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PROJECT CHECO REPORT

Contemporary Historical Evaluation of Combat Operations

ARC LIGHT
1965 – 1966

15 SEP 67

HQ PACAF

Directorate, Tactical Evaluation
CHECO Division

Prepared by: Mr. Wesley R. C. Melyan

S.E. Asia Team

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Edward C. Burtenshaw

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TABLE OF CONTENTS

CHAPTER		Page
I	SUMMARY OF OPERATIONS, 1965	1
	Background	1
	Initial ARC LIGHT Strike	6
	Continuation of Strikes	6
	Strike Operations and Control	11
	Harassment and Attrition Strikes	14
	Free Bomb Zones	15
	Target Selection	18
	Command Relationships	24
	End of Year Operations	28
	SecDef Conclusions	33
	Refinement of Target Selection	37
II	SUMMARY OF OPERATIONS, 1966	39
	Program Expansion	39
	Problems and Difficulties	40
III	PLANS AND POLICY	45
	Long Range Support Plan	45
	COMUSMACV's Review	47
	JCS General Planning Instructions	47
	Strike Approval Changes	50
	Development of Operational Rationale, Policy and Procedures	50
	Plans and Programs Procedures	53
	Criteria for Non-Review by State Department	54
	USMACV Staff Requirements	55
	Operational Programming and Guidelines	55
	Safeguards from Friendly Interceptors	58
	Civil-Military Air Traffic Control	58
	Priority Tasks for Air Operations	58
	Seventh Air Force Planning and Support for B-52 Strikes	59
	The 28 September Conference	59
	In-Flight Diversion Procedures	60
	Basic Guidance; 28 November 1966	62
	Force Sizing	65
	Concept of Employment	67
	Command and Control	70
	Quick Reaction Forces (Quick Run)	75
	B-52 Recovery and Tanker Base Requirements Program	87

CHAPTER		Page
IV	ORDNANCE	94
	Munitions Problem Considerations at Honolulu Conference	94
	PACAF First Quarter Munitions Summary	95
	Sortie Plans and Ordnance Shortage Problems	95
	The Mid-Year Munitions Situation	97
	BLU-3B Ordnance	98
	Hayes Dispensers Problem	105
	Increased Ordnance Load Capability	105
	B-52 Ordnance; Statements to the Press	107
	Jungle Penetration Ordnance	107
	M-123 Long-Delay Anti-Withdrawal Fuze Requirements	108
V	SECURITY OF B-52 OPERATIONS	110
	VC Foreknowledge of Strikes	110
	Message Classification Changes	111
	Communications Deficiencies	112
	Compromise Analysis and Security Measures	114
	Release of TOT Information to VNAF	121
	B-52 Bombing Patterns	121
	Possible Compromise Through Notification of Inadvertent Bomb Releases	122
	COMUSMACV's Note on Security	122
VI	LAOS/DMZ/NVN AND CAMBODIAN BORDER AREA OPERATIONS	123
	The Initial Strikes in Laos	123
	Policy on Public Announcements for Laos Strikes	124
	Evaluation of Sorties Requirement for Laos Strikes	124
	NVA Infiltration Route Staging Bases	126
	Cambodian Border Strikes	126
	The AAA Buildup in Laos	127
	The Udorn Conference	128
	Interdiction of the Mu Gia Pass	129
	"Tiny Tim" Mu Gia Contingency Plan	154
	B-52 Strikes in TIGER HOUND Area	155
	SVN Cover Strikes	159
	The DMZ Program	161
	Naval Gunfire and ARC LIGHT Strikes	177
	Public Affairs Guidance	182
	The Slam Concept	182
	Laotian Political Factors	184
	Overflight Penetration	194
	Civilian Casualties	195
	Inadvertent Bomb Release	196

CHAPTER		Page
	Classification of Aerial Photography	196
	Tiny Tim Support Plan	196
VII	BOMB DAMAGE ASSESSMENT AND EFFECTIVENESS	198
	Introduction	198
	The BDA and Effectiveness Analysis Problem	198
	Evaluation of Effectiveness	218
	Seventh Air Force Comments on the Findings	220
	Pronouncements and Reports on Effectiveness	224
	Lessons Learned Through Effectiveness Analysis	257
VIII	TARGET NOMINATIONS AND JUSTIFICATIONS	258
	Target Nomination and Request Procedures	258
	Examples of Target Justification	278
	Operation Hawthorne	282
	Operation El Paso	285
	Border Areas	286
IX	MISSIONS AND STRIKE REQUIREMENTS	288
	Introduction	288
	Summary of Missions	288
	Sortie Requirements	298
	FOOTNOTES	
	Chapter I	308
	Chapter II	313
	Chapter III	314
	Chapter IV	320
	Chapter V	323
	Chapter VI	325
	Chapter VII	335
	Chapter VIII	342
	Chapter IX	346
	GLOSSARY	349

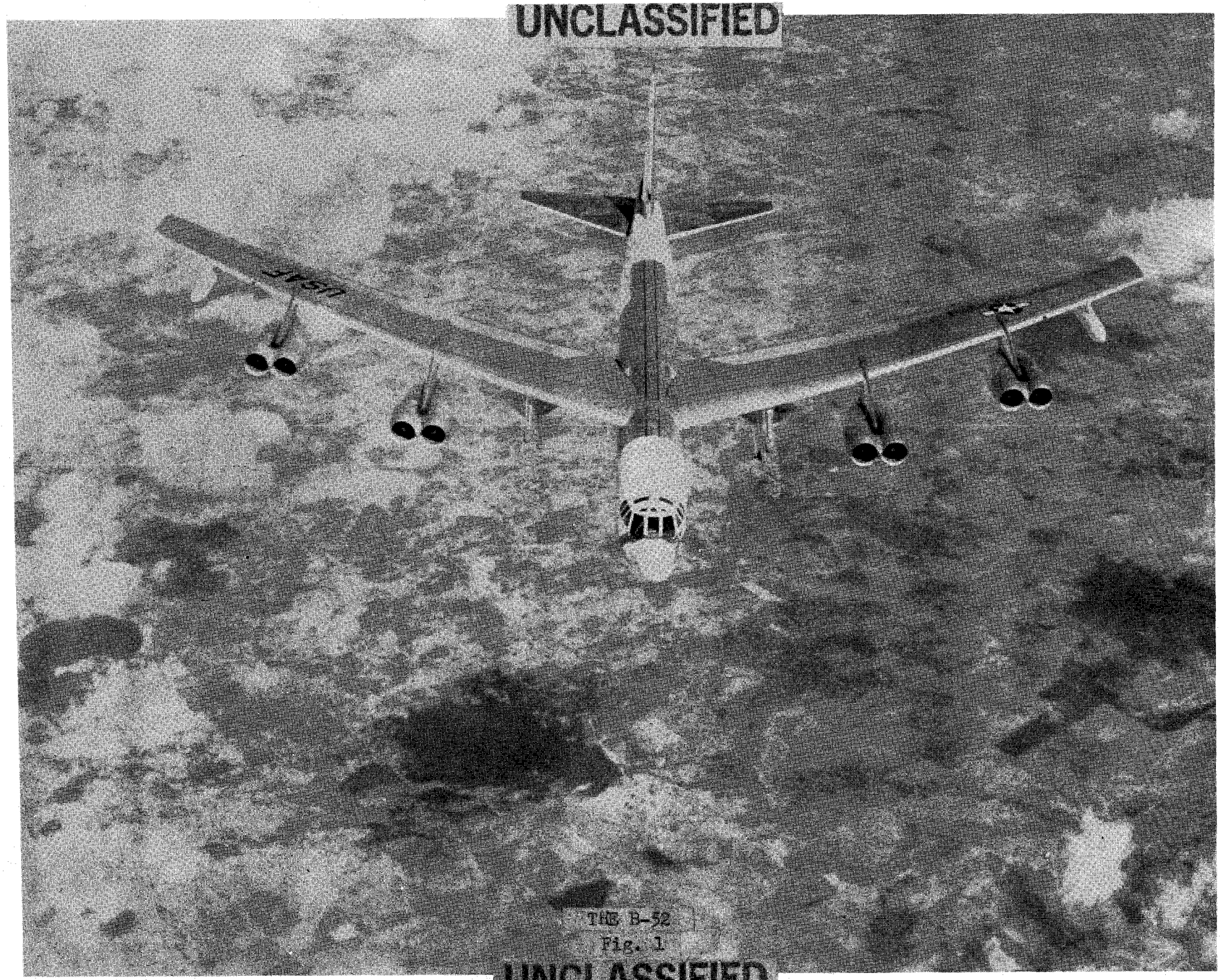
FIGURES	Follows Page
1	vii
2	28
3	36
4	40

FIGURES

Follows Page

5 66
6 88
7 102
8 104
9 130
10 158
11 208
12 232
13 258
14 298

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THE B-52
Fig. 1

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CHAPTER I

SUMMARY OF OPERATIONS, 1965

Background

Since November of 1964, MACV had been combining photo interpretation with infra-red direction finding, and other types of information, on an increasing scale, to locate major VC bases for air and artillery attacks. Several hundred targets were found in the first few months after the Target Research and Analysis Center (TRAC) was organized, these being mainly small clusters of well-protected individuals and supplies, dispersed over a fairly large area. Many of these targets were hit by artillery and air strikes, but such weapons could not begin to cover the target area. The use of jets in Phuoc Tuy, in late February, against some of these targets was believed to have given better coverage. Still, it was not felt these targets had been sufficiently exploited. 1/

There were several reasons for the limited exploitation of targets. Considerable restrictions were placed on air strikes, such as the requirement for approval by ARVN sector and Corps. Since the ARVN could not be in possession of all U.S. intelligence, delays were experienced in obtaining permission to strike. Also, even with the modest target acquisition resources which existed in February, when the jets were committed, there were still not enough air and artillery resources in the RVN to take them all under attack. Ground follow-up of strikes was considered inadequate due to limited ARVN troop strength and a lack of

willingness on the part of ARVN commanders to fully exploit air attacks. Some of the newest weapons brought into action, such as the CBU-2A, were still not fully effective in the dense jungle environment. Area-type weapons, even chemical and biological agents, would be highly desirable and a request for the use of biological agent AB-1 (brucellosis), on an experimental basis, was forwarded to the JCS by MACV. A consistent campaign to strike these area targets, MACV said, would have a strategic impact by denying the VC the sanctuaries that remote areas provided. 2/

The release in February of jet aircraft for large scale strikes against VC targets in South Vietnam was, at first, considered a major means by which these VC sanctuaries could be struck, but experience proved otherwise. Firm intelligence collected early in 1965 had confirmed the existence of a VC headquarters complex and troop concentration in a 12-kilometer square area of Zone D, Tay Ninh Province. A strike involving 443 tactical sorties (larger than anything since World War II) was conducted on 15 April using USAF, Navy, USMC, and VNAF aircraft, which dropped about 900 tons of ordnance. Commenting on this strike, MACV said that results would have been much better if B-52 carpet-pattern bombing had been employed. Such an attack, compressed into a shorter period of time, would probably have killed more VC before they could evacuate the area and it would also have allowed ground troops to enter the area the same day, MACV said. 3/

MACV noted the existence of several VC headquarters complexes and troop concentrations in the RVN. Each of these targets (including the

Central Office of South Vietnam, the VC command) was spread over a large area containing groups of buildings or huts, foxholes, trenches, and tunnels connected by trails. The general topography of these targets made them more suitable for area carpet-bombing than for pinpoint tactical fighter weapon delivery. In most areas, two- and three-canopy jungle growth hid the surface targets and, even if accurate coordinates could be fixed on maps or photos, this solid jungle canopy provided few reasonable aiming points for delivery aircraft. 4/

It was essential to keep these selected VC headquarters and units under attack. Target information was being developed concerning the 325th PAVN Division, Headquarters Military Region V, and Headquarters Military Region VII, where there were large troop buildups. The MACV message to CINCPAC said it was known from prisoner interrogations that the VC feared air attacks and their plans could be upset by unexpected events. The best way to keep them off balance and prevent large-scale attacks was to keep the enemy under constant pressure in his base areas. 5/

SAC representatives, discussing this problem with MACV, said that conventional bombing tactics, based on pattern bombing techniques, were ideally suited to such a requirement. 6/

On the basis of these discussions, COMUSMACV in May 1965 recommended that, as a matter of urgency, he be authorized to employ SAC B-52 aircraft against selected area targets in the RVN. 7/

Based on the Black Virgin Forest operation, PACAF in May reported that there was considerable doubt in that headquarters as to the value of targets requiring such a heavy effort, in light of the apparent lack of definitive intelligence throughout the relatively large target area. PACAF also questioned the immediate urgency of MACV proposals for strikes, considering the length of time the VC strongholds had been in existence. It asked 2d Air Division (2AD) to take a hard look at the proposal for massive air strikes and make appropriate recommendations. 8/

The 2AD replied that targets selected for USAF mass strikes were prepared by the MACV Targets Research and Analysis Center, in May, with 2AD assisting. The Kontum area and War Zone D were considered as possible targets, based on radio intercepts, COMINT, IR, photo, agents, defectors, and Corps reports. Although the targets produced were considered very gross, by Air Force standards, they were the best that could be developed under existing procedures. A positive method of pinpointing VC concentrations in base areas had not been evolved in Vietnam. Planners were forced to rely on circumstantial evidence and generalized areas, in the hope of offsetting errors in VC locations. 9/

The 2AD believed that its mass air attacks, such as the strike against the Black Virgin Forest on 15 April, seriously disrupted and interfered with operations of the VC in hard-core areas, even though specific body-count proof was not available. Other strikes in the Kontum area and War Zone D contributed to or caused VC movements. Because of these movements, further strikes were withheld. General Moore

felt that, when targets were again re-established, heavy strikes should be mounted in view of the approaching rainy season when the VC traditionally move out of base sites to attack preplanned targets under the cover of weather restricting air support. By hitting these areas, VC assaults during the rainy season could be prevented or lessened. 10/

The Joint Chiefs of Staff (JCS), who, on 11 February 1965, issued the execution order to deploy 30 conventionally modified B-52s to Guam and 30 KC-135s to Kadena, 11/ proposed on 4 March 1965 that B-52s be used in South Vietnam and subsequently against North Vietnam. 12/ The introduction of B-52s would inject a tremendous air potential into the RVN conflict. The force had an unmatched capability for all-weather, heavyweight attacks. The delivery of bomb dispensers, programmed for April 1965, would permit the delivery of 70,000 CBU munitions from one B-52. 13/

In late April, the JCS directed CINCSAC and CINCPAC to prepare a plan for the use of B-52s in South Vietnam. The JCS considered that multiple-ejection, rack-equipped B-52s might be used for area saturation attacks against VC resources when there was insufficient target data to permit more precise bombing. 14/

During a 6 - 7 May conference at Camp Smith, Hawaii, representatives of CINCPAC, CINCSAC, COMUSMACV, and CINCPACAF, agreed on the assignment of targeting responsibility and coordination procedures. CINCSAC was tasked to develop the operation plan. 15/

As a first step to the B-52 ARC LIGHT program, CINCPAC proposed that SAC be authorized to conduct radar photography over the target areas in the RVN to assist in strike planning. The Government of Vietnam had approved B-52 radar photo missions over the RVN on 17 May. These were to be as inconspicuous as possible and the aircraft were not to land in the RVN. Following this approval, the JCS approved flights of one B-52 over the Zone D and Kontum areas. 16/

Initial ARC LIGHT Strike

The first B-52 strike, employing 30 aircraft, was authorized against a known VC base area, in Binh Duong Province, with a TOT of 172300Z June 1965. The strike was conducted under rigid radar control but a ground investigation of the strike by US/RVNAF personnel found no VC casualties. The strike was marred by the loss of two B-52s in a mid-air collision, enroute to the target, with subsequent press criticism of the use of strategic bombers against guerrillas on the basis of cost and effectiveness. General Westmoreland, however, considered the first strike worthwhile, as the B-52s delivered tons of explosives in a matter of minutes against a previously untouched VC sanctuary.

Continuation of Strikes

With the dust settled over the first strike, COMUSMACV asked CINCPAC to continue with additional strikes. He was impressed with the

tremendous advantages of the bombers over the tactical fighters, both in terms of the weight of the attack and the compression of time in which the attack could take place. Referring again to the Tay Ninh "Black Forest" mission of April, he said it took all day for tactical fighters to deliver the same tonnage that could be delivered by ARC LIGHT B-52s in half an hour. This compression of time was of tremendous importance in terms of ground exploitation. Although he considered the damage level high, it was still insufficient, in itself, against broad area targets. While the target for the next strike would be narrowed, he felt a major exploitation force should be introduced and that this force should remain in the area long enough to cover the target, engage and defeat remaining VC forces, and to find and destroy supplies, structures, fortifications and tunnels. The first strike showed that a very small U.S.-led force was able to penetrate a major area and remain unscathed. This would make it easier to obtain ARVN cooperation for exploitation of the following strike. COMUSMACV considered a force of four battalions would be required to fully exploit an ARC LIGHT strike. Two ARVN airborne battalions could be counted on and, to round off the force, he wanted to commit two battalions of the 173d Airborne Brigade. He recommended 27 June as the date for the second strike, to allow time for a sizable ground exploitation operation. 17/

The second B-52 strike planned against the VC in Zone D was cancelled after Special Forces teams, accompanying recce teams in the target area, discovered the VC had withdrawn. They left four vacant camps of about

100 buildings each in the area. MACV felt that heavy tactical air and artillery would be sufficient to support a search-and-destroy operation in the area.[18]

While there was no great problem in the long interval between target acquisition and time on target, when B-52 strikes were planned on established VC base areas, this delay could present a problem when strikes were needed against more "perishable," transient targets. The great potential of the B-52 force could be more widely used if the reaction time were reduced to an absolute minimum.[19]

For example, in the Kontum area in the last weeks of June, an extremely ominous VC threat was building. It was estimated that a PAVN regiment, a VC regiment, and four VC companies were in the area, posing a threat to Kontum city, Dak Sut, Dak To, and possibly Pleiku. Weather in the area was such that fighter strikes, recce sorties, and even helicopter operations were drastically curtailed. This poor weather was expected to continue through October.[20]

Under these circumstances, specific targets could develop very rapidly with little or no in-country capability to react because of the weather factor. It was, therefore, extremely important that SAC's capability be employed against targets in this area with minimum delay. MACV suggested that, whenever a target was discovered and in-country air was restricted by poor weather, it submit a request for a minimum-delay strike. This would be made on the premise that ground follow-up

operations might not be possible.[21]

The initial request would include the general situation, target information, objective, distance from friendly forces, and contemplated ground follow-up, if any. If beacon emplacement was precluded by virtue of target locations, normal radar bombing techniques would be used. When a request was initiated, approval for the strike, MACV said, would be expedited to allow a TOT not later than 24 hours after the initial message was transmitted.[22]

Because of the possibility that weather, target location, enemy action, or a combination of circumstances might interfere with the placement of radar beacons, MACV asked that SAC consider normal radar bombing. For the first two B-52 missions, the target location was such that radar beacons and teams could be put in place in secure areas the night before the attack. Deployment of a helicopter to other than a secure area would require a security force to accompany the team. Experience had shown that helicopter landings in non-secure areas, for any appreciable length of time, brought a Viet Cong reaction ranging from sniper fire to mortar attack.[23]

Also, in the early stages of the bombing missions, the enemy was not aware that ground equipment was used in conjunction with the B-52 strikes. To continue this deception, MACV selected locations where helicopter movements were not unusual. When the VC realized that radar beacons were required, these teams would be priority targets. Also,

movement of the teams would alert the VC to air attacks.[24]

In view of this, MACV wanted normal radar bombing to be the primary method of delivering ordnance, with radar beacons used as an alternate method when a positive geographical aiming point suitable for radar was not available.[25]

In early July, 2d AD voiced concern over the preempting of KC-135 tankers by ARC LIGHT forces, which degraded the USAF capability to carry out strikes on NVN. Only eight tankers were available for the last four days of ROLLING THUNDER 21.[26]

Tanker force reduction would result in the loss of about 112 NVN strikes sorties over the four-day period. In addition, an average of 16 armed recce sorties per day would be reduced to 25 percent of normal time in the armed recce area.[27]

Major General Gilbert Meyers, Deputy Commander, 2AD, asked PACAF to make every effort to obtain an adequate tanker force to support both ARC LIGHT missions and fighter strikes in NVN.[28]

There was also a problem concerning recovery bases for B-52s. Queried as to the possibility of using Da Nang as an alternate airfield for B-52s in event of dire emergency, the Commander of the 23rd Air Base Group recommended against it. If a B-52 landed on the base, it would have to stay on the runway for an indefinite period of time, due to the narrow neck leading to the warm-up pad. It would be extremely difficult,

if not impossible, to get the aircraft off the runway. This would close Da Nang to most high performance aircraft, particularly the B-57s, whose operations would have to cease. Further, Da Nang did not have adequate fire fighting and crash removal equipment to handle a B-52 emergency landing. 29/

The 23rd Air Base Group commander recommended the base not be used as an alternate under any circumstances. He also recommended that he be given authority to order the B-52 crew to bail out, instead of landing at Da Nang, if it became necessary. 30/

The U.S. Embassy in Bangkok strongly objected to the use of Don Muang as a B-52 recovery base, noting it had been listed as such on frag orders. Although it understood that Don Muang came closest to meeting the criteria for this purpose, the construction situation and base loading would require the B-52 to be handled and refueled on the runway, probably closing the field for part of the time it was on the ground. The Embassy wired: "It cannot be emphasized too strongly, however, that a SAC bomber landing at Don Muang, even in an emergency, could well endanger our freedom to use Thai bases for other programs." It suggested Tan Son Nhut, Bien Hoa, Korat or Takhli. 31/

Strike Operations and Control

On 14 July, MACV requested a strike by 30 B-52s against a target area about one kilometer south of Route 19. The objective was to mount a spoiling attack against the designated area to prevent possible ambush

of friendly forces. The strike was requested for 16 July at 2330Z under the code name "Fox Den." The targets were defensive positions consisting of trenches and foxholes. MACV wanted all bombs fused for surface burst. Target elevation averaged 2,420 feet. This was to be part of a major ground operation to open Route 19, beginning in July. Six battalions were participating. A critical phase was expected along the segment of road passing into a steep contour. Ambushes of friendly troops had occurred in this area and it was here that a French Mobile Group was completely annihilated. 32/

The first close air support mission went off as scheduled, despite poor weather in Phu Yen Province. However, there was a serious incident involved. As the fourth aircraft was passing the target at 2347Z, the beacon aircraft called that he was off station because of offset error. He was immediately instructed to turn the beacon off. He informed the airborne control aircraft that a stick of bombs had passed through his position over Phu Yen, about 8 kilometers northwest of the target rectangle. Airborne control called the B-52s on primary and secondary frequency to inform that the beacon was off-station. Bombing ceased immediately.

The beacon helicopter was requested to resume station immediately. Bombing resumed at 0002Z, 17 July. Bombing was completed, with results generally good. Two strings of bombs, however, were observed to hit from 100 to 200 feet of Highway 19 to 2,100 feet out of the target rectangle. The highway was not hit. The bombs which fell in the hamlet of Phu Yen could not be observed by the airborne controller due to cloud cover. After

the mission, the airborne controller descended below the clouds, and conducted recce in the Phu Yen area; he observed 13 craters. Phu Yen was the beacon site and camp for one ARVN battalion and one RVN Marine battalion. The II Corps Senior Advisor was advised that two RVN Marines were wounded. Fifteen bombs hit at BR 186/526 in the area. Management of the mission was difficult due to communication difficulties and the beacon helicopter failing to remain on watch frequency. In addition, the beacon helicopter, on three occasions, asked the airborne controller (Ken 01) to attempt to raise Red Lead since he did not respond to the calls of the beacon helicopter (Brazil Nut). 33/

On SAC B-52 missions in SVN, MACV provided a helicopter, plus a spare, from Army resources, to the 2AD SACLO who placed the beacon in the desired location and operated the equipment. The beacon operator had knowledge of the beacon output, and communicated with the B-52 forces as necessary. Only 2AD had authority to order the beacon turned off and thus terminate the mission. For this reason the beacon operator continually monitored the frequency of the beacon helicopter. The airborne controller had the strike force operating frequencies, but the strike force commander was not required to contact the airborne controller and does not normally do so. 34/

SAC said that its primary method of bombing was through normal radar bombing techniques whenever there were known usable offset aiming points. In the absence of these, it had to rely on a radar beacon. In the absence of known radar offsets, and no beacon availability, it was impossible to predict, with any certainty, a definite reaction time. 35/

SAC was taking action to obtain radar photographs in the RVN which would provide the material for which suitable OAPs could be located to accomplish MACV tasks. 36/

Since the ballistics computations were intimately tied to the beacon altitude, SAC considered it extremely important during "Fox Den" that the helicopter fly an exact altitude. It requested that the helicopter fly 1,000 feet above the ground; if the prescribed 1,000-foot altitude was not possible, SAC should be so informed. 37/

In the month of July 1965, 147 sorties were flown on six missions, dropping 2,811 tons of bombs. This placed the program on a regular basis and the size of the B-52 effort was to increase throughout the year. From the one mission flown in June, the program grew to 39 missions in December, when 306 sorties were flown, dropping 5,368 tons of bombs.

