during Linebacker I. They were particularly effective in attacks against bridges. The successful strikes against the Thanh Hoa and Paul Doumer bridges were but two of several operations during May 1972 that dropped spans throughout North Vietnam with minimal losses to U.S. aircraft and minimal collateral damage to nearby populated areas.[61] A truly impressive use of smart bombs to destroy a military objective while sparing civilians was the attack on the Lang Chi hydroelectric facility on the Red River 63 miles from Hanoi. Twelve laser-guided bombs destroyed the 50-by-100-foot main generating building without damaging the facility's dam or spillway. Had they been breached, an estimated 23,000 civilians would have died.[62]

Tactics and Rules of Engagement

Besides using care both in selecting targets and in assigning aircraft and weapons to attack them, the Linebacker planners devised tactics and rules of engagement to minimize civilian casualties. The most stringent of these were imposed on the B-52 crews of Linebacker II. Under orders from SAC headquarters, maneuvering to avoid SAMs or fighters at any time on the bomb run from the initial point to the target was prohibited. There were several reasons for this prohibition. First, it lessened the possibility of collision. Second, it ensured mutual electronic countermeasures (ECM) protection among the three aircraft in each attacking cell by maintaining cell integrity. Finally, and most important, it reduced the possibility of increased

collateral damage caused by bombs straying off target.[63] The prohibition was backed by a threat of court-martial against anyone who violated it.[64] Another precaution taken to avoid harm to civilians was to route axes of attack parallel to, rather than over, populated areas located near targets.[65] Finally, B-52 radar navigators were instructed not to drop their bombs if they were not positive of 100-percent accuracy.[66]

With but a few exceptions, all of these precautions were observed. One glaring exception was the use of B-52s to strike the Thai Nguyen power plant, which was a point target located next to Thai Nguyen village. Repeated B-52 attacks failed to knock out the power plant. Worse yet, they caused heavy and unnecessary damage and casualties in the village. The plant was finally destroyed by F-111s during clear weather.[67] There were also a few cases of B-52 pilots taking evasive action against SAMs contrary to orders.[68] Overall, however, the precautions called for by AFP 110-31 were followed.

Collateral Damage

Despite all the precautions, there were still incidental civilian casualties and collateral damage. Of course, some of this was inevitable no matter how carefully the attacks were planned. Besides inherent weapon-system inaccuracies and human error, one cause of unintended damage was mechanical failure. For example, bent or damaged fins caused one or more bombs to stray out of the normal drop pattern in about 90 percent of B-52 missions.[69] In addition, malfunctions in the bomb-release systems plagued the B-52Gs. Several crews were unable to release any of their bombs, and others may have inadvertently dropped some later than they intended to.[70] Even the smart bombs were not flawless. Both the French and Cuban embassies were struck by errant laser-guided bombs that missed their targets.[71]

Not all of the civilian casualties and damage to civilian property can be attributed fairly to the Americans. The North Vietnamese must share some of the responsibility. Although they took steps that helped protect their civilians, such as evacuating some of the populations of Hanoi and Haiphong and providing shelters for those who remained in the cities, they also did things that placed their civilians in danger. For example, they located military storage dumps in residential areas and placed antiaircraft weapons on or near protected objects such as hospitals. Besides these deliberate unlawful actions, the legitimate actions the North Vietnamese took to defend against the Linebacker attacks also resulted in civilian casualties. Some of the SAMs that brought down U.S. aircraft caused the bombs aboard their targets to be scattered over populated areas. The SAMs themselves must have caused a

significant amount of damage. There were 70 of these missiles fired for every U.S. aircraft destroyed.[72] Many of those that missed failed to detonate in the air and fell back to earth.[73] Added to the damage caused by falling missiles was that caused by spent antiaircraft projectiles and crashing aircraft.