Harassment and Attrition Strikes

CINCPAC, in July, said that the concept for the use of SAC forces should include harassment and attrition as objectives, as well as the destruction of the VC and their facilities. The large-scale strikes, with follow-up ground attacks, were good but required a long lead time and were subjected to a fair probability of compromise. "The ARC LIGHT program must not bog down in stereotyped operation," CINCPAC said. 38/ Areas attacked once, should be hit again if re-occupancy appeared probable, using delay fuze and tamper-proof anti-personnel munitions. 39/ The case had already been made for keeping the VC on the move to disrupt long

planned offensive attacks against the GVN. Therefore, heavy attacks and re-attacks of priority target areas would pay dividends but, just as in a conventional interdiction campaign, sporadic attacks of insufficient weight would not achieve the cumulative effects which could be had from causing an overall, unmanageable situation. Heavy, widespread, frequent attacks would leave few undisturbed elements to come to the aid of others. In such a program of harassment, timing of attacks became a dominant consideration. Night attacks, just at the time of the evening meal, would be useful. Continuing harassment through use of delayed fused anti-personnel and heavy munitions should be programmed for follow-on attacks in these areas where no ground exploitation operations were planned. 40/

Harassment and attrition missions should be followed by intensive visual recce by FACs to determine movement and relocation of the VC with on-call aircraft and Eagle flights ready to exploit opportunities for trapping and exterminating small formations. 41/

Free Bomb Zones

In August COMUSMACV proposed the designation of five "free bomb zones" approved by the GVN and U.S. Ambassador in Saigon, within which B-52 strikes could be conducted with minimum coordination. With CINCPAC and JCS approval, this practice went into effect in August. The principal requirements for strikes in a free bomb zone were that the area be free of friendly units and that the RVNAF General Staff be informed of the date of the strike. The number of aircraft, TOT, and target were divulged

to RVNAF, only when specifically requested. The JCS retained final execution authority for strikes within the free bomb zones. 42/

The free bomb zones covered Viet Cong base areas wherein strong defenses had precluded or minimized friendly operations. These ARC LIGHT Zones (ALZs) are described below: 43/

Alpha: Encompassed an irregular shaped area 40 km x 50 km within War Zone Delta, in Phuoc Than Province.

Bravo: About 30 km inland from the U.S. base at Chu Lai in Quang Tim Province. Approximately 15 km x 20 km.

Charlie: In the southernmost RVN province of Anxuyen. Approximately 20 km x 25 km.

Delta: Also in Anxuyen Province. Approximately 18 km x 40 km.

Echo: In Vinh Binh Province. Approximately 7 km x 12 km.

A sixth free bomb zone, Foxtrot, was selected by COMUSMACV in September. This was in Tay Ninh Province and encompassed an area of approximately 25 km x 50 km. 44/

There was only a slight increase in the number of B-52 missions flown in August over those of July. Ten missions were flown, employing 169 sorties which dropped 3,232 tons of bombs. To offset misunderstanding and skepticism concerning the value of B-52 strikes, COMUSMACV gave a briefing to the press in August. He felt that the connotations of the term "Strategic Air Command" created an undue expectation for spectacular results from B-52 raids. His evaluation of the cumulative results was: 45/

1. Several VC permanent installations had been destroyed; others had to be relocated.

2. VC leaders were probably greatly disturbed over these strikes which could not only destroy their bases but also adversely affect the morale of their troops.

3. Contrary to unofficial reports, some VC had been killed.

4. The destruction of munitions had been indicated by secondary explosions.

5. The VC were considering infiltrating headquarters elements into friendly population centers as a protective measure.

The success of at least one B-52 strike was the subject of a message to MACV from the Chairman of the National Leadership Committee, Maj. Gen. Nguyen Van Thieu, who said: 46/

> "...Please accept here, General Commander of US Forces VN, the assurance of my warmest congratulations. Fruitful performance of US Bombers B-52 have effected during Lam-Son operation over Ba-Long secret zone (Quang-Tri) August 17, 1965. This accurate and timely bombardment upon VC concentration area inflicted them heaviest human casualties...."

The cumulative number of low-level reports coming in during the first three months of strikes lent credence to the effectiveness of the missions. They indicated that strikes were keeping the VC on the move, preventing them from grouping into large-size units, and creating problems of logistics and morale for the enemy. 47/

During September CINCPAC sought in vain to decentralize control in the B-52 strike operations and to reduce traffic which the existing

procedures imposed on an already overburdened communications system. The existing system required that details of B-52 strikes be coordinated with the White House Staff and Department of State, prior to the execution decision by the Secretary of Defense. The main features of CINCPAC recommendations were as follows:

1. JCS and CINCPAC exercise approving authority for establishment of ARC LIGHT ZONES (ALZs) proposed by COMUSMACV. JCS approval to include directing CINCSAC to support CINCPAC as required for strikes in the ALZs.

2. COMUSMACV propose strikes in authorized ALZs on a recurring basis as necessary to CINCPAC for action, JCS and CINCSAC for information. CINCPAC's approval to be indicated with an execute message, with JCS retaining veto authority.

3. CINCPAC and JCS exercise approval authority for strikes outside an authorized ALZ. JCS approval to include the execution directive.

4. Requests for B-52 strikes either in or out of an authorized ALZ to be considered a planning message, and no additional planning messages be required.

5. Minor changes in TOTs, placement of radar beacons, axes of approach, and number of aircraft be as mutually agreed between CINCSAC/COMUSMACV, keeping JCS and CINCPAC informed.

6. For simplicity in identifying strikes, use the nickname of the ALZ followed by a sequential number (i.e. Alpha 1).

The above recommendation was disapproved by the JCS on 6 October. 48/

Target Selection

In September, after three months of B-52 operations, USAF was still concerned about targets selected for B-52 strikes. It wanted highly qualified AF talent to participate fully in the selection and evaluation of targets to insure that strikes were only requested for targets

appropriate for the weight of effort involved and that the size of strike force was adequate for the specific target.[49]

In measuring the results of strikes, 2AD said it was necessary to consider psychological effects such as denial of safe havens to the enemy, forcing him to move and never leaving him a safe spot.[50]

Second AD said that air expertise was being used in selection of targets. COMUSMACV reserved final approval authority on all targets. Targets were selected as follows: (1) TRAC, headed by an AF colonel, assembled all possible intelligence from all sources on likely target areas; (2) Aerial photos were closely studied by joint PI teams of USAF, USN, and USA experts; (3) IR, SLAR, FAC and aerial observer reports were analyzed by a joint team, one for each ARVN corps; (4) After correlation, TRAC chief selected likely target areas and called the target panel together (the panel consisted of representatives of 2AD, J2 MACV, J2 JGS, and TRAC personnel); (5) If the target passed the panel, it went to J2 MACV, then J3 MACV, then COMUSMACV. If approved, it went to J2 JGS, and if approved, to the U.S. Ambassador.[51]

From this point it took one of two courses. If inside either of the six free bomb zones, the recommendation returned to MACV, who sent it to JCS for approval and allotment of B-52s. If outside the six free bomb zones, J2 and J3 of JGS went to the Corps commander concerned for approval, after which it went to MACV for dispatch to JCS. With JCS approval the mission was laid on and controlled.[52]

In the process of analysis of the target, recommendations were made as to the size of the force and suggested bomb loads by USAF and USMC pilots in the Air Ops Branch of MACV J3. They were assisted by 2AD representatives. General Moore, in his capacity as Deputy for Air Operations, did all possible to insure adequate air expertise in the target selection process. Although results of bomb strikes could not be measured in the classic bomb assessment manner, the consensus in RVN was that they were worthwhile, were having important detrimental effects on VC, and were providing valuable training for SAC pilots. 53/

The protection of non-combatants and friendly forces was of primary concern to COMUSMACV and each target was carefully scrutinized with the GVN prior to requesting a strike. 54/ In mid-September, COMUSMACV in a message to CINCPAC, recommended that he (COMUSMACV) be given the responsibility for authorizing B-52 strikes. The issue arose when a strike was cancelled in Washington because of the target's proximity to a village. COMUSMACV stated he was fully aware of this situation at the time of the request and had taken necessary precautions to prevent error. Because of the cancellation, tactical air support was directed to strike the target, but only after some delay which probably allowed the VC to depart. This change in plans also caused cancellation of an exploitation operation which was to have been conducted by the 173d Abn Bde. COMUSMACV's concern was one of principle; the feasibility of a strike was a military decision, and the commander on the ground was in the best position to make it. 55/

There was a sharp upswing in B-52 activity during September as many

of the problem areas learned during the early strikes were being resolved. In September, there were 20 missions flown, involving 326 sorties dropping 6,227 tons of bombs, an effort which doubled the August record. Press reports in the U.S., which had been skeptical at first, were indicating a favorable impression with the results of the B-52 raids. More flexibility was brought into the program on 29 September when the Secretary of Defense delegated the JCS authority to approve B-52 strikes in the six established special bomb zones mentioned above. All other strikes still required approval by higher authority.

In October, there was a slight drop in B-52 activity over South Vietnam, with 23 missions using 292 sorties being flown, dropping 5,577 tons of bombs.

The missions were being flown primarily against VC base camps revealed by intelligence, with heavy emphasis on Zone C and the Iron Triangle area of Binh Duong Province, about 20 miles northwest of Saigon. Strikes were also made in areas where the enemy was believed concentrating for attacks on government units or installations. A typical B-52 mission against a base camp was flown on 5 October when 15 B-52s struck a VC training center and a battalion-size logistical base in VC War Zone "C". The 237th VC Battalion and an artillery regiment were known to be operating in this area. No ground follow-up was made on this strike although the following day another 15-aircraft strike in the same area was exploited by ground forces. On 10 October, three waves of nine B-52s each, struck three separate target areas in Binh Dinh Province, where three unidentified

battalions and an unidentified regimental command post were reported. The bulk of the strikes in October were in Binh Dinh, Quang Ngai, Tay Ninh, Binh Duong, and Kien Hoa Provinces, all locations of sizable VC units.[56]

After disapproving two proposed B-52 strikes in Binh Dinh Province in October, the JCS informed CINCPAC that ARC LIGHT target approval procedures involved the closest scrutiny of instances where occupied friendly non-combatant areas were within one nautical mile of a proposed target. Regarding targets in this category, they stated that intelligence information and all other military justification should be provided in exhaustive detail. CINCPAC continued his policy of relying on COMUSMACV's knowledge and judgment regarding the safety of non-combatant and friendly military personnel during ARC LIGHT operations.[57]

To avoid non-combatant and friendly unit casualties, the JCS on 5 October directed that all ARC LIGHT target nominations include precise location data of friendly forces, enemy forces and non-combatants in the requested strike area. Additionally, COMUSMACV had to revalidate each target prior to execution.[58]

Target cancellations became a source of embarrassment for COMUSMACV in his relationships with RVNAF officials. He informed CINCPAC and JCS on 31 October that he had noted that many proposed ARC LIGHT targets were being disapproved by higher authority. These targets had been nominated only after extensive study of all aspects by competent personnel in GVN, concurrence of corps commander/senior advisor involved, personal approval

by COMUSMACV and agreement by RVNAF JGS and the U.S. Ambassador. GVN leaders found these cancellations difficult to understand. In order to derive maximum effect from B-52 strikes, COMUSMACV recommended that he be allocated B-52 sorties, on a monthly basis, for use in accordance with guidance by higher authority; 3AD be given the mission of reinforcing the 2AD, in support of COMUSMACV, with limitations as deemed necessary by higher authority; and that COMUSMACV or his AFCC deal directly with 3AD in accomplishing these missions. 59/

B-52 activity in November continued at about the same pace as October, with smaller numbers of aircraft being used on individual missions. Thirty-nine missions were flown (an increase of 16 over October) with 296 sorties dropping 5,654 tons of bombs, approximating the October effort. However, during November, the B-52s were used in a close-support role in conjunction with a major battle in the Ia Drang valley of Pleiku Province, involving the 1st Air Cavalry Division in Operation "Silver Bayonet," a bitter fight with North Vietnamese elements. On five consecutive days, beginning 17 November, strikes were conducted in the 1st Air Cav battle area. 60/

To meet these close-support needs, scheduled strikes in Binh Duong Province were deferred and, within 14 hours and 57 minutes of the COMUSMACV request, 18 B-52s launched from Guam to provide necessary support.

To ensure continued and more effective air support of Operation SILVER BAYONET, COMUSMACV suggested that he be authorized to deal directly with the Commander, 3d Air Division, and to have blanket approval in

conducting the bombing effort.[61]

CINCPAC recommended that the JCS approve the COMUSMACV proposal but CINCSAC desired to retain control rather than delegate it to Commander, 3AD.

The JCS authorized CINCPAC and CINCSAC to delegate to COMUSMACV and Commander 3AD, respectively, the authority for direct liaison regarding SILVER BAYONET B-52 strikes.[62] However, CINCPAC and CINCSAC chose to retain their authority regarding execution of these strikes.[63]

Command Relationships

Earlier, on 6 November, CINCPAC again proposed to JCS a measure designed to streamline ARC LIGHT operations. Noting that the existing system required separate approval and execute messages for all missions, CINCPAC recommended that the JCS promulgate a basic ARC LIGHT directive which would state to CINCPAC and CINCSAC the appropriate guidelines and restrictions. CINCPAC also proposed that the JCS specify to CINCSAC a specific number of B-52 sorties which would be in support of CINCPAC.[64] CINCPAC further proposed that he issue a basic ARC LIGHT directive which would amplify the JCS instructions and specify:[65]

1. COMUSMACV request strikes at least 48 hours in advance; action 3d Air Division (CINCSAC): information to JCS, CINCPAC, CINCSAC (3d Air Division). Approval would be indicated by the absence of objection from JCS, CINCPAC or CINCSAC.

2. 3d Air Division issue intent message 24 hours prior to strike TOT.

3. Direct liaison authorized between COMUSMACV and Commander,

3d Air Division regarding minor deviations such as changes in TOT, beacon placement, changes in number of aircraft or bomb loading/fusing.

4. COMUSMACV submit to CINCPAC for JCS approval any special requests such as waiver of restrictions or increase in monthly sortie allocation.

The above procedures, CINCPAC stated, would not degrade control of ARC LIGHT at either CINCPAC or JCS level. Further, he observed operations could be monitored adequately and time would be available for cancellation of a strike. 66/

CINCSAC, however, took exception to the command relationship which would provide direct liaison between COMUSMACV and the Commander, 3d Air Division. He stated this would not reduce reaction time and announced that he must retain demurral authority on strikes when cogent reasons existed. 67/

At the end of the year the JCS had not responded to CINCPAC's 6 November recommendations.

In early November, COMUSMACV, with CINCPAC's concurrence, repeated his proposals to JCS for the decentralization of control of B-52 strikes. He felt his proposals were well-founded in view of the following considerations: 68/

1. Since joint US/RVNAF target selections were approved by the GVN through the U.S. Embassy, political problems should not arise;

2. Public and press reactions to the strike were favorable;

3. Excessive time was being spent on target development because of control arrangements;

4. Timely use of intelligence and quick reaction to enemy

initiative were essential;

5. The change of operational plans each time a target was disapproved jeopardized Vietnamese confidence in COMUSMACV;

6. COMUSMACV was responsible for the outcome of these strikes regardless of who approved them.

CINCPAC advised COMUSMACV on 17 November that, in view of CINCSAC's desire to retain direct channels with CINCPAC, COMUSMACV would continue to submit B-52 target nominations to CINCPAC, with information to CINCSAC, JCS and 3AD. Upon approval of target nomination, CINCPAC would request CINCSAC to conduct strikes, with information to COMUSMACV, JCS and 3AD. Concurrent approval by JCS would be assumed, subject to continued monitoring and possible veto. Times-over-target (TOTs) would be confirmed to all concerned as soon as possible. 69/

COMUSMACV found these developments satisfactory and tasked his staff with developing procedures which would permit a strike as rapidly as possible after acquiring suitable target intelligence. 70/

The SecDef reviewed the ARC LIGHT program during his Saigon visit in November 1965 and requested COMUSMACV's evaluation and comments. COMUSMACV reported that, although specific results in terms of the number of enemy casualties and the amount of supplies and facilities destroyed were not known, evidence gathered from post-strike ground operations, ralliers, prisoners, captured documents and agents revealed that the ARC LIGHT program had been highly successful. Targets were being developed faster than they could be struck. Overall improvements in USMACV's intelligence capabilities provided abundant data on the enemy's location and his facilities. The

integration of the ARC LIGHT program into USMACV's operational framework substantially increased the striking power available for use against the VC. It greatly bolstered the morale of U.S. and ARVN forces; it demoralized the enemy with a weapon that he could not see or hear. ARVN forces became eager to penetrate areas bombed by B-52s; areas in which they had been extremely reluctant, if not unable, to tread previously. 71/

In his briefing for the SecDef in late November 1965, COMUSMACV emphasized that ARC LIGHT target requirements exceeded the number of sorties which could be supported by 3AD assets. The shortage of sorties would be substantially greater if targets in Laos were approved for execution. By late November, B-52 sortie rates had leveled off at approximately 300 per month. In anticipation of an increase in targets, modifications were being studied to allow the B-52 to double its weapon-carrying capacity. If this were realized, a shortage of HE bombs in SEASIA was foreseen. B-52 aircraft carrying napalm and bomblets were to fly among other B-52s carrying iron bombs, beginning in December. This was one measure which would assist in the alleviation of the iron bomb shortage. If strikes in Laos were approved, use of napalm on those targets was also recommended. COMUSMACV also continued to press for further decentralization of ARC LIGHT target approval procedures, especially since effectiveness was directly related to timeliness. 72/ COMUSMACV recommended that:

1. ARC LIGHT target approval channels be decentralized to CINCPAC/CINCSAC with 3AD placed in direct support USMACV.

2. Targets identified in southeastern Laos be approved for execution to include authorization to use napalm.

3. Shortage of HE bombs resulting from increased B-52 bomb carrying capacities be alleviated.

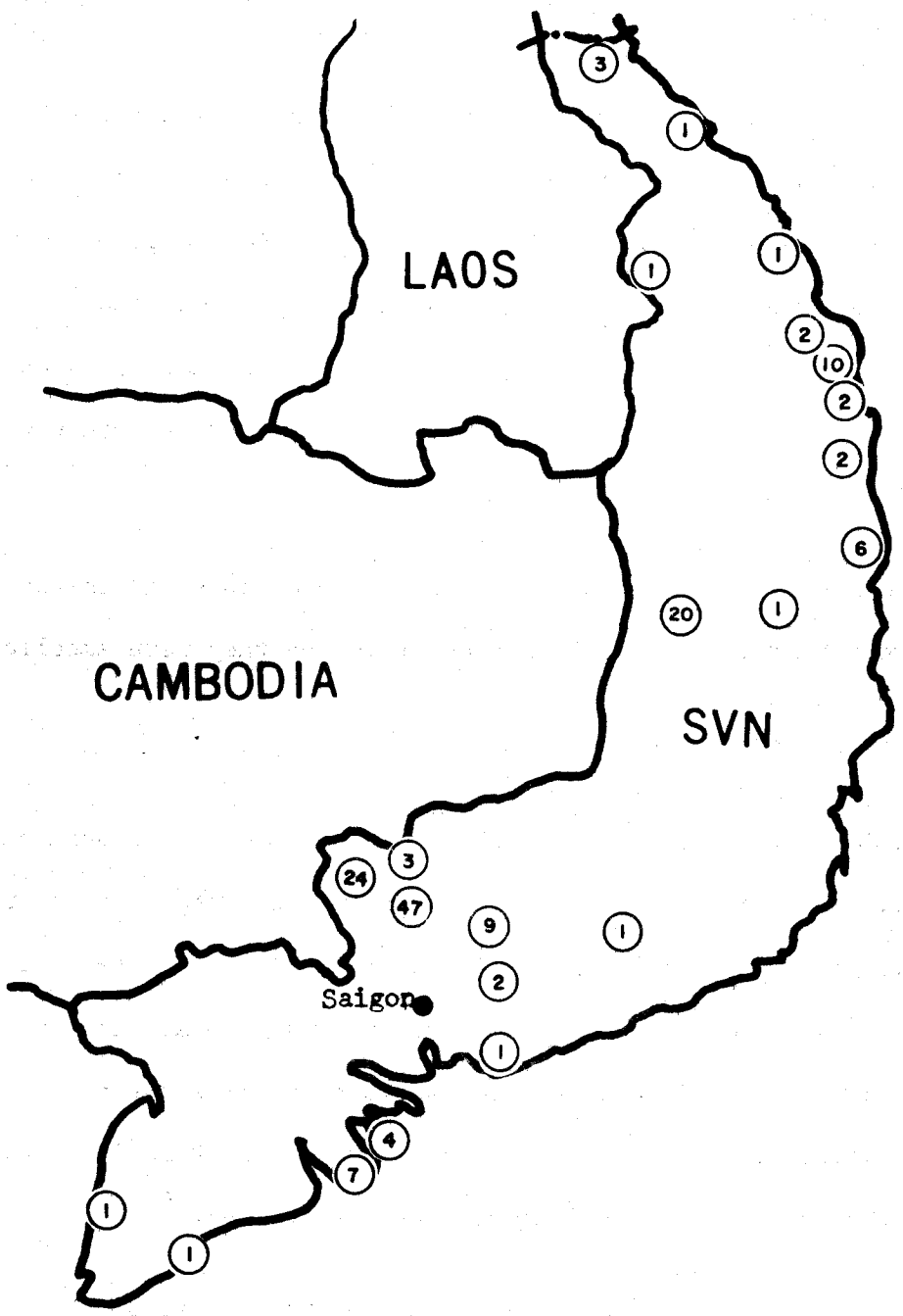
ARC LIGHT program responsiveness to the latest field intelligence was a major step in providing massive air support to troops engaged in combat. COMUSMACV commented that authorization of minimum approval channels was an arrangement which should be continued, and that quick reaction by ARC LIGHT forces not only was applicable to major ground campaigns but also to individually requested targets, such as convoys in staging areas or VC occupied base areas.[73/]

A mid-November investigation of security measures involved in the planning and execution of ARC LIGHT missions revealed they were excellent.[74/]

End of Year Operations

SAC, on 1 Dec 65, informed JCS that tests conducted by SAC headquarters showed a bombing altitude of 12,000 feet gave a better pattern and a higher degree of accuracy in the dispensing of BLU-3B than the 15,000 feet minimum bombing altitude approved by JCS on 28 August, in his General Planning Instruction. Therefore, SAC requested JCS approval for the use of a 12,000-foot absolute altitude for employment of the BLU-3B against selected targets in SVN, where no threat or expected threat existed.[75/]

On 1 December, JCS requested information from CINCSAC regarding the capability and requirements, including leadtime, to increase ARC LIGHT sorties to 800 per month. JCS planned to submit a summary report to SecDef by 3 December.[76/]



NUMBER AND DISTRIBUTION OF B-52 STRIKES

(18 June 1965-19 January 1966)

Fig. 2

During December, 39 ARC LIGHT missions were flown. Target areas in eight RVN provinces and one target in Laos were struck by 306 sorties. Nine strikes were made in Binh Duong Province and five in Pleiku. Other targets struck were in the following provinces: Phuoc Tuy, Vinh Binh, Quang Tri and Tay Ninh. Ground forces exploited 11 ARC LIGHT-struck target areas in the following provinces: Pleiku, Binh Duong, Quang Tin, Phuoc Tuy, Vinh Binh and Quang Tri. A total of 5,214 tons of bombs were dropped. 77/

Quang Tri Province received three ARC LIGHT contingency strikes on 12 - 14 December in support of Harvest Moon operations. CG, III MAF praised the successful operation with the comment that the Marines "were more than impressed - they were delighted with the results. The timing was precise... bombing was accurate and the overall effect awesome to behold." 78/

Also, in December, the first B-52 strikes against targets in Laos were made in conjunction with TIGER HOUND, an interdiction program in the Laotian Panhandle on the Laos/SVN border. The U.S. Ambassador in Laos, on 25 November, had concurred in the use of B-52s on the border, providing there was no publicity and that public statements treated the strike as "just another strike in South Vietnam." The first strike was made on 11 December when 24 B-52s bombed a suspected troop concentration just inside the Laotian border at YB 8393, about 15 kilometers southwest of the Special Forces camp of Kham Duc. Contrary to the Ambassador's wishes, this strike created considerable publicity when it was published as a UPI release on 20 December. As a result of this leak, further strikes were held up, until after 11 January 1966, to allow time to shore up the internal

security system regarding the avoidance of publicity on air operations in Laos. 79/

Prior to the 11 December strikes in Laos, all ARC LIGHT aircraft were armed with 51xM117 750-pound bombs. In an effort to conserve these bombs, six of the 24 B-52s on the Laos mission used BLU-3B bomblets. However, from 22 December to the end of the year, each B-52 carried 27xM64 500-pound bombs, internally, and 24xM117 750-pound bombs, externally. 80/

On 23 December, COMUSMACV informed CINCSAC that he was highly impressed with the potential of the B-52 employment of BLU-3B munitions on VC concentrations in South Vietnam. 81/

On 17 December, JCS requested the earliest date planned for utilization of 450 ARC LIGHT sorties per month. COMUSMACV, on 14 October, requested 450/month commencing in January, 600/month April-June, and 800/month thereafter. CINCPAC, on 6 November, recommended a 300/month planning figure to COMUSMACV due to ammunition limitations. 82/

CINCPAC said that COMUSMACV could utilize 450 sorties/month commencing 1 January. However, the CSAF allocation, he pointed out, did not provide sufficient bombs to support more than 300 sorties/month on a continuing basis. He added that information available to him indicated that unlocated bomb resources were insufficient to support an expanded B-52 sortie rate, except for a very limited period. 83/

He continued that Phase IIA Forces in SVN would require an increase

in tactical air support over that which was currently programmed. In addition, he noted that significant increases in the level of air effort programmed for Laos and NVN were indicated, adding that a preliminary review of assets, as known to him, indicated that all desired increases could not be supported. In view of the ammunition situation, he felt that the 300 sortie/month effort should remain for the time being (except for special BLU-3B missions requested by COMUSMACV on 20 December) unless the ammunition resources available to JCS permitted additional sorties. 84/

At the close of the year, COMUSMACV reviewed the status of B-52 strikes, projected strike plans and approved targets for submission in early 1966. He noted that USMACV was developing targets faster than available B-52 sorties could strike them and that "he could use very easily three times the number of sorties available" at the end of the year. 85/ In the meantime, CINCPAC had already commented on COMUSMACV's request to the JCS for an increase in B-52 sorties to 450 per month beginning with the new year, with a further increase to 600 per month in April-June and 800 per month thereafter. CINCPAC recommended 300 sorties per month to COMUSMACV, largely because of the limitations based on munition resources allocated to CSAF. Unallocated bomb resources were insufficient to support the expanded B-52 sortie rate requested, except for a very limited period. 86/

Near the end of 1965, there were strong indications of an early attack on a Special Forces Camp in I Corps. COMUSMACV requested establishment of "contingency target areas" defined by him and covering likely enemy assembly areas and avenues of approach. He proposed that these areas would facilitate SAC planning in case of enemy attack. Contingency target areas would

facilitate SAC planning in case of enemy attack. Contingency target areas were recommended at Plei Mrong, Polei Djereng and Khe Sanh - all isolated Special Forces Camps. CINCPAC favorably endorsed these proposals. The JCS subsequently approved the contingency target areas, thus providing decentralized execution authority and quick reaction in case of an enemy attack. 87/

On 27 December 1965, COMUSMACV informed CINCPAC that he identified the U.S. Khe Sanh Special Forces Camp area as an additional ARC LIGHT Contingency Target area, and stated that an urgent requirement existed within the contingency target area for two ARC LIGHT strikes. The outpost, he said, had been attacked on 22 December and on 23 December, when it was lost, and retaken that same day when ARVN relief forces arrived. Later, III MAF identified the position of two PAVN battalions warranting an ARC LIGHT strike and intelligence revealed a VC regiment plus one battalion in the area. He noted that, in the event of an attack, the Khe Sanh Special Forces Camp and District Headquarters were located in an area very difficult to support with relief forces, stating that Highway 9 was the only ground route into the camp but that it had been closed for approximately a year due to the destruction of bridges. He felt it was not possible to deploy or support over the ground, adding that support forces could be transported into the Xom Cham Airport near Khe Sanh, pointing out, however, that the airport would barely take C-123s and was difficult to defend. He also noted that weather conditions during that time of the year in Quang Tri Province were not suitable for large-scale airlift. For all these reasons

he did not wish, nor did he intend to be drawn into a major battle in this remote area, adding that he, however, did not wish to lose this area to the VC. He concluded that the only means to support the defense of the area and, more important, possibly preclude an attack, was through air support, adding that the B-52 was the proper solution to this problem. In view of this, COMUSMACV requested the recommended strike be approved for execution on the 28th of December 1965. He added that there were no non-combatants or friendlies within one kilometer of the areas requested for the strike and that, for subsequent strikes, no target would be requested within one kilometer of non-combatants. 88/

During 1965, there were 138 B-52 missions flown, consisting of 1,562 sorties. These aircraft dropped more than 31,000 tons of conventional bombs. The B-52 was proving capable of the mission assigned it in Southeast Asia.

In late 1965, COMUSMACV commented to the U.S. Secretary of the Air Force, during the latter's visit to the RVN, that "sorties flown by B-52s had not only produced a demoralizing effect on the VC but had strengthened the combat effectiveness of the U.S. and GVN armed forces team." 89/

SecDef Conclusions

During his last visit to the RVN in 1965, the SecDef concluded that "no longer could the communist forces feel secure in their formerly un-penetrable jungle bases; ...these (B-52) attacks had, and will continue to have, a considerable effect on the outcome of the war in Vietnam." 90/

With the increased B-52 effort, the question of additional bases arose. An interesting discussion of base possibilities was provided by the American Consul in Hong Kong. In a message to the Secretary of State on 9 December, he stated that...the arguments against the use of Thailand for such bases seemed persuasive adding that "If the Thais are sensitive now about being pinpointed as a source of air strikes--which they are bound to be, then given their nearness both to area now involved in hostilities and to Communist China as well as the mounting threat to their own internal security--they are going to be double sensitive about the attention which B-52s would call on their country." He added that we were going to need Thais for various things, and that there was only so much that traffic would bear, whereas reasons for not selecting Thailand concern, principally, vulnerabilities and sensitivities. 91/

He discussed the possibility of using Taiwan as a base for B-52s and stated that the objections to use of Taiwan stem more from consideration of our national interests. One consideration he felt was important was the avoidance of getting into a trap which would be represented by the opening of a quiescent CHICOM-GRC civil war, a trap which he noted we have gotten around for many years. He added he realized that the use of Taiwan as a base for B-52 operations would not immediately nor necessarily have that effect, however, he still felt such use would give both sides greater opportunities. Such use would increase the vulnerability of off-shore Islands to Chicom initiative and, at the same time, would give the GRC a leverage upon us (i.e. to give them B-47s which they have long desired).

In addition, he stated that such leverage might also be used to get the U.S. to go along with them on doubtful ventures designed to reactivate those hostilities and involve us in them. Another factor is that such use would encourage elements in the U.S. which would like to see us make major use of GRC forces. In this connection, he pointed out that he did not see the populace on the mainland as enthusiastic about the Vietnam war at this time. However, he felt that once you touch the Chinese people on the nationalistic nerves, you run the risk of rousing them for a venture such as their plunge into Korea. He added that a direct U.S. attack on Chinese territory, i.e. by bombing, is the most obvious way in which the Chinese could be roused. Also, reactivating CHICOM-GRC hostilities would be, in his opinion, only somewhat less effective, given the fact that the mainland population has been conditioned for 20 years to regard GRC as a U.S. puppet and Taiwan as a base for intended U.S. aggression against China, as well as the circumstance that elements in Chicom leadership may have come to half-believe its own propaganda bearing on that point. 92/

In considering Thailand, Taiwan and the Philippines as possible choices for the location of B-52 bases he thought the Philippines appeared best. He mentioned that, obviously, there were political costs engendered in the use of any third country as an advance base for B-52s. In this connection, he informed that he was not unaware there has been some resurgence of Huk activity in the Philippines; that base security was not good in terms of theft now, and perhaps prospectively in other terms as well; and that Philippine leadership elements may magnify U.S. presence to stimulate

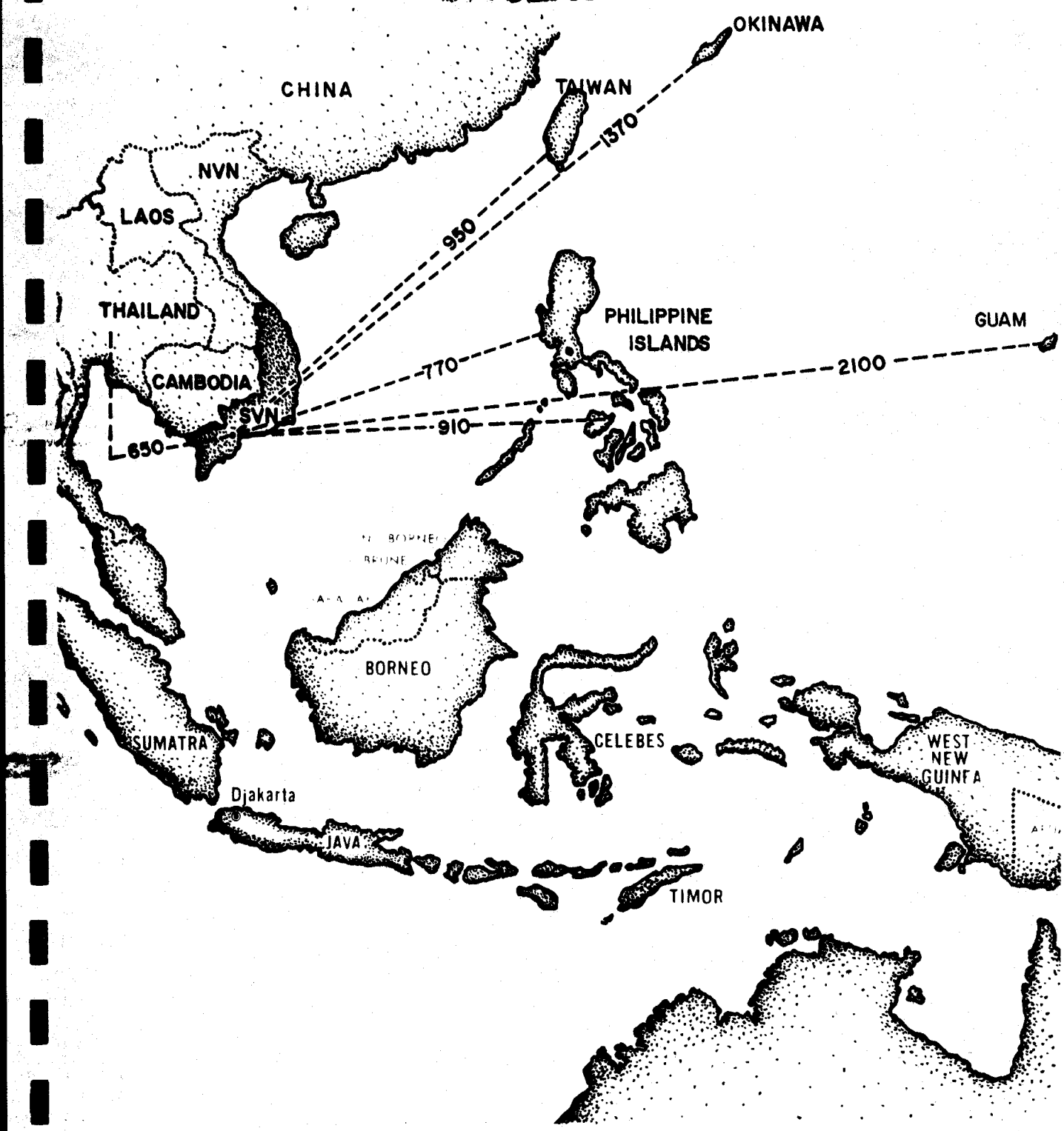
political problems to exact the highest possible quid pro. He concluded his thinking on the Philippines by saying that we, presumably, maintain Clark Field for reasons additional to immediate security of the Philippines itself and asked the question: "If Admiral Radford did not build the long airstrip at Cubi Point for some occasion as this, what was it built for?" 93/

He felt that a base in South Vietnam, itself, obviously would have the advantage of greatest proximity and would not have the disadvantage of extending the area of involvement. He assumed, however, that this had been considered and ruled out on base security or other grounds. 94/

He also assumed that Naha, which he noted was not much farther away from Vietnam than a suitable strip on Taiwan, had been ruled out, principally because of probable political problems with Japan. 95/

He noted that his reflections were directed largely to the use of a base for B-52 sorties into South Vietnam and that, if used for sorties into NVN, the political disadvantages would be increased, particularly if the base were in Taiwan. 96/

He remarked there remained the general question of whether military benefits accruing from expanded B-52 operations from a foreign base outweighed political disadvantages, stating he saw no significant political advantages. He qualified this statement by adding that his office, of course, was not competent to strike this balance, but, based on his strong intuitive feeling, he was skeptical that the scales do not tip clearly to the side of military benefits. 97/



AIRLINE DISTANCES
FROM
SAIGON

Fig. 3

His final comment was, aside from the base question, that the use of B-52s against NVN would be a form of escalation, almost regardless of targeting. He continued: "As the Department is aware, I have my doubts about the desirability of expanding our air strikes against the NVN and use of B-52s would sharpen these doubts." He imagined that much of the world, probably including Hanoi, Peking, and Moscow would be tempted to believe we have moved into a new phase of "strategic" bombing. He ended by saying there are undoubtedly many Americans who want the Communists to believe this, but he doubted if this was "in our overall interest." 98/

As the year ended, B-52 strikes were being carried out as a regular program and, although there was still some concern over the lack of accurate bomb damage assessment, enough evidence was in to prove the merit of the program. Strikes were being conducted by three to 30 aircraft, each capable of carrying a load of 51x500- or 750-pound bombs. These bombs were of the M-64 and M-117 high-explosive type, with fuse settings determined by the nature of the target. Delayed fuse settings were used when bombing reinforced structures, caves and tunnel systems, while impact fuse settings were used against surface structures and personnel. Some time fuses were set to explode after the strike in order to impede and disrupt rescue and clean-up operations. 99/

Refinement of Target Selection

The system for selecting targets had been refined somewhat during the year. Several means were employed to identify targets. These included

aerial photo reconnaissance, IR recon, side-looking airborne radar recon, aerial radio direction finding recon, aerial VR, ground recon, enemy documents, agents, police, prisoners, and returnees. Immediately upon receipt of a report of possible enemy activity, the location was plotted on a map. Once enough intelligence was collected to support the existence of a valid target, it was recommended for an ARC LIGHT strike. ARC LIGHT targets had to be relatively stationary due to the time required for approval and scheduling. Every target developed was not immediately submitted for a strike. Newly developed targets were held until enough were available to ensure a two or three week bombing program. In cases of important but relatively mobile targets, immediate strikes were called. These were conducted 16 to 24 hours from the time of the initial bombing request from the field. Strong justification was necessary to call an immediate B-52 strike.[100/]

In order of priority, B-52 strikes were carried out for the following purposes:

1. Destruction of command and control personnel and facilities.
2. Destruction of major supply and storage facilities.
3. Destruction of base areas and combat units.
4. Interdiction of lines of communication.
5. Softening of defenses in preparation for, or in support of, ground operations.
6. Harassment of the enemy to impair his capability to take offensive action.
7. Destruction of morale by taking full advantage of the psychological effects of heavy aerial bombardment.

CHAPTER II

SUMMARY OF OPERATIONS, 1966

During 1966, the ARC LIGHT program saw an increasing employment of B-52 bombers in Southeast Asia. The expansion of the heavy bomber strike effort was reflected in an ever-increasing monthly sortie rate applied against a constantly growing geographical area. This powerful force was utilized principally as air support to ground operations, a role which was reflected through efforts to destroy NVA base areas and logistic concentrations. Another important use of ARC LIGHT strikes was the application of B-52 sorties to the growing interdiction program in SEA. To carry out this two-fold mission, the ARC LIGHT forces increased significantly during the year. 1/

Program Expansion

The end of 1966 noted the ARC LIGHT program expansion from 450 sorties per month, generated by 30 B-52s, to 650 sorties per month, by 50 B-52s. Expansion continued, and an 800-sortie level with 61 B-52s was expected to be reached by February 1967. 2/ The rationale behind the desire for an increased sortie rate had been presented to CINCPAC earlier in the year and included: 3/

> "...A controlled sortie level should remain flexible in response to surges in offensive and defensive military operations by the enemy as well as ourselves. The establishment of a sortie level at 450, 600 or 800 each month predicated on a maximum aircraft load factor is not necessarily applicable in a counterinsurgency situation. The size, composition, and topography of each

> individual target must be considered in conjunction with the expected damage level and purpose of the strike when applying a force level. The Quick Run force will be increasingly in demand and this force should be in addition to the present program and not at the expense thereof. The present 'rule of thumb' of striking base area targets with three aircraft per square kilometer is an absolute minimum while at the same time six aircraft per square kilometer would obtain a proper saturation. Increased confidence of ground commanders in using the Arc Light force for either direct support or preparation of a target area in conjunction with ground operations will in turn increase the number of valid target requests. The Arc Light program had been dynamic in nature since the first strike in June 1965...All facets are constantly under study and as refinements become known, they will be...incorporated in the program...."

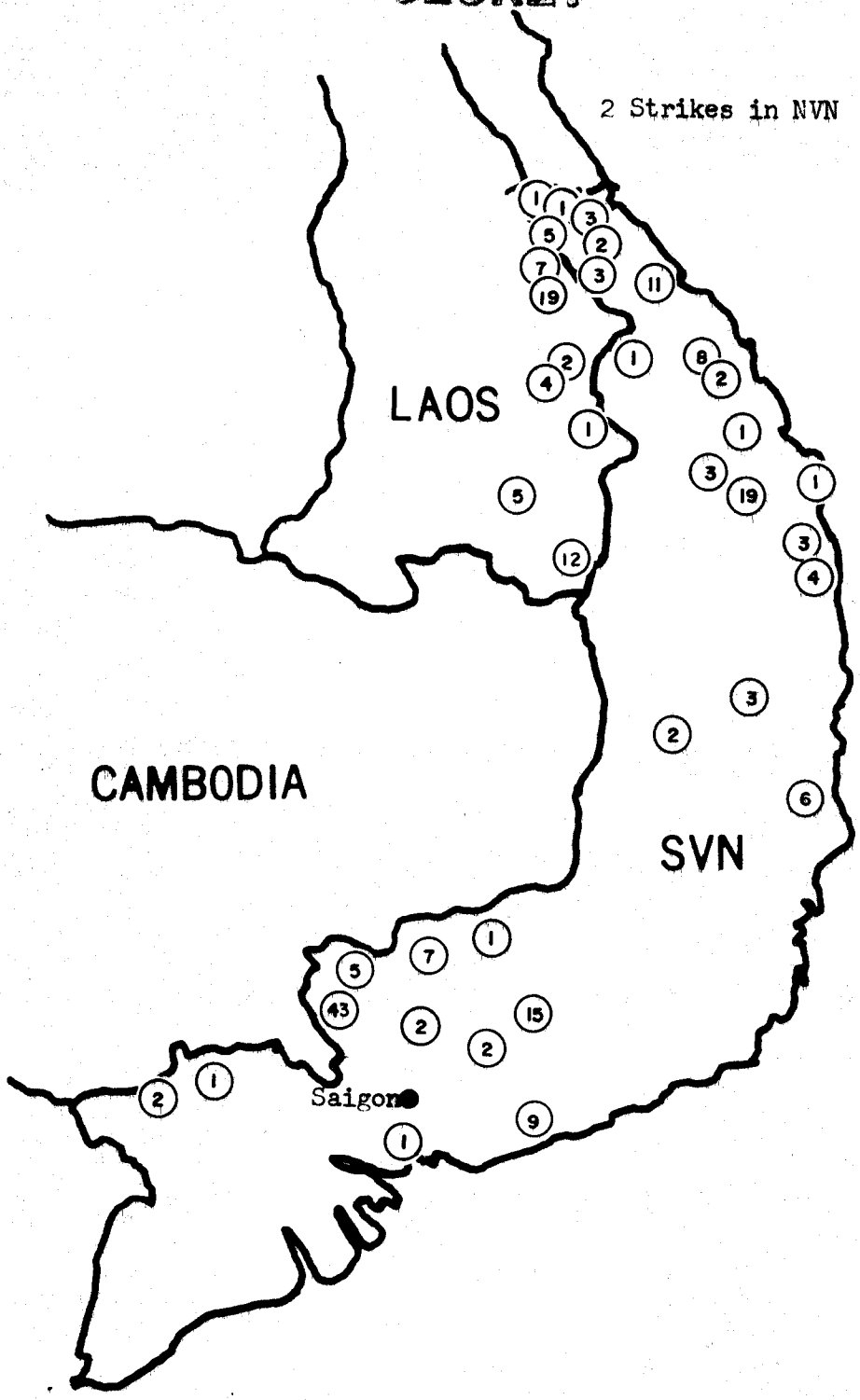
COMUSMACV's view was that the early destruction of VC/NVA forces rested on ARC LIGHT; otherwise, the ground forces would be deprived of essential preparatory support and thus suffer increased casualties. The 800 per month sortie rate was granted, plus a late December approval to exceed that month's 650 sortie rate, as the circumstances required. 4/

This expanded employment of the B-52s during 1966 had implications for the 1967 air effort. The key factor was that the ARC LIGHT program would give field commanders a "means of applying economy of force while accomplishing strategic denial." 5/

Problems and Difficulties

In 1966, difficulties were involved with target acquisition - problems which were not easily resolved. By the end of the year, the overall operational considerations placed emphasis on the need to give particular

~~SECRET~~



NUMBER AND DISTRIBUTION OF B-52 STRIKES

(20 January 1966-17 June 1966)

Fig. 4

~~SECRET~~



attention to immediate target nominations which would exploit targets developed by operations, and which could include positive ground follow-up. Quick exploitation could not always be had since a particular ground follow-up depended on a variety of factors. 6/

However, in spite of these problems, the 7th Air Force noted that, during the latter part of 1966, ground follow-up of B-52 strikes "became commonplace, yielding some information that the strikes were, in fact, damaging and disrupting enemy base camps and staging areas, and keeping the enemy unsettled." 7/

One factor that continued to impede the ARC LIGHT program was the restriction placed upon overflight of Laos. At least partial corrective action was accomplished before the end of the year. The overflight of Laos posed the further problem of avoiding the unacceptable risks of overflight of NVN by the strike forces and still achieve maximum effectiveness. To correct this situation, it was decided that, whenever possible, overflight would only be for targets struck during the hours of darkness and, when strikes were against DMZ targets, the axis of attack would be limited between 280° to 360°. 8/

Another problem was the compromise of B-52 mission information. Increased communications security, to include encrypting and encoding, was the only solution to past compromises which had revealed strike objectives, participants, locations, times, and follow-up operations. 9/

Toward the end of the year, forward basing of the B-52s was well

under consideration. U-Tapao in Thailand emerged as the selected site due primarily to cost, construction and early occupation considerations. Rationale for selection of this site close to Vietnam stemmed from the: (1) Concentrated firepower capability of the B-52 strikes, (2) psychological impact of B-52 strikes, (3) unprecedented advantage conferred upon ground commanders, (4) required surge capability needed to combat the massing by the enemy, and (5) required support of large scale operations already planned. 10/

As the ARC LIGHT program expanded northward, the B-52s began to enter areas of possible SAM emplacements. It became necessary to provide support for ARC LIGHT forces that would enable them to operate within areas of suspected SAM threat. The "Tiny Tim" support plan was initiated, incorporating a combined Elint search with fighter support aircraft for uncovering definite SAM threat signals or observation of a SAM launch. This combination would be intended for defense of B-52 strike aircraft. 11/

Because of the growing size and complexity of the ARC LIGHT program, it became more and more imperative that the planning and execution functions be integrated, that the program be intimately related to tactical air operations, and that there be a continuous focus of attention on the total air operation to insure success and prevent mutual interference. On 10 December, 7AF obtained General Westmoreland's approval of transferring the operational planning function for ARC LIGHT from MACV COC to a SAC ADVON, which would be deployed to Tan Son Nhut to operate under the cognizance of DEPCOMUSMACV for Air Operations/Commander, 7AF; the execution phase of

ARC LIGHT remained a responsibility of the latter; target generation and approval remained a MACV function. Seventh Air Force personnel observed that these revised ARC LIGHT responsibilities and relationships would provide close control by highly trained Air Force personnel experienced in large scale air operations which the expanding ARC LIGHT program required. 12/

Another controversial aspect of air operations in Vietnam concerned the effectiveness of B-52 operations. The 7th Air Force recognized that the problem of BDA assessment was not easily resolved. 13/ MACV felt that the overall effectiveness of B-52 strikes, up to the end of the year, had not and could not be measured quantitatively, since information to perform a comprehensive damage assessment on most B-52 strikes had been completely inadequate. It was supposed that the cumulative effects of the sustained bombing program was making a contribution to the war effort. 14/ In this connection, COMUSMACV noted: 15/

> "...The psychological effects of the strikes on the enemy cannot be equated to hard facts and figures. The reports from the field stating that probing actions prior to the strike met very stiff and determined resistence with only weak and ineffectual resistance after the strikes are an indication of strike effectiveness. This indicated a high degree of success in spoiling the enemy battle plans...."

The Secretary of the Air Force, early in 1967, noted that the B-52 had proven itself in a non-nuclear role in Southeast Asia (SEA). 16/ He said:

> "...Damage Limitation is the primary task of our Strategic Defensive Forces, the accuracy, versatility, and controllability of our Strategic Offensive Forces give them a capability under some circumstances, of destroying enemy offensive systems which had not yet been launched against

us. In limited conflict a long-range, high-payload bomber was of great use for carrying non-nuclear ordnance against either advanced or obsolescent defenses. In South Vietnam, the B-52 also had been a powerful means for spoiling enemy operations. These strategic bombers, armed with conventional bombs, have done well both in close cooperation with allied ground forces and against enemy targets far away from ground action. With their high payload, and all weather accuracy, B-52s have kept the Viet Cong and North Vietnamese off balance in the South by destroying their supply bases, denying them rest areas, and preventing them from concentrating their forces easily...."

CHAPTER III

PLANS AND POLICY

Long Range Support Plan

In February, COMUSMACV presented a long-range plan for the utilization of B-52 support during 1966. The B-52 program, he said, should continue unabated in accordance with a well-considered plan. Increased sorties should be such as to saturate and soften up the area prior to the launching of a major operation. The B-52 raids should be exploited, with tactical fighter-bomber strikes to destroy targets uncovered by the B-52s. Limited objective attacks should be launched on the western border or east and west of Tay Ninh city, prior to the rainy season. The psywar program should be continued. As they become available, area denial weapons should be used along the Cambodian border and LOCs in Zone C. Special Forces would develop plans and carry out operations to set up ambushes and mine the roads used by the VC. Also, the Special Forces would be directed to "clear" Nui Ba Den Mountain. 1/

COMUSMACV, further, desired the establishment of certain bench marks to support the major operation between the end of February and December 1966. COMUSMACV also said that a gradual buildup should be considered, which would not compromise the operation. In this connection, he suggested a deception plan as being required and felt that the gradual buildup during the year would lend credibility to such a plan. 2/

The question of a more stable schedule in the use of the supporting

ARC LIGHT forces arose. SAC felt that a preplanned, firm schedule, as suggested by COMUSMACV on 11 February, could only result in a more efficient and reliable operation for the B-52s. To achieve maximum utilization of facilities, personnel and equipment at Guam, SAC felt that a production line schedule had to be evolved. SAC assumed that a monthly sortie rate of 450 was a realistic figure for the next several months and, based on this assumed rate, felt that the most desirable schedule was 15 sorties, with a maximum of 21 per 24-hour period. It was understood there would be times when the tactical situation dictated a larger force. Regarding this requirement, more than 24 hours between TOTs should be allocated for the preparation and recovery of the strike force. This, he felt, would require 36 hours between TOTs for consecutive strikes of 21 aircraft; 48 hours between TOTs on maximum efforts of 30 aircraft. 3/

Another factor influencing maximum support effort was tanker availability. SAC pointed out that, since the ARC LIGHT and Young Tiger tankers were operated as a single task force, in order to provide maximum tanker availability and utilization, close coordination between MACV, 3AD and SACLO had to be considered to preclude over-scheduling of the KC-135s. 4/

SAC pointed out that new planning factors would be furnished when the 600 sorties per month level was reached. 5/

CINCPAC told JCS that the ARC LIGHT sortie rate would be maintained at the level of approximately 400 per month, until 30 March. For the period, April through 30 June, the rate would be increased to 450 per month.