Proportionality

Even after assigning a fair share of the responsibility for harm to civilians to the North Vietnamese, it must be admitted that the majority of it rests with the Americans. As has been seen, the United States was in compliance with AFP 110-31's prohibition against attacking civilians and civilian objects. For the most part, it also observed the pamphlet's precautions to minimize incidental harm to civilians during attacks against lawful military objectives. The question remaining is whether the unavoidable incidental civilian casualties and damage to civilian objects were "excessive in relation to the concrete and direct military advantage anticipated" when the attacks were launched.[74] To Lt. Col. Burrus M. Carnahan, the words "concrete" and "direct," taken together,

> ...imply that in any situation where civilians will be endangered, military planners should not weigh the lives of civilians against some speculative advantage that might arise in the remote future. The military advantage should be real, palpable, and foreseeable before collateral civilian casualties [can] be justified.[75]

The anticipated military advantages of both the Linebacker campaigns meet AFP 110-31's criteria. As seen, Linebacker I was intended to cripple the large-scale conventional North Vietnamese offensive in the South by reducing the flow of forces and supplies needed to sustain it and to encourage the North Vietnamese to engage in meaningful negotiations toward a diplomatic end to the war. The objectives of Linebacker II were similar: to destroy or interdict military supplies before they could reach the South and, more importantly, to change the negotiating stance of the North Vietnamese. In both cases, the anticipated advantages were direct and concrete.

These advantages must be weighed against about 13,000 civilian casualties resulting from the two campaigns, of which some 1,600 are attributable to Linebacker II.[76] This amounts to less than one person killed per ton of bombs dropped in both campaigns. These are not disproportionate casualties considering that Linebacker I was, in part an attempt to slow a North Vietnamese invasion that threatened the survival

of South Vietnam and ultimately killed more than 20,000 civilians and left 970,000 homeless refugees.[77] Nor are they disproportionate to Linebacker II's primary aim of bringing about a negotiated settlement to the conflict.

Refrain From Launching Attacks

As has been seen, the United States, through careful target selection, generally refrained from launching attacks on lawful military objectives that might have caused excessive incidental civilian casualties and collateral damage. Nevertheless, there were a few exceptions. It could be argued that the smart-bomb attack on the Lang Chi hydroelectric facility during Linebacker I was one of these exceptions. As noted previously, this highly successful attack destroyed the facility's generating plant without damaging its dam or spillway. However, if one or more of the smart bombs had malfunctioned (as happened occasionally) and if the dam or spillway had been breached, the resulting estimated 23,000 civilian casualties would have been excessive compared to the military advantage gained from knocking out the power-generating facility. It is possible, of course, that the planners of the attack calculated that the number of bombs required to breach the dam and spillway far exceeded the number that could be expected to malfunction during the strike. If so, there was clearly no reason to refrain from launching the attack. If not, the decision was at least questionable.

A definite exception to the policy of not launching an attack that might be expected to cause excessive incidental harm to civilians was the series of B-52 strikes on the Thai Nguyen power plant during Linebacker II. If there had been no apparent reason for concern about incidental civilian casualties prior to the first raid, there almost surely should have been later when bomb-damage assessments indicated that additional strikes would be necessary. Those same assessments should also have shown that excessive damage had been inflicted on adjacent populated areas. Clearly, the Thai Nguyen power plant was an inappropriate target for B-52s.

That there were few such exceptions to the general policy of avoiding excessive harm to civilians is evident in the low civilian casualties during the two campaigns. In general, it can be fairly concluded that the planners of Linebacker I and Linebacker II complied with AFP 110-31's requirement to refrain from launching attacks that might be expected to cause excessive incidental civilian casualties and collateral damage to civilian objects.

Warning Requirement

As will be discussed further on, the North Vietnamese antiaircraft defenses during the Linebacker campaigns were extensive. Consequently, advance warning of raids during the campaigns was impractical.