In July, the rate would be jumped to 600 sorties per month. The July rate would hold throughout the remainder of CY-66 (this would include 50 sorties per month for the BLU-3D). COMUSMACV requested that JCS give him a firm allocation of assets and that he be advised of the total aircraft munitions available for the conduct of air operations in SEA. 6/

COMUSMACV's Review

In March, COMUSMACV again reviewed the projected B-52 program. He noted that, as time went on, the program appeared to be improving, building greater flexibility, and that full support was being obtained from higher authority. This, he noted, compared favorably to the many roadblocks which had existed during the previous months at higher military levels and within the State Department. 7/

All of this was important since MACV felt combat operations in the RVN had entered into a new phase. This he called "a phase of sustained combat," and noted that all units had to engage in this type of operation. He indicated this was a phase of movement for all. 8/

JCS General Planning Instructions

One problem that remained at the beginning of March, however, was the need to improve ARC LIGHT strike planning. Therefore, JCS on 5 March 1966, promulgated general instructions for strike planning. These instructions pertained to targets in South Vietnam to which ARC LIGHT aircraft were committed. It was noted these instructions superseded instructions given on 7 and 28 August 1965 and 3 December 1965. Any strike request submitted

by COMUSMACV would be considered as a planning message. Such a message would include assignment of an unclassified two-word nickname for each B-52 strike. However, sequential numbers, as desired, could be used to identify strikes in the same general area which were scheduled for approximately the same time period. 9/

Under these new instructions, SAR would be provided by CINCPAC. Traffic control procedures for B-52 penetration and withdrawal routes in South Vietnam would also be coordinated by CINCPAC. When required, and in coordination with CINCSAC, CINCPAC would also provide radar beacon placement for offset aiming points. CINCPAC would also take necessary action to eliminate unclassified communications cross-talk relative to flights of B-52s, by air traffic control agencies and/or radar units located on Guam, the Philippines, and fleet units adjacent to the B-52 penetration/withdrawal routes in SVN. These procedures would tighten security and thus reduce the chances of Soviet vessels in the Western Pacific picking up traffic and warning the VC of impending attacks. 10/

CINCPAC was also informed that suitable pre/post-strike reconnaissance and BDA were required. Selected prints and enlargements of coverage would be provided to DIAXX and CINCSAC through established deadline delivery procedures. Continuous radar monitoring of B-52 strike elements while in the SVN area would be provided. CINCPAC would also provide confirmation of each strike requested by at least 24 hours prior to the desired TOT. 11/

The JCS said these instructions tasked CINCSAC to provide the strike

force of B-52s and necessary KC-135 tankers. CINCSAC was also tasked to load the maximum number of conventional munitions to optimize for desired effects. This would be done by coordination with CINCPAC. In addition, CINCSAC was authorized a post-target Philippine overflight route from SVN to Guam for all missions. However, as a normal pre-target route, all missions should be planned so as to avoid a Philippine overflight. Should weather factors cause a late pre-launch decision, CINCSAC was authorized the use of an alternate route involving overflights. In such cases, JCS was to be advised. CINCSAC would provide liaison with COMUSMACV for operation of the beacon transponder, when used. CINCSAC would conduct overflight and bombing in support of CINCPAC operations in SVN at altitudes at or above 12,000 feet absolute altitude. CINCPAC was told the B-52s would not strike any alternate if they were unable to bomb the primary target for any reason. In this connection, JCS added there would be no emergency release of bombs over SVN except under GCI control. Such a release would be in an area designated by COMUSMACV or over open ocean areas outside of territorial waters. CINCSAC was also requested to exercise utmost caution in the attack of target areas so as to avoid release of bombs in friendly areas. The JCS wanted CINCSAC to insure that no overflight be made of Cambodia, Laos or the limits of the DMZ. CINCSAC was to coordinate procedures with CINCPAC so that, if required, either commander could recall the force. CINCSAC would provide operational reports in accordance with JCS Publication 6. Public affairs guidance would be in accordance with DEF 5940/152357Z Jul 65 and DEF 7597/052252Z Aug 65. Security requirements would be carried out in accordance with VMM-GP-3. 12/

Strike Approval Changes

The JCS, on 15 March, noted that, effective immediately, approval authority for ARC LIGHT strikes against targets in South Vietnam would be delegated jointly to CINCPAC and CINCSAC. CINCSAC would retain operational control of ARC LIGHT Forces supporting CINCPAC operations in accordance with JCS 5453/051140 March 1966. Under the new guideline, strikes would be conducted within a monthly sortie rate as established by the JCS. The provisions, as stated in JCS 5453/051140 March 1966 and DEF 5349/041657Z March 1966 NOTAL, would apply. Messages on each strike planning would continue to include the JCS as an information addressee. Further, the JCS, State, and White House would be included as information addressees for each strike execution message. Any planned or requested strike failing to meet the foregoing provisions would require approval of the JCS prior to execution. 13/

Development of Operational Rationale, Policy and Procedures

SAC OPLAN 52-66, Supplement One, became effective on 1 April 1966 and incorporated information previously contained in Supplement 3 and Annex S, which dealt with SEA area bombing. SAC reported, on 21 March, that Supplement 3 would remain in effect to provide reprisal actions and/or other NVN strike information as might be required and would remain in effect until a new Supplement 3 was distributed. 14/

On 130448Z April, CINCPAC informed that the B-52 (CINCPAC) Basic Operations Order would become effective at 140001Z April 1966. He reviewed

the situation in SVN, up to that time, and presented both the objectives of the ARC LIGHT program and the role of the various commands.[15] He said the Viet Cong continued to control areas in South Vietnam which served them as command/logistics support bases, which were being used to mount attacks against friendly and U.S. Forces. The insurgency in South Vietnam was being aided by the continued infiltration of men and material by NVN into SVN, via the Laos route.[16]

The object of the B-52 strikes, CINCPAC noted, was to assist in the defeat of the enemy in South Vietnam. This would be accomplished by SAC through maximum disruption and harassment of the enemy logistics, facilities and personnel in selected target areas.[17]

Under the basic Operations Order, COMUSMACV's role would be to select, justify and recommend targets and areas for strikes by SAC forces. Further, COMUSMACV would support SAC by providing escort aircraft, SAR and radar beacons, as required. COMUSMACV would also obtain overflight clearances. For penetration/withdrawal routes, he would coordinate the traffic control procedures. While the B-52 strike forces were in the SVN area, he would provide continuous radar monitoring. For purposes of coordinating use of air space warning areas PH/W-25 and PH/W-26, COMUSMACV would provide TOTs and TOT changes.[18]

CINCPAC noted that he normally would not direct execution of a strike until a TOT was received. He said that if the CINCPAC message did not disapprove the planned strike, then planning would continue and the "execute"

order could be expected on receipt of TOT. He noted that, with the concurrence of CINCSAC, COMUSMACV could adjust TOTs up to 24 hours. However, for each change the JCS and CINCPAC would be advised. The execution order would remain in effect where strikes were held in abeyance following issuance of the CINCPAC execution message. Any changes in weapons, timing, number and composition of aircraft would be coordinated by COMUSMACV with CINCSAC. In addition, COMUSMACV would confirm TOTs to ALCON at least 12 hours in advance. ARC LIGHT missions would be so planned by COMUSMACV as to remain within the sortie allocation limit, as established by CINCPAC. To avoid possible compromise of a penetration, every effort would be made to eliminate unclassified communications cross talk throughout the area by radar units and by the air traffic control agencies. This area was prescribed by CINCPAC as including Guam, the Fleet and the Philippines. Regarding ARC LIGHT logistics and administration, he said that normal procedures would be used. For command and signal identification he desired all operations be referred to by unclassified nicknames. For classification of operations he noted that, under normal conditions, SECRET/LIMDIS messages would be used for the planning and execution phase of ARC LIGHT activities. However, appropriate classification would be determined by message content. Individually or collectively, CINCSAC, COMUSMACV, Cmdr 7AF, Cmdr 3AD and CINCPAC could direct a recall. Since the commander of the airborne strike force and the coordinator were assumed to be acting for 3AD and 7AF, respectively, they could also initiate recall action if conditions so dictated. Recall had to be authenticated by challenge and reply; this would apply to the use of either secure or insecure circuits.[19] Appropriate

dissemination of CINCSAC's recall code word (assigned for each mission) would be insured by COMUSMACV. 20/

Plans and Programs Procedures

The following procedures for ARC LIGHT planning and operational control were being employed in early April, 1966: 21/

Joint Chiefs of Staff: Responsible for allocating the number of ARC LIGHT sorties and for providing these allocations to CINCPAC as a monthly sortie rate figure. Would also provide CINCPAC with guidance regarding the approval of B-52 strikes. Those ARC LIGHT strikes which excluded the CINCPAC approval authority to be referred to the JCS for approval. 22/

CINCPAC: Responsible for approval of ARC LIGHT strikes within the purview of his authority and for forwarding those strike requests requiring JCS approval. Strike requests to be dispatched to CINCSAC simultaneously with his approval message to COMUSMACV. (Basic Operation Order, 130448Z April 1966, provided CINCPAC's guidance to COMUSMACV. 23/

CINCSAC: Responsible for providing the force requirements to carry out ARC LIGHT strike missions in SEA. 24/

COMUSMACV: The development and justification of each B-52 strike was the responsibility of COMUSMACV. Nominations could come from the field commanders. Responsible for requesting approval from CINCPAC in the form of a multiple address message. This message to go to CINCPAC for action, with information copies to 7AF, 3AD, CINCSAC and the JCS. The basis for concurrent planning by the various addressees would be COMUSMACV's request message. (While strikes could be executed in less time, the desired planning cycle usually took 48 hours.) Prior to submitting ARC LIGHT strike requests to CINCPAC, it was COMUSMACV's responsibility to

obtain the necessary clearances from the host country. In this connection, it is to be noted that ARVN approval for the strikes was obtained either from the Province Chief having jurisdiction over the targeted area or from the GVN. Likewise, for strikes in Laos, approval had to be obtained from the American Ambassador in Vientiane. (Such clearances were usually obtained during the planning stage.) 25/

Commander, 7AF: The responsibility of the Commander 7AF, was essentially one of coordinating in-country air activity around the ARC LIGHT strikes. In addition, he would provide air defense and ESCORT drops. If required, follow-up reconnaissance also would be provided. The in-country 7AF TACC was responsible for coordinating and fragging the air activity affected by an ARC LIGHT mission in-country. When out-of-country resources were utilized (CAP/ESCORT for northern missions) the in-country TACC coordinated with the out-of-country TACC, who did the actual fragging to units. 26/

Criteria for Non-Review by State Department

The Secretary of Defense informed the JCS and the American Ambassador in Saigon, on 4 April, that he would not submit proposals for ARC LIGHT strikes to the State Department for advance reviews unless the target met the following criteria: 27/

- Had already been approved by the Embassy, Saigon, and the GVN.
- Did not involve violation of Laotian borders, the limits of the DMZ or the Cambodian border.
- Were at a minimum distance of one kilometer from the nearest non-combatant dwelling.
- Did not include temples, monuments or other landmarks, the destruction of which might cause serious

political problems.

USMACV Staff Requirements

On 13 April, COMUSMACV informed CINCPAC that a Deputy Chief, Air Operations Branch (Grade AF 06) and an Operations Staff Officer (AF 05) were required due to the continuing buildup of the in-country air capability and the doubling of B-52 sortie rates. General Westmoreland told CINCPAC that the growing U.S. Forces were generating increases in target submissions and strike requests. These were for both contingency and emergency missions. The Deputy was required to assist the Chief in planning and controlling the increased air operations, and was also needed to insure the effective use of the increased air power available to USMACV. The Operations Staff Officer was required, he said, to assure a 24-hour, 7-day a week action officer for programming and controlling the increased B-52 sortie rate, and for assuring timely responses to changes, diversions, or cancellations, required in support of troop operations. 28/

Operational Programming and Guidelines

The generation of B-52 strikes could be made by several different commands. A request to COMUSMACV for ARC LIGHT strikes on targets to support operations could be made by the I FFV (Free World Field Force Vietnam) and II FFV Commanders, the Fourth ARVN Corps Commander, or the III MAF (Marine Amphibious Force). These requests could be for either a preplanned or immediate target. For preplanned targets, it

was desired the request be received at least 48 hours prior to TOT so as to give adequate time for planning. Requests for immediate strikes would be made only for response to a fast-developing target, which was either "time-sensitive" or was developing as a direct result of forces in actual contact. 29/

Toward the close of April, the question as to what constituted an optimum target for a B-52 strike request was posed to MACV. 30/ COMUSMACV responded to this question on 30 April and presented the following guidelines to the Commanding Generals of I and II FFORCEV and others: 31/

> Shape of Target: To be either in square or rectangular configuration. 32/
>
> Target Size: The narrow limits to be not less than one kilometer; total area may range from one to five square kilometers. 33/
>
> Target Safety Limits: The minimum safety distance for an ARC LIGHT target to be one kilometer from the outer edge of a friendly hut, village, unit and/or installation. This precaution need not apply if it can be shown that facility in question has been destroyed, abandoned or does not house non-combatants. The minimum safe distance from friendly positions and facilities is given at three kilometers, as a general yardstick. (COMUSMACV pointed out, however, that, for friendly facilities, this was only a yardstick and that, in the final analysis, the minimum distance for ARC LIGHT strikes from friendly installations depended on circumstances and the degree of requirement for emergency bombing in the area.) 34/
>
> ARVN Approval: COMUSMACV wanted to keep the number of ARVN informed of an ARC LIGHT strike to an absolute minimum - for this reason he

recommended strike approvals be obtained through Corps. He directed that, except in the ARC LIGHT zones for which the ARVN had granted blanket approvals for B-52 strikes, approvals were to be obtained from the respective Commanding Generals of the applicable Corps. 35/

Target Nomination: COMUSMACV desired that recommended targets be nominated by message or letter. Correspondence to be addressed to MACJ 236-15, through proper command channels. 36/

Target Strike Times: To be provided by message, originating with MACJ-3, which would be the approval notification. When and if a target was disapproved, MACJ 236-15 to notify the appropriate addressees. 37/

BDA Photos and Post-Strike Mosaics: Distributed automatically to all addressees. 38/

Strike Schedules: COMUSMACV informed that nominated targets could usually be struck within five to seven days following receipt of nominating information. This could usually be accomplished without disrupting the schedules of strikes already underway. In an emergency situation, a minimum of 24 hours was required to obtain a strike subsequent to COMUSMACV approval. He pointed out that there were times when the 24-hour minimum could not be met, due to aircraft turn-around and flying time to and from Guam. Requests for emergency or immediate strikes required full justification. COMUSMACV noted that, normally, emergency strikes would be approved only when U.S. forces were heavily engaged with the enemy and when there was reasonable assurance the enemy would be in the target area at the time of strike. An immediate strike could also be approved when there was highly reliable intelligence which pinpointed a target suitable for a B-52 strike. 39/

Target Recommendation Message Information: It was desired, by COMUSMACV, that information be submitted to MACV in the following sequence: 40/

- Target identification data.
- Pertinent intelligence data.
- Time period intelligence data valid for target.

- Ground follow-up plans. (A statement would be given in the message indicating whether or not a ground follow-up was contemplated. If affirmative, then a statement was required as to the desired strike date and time on target.)

Safeguards from Friendly Interceptors

COMUSMACV told the 7AF Commander that it was very important to insure that properly identified ARC LIGHT aircraft were not intercepted by friendly fighter aircraft. 41/ If such an intercept occurred, he wanted the 7AF to notify MACV and CINCPAC, by message, as soon as possible. The message would include all details of the intercept. Moreover, the 7AF would present all circumstances of such an incident to both CINCPAC and to MACV. 42/

Civil-Military Air Traffic Control

The 7th Air Force Commander was notified by COMUSMACV, on 5 May, that necessary action would be implemented to insure that all precautions would be taken to prevent conflict between civil and military air traffic during execution of an ARC LIGHT strike mission. 43/

Priority Tasks for Air Operations

On 7 June, CINCPAC informed COMUSMACV that the first priority task of air operations was to support the in-country effort in Southeast Asia. Admiral Sharp noted the ARC LIGHT strikes would have priority effort in South Vietnam. However, these strikes would be continued in North Vietnam and the Laos Panhandle as well. 44/

7th Air Force Planning and Support for B-52 Strikes

On 29 June, the 7th Air Force established procedures and responsibilities for planning and supporting ARC LIGHT strikes in South Vietnam. Security instructions were provided. Classification of all B-52 strikes was TOP SECRET LIMDIS. Procedures and responsibilities were delineated for the 7th Air Force Deputy Chief of Staff for Plans and Operations, the SAC Liaison Officer, the Tactical Air Control Center, the Direct Air Support Center, the Control and Reporting Center/Control and Reporting Post, the Tactical Fighter Wings/Combat Support Groups, and the Aerospace Rescue and Recovery Squadron. (This regulation superseded 7AFR 55-37, dated 22 November 1965.)

The 28 September Conference

On 24 October 1966, COMUSMACV presented the following salient points on ARC LIGHT procedural concepts as covered in the ARC LIGHT Conference of 28 September 1966: 46/

> New Concept of Employment of ARC LIGHT Forces: The new concept would permit in-flight diversion from a preplanned target to a newly-acquired target. This would be done to capitalize on intelligence acquired later....
>
> Launching of Aircraft: Aircraft would be launched in two waves. This would give increased capability and flexibility. Under this plan, each wave would contain a cell of three aircraft. These aircraft would be designated as the In-Flight Diversion Cell (IFD). The In-Flight Diversion would be under MSQ-77 control procedures and would have the capability of diversion to a newly-acquired target under these procedures....

Notification: An entire wave could be withheld from a preplanned target if notification reached 3rd Air Division three hours prior to launch of the aircraft. In this case, the wave could be utilized under the established Quick Run procedures....

Implementation Benefits: COMUSMACV noted that implementation of the concept would give the B-52 forces the capability for providing three Quick Runs and two preplanned strikes each 24 hour period. This would be effective in mid-November....

In-Flight Diversion Procedures

On 2 November, SAC informed CINCPAC that it was necessary to accommodate the proviso contained in JCS 6143 (i.e., the ability to inflight divert an entire force from a SAM-sensitive target to a preplanned alternate.) This would apply only to those instances where, after the formation was airborne, last minute information regarding SAM defenses dictated diversion. SAC observed that alternate targets, in such cases, would be limited to one of the three validated Quick Run alternates. 47/

He told Admiral Sharp that, assuming CINCPAC would accept this requirement and that associated capability would be developed, he could, after 5 November, divert a single cell during in-flight to an MSQ target; or a preplanned mission could be diverted by ground to an MSQ target when notification could be received three hours prior to take-off. 48/

SAC said that, should CINCPAC amend the CINCPAC Basic Operations Order for ARC LIGHT, the capability would then exist to divert an airborne mission from a SAM-sensitive target to one of the validated Quick Run alternates. 49/

CINCPAC amended the ARC LIGHT Basic Operations Order that day. Admiral Sharp authorized COMUSMACV to approve strikes against high priority targets which justified inflight diversion of all or part of a force enroute to a preplanned target. CINCPAC informed COMUSMACV that such a diversion would be requested through SAC channels. The diversion had to be acknowledged by the Force Commander prior to arrival at point "Juliet." In addition, the following would apply: 50/

> Targets Requiring JCS Approval: These targets would not be selected for attack by an in-flight diverted force....
>
> Selection Criteria: Compliance with target selection criteria would be ensured by COMUSMACV....
>
> Information to CINCPAC: As soon as practical CINCPAC would be advised of the diversion....
>
> Security of Transmission: Only secure voice communications would be used to advise CINCPAC of the diversion.
>
> Confirmation: A message would be sent to all concerned confirming each diversion....
>
> Ground Diverted ARC LIGHT Force: The quick reaction procedures would be used for Ground Diverted Force (GDF). COMUSMACV would use this procedure in making all requests for ground diversion of forces scheduled to attack a preplanned target....
>
> Ground Diversion ARC LIGHT Strike Request: CINCPAC informed that two possibilities existed for targets which were to have been attacked; they could either be placed in abeyance, or could be identified and cancelled....
>
> Diversion Alert Procedure: CINCPAC informed that COMUSMACV would alert the CINCPAC Command Center of the Diversion Request by secure communications. It would be further confirmed by message. In turn, CINCPAC would advise the CINCSAC CP by secure voice communications. This advice would be on the disapproval or approval and would be confirmed by message with flash precedence....

JCS Approved Targets: CINCPAC noted those targets requiring JCS approval would not be selected for attack by the Ground Diverted Force....

Sky Spot Controlled QR and Diverted Strikes: CINCPAC informed that, as necessary, the DPIs for Skyspot controlled QR and diverted strikes would be revised because of late intelligence. This could be done providing there was no deviation from the existing safety criteria....

Alternate Targets: CINCPAC pointed out, in the event munitions were not dropped on a Skyspot target, approved alternate targets would be available for use by QR or diverted forces. The approved alternate targets would be in each sector of north central and south SVN....

Basic Guidance; 28 November 1966

At the end of November, Admiral Sharp observed that areas in SVN continued to be controlled by the Viet Cong. These areas were being used to mount attacks against friendly and U.S. forces and to provide logistic support and command bases. Moreover, the NVN continued to provide support to the insurgency in SVN by infiltration through the DMZ and Laos, with both men and material being sent into SVN via these areas. CINCPAC noted that the objective of the ARC LIGHT strike program remained one of assisting in the defeat of the enemy in SVN. The requirement remained to stop this infiltration through maximum disruption, damage, destruction and harassment of enemy logistics personnel and facilities. He provided the following guidance, which was to be effective on 28 November: 51/

Category I Targets (Cat I): These were defined as targets in SVN which did not require deep penetration of the DMZ, Laos, Cambodia, or of NVN. For these targets the approving authority would be COMUSMACV....

Category II Targets (Cat II): These were targets which required deep penetration of NVN, the DMZ, Laos, or Cambodia and were targets in Laos, Route Package One of NVN, the DMZ and SVN. For Category II targets, higher authority approval was required....

Preplanned Force (PPF): This was a force that normally released its munitions by radar synchronous bombing techniques. Planning requirements for these targets would be promulgated by COMUSMACV and this would be done at least 24 hours ahead of the TOT desired.....

Quick Reaction Force (QRF): Ten hours notification would be given for use of this force. This would be a standby alert force. It would have the capability of reacting within a minimum of the ten hours notification period prior to the desired TOT. Release of munitions would be by MSQ-77 (Skyspot) direction. This force, under normal conditions, would consist of six B-52s HE loaded....

Ground Diverted Force (GDF): These are ARC LIGHT forces which had been scheduled for a PPF strike that had been diverted to a higher priority target. Diversion would take place at the minimum of three hours prior to take-off. Munitions released by the GDF would be Skyspot directed. The munitions loading for the PPF strike would be retained....

In-Flight Diverted Force (IF): This is a force that is already in-flight to a PPF, GDF or QRF target that has been diverted to an immediate priority target. Diversion had to be made before this force had reached point Juliet. Skyspot would direct munitions release....

Preplanned Alternate Targets: These would be targets in SVN which had been selected by COMUSMACV for the purpose of providing alternates on a continuous basis for emergency to which a strike force could be diverted. Examples of emergencies were late SA-2 or MIG threat developments, friendly forces discovered in the area, breakdown of Skyspot equipment, etc. CINCPAC noted that preplanned alternates would be always available. These would be one each in north, central and south SVN. Munitions could be radar synchronous or Skyspot....

52/

COMUSMACV was tasked by CINCPAC with the following responsibilities:

Targets in the DMZ, Laos, and Route Package I in NVN: The selection, justification and recommendation to CINCPAC for SAC strike on these targets would be made by COMUSMACV....

Targets in SVN: COMUSMACV would select and approve these targets. Approval by higher authority required only if SAC advised that a deep penetration of Laos, DMZ, NVN, or Cambodia was needed....

Preplanned Alternate Targets: COMUSMACV would select the preplanned alternate targets. This would be done as often as required. One would be selected for north, central and south SVN respectively....

SAC Support: COMUSMACV would support SAC. This support would be given by providing SAC with radar beacons, SAR, and escort aircraft, as required. In areas where SAC was operating within range of possible SA-2 sites, COMUSMACV would provide maximum feasible protection. This would include MIG CAP, Wild Weasel, Diversionary Actions, Iron Hand, and Elint/ECM aircraft....

Flight Control in SEA: COMUSMACV would be responsible for obtaining overflight clearances. He would coordinate traffic control procedures for penetration and withdrawal routes. Continuous radar monitoring would be provided by COMUSMACV while ARC LIGHT forces were in the COMUSMACV area....

Air Space Warning: For this purpose, COMUSMACV would provide CINCPACREP PHIL TOTs and TOT changes for all B-52 strikes....

Strike Communications: COMUSMACV would be responsible for coordinating strike communications procedures with CINCSAC. He would be responsible for maintaining a capability to issue to ARC LIGHT forces recall messages from initial radio contact until release of ordnance....

TOT Confirmation: COMUSMACV to be responsible for confirming TOT with CINCSAC, with info copy to CINCPAC. Confirmation would be made at least 24 hours prior to TOT for PPF strikes. Confirmation would be made at least 9 hours prior to TOT for QRF strikes. Confirmation would be made at least 3 hours prior to take off for GDF strikes....

Notification to CINCSAC and CINCPAC of Revised Targets and Diversions: COMUSMACV would be responsible for

notifying CINCPAC and CINCSAC of all IDF revised targets and the number of aircraft diverted. This would be done by the most rapid means available....

Post-Strike Ground Exploitation Photography: COMUSMACV would provide CINCPAC, DIAXX, CINCSAC, and CSAF with post-strike ground exploitation photography. This photography would be useful for assessment of weapons effects. It would also be useful for the determination of weapons capability....

Photo Reconnaissance and BDA: COMUSMACV would provide BDA as necessary. Both pre and post-strike photo reconnaissance would be provided by COMUSMACV. Emphasis would be placed on BDA photography. Photography would be of nature suitable for location of bomb craters and for the analysis of fuzing....

Ground Report of Strike Results: COMUSMACV would be responsible for providing a report of strike results as gotten from exploitation by ground forces. This report would be provided to CINCPAC. Information copies would be provided to DIA, JCS, CINCSAC, and CSAF....

Force Sizing

CINCPAC, on 3 December 1966, had proposed an ARC LIGHT force sizing. On 19 December, COMUSMACV informed CINCPAC there were a number of variable factors influencing ARC LIGHT force sizing and strike timing. These variables, COMUSMACV felt, precluded valid analysis of CINCPAC's proposal. 53/ General Westmoreland pointed out the following:

...Over half of the ARC LIGHT hits are made in support of field commander requests. TOT's are related to ground operations. These TOT's were usually tied to a related ground operation. Post-strike ground exploitation had to be considered. In order to allow the maximum daylight for such exploitation, the TOT, generally had to fall during the early morning hours....