WORKS AND INSTALLATIONS CONTAINING DANGEROUS FORCES

The United States did not attack any works or installations containing dangerous forces during either of the Linebacker campaigns. No allegations that such attacks were made arose during Linebacker II. During Linebacker I, however, the North Vietnamese and U.S. antiwar activists such as Ramsey Clark accused the United States of deliberately attacking dikes in North Vietnam. These accusations were totally unfounded; no such attacks took place. On the contrary, special precautions were taken to avoid collateral damage to the dikes when attacks were made on nearby military targets. All attacks on fixed targets located near any water control facilities required special justification.[78] When attacks on such targets were approved, pilots received detailed information on the location of dikes in the vicinity, and their bomb runs were planned specifically to avoid accidental damage to them.[79] Despite these precautions, some minor collateral damage to dikes did occur, but no major dike was breached.[80]

The North Vietnamese were apparently aware of the U.S. desire to avoid hitting the dikes because they deliberately sought to shield lawful military targets such as antiaircraft guns, radar sites, SAM launchers, POL dumps, and roads by placing them on or directly adjacent to the dikes. The U.S. did attack these targets but used napalm, cluster munitions, and cannon fire, none of which damaged the dikes.[81]

ATTACKS ON UNDEFENDED AREAS

The targets attacked by the United States during the Linebacker campaigns were not, in any sense, undefended. They were not just protected from unopposed occupation by ground forces; they also were protected from aerial bombardment by an air-defense system that has been described as "among the strongest and most elaborate in the world."[82] In May 1972, the North Vietnamese employed 250 MiGs, 300 SAM sites, and 1,500 antiaircraft guns. Together, these aircraft, missiles, and antiaircraft guns claimed 44 U.S. aircraft during Linebacker I and 26 aircraft, including 15 B-52s, during Linebacker II.[83]

SEPARATION OF MILITARY ACTIVITIES

Several instances of North Vietnam's failure to separate its military activities from its civilian objects have already been mentioned. These included location of military storage dumps in residential areas and the location of antiaircraft guns and SAM sites in residential areas, on hospital grounds, and on and adjacent to dikes. These actions shifted a proportionate amount of responsibility onto the North Vietnamese for the unintended harm to civilians that resulted from lawful attacks on these military objects.

SPECIAL PROTECTION UNDER GENEVA CONVENTIONS

The U.S. policy of attacking only military targets and taking all feasible precautions to limit collateral damage was based on a recognition of the special protection afforded hospitals and religious and cultural buildings under the Geneva Conventions as well as on basic humanitarian grounds. Despite the precautions taken, some collateral damage to such facilities, as well as other civilian objects, did occur. Nonetheless, as has been seen, the damage was relatively limited. In general, the U.S. conducted the Linebacker campaigns in recognition of the protections established by the Conventions.

OVERALL ASSESSMENT OF COMPLIANCE

Without doubt, had AFP 110-31 been in effect in 1972, the Linebacker I and Linebacker II bombing campaigns could have been conducted in exactly the same manner as they actually were and still been in compliance with the rules concerning aerial bombardment. Commanders, planners, and airmen confined their attacks to military objectives and, with but one or two exceptions, took all reasonable precautions to ensure that the inevitable incidental civilian casualties and collateral damage that occurred was not excessive in relation to the direct and concrete military advantages they anticipated would result from the attacks. The relatively low civilian casualties and the absence of widespread damage to civilian objects is evidence of the success of their efforts to limit human suffering and the degree to which they would have complied with the pamphlet.

EFFECTIVENESS OF THE CAMPAIGNS

The Linebacker campaigns not only conformed to the normative standards for aerial bombardment embodied in AFP 110-31, they also were militarily effective. The success of Linebacker I is particularly obvious. That of Linebacker II is more controversial, though no less real.

The effectiveness of Linebacker I was due primarily to two complementary factors. The first was the susceptibility of the North Vietnamese invasion to interdiction. The second was the use by the United States of smart bombs, which made interdiction easier to accomplish.[84] As has been seen, the North Vietnamese invasion was a large-scale effort by division-sized units supported by armor and artillery. To maintain its momentum, the invading force required several thousand tons of fuel and ammunition per day.[85] As Sir Robert Thompson explained, "You cannot refuel T-54 tanks with gasoline out of water bottles carried on bicycles."[86] Instead, they must be refueled by tanker trucks that have been filled by railroad tank cars, both of which must pass over bridges to reach their assigned destinations. The advent of smart bombs made the destruction of those bridges a relatively easy and low-risk operation.