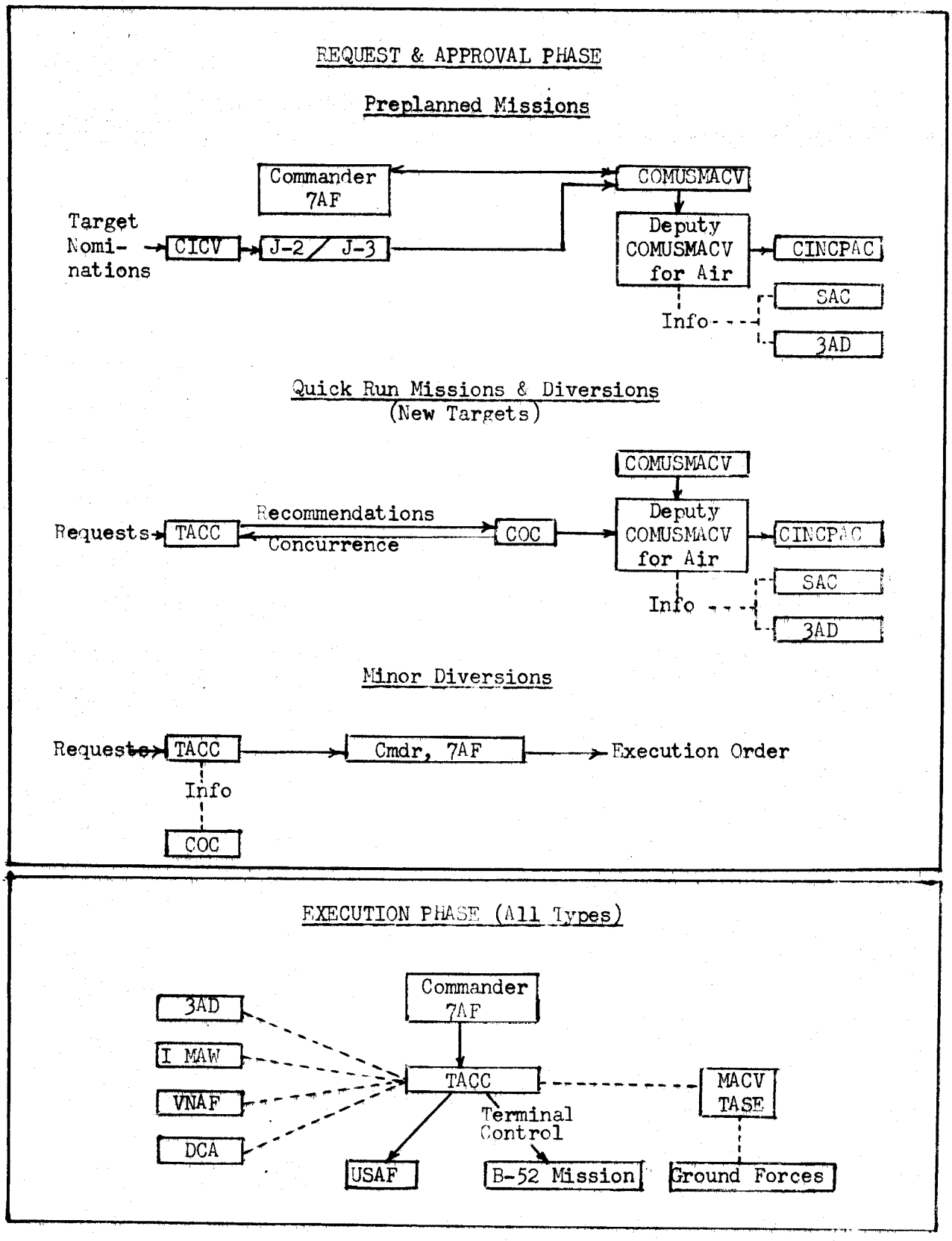
He noted this exploitation was coupled with extensive use of FACs to

direct tactical strikes. This, he thought, discouraged the enemy from immediately returning to a recent target. In addition, there was the shock effect to be considered. This effect came about as a result of the massive strike and had given significant advantage to friendly forces during their post-strike follow-up of operations. COMUSMACV said that the decisive success of a given strike was frequently attained only through this follow-up. He noted that, in many cases, subsequent re-strikes would deny this initiative. 54/

The definitiveness of intelligence data had a contingent relationship to the size of a target box. COMUSMACV noted that CINCPAC's proposal of 3 December had implied a greater degree of definitiveness than actually existed. COMUSMACV noted, on 23 July (in his message COMUSMACV MACCOC2 25380/230745 Jul), a MACV "rule of thumb" had been established. By applying this rule of thumb, three aircraft per square kilometer were scheduled. Under the procedure proposed by CINCPAC, a four-kilometer box would still require a 12-aircraft force to insure target saturation. He noted this proposal called for the segmentation of the box into four quarters. A group of three aircraft would hit each separate fourth. Under this proposal, therefore, an early re-strike of the same segment would not occur. In this connection, it was noted the VC/NVA, traditionally, had been quick to exploit a combat tactic. COMUSMACV noted that no change should be expected in this case. The enemy would soon realize that the area which had been recently struck would not immediately be restruck. Therefore, he would evacuate rapidly to that place. 55/

Moreover, problems incident to airspace reservation would be compounded

~~SECRET~~



COORDINATION OF ARC LIGHT MISSIONS & DIVERSIONS

Fig. 5

~~SECRET~~

significantly through the implementation of the proposal. Airspace, already critically saturated, would be restricted to an even greater degree by the requirement to block extensive areas, encompassing several thousand feet, on an almost continual basis. 56/

General Westmoreland noted that a major factor was the sortie generation capability of the operational unit. He told CINCPAC that MACV did not possess sufficient detail as to the maintenance support problems associated with the B-52 SEA Operation to be able to comment. He, therefore, suggested that CINCSAC be queried on the feasibility of the proposal in terms of its impact upon force regeneration capability. 57/

Concept of Employment

On 1 January 1967, COMUSMACV presented his concept of the employment of ARC LIGHT forces within the context of his over-all operational considerations. 58/

COMUSMACV noted the ARC LIGHT program had emphasized, in the past, the use of B-52 strikes in the destruction of enemy base areas and of enemy forces associated with the base areas. General Westmoreland went on to say the B-52 strikes, used in that role, had provided him with one means of applying economy of force. At the same time, it accomplished the strategic denial of certain areas and locations to the enemy. This role would continue to be emphasized in the employment of the ARC LIGHT capability. Field commanders would continue to be solicited for target nominations for inclusion in the target pool. COMUSMACV would continue to determine the priority of attack of targets. This selection would be in consonance with

the enemy threat at that time. Selection, also, would be in consonance with MACV campaign plans. 59/

COMUSMACV pointed out that the ARC LIGHT program had to emphasize the integration of preplanned strikes with ground tactical operations. For this purpose, target nominations would continue to receive high priority. This would be particularly true when the operations they were to support were against enemy base areas. It was extremely important that association of the strike with the ground operation should be identified clearly in the target nominations. Also, the time frame during which the TOTs would occur should be identified clearly. He said it was important that prescribed preplanned target submission lead times and justification be met. 60/

General Westmoreland noted he would consider immediate target nominations in light of their relative priority to targets on the preplanned list selected for strike. Those immediate target nominations which included positive ground follow-up or which exploited targets developed by operations in progress would receive particular attention. He concluded that Quick Run target nominations which met established criteria would be processed upon receipt. These would be struck within the capabilities of the ARC LIGHT force. 61/

CINCPAC told JCS that CINCPAC's basic operations order for ARC LIGHT missions, which he had presented on 27 November 1966, had delegated approval authority to COMUSMACV for in-country ARC LIGHT strikes. In that instance, CINCPAC would monitor these strikes and would retain the veto authority. He pointed out this procedure had been established to expedite the process of

strike requests. Implementation had been made, also, of this procedure to reduce the large amount of message traffic generated by the ARC LIGHT program.[62]

CINCPAC noted that, with reference to Laos, the ARC LIGHT strikes in that area required the approval of both JCS and CINCPAC. These approvals were given only on the concurrence of the American Ambassador in Vientiane. CINCPAC informed the JCS that he was recommending that approval authority for ARC LIGHT strikes in Laos be delegated to COMUSMACV. He added that CINCPAC and JCS would retain veto authority on the proposed ARC LIGHT strikes. He pointed out this change would have the following advantages, "It would further reduce the message traffic, and it would enhance the timely processing of strikes." Under this proposal, the American Ambassador in Vientiane would continue to be able to concur. As for strikes against NVN, CINCPAC recommended that, for the present time, no change be made in the processing of such requests.[63]

Admiral Sharp referenced JCS's message of 10 December (JCS1117/10101Z) which presented the JCS ARC LIGHT Central Planning and Execution Instructions. He noted these instructions required that CINCSAC submit an OPREP-2 aircraft launch message for each strike. CINCPAC told JCS he considered this message unnecessary in view of the virtual 100 percent assurance that SAC forces had shown in launching for the desired TOTs. He recommended, therefore, that the OPREP-2 requirement be eliminated. He pointed out that, in the event a launch was delayed or cancelled (because of a typhoon or some other reason) a change-of-intent message could be initiated.[64]

CINCPAC summarized that every effort had to be made to reduce message traffic inasmuch as there had been a great increase in the number of ARC LIGHT strikes authorized. This made the handling of strike requests more critical. As a result, the message traffic had become more voluminous. He felt this recommendation would be a step toward reducing the traffic. 65/

Command and Control

The 7th Air Force Commander observed, in late September, that the ARC LIGHT program had changed to a point warranting re-examination of control procedures. 66/ On 23 September, General Momyer informed USAF:

> ...The B-52 operation in SEA has now expanded to the point where the original ARC LIGHT system is no longer applicable....

The 7th Air Force Commander recommended he be given operational control of the B-52 forces during the execution phase. This would in no way hinder the selection of targets by MACV, which would continue to remain within their purview of responsibility. General Momyer felt this arrangement would provide for better coordination in follow-up BDA and fighter strikes, as necessary. 67/

On 30 October, COMUSMACV asked General Momyer to discuss the handling of B-52 operations with MACV, particularly in view of their expanding scope. He stated there had been considerable relaxation on the level of control of these strikes and perhaps the time was at hand for him to examine the feasibility of delegating control to the Air Component Commander, or reinforcing his staff to handle the increased scope of operations. 68/

The Director of the MACV Combat Operations Center, responsible for B-52 strikes, indicated his concern over the magnitude of the program and the ability of MACV to handle it without undue expansion of facilities and personnel. He was of the opinion that responsibility should be passed to the Air Force Component Commander. 69/

Headquarters, USAF, advised that, should control of B-52 operations be passed to the Air Component Commander, a SAC ADVON would be provided to do the operational planning. This would satisfy the requirement to streamline and improve the targeting, tasking, approval and coordination procedures, as they pertained to B-52 operations, through use of the Air Deputy. At the same time, this arrangement would provide better integration of ARC LIGHT into the overall SEA air operations and insure that qualified personnel made the force allocation, i.e. the determination of whether strategic or tactical forces attacked a specified target. 70/

The CSAF told General Momyer there would be a SAC ADVON provided to do the operational planning regardless of whether it was decided ARC LIGHT operations should be placed under him as MACV's Air Deputy or as 7AF Commander. CSAF made it clear to General Momyer there would be no change in the present SAC command relationship in providing ARC LIGHT support. 71/

COMUSMACV was particularly interested in the concept for controlling diversion from a primary target. The 7th Air Force Commander explained that "it would be handled like any other immediate air request which we process as almost a routine action." Essentially, a diversion would be

accomplished in the following manner: The Division Commander would make the target known to the ALO. The ALO would go to the DASC, and the DASC would contact the TACC. If it represented a new target completely, the 7th Air Force would double-check with the COC. If it was a diversion of only a few miles, the 7th Air Force Commander would authorize and the strike would be handled by the MSQ and the TACS. All these actions followed procedures exercised daily in employing the tactical air effort.[72]

A CHECO analysis of the employment of ARC LIGHT forces in the DMZ had disclosed possible weaknesses in the assignment of missions to a commander without full control over forces to accomplish it. The analysis profiled this weakness as follows:[73]

> "...Existing target development method and channels for approval preempted from the Air Component Commander the flexibility of selecting the most appropriate weapon. While he had the authority to schedule tactical air in the magnitude deemed necessary, should a B-52 strike be the most desirable weapons system for a particular target, the Air Component Commander had to submit his nominations, along with other nominating sources. This had resulted in inconsistencies. The case was the 10 October ARC LIGHT strike. Final submission of the target was from CG III MAF, even though his nearest forces to the target area, both air and ground, had been no closer than eight miles and the area to be hit was in North Vietnam - clearly the area mission responsibility of the Air Component Commander...."

The 7th Air Force Commander took cognizance of this need to immediately "concentrate all air activities under the Air Component Commander." He felt the Air Component Commander should have complete control of the whole ARC

LIGHT operation, except for targeting. General Momyer augmented his thinking on the subject: 74/

> "...This (targeting) is a policy determination and MACV should make selection of targets, with 7th AF giving the reaction and nominations. Do not think we should split control as suggested alternative by MACV. This would make it very difficult to determine who was carrying responsibility. Furthermore, it is unnecessary as long as MACV determines the strategy and policy for overall employment. There is no question of his having and exercising this authority...."

While targeting could be handled by MACV, operationally the Air Component Commander had more expertise for managing B-52 strikes. Such management would be no different than the related functions he was already providing (e.g. reconnaisance; escort; follow-on strikes; suppression of enemy fire, if it should develop; and warning through the TACS.)

The Commander 7AF observed a need for precision management of the B-52 program to minimize mutual interference, while realizing maximum security and effectiveness for the strike force. 75/

On 21 December 1966, JCS informed CINCPAC, COMUSMACV, the 7th Air Force and others, that the CSAF had proposed increasing SACLO assignments to the 7th Air Force on or about 1 January 1967. The increase was desired to improve coordination and planning associated with increasing the ARC LIGHT program. This would include IDF, QRF and GDF activities. In addition, the enlarged staff would take care of the Young Tiger support. For organizational purposes, JCS proposed that SACLO become a SAC ADVON. The SAC ADVON, under this proposal, would be attached to COMUSMACV Deputy for Air. There would be

no change in the ARC LIGHT command relations or in the approving authority. JCS had proposed that the SAC ADVON ARC LIGHT management team be responsible for the following functions:[76]

> "...In conjunction with GFD, QRF or IDF, SAC ADVON would make a determination of MSQ requirements. ARC LIGHT requests would be planned and coordinated by ADVON. ADVON would make determination of the capability for IDMA and IDF diversion. For this purpose, ADVON would monitor in-flight progress of missions. The sorties level for Young Tiger would be monitored and the support capability would be evaluated. Young Tiger KC-135 sorties would be scheduled by the ADVON. The ADVON would look into the most effective tanker utilization. For this purpose, ADVON would advise the 7th Air Force of tanker employment and capability. ADVON would be responsible for evaluating air refueling track locations, altitudes and cell structure...."

The JCS on 23 December 1966, requested COMUSMACV's comments on the JCS proposal for a SAC ADVON.[77]

COMUSMACV, on 26 December, noted the ARC LIGHT program had expanded from a relatively small operation to one of significant proportions. He pointed out that, with the implementation of the 800 sortie rate in early CY 1967, it would assume even greater significance.[78]

COMUSMACV deemed it prudent to implement certain changes in the planning and execution procedures for ARC LIGHT. General Westmoreland told the JCS he recognized the tremendous impact an operation of this magnitude had on the overall air operations in SEA.[79]

He added he concurred in the proposal to assign a SAC ADVON to the 7th Air Force, under cognizance of the Deputy COMUSMACV for Air Operations.[80]

Further, COMUSMACV reviewed the function of SAC ADVON, as given in JCS's proposal of 21 December 1966. He concurred, with one exception - that the proposal called for SAC ADVON to plan and coordinate ARC LIGHT requests. General Westmoreland said it was not the intention of COMUSMACV to assign the function of planning and coordinating strike requests to the SAC ADVON; that this function would be retained in the ACofS, J3 (COC), MACV. 81/

On 23 December 1966, CINCSAC had concurred with the JCS concept on the SAC B-52 planning ADVON, as presented in the JCS message 1918/211713Z December 1966. On 4 January 1967, CINCPAC had concurred, with minor exception, in his message of 4 January 1967. 82/

Thus, on 6 January, JCS requested that the concept of 21 December be implemented as mutually agreeable to CINCPAC and CINCSAC. 83/

Quick Reaction Forces (Quick Run)

In anticipation that the enemy had planned an offensive so as to capitalize on the adverse weather conditions of the southwest monsoon, as had been done in the past, COMUSMACV, in May 1966, considered it essential that "we gear our reaction capability to offset this weather factor to the maximum extent." The 7th Air Force had already appreciably increased its all-weather air support and bombing capabilities with the deployment of the MSQ-77 radar units, operation of ground long-range weather detection radar, B-66B Pathfinder Buddy-Bombing System, the F-4C UHF/DF homing capability, and the X-band radar beacons. 84/

COMUSMACV, however, did not feel this was enough. He told Admiral

Sharp he considered it mandatory that additional B-52 raids be employed on a timely basis. Reaction time was the crux of the matter. General Westmoreland wanted the time between the detection of the threat and time on target reduced to the minimum to realize maximum effectiveness of the ARC LIGHT strikes. General Westmoreland indicated that seven and one-half hours reaction time would be the maximum he could tolerate between the initiation of a strike request by MACV and a B-52 bomber over target. COMUSMACV, as a result of this analysis, presented two considerations toward reducing the reaction time. He told CINCPAC that one consideration would be the use of MSQ-77; the other was the possible use of bases closer to SVN. For the use of MSQ-77, his idea was to have the B-52 flight diverted (while in flight) to targets developed by latest intelligence. Consideration of having B-52 bases closer to South Vietnam, he noted, would pose both political and logistic problems.

General Westmoreland felt, however, that acceptance of these additional problems could be justified. One justification would be the increased effectiveness resulting from the reduced time frame between the period when MACV first identified the target and the TOT of the B-52 strike. To provide an interim solution, COMUSMACV recommended that steps be taken to provide a reaction time (interim) of approximately ten hours. To do this, in addition to the 12 to 15 strike aircraft normally scheduled each day, six Guam-based B-52s, he said, should be placed on continuous alert to react immediately. For these six aircraft, time requirements for target study and briefing would be held to the minimum. 85/

COMUSMACV did not anticipate any change in sorties as a result of his recommendation. If adjustments in sorties were required, they were to be made in accordance with the use of the alert force. 86/

CINCPAC concurred with COMUSMACV in his recommendation for placing a portion of the Guam B-52 force on alert and diversion of enroute ARC LIGHT missions to MSQ-77 directed strikes as possible means of increasing reaction capability. There was no objection by CINCPAC to the establishment of contingency zones, which would be submitted in advance for CINCPAC approval, to which in-flight missions could be diverted for MSQ-77 directed strikes. CINCPAC, however, did not concur with blanket approval for strike diversions. Admiral Sharp told COMUSMACV that improved reaction by more forward deployment of ARC LIGHT forces had been under study and determined to be unacceptable, from a political viewpoint, at that time. 87/

General Westmoreland felt more discussion was needed on requirements for Quick Reaction and recommended a conference between MACV and CINCSAC to derive a workable plan. On 15 May, CINCPAC concurred in this idea contingent on SAC's comments. COMUSMACV recommended the conference be held at Guam on 8 and 9 June, with representatives of the 7AF TACC, 7AF MSQ, and FAA attending. 88/ This conference was arranged and held on Guam during the period 9 through 10 June 1966. 89/

Among the topics discussed were the requirements for minimum-delay target approval and strike authorization to achieve the ten-hour TOT desired by General Westmoreland, under the Quick-Reaction concept. Flight

patterns were considered - a proposal being submitted to obtain prior approval for limited overflight of border areas. 90/

At the same time, Admiral Sharp requested CINCSAC to provide a plan to ALCON for the implementation of the Quick Reaction concept. 93/

CINCSAC pointed out, on 28 June, that a situation could occur during an MSQ-controlled ARC LIGHT strike resulting in the abortion of two or more of the six B-52 Quick Reaction force due to operational reasons, operating procedures or equipment malfunction. He desired that provisions be developed to divert the B-52s to a predetermined and preplanned target. In this way, a release could be made to hit an alternate (non-MSQ) target and the B-52s could return to Guam empty of munitions. 94/

COMUSMACV, on 29 June, nominated four alternate targets which CINCPAC had approved on 18 June for planning purposes. 95/ In addition, General Westmoreland supported the proposal presented by CINCSAC and suggested the following ground rules for striking alternate targets: 96/

1. The MACV QR strike request would provide the code name for diverting to an alternate target.
2. The SAC Frag Order would contain a code name for diverting to an alternate target and the alternate target code name.
3. Radar helicopter beacon would not be provided.
4. CINCPAC would approve all targets prior to their use.
5. Provision and maintenance of two to three targets for use as alternate MSQ targets would be made by MACV. Approval for strike over a specified time frame for these targets would be made by MACV.

6. MACV would provide replacement for a used target.

7. The same personnel with authority to recall an ARC LIGHT Force would also have the decision to divert a portion or all of the Quick Reaction force to an alternate target. The SAC Task Force Commander would have the final decision to strike an alternate target after an aborted MSQ run.

8. Airspace clearance for aircraft diverted to an alternate target would be provided by MACV.

The American Ambassador in Vientiane concurred with this proposal on 20 June, with the proviso that the friendly pocket around Ban Houei Sane be avoided. A few days later, on 24 June, CINCPAC also concurred and recommended the proposal be approved by the JCS. 91/

The 3rd Air Division expressed concern with the time problem in launching a Quick Reaction force. He informed COMUSMACV and the 7th Air Force Commander that minimum-delay launch of a Quick Reaction force would depend on the timely receipt of the message request. (This message would provide a record copy of the requirements previously passed by secured voice facilities.) He noted 3rd Air Division had found that meeting the four-hour launch standard could not be accomplished where a message had come into the DCS teletype systems with insufficient time to meet this criteria. The 3rd Air Division Commander felt such a situation could be avoided if MACV would establish procedures insuring that messages destined for 3AD were transmitted directly to the 7AF, for relay to 3AD, over the direct 7AF-3AD teletype circuit. 92/

A concept of ARC LIGHT Quick Reaction (QR) strikes and the basic ground rules for the use of a Quick Reaction ARC LIGHT force against targets

in Southeast Asia were provided by CINCPAC on 24 June.

ADMINO CINCPAC on 29 June gave the opinion that it was operationally desirable for Quick Reaction strikes to have an alternate target. He concurred in the ground rules proposed by the 3rd Air Division on 29 June for striking alternate targets and in the alternate target nominated by COMUSMACV. He recommended to JCS that Paragraph 4, JCS 5453/051657 Mar NOTAL (S), be revised to permit diversion of the Quick Reaction force to a preplanned/approved alternate target, whenever Skyspot equipment malfunctioned. 97/

On 29 June, the 3AD informed there was a further requirement to decrease the B-52 reaction time for SEA bombing. This requirement could be partially met, according to 3AD, by decreasing staff and crew actions prior to take off. An appreciable decrease in planning time was possible, he felt, by the use of the Big-Inch bombing tactic and precanned data. 98/

He defined Quick Reaction as a B-52/KC-135 force posture, which involved ground alert, to decrease reaction time for SEA bombing. He stated that the standard setting was a bomb release interval corresponding to a specific bomb train length, as requested by MACV for a particular target. MACV would choose one of the three bomb train lengths, such as the 3M, 6M, 9M feet available for Quick Reaction targets. He defined the TOT Frame as the bombing time span authorized by MACV and would have "No Earlier" and "No Later" time parameters. Normally, this interval would be 30 minutes. 99/

The following concept of operations for the Quick Reaction force was given by 3AD: 100/

- The QR force to consist of six B-52s/KC-135s.
- The B-52s would be on ground alert, with pre-flight complete up to starting engines. However, the bomb safety pins would not be pulled.
- Ten hours from notification to TOT would be the reaction time.
- Big-Inch tactic would be used for bombing.
- Loading would be 24xMK65 internally; 24xMK82 externally.
- Ratio surface-to-subsurface burst would be 50:50 for fuzing.
- Operable SST-181X beacons would be installed on all B-52 aircraft.
- Spare aircraft would not be planned for the QR force.
- Within 12 hours of a QR launch the QR force would be reconstituted.
- No QR force would be scheduled within two hours of an ARC LIGHT launch. However, if it were found necessary to launch a QR, the ARC LIGHT TOT would have to be delayed.
- On the next ARC LIGHT mission following the QR launch, adjustments to the monthly sortie rate would have to be made by decreasing the force by the number of QR sorties executed. If this could not be done at that time, it would have to be accomplished as soon thereafter as possible.
- Only one QR launch could be executed between scheduled ARC LIGHT TOTs - which were approximately 24 hours.
- One to six aircraft could be used for a QR launch, with 16 hours between launches.

- The mid-bomb of the train would be planned to impact on the mid-target coordinates.
- QR strikes would be limited to SVN.

As noted above, planning for Quick Reaction would allow an alternate target to be struck if the QR force did not strike the Quick Reaction target. For this purpose, MACV would designate a suitable target. 101/

CINCSAC on 30 June informed CINCPAC that, while he had concurred in principle with the concept for alternate target in conjunction with Quick Reaction force, it appeared to him JCS would have to approve prior to implementation inasmuch as the B-52s were not authorized alternate targets. In addition, he requested certain items be added to the ground rules given by COMUSMACV on 29 June. His first thought and proposal was that a Quick Reaction force should be diverted to an alternate target only if the ARC LIGHT aircraft were unable to release on the planned target by reasons of inability to site and to direct release or because the target was no longer valid. His second suggestion was that a single alternate target should be assigned to each B-52 force on Quick Reaction alert. This would reduce the requirement to plan and study targets to a maximum of one alternate, for this purpose. CINCSAC stated that the SAC plans would become effective for implementation upon receipt of CINCPACAF concurrence. 102/

CINCPAC concurred in the following Quick Reaction concept, which the ARC LIGHT conference developed: 103/

1. CINCPAC approval would be required to launch, and CINCSAC would execute the mission.

2. Ten hours would be the reaction timing from receipt of strike request to TOT by a maximum of six aircraft without spares; and these aircraft would use the MSQ bombing system which would direct the bomb run and releases.