Linebacker I cut the northeast and northwest railroads between Hanoi and China within a matter of days, repeatedly destroying 15 bridges on these lines almost as fast as the North Vietnamese repaired them. It also interdicted the eight major highways from China and the waterways used by small logistics craft.[87] The multiple constrictions of these transportation lines enhanced the effects of the mining of Haiphong and other ports, which cut North Vietnamese imports of war material from a 1971 level of over 2 million tons to a bare trickle by May 1972.[88] By September, the damage to North Vietnam's logistics system had reduced the flow of supplies reaching its forces in the South to between 35 and 50 percent of the level of May.[89] Though not a complete cutoff, the reduction was sufficient to leave tanks without fuel and help render the invasion a failure. Blocked on the battlefield, the North Vietnamese were forced to return to serious negotiations.

Linebacker II also inflicted heavy damage on North Vietnam's war-making potential. The campaign resulted in the damage or destruction of 1,600 military structures, 372 railroad cars, numerous open-storage dumps and missile launchers, 25 percent of North Vietnam's petroleum stockpiles, and 80 percent of its electrical power generating capacity, as well as 10 runway and 500 rail interdictions.[90] During Congressional

hearings on Linebacker II, the Chairman of the Joint Chiefs of Staff testified that this damage had deprived North Vietnam of the ability to conduct main force unit actions. He estimated that it would take North Vietnam more than a year to restore its logistics system to its original capability.[91]

Although there is no question that Linebacker II severely crippled North Vietnam's ability to wage war in the South, there remains some disagreement over its role in bringing about the subsequent peace settlement. To General William W. Momyer, USAF (Ret.), "It was apparent that airpower was the decisive factor leading to the peace agreement of January 15, 1973."[92] Sir Robert Thompson, British authority on counterinsurgency, goes even further:

> In my view, on December 30, 1972, after 11 days of those B-52 attacks on the Hanoi area, you had won the war. It was over!...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.[93]

Guenter Lewy, on the other hand, while acknowledging that Linebacker II helped bring about the peace agreement, believes "...it failed to achieve a settlement that could be considered a victory for either South Vietnam or the U.S."[94] To Ambassador Martin F. Herz, there is even room for doubt that Linebacker II caused the North Vietnamese to sign the agreement.[95]

If not clearly decisive in bringing about the peace settlement of January, 1973, Linebacker II was certainly indispensable to achieving it. The settlement may not have resulted because of the campaign, but it surely would not have come about without it. Linebacker I was similarly indispensable to halting the March 1972 invasion. Obviously, it alone would not have stopped the North Vietnamese invasion, but, by depriving the North's forces of a significant portion of its logistical support, Linebacker I weakened the Communist drive enough to enable the South Vietnamese Army, with American close air support, to finally bring it to a halt. Thus, even though neither campaign can be said to have been decisive, both were clearly effective.

CONCLUSION

That the Linebacker campaigns were both effective and in compliance with the restrictions embodied in AFP 110-31 is really not surprising. The indiscriminate killing of civilians and obliteration of civilian property is no more militarily effective than it is moral. It is as much a waste of men, material, and effort as it is a waste of innocent lives. If any military campaign is to be successful, its effects must be directed at and concentrated on military objectives--not wasted on irrelevant and immoral destruction. The principles of discrimination and proportion embodied in AFP-110 are a perfect complement to the principles of war that guide the actions of every successful commander.

NOTES

[1]Guenter Lewy, America in Vietnam (New York: Oxford University Press, 1978), p. 147.

[2]Ibid., p. 196.

[3]Hays W. Parks, "Linebacker and the Law of War," Air University Review Vol. XXXIV, No. 2 (January-February 1983): 5.

[4]Lewy, p. 411.

[5]Henry Kissinger, White House Years (Boston: Little, Brown, and Company, 1979) pp. 1446-1448; and Richard Nixon, The Memoirs of Richard Nixon (New York: Grosset and Dunlop, 1978), pp. 733-734.

[6]Kissinger, p. 1458, and Major A. J. C. Lavalle, USAF, ed., The Tale of Two Bridges and The Battle for the Skies of North Vietnam, USAF Southeast Asia Monograph Series, Volume 1, Monographs 1 and 2 (Washington, D.C.: U.S. Government Printing Office, 1976), p. 176.

[7]Seventy percent of the sorties were flown by support forces: chaff-dispensing aircraft, fighter escorts, Wild Weasel antiradar aircraft, and electronic countermeasure aircraft. General William W. Momyer, Air Power in Three Wars (WW II, Korea, Vietnam) (Washington, D.C.: U.S. Government Printing Office, 1978), p. 241; and U.S. Congress. House Committee on Appropriations, Briefings on Bombings of North Vietnam. Hearings Before the Subcommittee on Department of Defense Appropriations, 93rd Congress, 1st sess., 1973, p. 40. [Hereafter referred to as HAC.]

[8]U.S. Department of the Air Force, International Law--The Conduct of Armed Conflict and Air Operations (Washington, D.C.: U.S. Government Printing Office, 1976), p.1-6.

[9]Ibid.

[10]Ibid., p. 5-8.

[11]Ibid., p. 5-7.

[12]Ibid., p. 5-8 and 5-9.

[13]Ibid., p. 5-9.

[14]Ibid., p. 5-10.

[15]Ibid., p. 5-9.

[16]Ibid., p. 5-10.

[17]Ibid., p. 5-11. For a discussion of this requirement see William V. O'Brien, The Conduct of Just and Limited War (New York: Praeger Publishers, 1981), p. 54.

[18]Ibid.

[19]Ibid.

[20]Ibid., p. 5-12. Also, see O'Brien, p. 55.

[21]Ibid.

[22]Ibid., p. 5-13.

[23]Ibid.

[24]Ibid.

[25]Ibid.

[26]Ibid.

[27]Ibid., p. 5-14.

[28]U.S. Congress, Senate, Committee on the Judiciary, Problems of War Victims in Indochina, Pt. IV: North Vietnam. Hearings Before the Subcommittee on Refugees and Escapees, 92nd Cong., 2nd sess., 1972, pp. 28 and 29. [Hereafter referred to as SJC.]

[29]Parks, p. 11.

[30]Lt. Col. Burrus M. Carnahan, "'Linebacker I' and Protocol I: The Convergence of Law and Professionalism," The American University Law Review 31 (Summer 1982): 869.

[31]Both editorials are reprinted in their entirety in Martin F. Herz, The Prestige Press and the Christmas Bombing, 1972 (Washington, D.C.: Ethics and Public Policy Center, 1980), pp. 88-92.

[32]There is some variance in the estimates of civilian casualties. Hays Parks, citing a January 5, 1973, New York Times article gives civilian deaths in Hanoi as 1,318; p. 24. Herz also puts civilian deaths in Hanoi at 1,318; p. 54. However, Dennis J. Doolin, Assistant Secretary of Defense (International Security Affairs) for East Asia and Pacific Affairs, in February 1973 testimony before the House Armed Services Committee, stated that Hanoi claimed 1,318 civilian and military casualties. U.S. Congress, House Committee on the Armed Services, Privileged Resolutions Concerning the Bombing of North Vietnam. Hearings Before the Committee, 93rd Cong., 1st sess., 1973, p. 4. [Hereafter referred to as HASC.]

[33]Parks, p. 24.

[34]HAC, p. 51; and Admiral U.S. Grant Sharp, U.S. Navy (Ret.), Strategy for Defeat (San Rafael: Presidio Press, 1978), p. 254.

[35]Parks, p. 25.

[36]Statement of Telford Taylor, Yale jurist, quoted by Herz, p. 26.

[37]HAC, p. 9.

[38]Parks, p. 25.

[39]Ibid.; and Herz, p. 33.

[40]Herz, p. 58.

[41]All quoted in Herz, p. 58.

[42]For example, see Ibid., p.55.

[43]HAC, p. 18.

[44]Lavalle, p. 150.

[45]Momyer, p. 241.