3. While enroute, the mission would not be diverted to another target.

4. Under normal conditions, one Quick Reaction launch could be executed each 24 hours of a scheduled ARC LIGHT mission. Also under normal conditions, ARC LIGHT strikes following regularly scheduled missions would be reduced by the numbers of Quick Reaction aircraft that were launched, unless the following mission could not be degraded.

5. CINCPAC would obtain overflight authority, if required, and would provide strike approval.

6. In order to remain within the monthly munition sortie allocation, COMUSMACV, following Quick Reaction strikes, would readjust the ARC LIGHT sorties rates.

7. The axis of attack, the target center coordinate and the desired bomb train length would be provided by COMUSMACV for ALCON strike requests. In addition, COMUSMACV would provide the desired bomb release time frame and the desired bomb damage expectancy from data supplied by 3AD.

8. When possible, COMUSMACV would provide ALCON with advance planning information on potential targets. In addition, COMUSMACV would direct the 7th Air Force activities in order to coordinate ingress/egress routes with GCI; ensure that TOTs were conflict free; provide ALCO with an estimate of success; and ARTC clearance for the Quick Reaction force in SVN.

9. CINCSAC would provide the Quick Reaction force and would have command and control of this force. Necessary frags for the QR mission, as well as plans for the QR force, would be published by CINCSAC.

CINCPAC requested that COMUSMACV and CINCSAC avoid friendly pockets as

noted by the Ambassador Vientiane on 20 June. 104/

There were problems in establishing secure locations for some of the Skyspot equipment for Quick Reaction. Six SAC personnel, involved in geodetic survey of Skyspot IV, were ambushed and killed southeast of Dong Ha on 5 June. SAC informed that the CEG was prepared to furnish additional personnel and equipment to complete the survey associated with making Skyspot IV operational. SAC informed 7AF that, if security presented a problem, he might want to put Skyspot IV where Skyspot V was presently planned and to put Skyspot V, with its increased range, at a presumably more secure location, such as Da Nang. 105/

The Quick Run capability was attained on 1 July. On that day, the 4252d Strategic Wing (SAC), at Andersen AFB, Guam, was ordered to place six B-52 aircraft on continuous alert. At the same time, six KC-135s were placed on standby alert at Kadena AB, in Okinawa. 106/

Since the availability of the Quick Reaction assets was limited, COMUSMACV informed the field commanders that they would restrict their target nominations for Quick Run strikes to only those targets considered most urgent. In this case, the only target he would consider would be the enemy force actually in contact with friendly forces. 107/ Ground rules established by CINCPAC and CINCSAC at the end of June were augmented to include: 109/

- Bomb fuzing would be 50:50 ratio of surface to subsurface bursts.

- Minimum time between Quick Run launches would be sixteen hours.
- Alternate targets would be scheduled by COMUSMACV in the event one or more aircraft could not expend munitions due to MSQ-77 malfunctions.
- The MSQ system would direct not more than two aircraft over the target in each seven-minute period due to necessitating a time frame for releasing munitions, rather than a specific TOT.

The first Quick Reaction mission in SVN utilized the MSQ-77 SKYSPOT bombing system and was carried out on 6 July, in support of the 1st Brigade, 1st Air Cavalry Division, operations in Phu Yen Province. 110/

After this strike, COMUSMACV told CINCPAC the effectiveness of ARC LIGHT had improved considerably with the attainment of the Quick Reaction capability. 111/ The Commanding General, I FFORCEV, told the 3rd Air Division Commander he appreciated the first B-52 Quick Run strike (Pink Lady) in support of operations by the 1st Air Cavalry Division and observed that it took only 11 hours from the time the request was made to COMUSMACV to time over target (TOT). 112/ COMUSMACV noted the elapsed time between SAC receipt of the Quick Run request to TOT was only nine hours and 55 minutes. 113/ General Westmoreland said that this flight, led by General Crum, worked out very well. 114/

The Commanding General, I FFORCEV, felt this first Quick Run strike was successful; the strike was in record reaction time; and firepower was concentrated and accurate. The strike resulted in the dismemberment and dispersal of an enemy artillery force of at least battalion-size. 115/

It was noted that Quick Run procedures responded to the need to decrease the B-52 reaction time and gave the field commander concentrated aerial bombing within a few hours after identifying a suitable target. 116/

The Quick Reaction ARC LIGHT strikes had significantly enhanced Air Force capability to deal with Viet Cong/NVA forces by reducing the time between target identification and target destruction. 117/

At the beginning of September, General Westmoreland observed that, during the two-month period the Quick Run force had been available, field commanders had enjoyed a rapid response not previously available. He indicated the strikes, in all cases, had been completely responsive to MACV requests; however, he still desired a reduced reaction time and was anxious to have requests answered with even greater responsiveness. COMUSMACV, therefore, queried both CINCPAC and CINCSAC as to the feasibility of reducing the reaction time to nine or less hours. 118/ Admiral Sharp's response was that CINCSAC had informed him, on 4 September, that such a time reduction was possible. On 5 September, CINCPAC told General Westmoreland the reaction time would be reduced immediately to the desired nine hours; however, he wanted COMUSMACV to ensure that the CINCPAC CC Air Operations Officer would be advised, via telephone, immediately upon the transmission of a Quick Run strike request. 119/

Night sorties employing the SKYSPOT bombing system (MSQ-77/TPQ-10) increased from 735 in June to 912 in July. This night harassment and interdiction program was a most effective use of ordnance, as prospects of

hitting an enemy-occupied target at night were greater and the psychological effect more pronounced. Prior to 11 May 1966, no such capability had existed in RVN. As a result of increased SKYSPOT employment, the intensity of air attacks on the enemy was more evenly distributed throughout each 24-hour period; however, unavoidable sortie peaks still occurred at about 0700, 1000, and 1500, while the slack-off periods occurred between 1100 to 1400. 120/

B-52 Recovery and Tanker Base Requirements Program

The need for quicker response by B-52 bombers, operating out of Guam, over targets in SVN continued to be discussed in 1966. The AMEMB BANGKOK was informed by the Secretary of State, on 3 August, that new airfield plans for Sattahip, Thailand, were intended to support 25 KC-135s beginning March 1966. However, construction delays made it appear that ten KC-135s could be supported on or about 15 August 1966; the remaining 15 by December 1966 or January 1967. This delay, plus the advantage gained by refueling SEASIA fighters by tankers based in Thailand over tankers based at Kadena, prompted SECSTATE to instruct AMEMB BANGKOK to approach the RTG concerning operations at two airfields -- Don Muang and Takhli -- in Thailand. 121/

CINCPAC told JCS, on 5 August, that 35 KC-135 Thai-based tanker aircraft were required for the support of tactical air operations directly connected with the conduct of the air campaign in SEASIA. This requirement derived from air refueling required to provide best operational employment of tactical aircraft deployment to SEASIA. It would also maximize efficiency and effectiveness of air sorties. Pre- and post-strike air refueling was required for low-low-low mission profiles and optimum routing

of strike and reconnaissance aircraft in countering the increased SAM and AAA threat in NVN. It extended the range and increased the TOT for armed recce aircraft and provided extended time on station for CAP aircraft. The case for basing KC-135 aircraft in Thailand to support tactical air operations, in the SEASIA air campaign was justified by considerations of cost effectiveness, as well as by stated operational requirements. JCSM provided detailed information, on 8 July, on tanker utilization rates. Justification both for tanker operations and specific basing in Thailand was given by CINCPACAF on 23 July. Admiral Sharp fully concurred in this justification. 122/

He noted that an increase of ARC LIGHT sorties from 450 to 600, in November, to 800, in January 1967, would require additional tanker support. Loading at Kadena, he pointed out, had become more acute each day. Thailand basing for 35 KC-135s would relieve the congestion at Kadena and would provide optimum use of tanker assets for the ARC LIGHT program. Ban-U-Tapao, he said, should be developed as rapidly as possible, so as to provide MOB and basing facilities requiring the tanker support. Relocation at Ban-U-Tapao would provide added advantage of longer runways and heavier tanker take-off weights. Tanker POL requirements at Takhli, then provided by long truck and rail haul, would be reduced by 200,000 gallons per day. Problems in meeting tanker fuel requirements would be significantly reduced. 123/

On 15 August 1966 AMEMB BANGKOK informed CINCPAC and the JCS that authority had been obtained from the RTG for deployment of 35 KC-135s to Thailand. The AMEMB BANGKOK requested advance notification of this

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B-52 IN-FLIGHT REFUELING

Fig. 6

UNCLASSIFIED

deployment.[124/]

COMUSMACV noted that reaction time from Guam was barely adequate and that many valuable targets were lost due to the delay, and that the length of time required to fly from Guam reduced sortie availability. There was a need for B-52 bases close to SVN such as Thailand, Taiwan, Okinawa or the Philippines.[125/]

The areas would pose political problems, but COMUSMACV believed it was time to initiate planning and necessary negotiations to develop these bases. He stated, "a particularly attractive thought is the use of bases in the Philippines." Although his thoughts were aimed at the immediate war effort, he concluded that the availability of an increased B-52 strike capability, and its deterrent effect on other potential aggressors in SEASIA after the end of current hostilities, should not be overlooked. Such a force might permit a greater reduction of ground maneuver elements than would otherwise be possible. COMUSMACV recommended provisions be made now for B-52 bases closer to SVN.[126/]

On 18 August, the JCS asked both CINCPAC and CINCSAC to present views and recommendations with regard to basing the B-52s closer to South Vietnam.[127/] In response, CINCPAC fully supported the views and position taken by COMUSMACV and Admiral Sharp presented JCS with the following considerations:[128/]

> Flight Time Reduction: The flight time between Guam and the target area was too time consuming. Operationally, it was desirable to do something to effect

a significant reduction in this time. Forward basing of the B-52s therefore would reduce the reaction time.

Tactical Mobility: Forward basing would increase the tactical mobility of the ARC LIGHT forces.

Aircraft Maintenance: The number of flying hours between base and TOT would be reduced appreciably. This would result in a great reduction of aircraft maintenance.

Crew Efficiency: Crew efficiency would go up since the short run would not result in air crew fatigue that was happening through the long flight from Guam.

In-Flight Refueling Requirements: The requirements and problems associated with in-flight refueling could be avoided since forward basing of the B-52s would eliminate this requirement.

Aircraft Utilization Rate: Dollar saving could be realized, since it would be possible to increase aircraft utilization rate because of shorter time/distance factors.

Cost Reduction Factors: CINCPAC estimated that a $5,000,000 saving could be realized by moving 800 sorties from Guam to the Luzons. (Cost of fuel, refueling, etc.)

Possible Forward B-52 Base Sites: He listed U-Tapao, Kadena, Mactan, Clark and Ching Chuan Kang in Taiwan as possible bases for the ARC LIGHT forces.

Support Facilities Construction Requirements: Kadena offered the earliest available option. Survey would have to be conducted on the other places to estimate construction requirements, time, etc.

Base Selection: CINCPAC felt that the quickest solution would be to base the B-52s at Kadena or at U-Tapao. U-Tapao, he felt had many advantages. The other locations, he pointed out, would take more time to prepare. He noted that all locations had certain political problems. None of these problems appeared to be insurmountable. He felt that U-Tapao had many advantages. It was near to the target area. Contractor

capability was nearby to carry out rapid construction on support requirements. The Taiwan Ching Chuan Kang base, he felt would require considerable construction work and he felt that Taiwan might have political objections. The base in the Philippines provided only a 38 percent improvement in the distance over Guam.

Toward the end of October, Admiral Sharp told General Westmoreland that, as a follow-up action to the recent conversations held with Secretary McNamara and General Wheeler in Saigon, further information should be developed on the basing of B-52 aircraft closer to target areas to reduce reaction times. CINCPAC observed that U-Tapao still seemed the most logical choice, with the least effort. The runway was in, and expansion of facilities and the supporting port complex could be readily accomplished. He noted that the JCS had recommended to DOD that the State Department obtain approval from the RTG to undertake necessary construction and, in principle, to conduct ARC LIGHT operations from that base. Admiral Sharp told COMUSMACV he understood that the JCS would also take under consideration in-country basing of B-52s, specifically at Cam Ranh Bay, Phan Rang and Phu Cat. Tuy Hoa was also a possibility, if planning had not gone so far on the permanent runway that it was not possible to reconfigure it as a B-52 capable base. 129/

JCS informed CINCPAC, on 27 October, that the Joint Staff had been requested to develop, in coordination with the Air Force and CINCPAC, a plan for the forward deployment of B-52s to SVN by mid-February 1967, or, in any event, not later than mid-April 1967. 130/

Such a plan would require considerable analysis of certain factors

which CINCPAC presented to CINCPACAF and COMUSMACV. The JCS desired recommendations and comments of the following items by 15 November: "Displacement of other forces, if any. Operational problems: costs, to include construction costs involved in relocation of other affected activities; impact on other current or planned construction in SVN; impact on transportation, logistics support infrastructure including port throughput facilities; implications with respect to piaster limitations; personnel requirements for related and affected activities; and security. 131/

On 8 December 1966, CINCPACAF informed the 7th Air Force and others that OSD was reviewing several considerations and studies of various options and sortie levels for operation of B-52 aircraft from Guam, SVN and Thailand. He informed that SAC, PACAF and others would be involved in related operational and logistics planning activities, in order to permit a rapid implementation of any approved future program in which SAC, PACAF, 7th Air Force or others might become involved. CINCPACAF told the 7th Air Force, 13th Air Force, DepCmdr 7/13 Udorn and 315th Air Division it was important they understood that only B-52 operations from Andersen Air Force Base in Guam were approved, at that time, for implementation. He pointed out that no actions or expenditure of funds, in the support of South Vietnam or Thailand B-52 operations, would be initiated unless specifically directed by competent authority. He added that planning actions should be continued as required. 132/

On 9 December 1966, JCS discussed the proposed forward basing of B-52 aircraft which would permit an 800-sortie/month rate by a reduced fleet of

aircraft. It was estimated that, through forward basing, the 800 sorties could be carried out by 50 B-52s, as compared to 70 B-52s required if operations were to be conducted from Guam. 133/

He outlined the implications of the deployment of additional B-52s to carry out the 800-sortie rate - a pursuasive argument for the earliest decision on forward basing of B-52 forces. 134/

On 23 December, Admiral Sharp told the Chief, JCS, that he was in favor of U-Tapao as a forward base. This would allow the development of a capability for higher sortie rates, with minimum augmentation of SAC forces in WESTPAC. A considerable economy of forces could be realized through use of that base. For one thing, tanker support would not be required; additionally, it might be possible to attain a 1.2 sortie rate per day. 135/

CY 66 ended with the substantial problem on the final site selection for B-52 basing, either in-country or out, unresolved. 136/

CINCPAC, on 13 January 1967, informed COMUSMACV and others there had been no change in policy regarding public announcement confirming the use of Thai Air Bases by U.S. forces, and desired adherence until such time as the policy was changed. 137/

CHAPTER IV

ORDNANCE

Munitions Problem Considerations at Honolulu Conference

On 28 January 1966, General DePuy informed COMUSMACV that the Honolulu Conference had become complicated by the air munitions problem. He told COMUSMACV that air munitions had become a limiting factor. This was because of the increase in sortie requirement as well as because of the expanding B-52 program.[1/]

On 30 January, General DePuy wired COMUSMACV that CINCPAC had to make decision on some alternate which the Air Committee at the Honolulu Conference had produced on B-52 sortie requirements and bomb loads. The alternatives were:[2/]

> The 600 B-52 sorties per month: In this case, COMUSMACV could have all the required tactical fighter sorties which would be figured at five per battalion per day. He noted that each in-country and each Laos sortie would average about 1.47 tons, which, he noted, was close to the recent average of 1.51. He pointed out that by reducing the B-52 sorties to 500, the bomb load average would be raised to 1.52 tons.
>
> The 500 B-52 sorties per month: Under this alternate, General DePuy noted he could meet all sortie requirements at 5 per battalion per day by adding two more tactical fighter squadrons to the first proposal. In this case, the bomb load per sortie would fall to 1.46 tons.

General DePuy pointed out to COMUSMACV that the smaller the number of maneuver battalions the more B-52's would be needed, as long as the tactical fighters were adequate in numbers and adequate to carry a useful bomb load. He noted, on the average, 1.46 tons and 1.47 tons were useful loads and pointed out that, within this average, the Navy load would be under 1.4 tons, with the USAF well over this figure. He said that, in all cases, a 2.1 ton average was provided for the NVN. On this basis, he recommended COMUSMACV take the last position as soon as possible.[3]

PACAF First Quarter Munitions Summary

PACAF summarized the 1966 first quarter improvements in ordnance capabilities and noted that, during this period, most of the ordnance consisted of a normal load of 750- and 500-lb general purpose bombs with conventional fusing. A test strike using incendiary weapons was successful in burning out parts of the VC base area at Chu Pong Mountain, in Pleiku Province. Heavy 1,000-lb bombs were used against VC bases, deeply tunneled or located in caves, and increased use of delayed actions bombs had recently been initiated.[4]

Sortie Plans and Ordnance Shortage Problems

COMSUMACV was faced with an aircraft munitions shortage in April 1966. General Westmoreland informed PACAF, on 8 April, that "the lack of USAF aircraft munitions in SEA has reached the point where I consider it an emergency situation" and indicated that a serious degradation of the air strike capability would develop unless immediate and extraordinary actions were taken.[5]

CINCPAC told General Westmoreland that it was his plan to maintain the ARC LIGHT sortie rates in accordance with previously projected requirements. He noted, however, it would be necessary to load the B-52s with less ordnance than he had anticipated. The availability of the MK-82 and the M-117 bombs was critical in April, yet these bombs were the only types that could be loaded on the external racks of the B-52 bombers. Admiral Sharp told General Westmoreland that the shortages were so critical that any increase of the existing 450 monthly sortie rate for ARC LIGHT would have to be delayed until November 1966.[6/]

COMUSMACV responded that he recognized the necessity, however regretful, to limit the sortie rate to the 450 figure. General Westmoreland indicated he was extremely careful in target selection and sortie allocations; that full control and evaluation was being maintained for the ARC LIGHT program to maintain the projected requirements for both out-of-country and in-country strikes.[7/]

Earlier in the month, a MACV report had noted the care used in selecting B-52 targets. The report stated that, immediately upon receipt of a report of possible enemy activity, the location was plotted on a map for careful study. Once sufficient intelligence was collected to support the existence of a valid B-52 target, it was recommended for inclusion in the ARC LIGHT bombing schedule. The report further noted that every target developed was not immediately submitted for strike. Newly-developed targets were usually held until a sufficient number became available to develop a two- or three-week bombing program. In cases of important but relatively

mobile targets, immediate strikes would be called. These strikes were conducted 16 to 24 hours following the initial request from the field. The MACV report noted that strong justification was required to generate an immediate B-52 strike.[8]

On 8 May 1966, the 7th Air Force briefed COMUSMACV on the bomb situation. COMUSMACV felt that, with good management, he did not anticipate any problems with respect to air munitions. Moreover, he felt that, by the end of the year, munitions should be plentiful. General Moore pointed out that, by reducing the number of B-52 strikes, the available bombs for tactical air support could be increased. COMUSMACV felt he could not justify reducing the B-52 strikes, which were then running at 450 per month.[9]

The Mid-year Munitions Situation

The MACV Chief of Staff told COMUSMACV he had studied the munitions situation, as it was affected by existing targeting concepts. As a result of this analysis he offered several courses of action to conserve air munitions:[10]

- Delete SVN cover targets for strikes in Laos. (This would require consideration by higher authority, he informed, in view of the political implications.)
- Accept a degradation in target area coverage by decreasing the number of aircraft on a mission.
- Decrease the sorties allocation to whatever level munitions availability will support. (In this connection, he noted that a total of 411 effective sorties were flown in May as against an allocation of 450. He said his forecast for June was

400 against 450. (He noted these underflys were his initial adjustment to a munitions shortage.)

. Do not strike targets in support of friendly forces unless the enemy presence was established. (He noted in these cases he was referring primarily to spoiling attacks and those strikes normally preceding a ground operation.)

By mid-year, COMUSMACV noted that SAC had sufficient bombs for the ensuing five months. He also noted their plans to move up from 450 to 600 sorties per month, during the coming year, to 850 sorties within one year. He added that the new fin-stabilized, streamlined, 500-lb bombs were not available.[11]

BLU-3B Ordnance

CINCPAC, on 4 February, restricted MACV to 450 ARC LIGHT sorties for April, of which 50 would be BLU-3B sorties.[12]

As of 17 March, limited experience in medium-high altitude testing and employment of the BLU-3B revealed it to be highly susceptible to ballistic wind effects. Another factor to be considered in the use of this ordnance was that the slow and variable rate of fall amplified the dispersion and drift of the bomblets after they were released. Because of studied possible forecast errors, it was recommended that a minimum of a 10,000-foot wide caution border be provided around any designated BLU-3B target area.[13]

On 23 April, SAC stated they were prepared to employ BLU-3B munitions[14] and recommended that a SVN target be used for the first BLU-3B

mission as this would permit lower delivery altitude, giving better photo coverage and pattern analysis.[15/]

COMUSMACV indicated, on 25 April, MACV's planning would require approximately 15 H.E. "iron bomb" sorties, each day, from 26 through 30 April 1966. He requested that MACV's H.E. sortie allocation be raised to approximately 430 for April, in view of sorties lost due to the Hayes Dispenser problem affecting the BLU-3B munitions.[16/]

The next day, CINCPAC observed that the available and due-in M-117s on Guam were 11,386 complete rounds for April and May while, the required complete rounds for the same period was 12,944. An additional 2,120 incomplete rounds were on hand on Guam which, he informed, would have to be completed to meet the May requirements.[17/] The ARC LIGHT H.E. munitions were programmed for and would remain at 400 sorties per month through October 1966. CINCPAC said that H.E. sorties for April could be increased, if borrowed from downstream. He pointed out, however, that in order to remain within the overall allocation, reduction of later months' H.E. sorties would have to be made. CINCPAC felt that an early resolution of the Hayes Dispensers would aid the situation, since the BLU-3B ordnance could be used again, which would allow maintenance of a total monthly sortie rate of 450.[18/] CINCPAC wanted to know if such a solution was acceptable to CINCSAC and COMUSMACV.[19/]

Following a conference at Hill AFB, in late April, attended by his Director of Materiel, General Moore reported to PACAF that information

given him indicated the USAF was faced with a "drastic curtailment of tactical air strike throughout SEA". In view of the flexibility of tactical air and its demonstrated results, General Moore believed immediate action should be taken to remedy the shortage, including a re-examination of ARC LIGHT requirements. General Moore said he was preparing a briefing for General Westmoreland in which he would urgently recommend ARC LIGHT strikes be curtailed until a more thorough analysis of air munitions was completed. If the picture continued as presented, he would further recommend a majority of the bomb assets allocated to SAC be re-allocated to tactical air forces in SEA.[20/]

On 23 May, CINCPAC requested reconfirmation from COMUSMACV of the requirement for BLU-3B sorties and requested establishment of a requirement for BLU-26 munitions.[21/]

According to a MACV estimate, maximum effective penetration by BLU-3B bomblets was precluded by the fact that the most active VC targets in SEA were covered by a heavy, multi-layer canopy of foliage. COMUSMACV told CINCPAC that he had only limited information on the employment of the BLU-26, however, his staff had estimated the BLU-26 would have approximately the same effectiveness as the BLU-3B. Should this be the case, COMUSMACV felt he had no additional requirement for BLU-26 munitions.[22/]

The BLU-24 bomblet, according to General Westmoreland's understanding, was especially effective in penetrating jungle canopy. COMUSMACV wanted to know if SAC was testing the BLU-24 for delivery from B-52 aircraft and when this ordnance would be available for employment in SEA by

the B-52. General Westmoreland envisioned a requirement for approximately 100 (or 25 percent) of the total allocated sorties each month, as this munition became available, providing it proved effective in penetrating the jungle foliage.[23]

Assuming the BLU-26 munitions could be used only in substitution for the BLU-3B, and contingent on the availability of the BLU-24 munitions, COMUSMACV anticipated a continuing average monthly requirement for 50 BLU-3B/26 sorties through CY-1967.[24]

COMUSMACV noted that, with the general diminution of VC activity throughout SVN, it was possible he would not request the full 50 sorties each month. The 50 per month figure could be used should the VC start any large offensive.[25]

CINCPAC told CINCSAC, on 3 June, he was thinking of replacing the BLU-3B with the BLU-24, or BLU-26, but would require additional information before he could do so. He was particularly interested in having comparative data on jungle penetration capabilities of the BLU-26, BLU-24, and the BLU-3B munitions. He was also interested in details of SAC's load capability for delivery of BLU-26 munitions, when these munitions became available.[26]

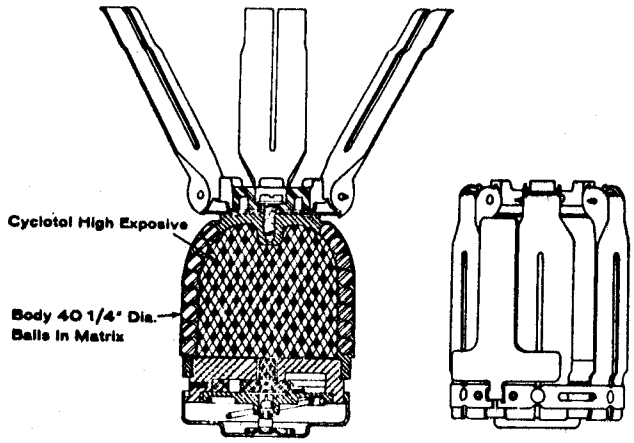
On 3 June, CSAF informed COMUSMACV that the BLU-26B bomblet did not have the drag vanes, which hang up in the jungle canopy, and that it was smaller than the BLU-3. He felt that for these reasons the BLU-26B could do a better job in penetrating the canopy, even with the fuze it had.