[46]Sharp, p. 252.

[47]SJC, p. 23.

[48]Parks, p. 12.

[49]SJC, p. 23.

[50]Brig. Gen. James R. McCarthy, USAF, and Lt. Col. George B. Allison, USAF, Linebacker II: A View From The Rock, USAF Southeast Asia Monograph Series, Vol. 6, No. 8, (Air War College, 1979), p. 98.

[51]Parks, p. 16.

[52]Herz, p. 31.

[53]Ibid, p. 42.

[54]Parks, note 31, p. 29.

[55]Kissinger, p. 1448.

[56]Sharp, p. 252.

[57]Momyer, p. 177.

[58]HASC, p. 23. CEP stands for circular error probable, which is the radius of a circle within which 50 percent of the bombs dropped by an aircraft will fall.

[59]Momyer, p. 149.

[60]Herz, p. 55; and Parks, p. 15.

[61]The strikes against these bridges are described in detail by Lavalle, pp. 85-92.

[62]Parks, pp. 11 and 12.

[63]McCarthy and Allison, p. 46.

[64]Herz cites a desire to minimize civilian casualties as one reason for the threat, p. 32. McCarthy and Allison, on the other hand, only mention a desire to maintain mutual ECM protection, p. 68.

[65]Parks, p. 19.

[66]McCarthy and Allison, p. 50.

[67]Herz, p. 56.

[68]McCarthy and Allison, p. 64.

[69]Lewy, p. 412.

[70]McCarthy, p. 70.

[71]Parks, note 15, p. 28.

[72]Momyer, p. 240.

[73]There are no estimates in any of the sources consulted of how much damage was caused by SAMs falling back to earth. Nevertheless, Herz, p. 57; Lewy, p. 413; Parks, p. 25; and Doolin in SJC, p. 50, all attribute an unspecified amount of civilian damage to SAMs that fell to earth after failing to hit aircraft. Doolin told the Senate Judiciary Committee that "the Soviet SAMs, unlike our own, do not have an automatic destruct...." According to McCarthy and Allison, p. 136, on the other hand, the SAMs did have a self-destruct mechanism. If they did, the mechanisms apparently failed to work rather frequently. Given the missiles' 35-foot lengths and 348.5-pound warheads, it is fair to assume that they did cause a significant amount of damage when they returned to earth. These specifications are from Ray Bonds, ed., The Vietnam War (New York: Crown Publishers, Inc., 1979), p. 37.

[74]AFP 110-31, pp. 5-10.

[75]Carnahan, p. 866.

[76]The total number of civilian deaths resulting from the 1972 bombing campaigns is unknown. Extrapolating from the casualties resulting from the bombing of North Vietnam during the 1965-1968 period, Lewy estimates the toll to be about 13,000; p. 451.

[77]Ibid., p. 198.

[78]Parks, p. 11.

[79]Joseph B. Treaster, "Dike Bombing Denied by U.S. Carrier Pilots," New York Times, August 12, 1972, cited in SJC, p. 30.

[80]Parks, p. 13.

[81]For a detailed discussion of the dike issue, see Ibid., pp. 12-16. For additional information see Momyer, pp. 134-135; and SJC, pp. 31-32.

[82]Lewy, p. 411.

[83]Lavalle, pp. 156 and 165, and Sharp, p. 254.

[84]W. Scott Thompson and Donald D. Frizell, The Lessons of Vietnam (New York: Crane, Russak & Company, 1977), p. 104.

[85]Lewy, p. 200.

[86]Thompson, p. 104.

[87]Ibid., p. 167, and Parks, p. 8.

[88]Thompson, p. 167.

[89]Lewy, p. 411. Lavalle asserts that the flow was cut to 20 percent of the May level, p. 151.

[90]McCarthy, p. 171. For a detailed description of damage to individual targets, see HAC, pp. 6-14.

[91]HAC, pp. 19 and 59.

[92]Momyer, p. 243.

[93]Thompson and Frizell, p. 105.

[94]Lewy, p. 415.

[95]Herz, p. 2.

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