He noted the BLU-26B was optimized as an anti-personnel and light material weapon, while the BLU-3 was designed for anti-material targets. Unlike the BLU-3, the BLU-26B was self-dispersing. Not only was the BLU-3 not self-dispersing, but its pattern was limited to a few hundred feet in width. The CSAF noted there was a delay fuze in production, compatible with the BLU-26, which would insure penetration. He noted that the designer of the BLU-24 jungle bomb had in mind low-level delivery, where trajectory would prevent earth penetration of the delay-fuzed bomblets. In addition, the BLU-24 had a round shell configuration without the self-dispersing magnus-lift configuration of the BLU-26. For this reason, it could be delivered only in a narrow line pattern, with even less lateral dispersion than the BLU-3. From tests, it had been learned the munition would bury in the earth prior to fuze function, if delivered from altitudes normal for the B-52 dispenser. He pointed out that area coverage capability and effectiveness had been confirmed for the CBU-24 canister, BLU-26 munitions delivered from tactical fighters.[27/]

On 6 June, COMUSMACV presented his requirements for BLU-3B/BLU-26 sorties contingent upon the availability of BLU-26 with and without delayed fuzing.[28/]

On 10 June, CINCPAC presented information on the effectiveness of BLU-26 versus the BLU-3B. He informed CINCPAC that he based his current procurement of BLU-26B for the Hayes dispenser on a need for anti-personnel weapons which could be used against troop targets in the jungle environment, over which the B-52's were operating. CINCSAC noted that the BLU-26B, due

(U) The BLU-3/B bomblet is a small, folding drag vane, groundburst, high explosive, fragmentation bomb designed for use in the SUU-7A/A dispenser. The bomblet incorporates a nose detonating fuze, a ball-in-matrix body and a vane type stabilizing assembly. The BLU-3/B bomblet (in the released and packaged condition) is illustrated below.



(U) BLU-3/B BOMBLET

(U) On release from the SUU-7A/A dispenser the bomb is stripped of its fastening tab and safety strap, allowing the stabilizing device to deploy and the fuze to move into the armed position. The energy of the spring moves the end cap and firing pin out of engagement with the arming slide, permitting the slide to move, after a pre-determined time to insure a safe separation distance between the aircraft and bomblet. Upon impact the fragmenting body and fuze assembly move downward due to inertia and the detonator strikes the firing pin, which initiates the explosive train. Detonation of the explosive charge results in the propulsion of approximately two-hundred and fifty 16-grain steel spheres.

THE BLU-3/B BOMBLET

Fig. 7

to the spherical, fluted shape and consequent greater area coverage effectiveness, had superior dispersal characteristics to the BLU-3B. He noted that the BLU-26 pattern could be more positively controlled and more accurately delivered than the BLU-31B. For high altitude releases of BLU-31B's, the canisters had to be opened at 12,000 feet to obtain a homogeneous pattern. This presented a problem with differential ballistic winds (DBW) which necessitated a large safety zone around the target area. With the BLU-26B, however, the canister opening altitude was considerably decreased, depending on the desired pattern widths. It was determined from tests that the pattern widths were about 50 percent of the opening altitude. Canisters opened at 4,000 feet would produce a pattern 2,000 feet wide. Length and density pattern could be controlled by the interval between canister releases. Tests further showed that individual BLU-26B's fell faster than the BLU-31B's. Analysis revealed that the combination of permitting the canisters to fall further before opening, and the shorter bomblet rate of fall, minimized the DBW problems and so permitted more accurate delivery.[29/]

It was of interest to note that captured Viet Cong documents credited the BLU-3B bombs as doing little harm when they detonated on the jungle canopy. SAC felt this deficiency could be eliminated by use of the spherical characteristics of the BLU-26B.[30/]

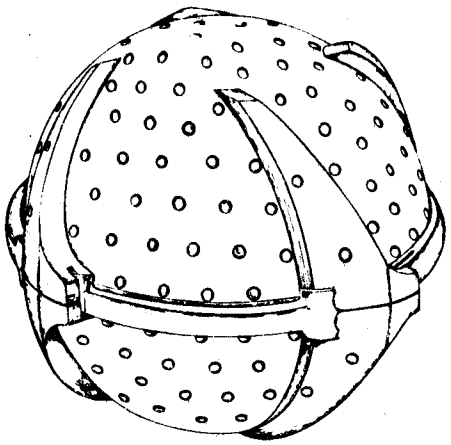
As for VC booby trap operations, it was noted that mere visual inspection revealed whether a dud BLU-31B was armed. This could not be done with the BLU-26B and thus would hinder the VC in making booby traps out of such duds.[31/]

For application to B-52 operations in SEA, the BLU-26B had a definite use, according to CINCSAC. He did not feel, however, that the BLU-26B was a suitable replacement for the BLU-3B although the BLU-26B could be more accurately delivered for direct support.[32]

CINCSAC concurred in the feeling that the BLU-26B, as equipped with delay fuzes, had an important application, particularly in an area denial role in SEA.[33]

COMUSMACV had expressed an interest, on 13 June, in determining the effectiveness of the BLU-3B bomblet in penetrating jungle canopy before detonation. CINCSAC responded, on 15 June, and told COMUSMACV he was working on an estimate of the percentage or ratio of bomblets detonating in the trees, as opposed to those detonating on the ground, and was trying to determine the ground effectiveness for those bomblets which detonated in the trees.[34]

COMUSMACV wanted to take advantage of attacking enemy personnel who may have returned to a previously struck target. He thought he could do this by requesting a strike on one target with H.E. munitions and on another target with BLU-3B munitions, in the same time frame. In this case, the BLU-3B aircraft would proceed the H.E. aircraft. He said he would specifically identify the target/s/, munitions and aircraft in all cases where timing was requested for such an attack.[35]



(U) FRAGMENTATION BOMB BLU-26/B

(C) The BLU-26/B is a bomblet which impact detonates on a variety of surfaces including water, mud, or soft earth, propelling high velocity steel balls in a radial direction. The steel balls are effective against such targets as trucks, parked aircraft, ammunition, fuel tanks, radar equipment, and personnel.

(C) When the bomb is released from the adapter into the air stream, the flutes produce a high rate of spin which, in turn, induces dispersion and initiates arming of the bomb fuze. Arming occurs when the centrifugal force on the hammerweights is sufficient to overcome the force of the retaining spring. The hammerweights move back, releasing the firing pin from the rotor. Weights which hold the rotor in the unarmed position disengage, allowing the rotor to arm. In the armed position, the detonator in the rotor is in line with the firing pin and lead cup, and the firing train is complete. The fuze is sensitive to impact from any direction. Initiation of the fuze is accomplished by movement of one or more of the firing pin hammerweights.

THE BLU-26/B BOMBLET

Fig. 8

Hayes Dispensers Problem

On 22 June, CINCSAC reiterated to COMUSMACV that expected dispersion of Hayes munitions, at 12,000 feet, was approximately 10,000 feet around the target area. Bombing at a higher level would increase the expected dispersion and circular error of the Hayes munitions approximately one-half over that which could be expected at 12,000 feet. When B-52's were to bomb at 12,000 feet, CINCSAC felt there should be a safety zone around the target at 15,000 feet.[36/]

Increased Ordnance Load Capability

On 2 March, SAC told JCS and CSAF he would replace the B-52F with B-52D aircraft, with deployments to Andersen to commence on 18 March 1966. He pointed out that the B-52D had a capability for increased internal loads. The B-52D's could carry 48 x M64s or 24 x M65s. The changeover period would be 18 March - 8 April 1966. Also, mixed forces of these two types would be used when mission requirements so dictated. If planned rates were maintained, the increased bomb load of the B-52D could deplete the M64 resources at Andersen prior to 1 April 1966. His plan, in this case, was to load the B-52D with 24 x M117 external and 24 x M65 internal, and the B-52F with 24 x M117 external and 15 x M65 internal.[37/]

SAC reported, on 18 March, that newly-modified strategic bombers of the 28th Bomb Wing, Ellsworth AFB, SD, and the 484th Bomb Wing, Turner AFB, Ga, had replaced the B-52s on duty in the western Pacific. These

units would spend temporary duty periods of approximately 180 days in support of SEA operations.[38]

The modified bombers could carry a total bomb load, per craft of 60,000 pounds, which was an increase of 21,750 pounds previously carried. Design and modification now allowed the bomber to be rapidly converted from nuclear configuration and back. The new bomb bay modifications permitted up to 84 x 500-pound or 42 x 750-pound bombs to be stored internally. An additional 24 750-pound bombs could be carried externally on racks under the wings. This added significantly to the efficiency and effectiveness of each sortie.[39]

PACAF noted this increased capability to accurately strike identified targets, at any time of the day or night, in any identified area or "secret base" and under all weather conditions, was being requested and appreciated more and more by forces on-the-scene in SVN.[40]

On 15 March, JCS informed that both JCS and CSAF had concurred with the use of M-65 bombs for internal loading in ARC LIGHT aircraft. He added that the low drag M-117 and MK-82 would continue to be loaded externally.[41]

CSAF, later, cited SAC SECRET DXIP 02635, 18 Mar 66, and said that the B-52s would be loaded internally with 1,000 pound bombs instead of the 500 pounders, which would give a 57 percent increase in bomb-carrying capability. He suggested that, in talking to news media representatives, the response should be worded so as to curtail any speculation regarding shortages of any particular bombs.[42] These bombs, according to a MACV

April report, were of the M-64 and M-117 high-explosive type, with fuze settings determined by the nature of the targets. Delayed fuze settings on high-explosive bombs were used when bombing reinforced structures, caves, and tunnel systems, while impact fuze settings were used against surface structures and personnel. Some time-fuzes were set to explode after the strike to impede and disrupt rescue and cleanup operations.[43/]

B-52 Ordnance: Statements to the Press

USAF informed SAC, on 12 March, that the B-52s would be loaded internally with 1,000-pound rather than 500-pound bombs. This change would give the quoted 57 percent increase in bomb-carrying capability. USAF reviewed a proposed news release on this change and said that, if the news media representatives ascertain that maximum loads were not being carried, the response should be worded so as to curtail any speculation about shortages of any particular bombs.[44/]

Jungle Penetration Ordnance

COMUSMACV, on 15 April, directed the Chief, JRATA, to investigate the possibility of developing a delayed fuze which would permit the penetration of a double canopy jungle. He also wanted him to investigate the feasibility of developing a seismic or other device for marking Viet Cong positions and installations for subsequent air strikes.[45/]

M-123 Long-Delay Anti-Withdrawal Fuze Requirement

COMUSMACV, on 30 December 1965, had indicated a requirement for general purpose bombs, equipped with long-delay fuzes, for use in B-52 strikes in SVN. SAC pointed out some problems with this ordnance. Once a bomb has been fuzed, it must be destroyed if it is not used. This, according to SAC, could result in a needless destruction of bombs in limited supply. He also pointed out that, once an aircraft had been loaded and fuzed, it could not be committed to other type missions. He, therefore, felt that consideration should be given to limited use of long-delay fuzes, on an infrequent basis, with approximately ten aircraft so equipped for any one mission. Other SAC proposals were that the use of the delayed fuze be withheld until the improved and re-worked A-5 "White Dot" release was available for installation, and that firm commitments should be assured prior to fuze installation.[46/]

To provide 3AD with sufficient time to download and dispose of hung bombs on aircraft returning to base (should there be an inadvertent malfunction of the fuze during the twelve hour flight), SAC recommended that, under no circumstances, should bombs be employed with fuzed delays of 12 hours or less and he further recommended employment be limited to fuzes with delays of 24 hours or more.[47/]

CINCSAC told the Air Force Systems Command that, for the M-123, he was employing long-delay fuzes. He pointed out, however, he had not been able to assess the effectiveness of these fuzes. During the Korean War,

he noted, attempts to evaluate this effectiveness were unsuccessful. Before SAC established a requirement for drop tests, it was important that agency files, archives, libraries, etc., be searched to determine the availability and validity of such test data. Questions of specific interest to CINCSAC:[48]

- Does the fuze function on impact?
- On impact, do the fuzes sustain damage which would preclude proper delayed functioning?
- Are the function rates of the fuzes acceptable?
- As for the desired craters, does the M-65 bury too far?

CINCSAC requested comments and recommendations from COMUSMACV on conducting a test of the long-delay fuzed iron bombs against a selected target in SVN.[49]

COMUSMACV felt such a test should be handled in a controlled environment for several reasons: On a test range the results could be closely observed and analyzed; in a "live" target area the jungle canopy, alone, would make such observation impossible; dense foliage and the monsoons would preclude the attainment of good photo reconnaissance; and, finally, the inability to guarantee the safety of non-combatants if the drop were to be made on other than a test range.[50]

CHAPTER V

SECURITY OF B-52 OPERATIONS

VC Foreknowledge of Strikes

The problem of possible compromise of B-52 missions arose early in the year when both informants and Viet Cong prisoners stated they had been forewarned of participants and locations of impending friendly action. Late in January, PACAF noted that, while there were no specific indications of foreknowledge by the Viet Cong of ARC LIGHT strikes supporting operations during January, several Viet Cong captives and friendly villagers in the Doc Pho coastal area had claimed that, on 26 January 1966, the local Viet Cong had announced "The Americans and ARVN are coming!" The informants stated that, based on this forewarning, the Viet Cong moved out of the area.[1/]

COMUSMACV informed CINCPAC, on 24 February, that 1st ARVN Division intelligence had revealed that ARC LIGHT strike on Thua Thien 12 (Shanty-Town 7) had been compromised. Viet Cong forces had over-run an ARVN position and captured a map and overlay outlining Shanty Town 6 and 7. As a result, COMUSMACV requested this strike be cancelled.[2/]

During an interrogation of an assistant platoon leader, Q761 Regiment AKA 271 Regt, who had rallied in Tay Ninh Province, on 1 March 1966, the following possibilities of enemy foreknowledge of ARC LIGHT strikes were presented:[3/]

> Subject asserted that the most remarkable thing he had noticed was that the regiment was always notified some 15 minutes prior to each of some six bombardments by B-52s. The regiment made an emergency warning throughout the unit after each notification. He said that all movement had to be stopped and/or everyone had to go down into trenches for concealment. The warning was made by a continuous chain of whistles from one element to another.4/

PACAF noted there had been B-52 strikes in the areas during the months specified by the rallier. He said that one possible explanation for the 15 minutes to three hours warning, referred to by the rallier, was the enemy's awareness of probable TOTs, based on take-off information. PACAF believed that once the take-off time was known, the VC could easily compute probable TOTs within several hours accuracy, based on previous strikes. This information could then be flashed to all enemy units to take precautionary measures. PACAF did not believe the enemy was aware of the specific target area, since this information was tightly held. PACAF said, if this assumption were true, the release of possible B-52 TOTs to all VC NVA and units in SVN must certainly disrupt all normal activity, both day and night, and would have a demoralizing effect upon personnel continuously forced to take protective measures against the strikes. Adding credence to the rallier's report of strikes on the 271 Regiment, PACAF said the 1 January 1966 strike against Tay Ninh 40 was an emergency strike, based on technical collection activity identifying the possible location of the 271 Regiment.5/

Message Classification Changes

On 25 February, JCS agreed with CINCPAC that Secret LIMDIS classification

was appropriate for ARC LIGHT missions in South Vietnam and that, after 27 February, the normal classification would be SECRET LIMDIS. He added that appropriate classification would remain as required by content and substance of individual message and that final determination remained with the originator. 6/

COMUSMACV cited ADMINO CINCPAC 262349Z Feb NOTAL and provided guidance to the effect that all ARC LIGHT planning would normally be Secret LIMDIS but that appropriate classification would be determined by content. He further informed that planning and conduct of ARC LIGHT operations would be conducted with minimum dissemination of information. Persons authorized to receive such information would be only those with an immediate need-to-know. 7/

Communications Deficiencies

SAC informed COMUSMACV on 16 March 1966 that certain deficiencies in the recall procedures, affecting the possible security of ARC LIGHT forces, were revealed during the recall of Hot Tip I and II. Therefore, re-examined recall arrangements were required. SAC referenced Acron Plan 52-65, under the provisions of which, SAC stated the recall word was provided to agencies concerned with each mission frag order. Transmission of the recall word, he noted, could be by SEA GCI sites, Airborne Coordinator, the SAC Airborne Strike Commander and the SAC Airborne Strike Deputy Commander. He proposed, therefore, these procedures be tightened and the recall directed individually or collectively by CINCSAC, Commander 3AD, CINCPAC, COMUSMACV

and Commander 2d AD. Under this proposal, the airborne strike force commander and the Airborne Coordinator would be assumed to be acting for 3d AD and 2d AD, respectively, and could direct recalls, should conditions so dictate. SAC further recommended that when a recall was directed or requested it was to be authenticated by challenge and reply procedures through use of the KAA-29. He emphasized that the procedure should be employed even when secure communications systems were used. Some confusion had occurred in the case of Hot Tip I and II by the fact that 3AD had received a telephone call from an unknown source at 2AD SACLO requesting them to initiate a recall. Validity of the call was in doubt, and hence the need and recommendation for validation procedures. 8/

Under SAC's recommendation, the recalling agent would notify the 3AD Commander and CINCSAC as soon as possible. This would be done both verbally and by hard copy message, giving reason for recall, time for initiation and communications used. As a further backup, he recommended that the 3AD Commander always transmit the recall word by a single-side-band net whenever the valid recall was initiated. This was under the assumption that positive contact with the strike force, as yet, had not been accomplished. Under this recommendation, a SAC-initiated recall would be by voice, on the SAC alert system, backed up by a hard copy ZIPPO message to appropriate agencies. SAC felt that, should JCS initiate a recall, it would be effected through either SAC, CINCPAC or COMUSMACV. It was his view that his recommended procedures would plug most of the obvious holes. He requested COMUSMACV's concurrence and comments on the proposal. 9/

Foreknowledge of ARC LIGHT strikes were indicated in March, with the Security Wing at Clark AFB noting the following:[10/]

> "Activity communications monitored on the Manila/ Clark area Control Center/Common User Operational Circuit, on 20 March 1966, revealed a block flight reservation passed by Kadena Air Base, Okinawa, for flight routes Amber Two and Blue Two."

The Security Wing noted, with particular interest, a reservation for flight levels 350 through 450 between 1430Z and 1835Z. The Security Wing pointed out that thorough and extensive background analysis had proven that this type of message, which used the 350 to 450 block altitude reservation, was a valid indication of a forthcoming B-52 strike.[11/] Studies performed by the Wing had shown that the time period encompassing the aforementioned flight levels commenced two hours to two hours and fifteen minutes prior to actual scheduled TOT of the strike craft. Based on this information and analysis, the Wing predicted a SAC B-52 strike by approximately 1630Z, 20 March 1966.[12/]

The Wing believed the length of time between the transmissions of the altitude reservations and the TOT would easily allow the enemy adequate time to initiate defensive measures to decrease or nullify the effectiveness of the ARC LIGHT strikes.[13/]

Compromise Analysis and Security Measures

CINCSAC was concerned with the possibility of having a compromise situation develop because of using any one code name where the volume of

correspondence was excessive. He noted such was the case in Rock Kick Three. His recommendation was that the name should be changed, in such cases, to preclude any possible compromise.[14/]

General Westmoreland personally looked into the possible compromise of the ARC LIGHT strikes in Operation Birmingham.[15/] On 25 April, COMUSMACV expressed concern over the possibility of a compromise of the B-52 strikes in Tay Ninh Province in support of this Operation. His concern arose as a result of a visit to Dak To where he saw a B-52 strike plotted on a Vietnamese map after the strike had been conducted in Laos. COMUSMACV noted that his J-2 assured him the target list was kept separately from the strike schedules and instructions and, for that reason, there were no compromises. COMUSMACV's concern persisted and he tasked his J-2 to determine what could be done to improve security in planning B-52 strikes so as to avoid compromise.[16/]

MACVJ2 studied the ARC LIGHT compromise possibilities and presented his findings to COMUSMACV and the Comdr 7AF on 29 April. His report covered the security of the B-52 strikes and the alleged leaks of these strikes to the enemy. His report showed that, while targeting for B-52 strikes was done in the CICV (Combined Intelligence Center, Vietnam), the targets produced at CICV were tentative targets only. He found the next step of the process was to have the target validity checked with the field units. Only after this did MACVJ2 select those targets worthy of actual strikes. MACVJ2 then presented these targets to the MACVJ3. It was then a decision was made as to whether or not the targets would actually be

struck. His findings showed that the Vietnamese were aware of possible targets for B-52 strikes. The report pointed out, however, there were many nominations in this category and that, at this point in the targeting cycle, there was no indication as to whether or not a target actually would be struck. MACVJ2, therefore, concluded that the possibility of compromise of such strikes was negligible and that he had no valid indication there had been any advance compromise of B-52 strikes. MACVJ2 reported that, after COMUSMACV approved the strike of targets, General Phong, J3, RVNAF was notified of the approval.[17/]

With reference to the procedures on advance notice of forthcoming strikes, the report noted that such notice could be given from only a few hours to as much as 48 hours prior to the strike. However, since SAC preferred a 48-hour lead time, this often required a long advance notice. It was concluded, in general, that the procedure was tight enough to preclude compromise. The 7th AF Commander commented, during the briefing, that the takeoff of these B-52s from Guam were detected immediately by nearby Russian trawlers, but added: "Of course, they did not know the specific location of the strike."[18/]

During August 1966, there was considerable high-level concern regarding the possibility of information leaks to the enemy on planned ARC LIGHT strikes.[19/] Reports continued to be received from enemy defectors, ralliers, and prisoners regarding the receipt of advance warning of pending B-52 strikes against their units. A captive in Tay Ninh Province stated that, during February, B-52s bombed the Province three times. Before the

first attack, the sources's unit received a message, carried by a runner, warning of an impending attack. It told that a B-52 attack somewhere in Tay Ninh Province could be expected within the next three days. The message came from the security branch of Viet Cong Headquarters (COSVN) which, the source heard, "had intercepted the message, which originated in Saigon, requesting a raid on Tay Ninh Province." According to the captive, the attack occurred three days later. PACAF noted that nine B-52 missions were flown against targets in Tay Ninh Province during February but, because the captive did not provide specific dates, no correlation could be made with actual B-52 strikes.[20/]

On 22 August, General Westmoreland told CINCPAC that if the ARC LIGHT strikes had in fact been compromised, as suggested by some captives and ralliers, then the source of information could be communications intercept at any level, high-level intelligence penetration in either US or ARVN channels, or low-level intelligence collection by Viet Cong/North Vietnamese agents in the vicinity of US/ARVN field units. From the study of results of interrogation of VC/NVA captives and returnees, it was apparent, however, that all ARC LIGHT strikes were not compromised since several such captives/returnees had stated they had received no advance warning of strikes. He added that, on the other hand, one captive stated he had been warned of over 20 impending strikes, but that only two actually took place.[21/]

COMUSMACV also noted the procedures for the coordination of ARC LIGHT strikes were dependent upon two factors: first, the location of the target;

second, who nominated the target. If the target were in one of the six ARC LIGHT Zones, in the RVN, then no coordination with the ARVN field authorities was required; if the target was not in such areas, then prior coordination with ARVN was mandatory. Targets could be nominated by COMUSMACV/US/ARVN field commanders or by J2 MACV.[22/]

Targets developed in non-ARC LIGHT Zones by US field commanders were coordinated with the ARVN Corp G-3, prior to being nominated by MACV. General Westmoreland noted the coordination chain within ARVN included the Province Chief, who had to approve the strike in his area. All approved ARC LIGHT strikes were also coordinated with Brig. Gen. Tran Thanh Phong, J-3, ARVN JGS. This was done 12 to 18 hours in advance of the strike. The data passed to Gen Phong included TOT and target coordinates which were provided to the GVN approximately two days prior to the strike, or as soon as possible when immediate Quick Run strikes were submitted to CINCPAC for approval. ARVN Corps were provided target coordinates for Corps approval; TOT information was provided approximately 36 hours prior to the strike.[23/]

COMUSMACV told CINCPAC that US agencies normally having access to the most sensitive ARC LIGHT information were the JCS, CINCPAC, COMUSMACV, CINCSAC, CINCPACAF, CINCPACFLT, Commander 7th Air Force, US Embassy Saigon, 3AD Guam, 3960th Wing Guam, SAC Liaison Office RVN, 5th AF, GP RVN, and Tactical Air Control RVN. MACVJ2 and J-3, as well as MACCOC, also had access. Additionally, if the strike were requested by US/ARVN field

commanders, the CG of IFFV, IIFFV, III MAF, or SAC IV Corps would have access to the information, depending upon the location of the strike.[24/]

General Westmoreland told CINCPAC that his headquarters was not able, at that time, to suggest procedures which might further improve the security of the ARC LIGHT strikes.[25/]

Early in September, General Westmoreland informed the 7th Air Force Commander and others that beginning on 15 September, CINCPAC planned a joint COMSEC effort lasting for a minimum of 30 days. Weekly reporting would begin on 22 September. The purpose of the survey was to identify and correct, as feasible, any communication malpractices involving ARC LIGHT strikes. Tasking would be accomplished by the CINCPAC service components.[26/]

On 25 October, the Commanding General, 1st Inf Div, Lai Khe, RVN, observed that, almost without exception, prisoners and ralliers had indicated they had anywhere from two to 24 hours warning before the B-52 strikes. He said that some prisoners had indicated a rather precise knowledge, not only of location but the exact time on target. He said, "Obviously, the VC made some highly effective penetrations at a very high level in Saigon and certainly also at Corps level and below." The Commanding General presented the following considerations towards reducing compromise of the ARC LIGHT program:[27/]

> "...Considering the expense, effort and loss of effectiveness involved it would seem prudent to

attempt to alter the system and overcome these difficulties. Recommend that B-52 strikes be approved by MACV on recommendations thru US channels only and that only such clearance as may be necessary in the local areas be effected by the local US Military Commander. For example, in the 1st Division area of operation it was Zone C. War Zone D and other unpopulated areas there is no coordination problem other than which is encountered every day in the firing of artillery and the conduct of tactical air strikes. Recognizing the possible sensitivity of the Vietnamese, I would recommend that the cards be laid on the table on the basis of overwhelming evidence and that the B-52 strikes be handled on a short notice at the local level..."

CINCSAC told CINCPACAF, on 12 October, there had been some improvement in the TRANSEC problem since the implementation of the reduced notification time, which had been established through the efforts of SEAMARF. He indicated, however, he was still at a loss to determine what information was being passed over insecure circuits on ARC LIGHT and requested any action possible be taken to eliminate such transmissions. He noted air space reservations/limits were still being transmitted over the ARINC net (CCSD JUOA K 499), from Manila. 28/

CINCPAC told COMUSMACV, on 3 December, that indications had been received from interrogation reports that advance warnings of ARC LIGHT strikes were frequently forwarded to enemy troops. Analysis of the warnings indicated they appeared to be general in nature and that target locations apparently were not known. The time of the strike, however, was known. Admiral Sharp went on to say that a time study of the past two months had been made revealing there was no definite pattern other than the fact that about 50 percent of the time two strikes were scheduled.

He also noted that a certain time period during the day had more strikes scheduled than at other times and wondered whether smaller strikes, spread over a longer period of time, might be more effectively used to deny the enemy his area of shelter. If more targets were hit more frequently, by smaller strike elements, the harassment would be increased, and the forewarning of a strike would be less meaningful. CINCPAC therefore tasked COMUSMACV to analyze the effectiveness of increasing numbers of strike missions by utilizing smaller strike elements at more frequent intervals. He further wanted the analysis to highlight advantages and disadvantages, compared with employing larger strikes at less frequent intervals.[29/]

Release of TOT information to VNAF

General Westmoreland told the 7th Air Force Commander that he did not want information pertaining to ARC LIGHT strikes outside South Vietnam released to the VNAF.[30/]

For in-country ARC LIGHT strikes, his instructions were that TOT and target coordinates could be released to the VNAF duty officer in the TACC, provided such releases were not made earlier than 15 minutes prior to the TOT for any strike.[31/]

Knowledge of B-52 Bombing Patterns

It was noted in June, that several reports indicated the Viet Cong appeared to have discovered that B-52 bombings followed a pattern. They had learned the ARC LIGHT force was usually preceded by reconnaissance

L19s or jet aircraft. The report noted that, if the reconnaissance L19s or jets were spotted, the Viet Cong then established aircraft warning cells on a 24-hour basis.[32]

Possible Compromise Through Notification of Inadvertent Bomb Releases

As a result of a premature release of 24 external M-117 bombs, during Tay Ninh 8 and 9 missions, COMUSMACV requested that, in the event munitions were inadvertently released over SVN, the monitoring ground radar station should be notified immediately, giving time and position of impact, and if the release could have impacted on non-combatants and/or friendly forces; MACV was to be notified of details relevant to such an incident.[33]

However, SAC felt that in cases of inadvertent releases, immediate notification or disclosures, especially an early release, would be ill-advised in that it could forewarn the enemy of an impending strike as well as provide them with information of propaganda value. He then prescribed a method for reporting inadvertent releases.[34]

COMUSMACV's Note on Security

Toward the end of the year, COMUSMACV pointed out that a November investigation of security measures involved in the planning and execution of ARC LIGHT missions revealed that these measures were excellent.[35]

CHAPTER VI

LAOS/DMZ/NVN and CAMBODIAN BORDER AREA OPERATIONS

The Initial Strikes in Laos

In December 1965, the first B-52 strikes against targets in Laos were made in conjunction with Project TIGER HOUND, an interdiction program in the Laotian Panhandle on the Laos/SVN border. The U.S. Ambassador to Laos, on 25 November 1965, had concurred in the use of B-52s on the border, providing there was no publicity and that public statements treated the strike as "just another strike in South Vietnam." The first strike, "Duck Flight," was made on 11 December 1965, when 24 B-52s bombed a suspected troop concentration just inside the Laotian border, at YB 8393, about 15 kilometers southwest of the Special Forces camp in Kham Duc. Contrary to the Ambassador's wishes, this strike created considerable publicity when it was published as a UPI release on 20 December. 1/

After this first strike, COMUSMACV requested another target in Laos, "Quang Nam 10," be struck. However, as a result of the leak to the press on the first strike, CINCPAC held up further strikes during December. He told COMUSMACV, on 23 December, that approval was withheld pending comments from the Ambassador in Vientiane. 2/

The recommendation was that this target, also on the Laotian border about 20 kilometers northwest of the first strike (YC 7108), be delayed until after 11 January 1966. It was brought out that the interim period

would be utilized to shore up the internal security system regarding no publicity on Laos operations. Mr. Sullivan, in Vientiane, messaged CINCPAC that same day, stating his position on ARC LIGHT strikes in Laos remained unchanged.

Concurrence would be provided, he said, if there were assurances of no publicity. Having been "burned on Duck Flight," the Ambassador indicated he would have to consult Souvanna Phouma prior to giving formal concurrence for future operations. He emphasized that Phouma required an assurance of no publicity as a term of condition for every operation for which his approval was requested.[3/] Shortly thereafter, approval was given and Quang Nam 10 was flown on 14 January over the originally planned target box.

Policy on Public Announcements for Laos Strikes

The Secretary of State, on 11 January, told the American Ambassador in Vientiane there had never been any agreement at Washington with field recommendation that a previous ARC LIGHT strike in Laos should be announced as a mission in SVN. He said any response to queries would be "no comment" and that it was understood that there would be no public announcement of the strike.[4/]

In view of recent leaks on operation in Laos, he could have no assurance that part of Quang Nam 10 operation in Laos would not be leaked. The standard response, therefore, would be no confirmation or comment.[5/]

Evaluation of Sorties Requirement for Laos Strikes

The objectives of the air strikes in Laos were expressed at the

beginning of the year as being two-fold. The first was to attempt to disrupt the logistic support moving from North Vietnam through Laos into SVN; the second, to assist the government of Laos combatting the insurgency in that country. 6/

The 1966 Honolulu Conference noted the situation at the beginning of the year in Laos was such as to warrant a projected strike program. In fact, with the increased GVN/US effort in SVN against the Viet Cong, support from the NVN (through Laos), both in material and men, had increased considerably; infiltration routes had been improved, and facilities supporting these routes had increased. This was particularly true in the STEEL TIGER area in the vicinity of the DMZ and south along the Laos border area. 7/

In consonance with the increased effort against infiltration into SVN, the weight of air effort in Laos had been programmed for 1966 at nearly three times that of 1965. This increased effort was planned against the following: 8/

- Fixed Targets: Fixed targets were defined as truck parks, storage areas, transhipment points and military facilities. These were located by aerial reconnaissance, road watch teams, special operations and FAC aircraft. Success at locating these areas had increased by the end of January 1966....

- Targets of Opportunity: These targets included primarily truck convoys or other means of transporting men and material into Laos. The strike return for this type target was limited. However, it was hoped to increase the interdiction capability with the increased effort at night and improved communications with road watchers. Value of these attacks was limited because of the large effort that was required to achieve so little in actual destruction.

Primary values remained one of harassment. This harassment made it difficult for the enemy to move and forced him to move at night....

- Random Targets: Random targets included such targets as bridges, and road segments. These were easily repaired or by-passed. Other than for harassment, this type of target was of limited value....

NVA Infiltration Route Staging Bases

During February, attention was focused on infiltrating LOCs in Laos. Intelligence justification for a series of B-52 strikes was submitted by COMUSMACV to augment ground and aerial armed reconnaissance in the South-eastern Laotian Panhandle. On 16 February, COMUSMACV noted that targets nominated adjacent to Kontum Province contained active storage and staging bases known to be the main NVA infiltration route from NVN, through Laos into the RVN. 9/

Cambodian Border Strikes

Strategic air played an important part in supporting search-and-destroy ground operations during the monsoon season. Operation BIRMINGHAM began initial movements in Tay Ninh Province only a few miles from the Cambodian border. This operation was a joint U.S. 1st Inf. Div. and 25th ARVN Div. search-and-destroy operation against the heart of the VC organization in War Zone C. 10/ ARC LIGHT support for Operation BIRMINGHAM was requested by COMUSMACV on 22 April, with the initial strikes desired on 24 and 26 April. Fifteen aircraft delivered 315 tons of bombs with each day's mission. Photo readout, ARDF fixes, IR returns and prisoner/defector intelligence had

indicated considerable enemy activity. The main VC Hq, COSVN (Central Office Southern Vietnam) was in the area and B-52s were intended not only to smash enemy installations but to destroy major elements of COSVN personnel before they could escape. 11/

On 8 May, COMUSMACV requested approval for an ARC LIGHT strike within War Zone C, in Tay Ninh Province, for support of Operation BIRMINGHAM, if ground elements exploiting a major ground search-and-destroy operation became engaged with the enemy and were not extracted on 9 May. He believed there were sizable enemy forces, perhaps as large as several regiments, in the target area. Moreover, the area was known to be an established VC base and had been struck by ARC LIGHT forces previously. 12/

This was the heaviest B-52 support provided a ground operation, to that date, in SVN. Although there was not full ground exploitation, the strikes would facilitate entering the operational area for the ground forces. 13/

When Operation BIRMINGHAM terminated on 17 May, a total of 162 B-52s had flown in support, delivering 3,118 tons of iron bombs and CBU. This was heavy air support for a single operation of this duration. Yet, in terms of enemy casualties, the results were very disappointing. The VC lost 119 confirmed KIA, 28 captured and 28 suspects detained. Of the VC KIAs there were only five confirmed killed by air. 14/

The AAA Buildup in Laos

At a CIIC briefing, held 26 February, it was noted that the continued

buildup of NVA antiaircraft artillery (AAA) in the Tchepone area required adoption of intensified countermeasures. As a first step in this direction, COMUSMACV directed his J-2 to plot the location of all known and reported AAA positions in the area concerned and requested an analysis be made as to the suitability of AAA positions for engagement by B-52s. In the extension of this effort, he further directed that a personal message be prepared to Ambassador Sullivan for the purpose of soliciting his support for B-52 strikes against the AAA sites. The message was to point out the beneficial effects of such strikes with relation to Laos operations. 15/

On 28 February, COMUSMACV sent this message to Ambassador Sullivan expressing concern over the increasing enemy AAA buildup in the vicinity of Tchepone and stating that he was seriously considering B-52 strikes against the area. The Ambassador's comments were solicited and COMUSMACV proposed a meeting be held at Udorn on 8 March. 16/

The Udorn Conference

In response to the COMUSMACV proposal, the conference convened at Udorn, Thailand, on 8 March 1966. Views on the suitability of striking AAA positions were exchanged and the rigid rules of engagement for air strikes in Laos discussed. 17/

Additionally, the Udorn conference agreed that B-52 strikes could be processed for other targets in Laos, such as Kontum 5 and 6 and Quang Tri (Pine Forest). The conference further agreed that action on Route 9 targets should be deferred until such time as the bad weather season precluded

attacks by tactical aircraft.[18/]

Interdiction of the Mu Gia Pass

The interdiction of Mu Gia Pass was an important item of discussion. Striking the choke point at Mu Gia Pass with B-52s, the conferees felt, presented a "political bridge which had to be crossed." The general conclusions were that the majority of truck traffic infiltrating into South Vietnam was transiting this area. Intelligence indicated that truck-mounted, 140mm, multiple-rocket launchers would arrive in Haiphong shortly. With their maximum range of 8,000 meters and a minimum range of 6,000 meters, these launchers presented a serious threat to the airbases. Intelligence expected them to enter SVN via the Mu Gia Pass. The conferees decided Mu Gia Pass should be struck during the rainy season. COMUSMACV, therefore, directed such a request to CINCPAC and JCS in which he noted that trucks had been detected coming through the Mu Gia Pass and felt that the majority of these trucks were hauling troops, ammunition and weapons. He said the pass had been interdicted over the past several months, with limited success, but that truck traffic continued to move. Studies indicated a vulnerable segment of the road which could be cut through use of saturation bombing techniques. He pointed at that, since the tactical bombing effort was degraded during the rainy season, the choke point should be struck by the B-52s.

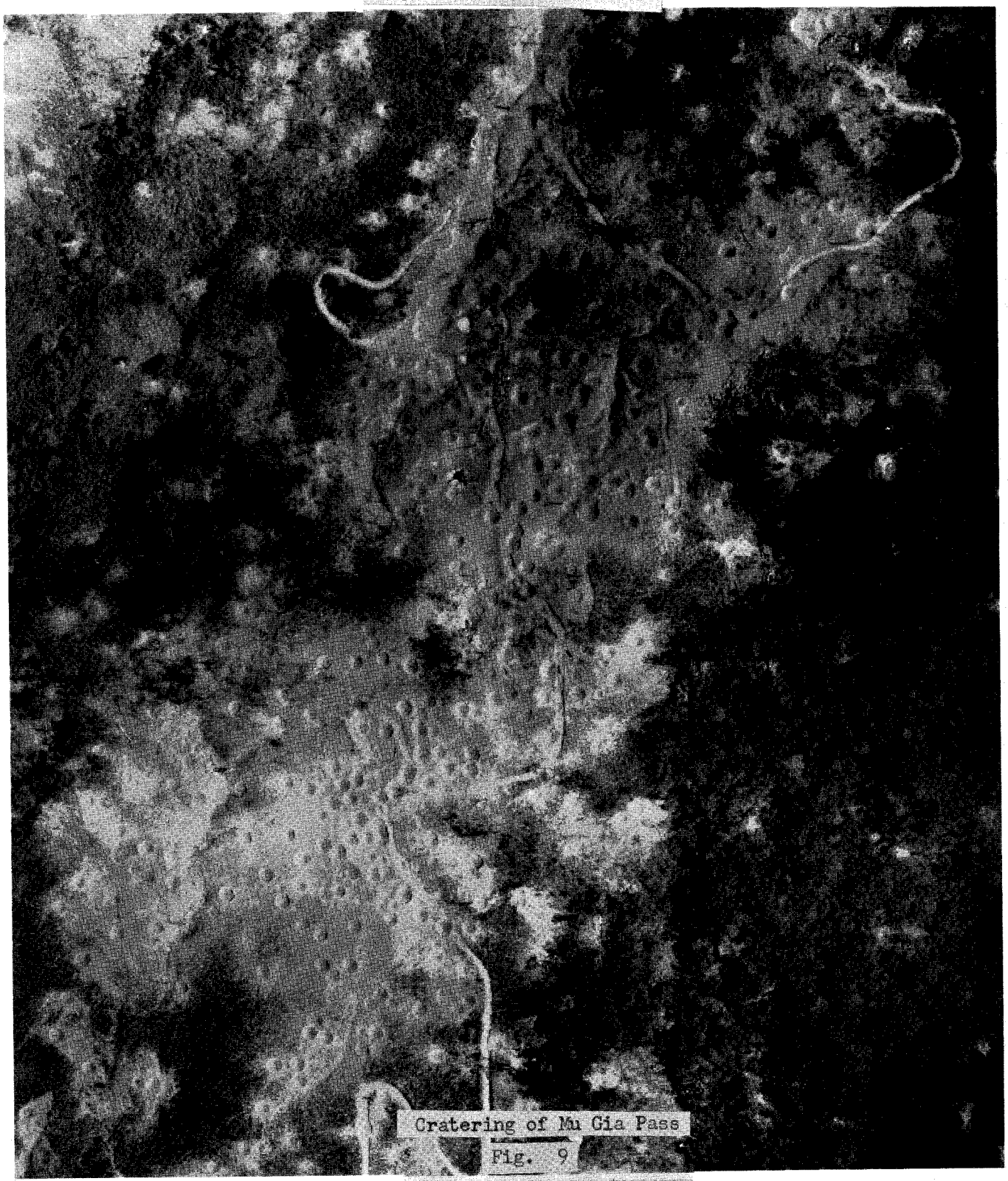
The point of "Cover" was raised, with COMUSMACV suggesting that simultaneous strikes be made in Vietnam, with the press being informed in-country

strikes had been conducted. He pointed out that a precedent had been set for bombing in Laos but noted this would be the first such strike near North Vietnam. He added that the American Ambassador in Vientiane had been informed of this request and had not interposed any objection. 19/

Following the conference, COMUSMACV told CINCPAC that Ambassador Sullivan had agreed to additional ARC LIGHT strikes along the SVN-Laos border. This agreement, according to the Ambassador, would assume that all precautions would be taken to deny information to the press and that strikes in the interior would require clearance with Souvanna Phouma. COMUSMACV noted that such clearance was unlikely at that time. Ambassador Sullivan had agreed to request approval from the State Department for the use of napalm, under FAC control, in the STEEL TIGER armed reconnaissance area. 20/

Shortly after the conference, the Cmdr, 3d AD, in a target recommendation accepted by COMUSMACV, requested B-52 strikes on a vulnerable road segment of Mu Gia Pass, located in Laos approximately five nautical miles south of the NVN border. 21/ The targeted area would encompass the intersection of Highway Routes 12 and 23, including one bridge crossing a narrow canyon between two ridge lines where bypassing would be very difficult. Tactical forces had cut roads daily in this area, but repairs and bypasses were usually accomplished within a few hours due to the small number of bombs delivered per strike. B-52 bomb loads delivered during the rainy season would, in addition to bridge and road destruction, result in landslide coverage and make repairs more difficult. Bomb fuzing could be set for maximum cratering with added repair harassment by variable-delay fuzes, when

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Cratering of Mu Gia Pass

Fig. 9

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available. He recommended repeated strikes by small forces of B-52s, at irregular intervals, to maintain interdiction. The target area contained offset aiming points to permit radar bombing.[22] General Westmoreland, in March, told CINCPAC that, while the southwest monsoon would limit certain air operations, the rains would provide a good cover for ARC LIGHT and other high level harassment programs and that he had reason to believe Souvanna might then permit the expansion of the program. He added that, in the meanwhile, he was studying methods of enhancing air operations during the monsoon season. On 13 March, an agreement was reached with the Laotian Government to employ B-52s against the Mu Gia Pass infiltration route. On 14 March, COMUSMACV requested development of suitable B-52 targets along the Laotian border with I and II CTZs.[23]

On 18 March, COMUSMACV had requested authority to strike the route segment on the Laos side of the Mu Gia Pass with ARC LIGHT forces. On 26 March, COMUSMACV wanted to hit two targets on the Laos side of this pass because the NVN had made significant increases in their AAA defenses along Route 15, leading to the pass, during February and March. Another reason was that Spoonrest radar emissions had been detected, on 21 and 22 March, as emanating from within ten nautical miles of an abandoned airfield, at Nape, in Laos. He felt that this could be an indication the NVN might deploy, or had already deployed, an SA-2 missile system in the area to guard the Nape Pass. It was also recognized these passes were the primary avenues for vehicular traffic into southern Laos. To take advantage of the good weather during the next few weeks, it was expected the enemy would take steps to defend both Mu Gia and Nape. There were also indications from road

watch team reports that the highest numbers of vehicles infiltrating through the Mu Gia Pass would probably occur during March. In view of this fact, and in view of the enemy's defensive buildup in the area, COMUSMACV felt immediate approval should be given to strike this area before additional enemy defenses precluded the use of B-52s in stopping this traffic.[24/]

Timing for these strikes, along with a press "cover" target, in Quang Tri Province, would be requested immediately, subsequent to receipt of the execution approval. The press would be informed only of strikes in Quang Tri Province. "No comment" would be given as an answer to any press queries relating to strikes on Laos.[25/]

COMUSMACV acknowledged that these strikes could be interpreted as an escalation of the war, however he felt a threat existed and that it was absolutely necessary to meet such a threat through the ARC LIGHT program.[26/]

General Westmoreland informed CINCPAC that radar helicopter beacon would not be provided for these two requested strikes. He would, however, provide the Amemb, Vientiane, with timely information as to scheduled TOTs and the execution of these strikes.[27/] The next day, CINCPAC informed JCS that he concurred in the rationale and justification for ARC LIGHT missions against these targets. In addition to those targets nominated by COMUSMACV, CINCPAC considered there were two equally important target areas on the NVN side of Mu Gia Pass (along Route 15), which merited consideration in equal priority and importance to those on the Laos side. In these two additional areas in NVN, Route 15 passed thru extremely rugged terrain where many switch-backs, involving steep cuts and fill construction, lent themselves to

effective interdiction by creating heavy landslides. In fact, the area immediately north of the border in NVN appeared most vulnerable of all.[28/]

In assessing implications relative to possible escalation created by ARC LIGHT strikes in these areas, CINCPAC believed that equal difficulties arose in providing a cover for strikes in either area. A concurrent strike in Quang Tri Province probably would not serve the cover purpose in either case. Accordingly, he said the four strikes recommended below appeared to fall into a common category, insofar as basic decisions to execute were concerned:[29/] Quang Tri Thirteen (Rock Kick One), Quang Tri Fourteen (Rock Kick Two), Quang Tri Fifteen (Rock Kick Three), Quang Tri Sixteen (Rock Kick Four).

The two ARC LIGHT targets, Quang Nam 15 and 16, which MACV intelligence had validated, were located in Laos, approximately one kilometer from the western border of Quang Nam Province. In view of the proximity of the province to Laos, MACV felt the proposed action should be announced to the press as "Strikes along the western border of Quang Nam Province." Any press inquiries relating to strikes in Laos would be answered with a "No Comment".[30/] On 25 March, COMUSMACV requested CINCPAC's approval and the concurrence of the ambassador in Vientiane.[31/] The American Embassy, Vientiane, that day, approved the publicity treatment of ARC LIGHT strikes on targets Quang Nam 15 and 16 with reservation.[32/] Shortly thereafter, Vientiane informed CINCPAC that, during a discussion at Udorn on March 8th with COMUSMACV and his staff, it was made clear that a proposal for a strike on the Laos side of the Mu Gia Pass had to have a clearance at Washington

level for policy considerations involving use of B-52s in territory immediately adjacent to NVN. He pointed out that, in such a case, there would have to be a complex cover story and wondered as to what public posture would apply to such strikes. He asked CINCPAC if they would be described as B-52 strikes in NVN. 33/

CINCPAC, on 27 March, recommended approval of the B-52 strikes on two targets in Laos (Rock Kick I and II) and the two located in NVN (Rock Kick III and IV), all of which impinged on the Mu Gia Pass. He told JCS that the recommended strikes in Laos and in NVN, if approved, would be scheduled within a 30-minute time frame, in each case. For weaponeering, he requested M-65 and M-117 munitions, with 10:90 surface-subsurface. CINCPAC noted the axis of attack would be at SAC's discretion, but should generally parallel road alignment in each case. Execution of the ARC LIGHT strikes would be at CINCPAC's discretion, after receipt of an execute authority and coordination with SAC and MACV. 34/

CINCSAC on 30 March 1966, accepted the proposed targets in Mu Gia Pass but recommended that initial strikes on the northern approach in NVN be followed by strikes along the southern segment in Laos. Closure of the pass on the north side could prevent introduction of additional defensive weapons and enhance success probabilities of future missions for both tactical and SAC aircraft. 35/ It was recommended that targets to be attacked be hit within the same time frame to prevent the introduction of additional defensive weapons into the area. On 31 March, the Secretary of State proposed these targets be paired with one on the Laos side and one on the NVN side. This

would provide press cover of the strike in Laos.[36]

In a message to JCS on 31 March, CINCPAC referred to his recommendation of 27 March that four ARC LIGHT strikes be conducted in the vicinity of the Mu Gia Pass, with two strikes on the NVN side and two strikes on the Laos side. He told JCS that CINCSAC felt the two targets on the NVN side were the most lucrative of the four and that he suggested on 30 March that 15 sorties each be flown initially on the two targets in NVN. He further recommended close timing between these two strikes. He felt subsequent missions could hit the two targets in Laos and noted that JCS, on 31 March, had referred to a proposal by the State Department which called for the pairing of targets in which one target would be on the Laos side and the other on the NVN side. JCS, in this connection, had desired target priorities and force size under this proposal. CINCPAC concurred with CINCSAC's thinking on this matter.[37]

On 1 April, COMUSMACV concurred with the Secretary of State's proposal and further proposed that all four strikes be carried out within the same time frame.[38]

On 3 April both COMUSMACV and CINCPAC requested an ARC LIGHT force of 30 B-52 bombers to hit the Mu Gia Pass area. The timing of the strike would be at the discretion of CINCPAC, who felt that the political aspects would be simplified by a single strike on the NVN side of the pass.[30] The American Ambassador in Vientiane was of different opinion. He told the Secretary of State, on 7 April, he believed State's latest proposal for ARC LIGHT strike

of the Mu Gia Pass constituted an ideal method of attack because the initial strikes, under the Secretary's proposal, would be conducted strictly on the North Vietnam side of the pass. This would focus attention of the newspapers on B-52 employment in North Vietnam. Ambassador Sullivan liked this idea since, during this period, U.S. spokesmen, in all honesty, could deny categorically any speculation that these strikes went into Laos. He did not feel that consultation with the RLF was necessary, in this instance, on overflight. Ambassador Sullivan, however, did feel that consultation with the Lao officials would be desirable for eventual strikes on the Lao side of Mu Gia Pass and that Souvanna would concur. The Ambassador pointed out that, should Souvanna's concurrence require the condition that official denials be made public if Washington's position remained unchanged, then a deadlock could develop which would inhibit the execution of these strikes. Should a deadlock occur, Ambassador Sullivan felt it would not jeopardize the ARC LIGHT program then being conducted along the Laos/SVN border, further south in the Panhandle. He took this position since he felt Souvanna had no knowledge these strikes were taking place. He told the Secretary of State he would insist these strikes were in SVN and would deny they were taking place in Laos, should Souvanna ask. 40/

On 8 April 1966, COMUSMACV adjusted some B-52 strikes to accommodate requirements of the 1st Division and also to accommodate the requirements for a strike in the Mu Gia Pass. COMUSMACV noted Mu Gia was a main motor route from North Vietnam into the Laos Panhandle carrying 75 percent of the truck traffic. He pointed out that, while this route had been interdicted by

tactical air, it had been closed only for a short period of time.[41]

On 9 April, CINCPAC authorized execution of B-52 strike Rock Kick III (Quang Tri 15) and told the 7th Air Force commander that he wanted coordination of operations to avoid interference by this strike with BR/SL/RT Operations; that Rock Kick III would have priority. The strike took place on 12 April, with B-52s being used against NVN for the first time; the first use of the massive B-52 bombardment pattern for road interdiction.[42]

COMUSMACV was much concerned over the failure of the B-52 bombings to halt infiltration of men and supplies into SVN via the Mu Gia Pass. On 17 April, he informed CINCPAC that the road had been reopened to limited traffic, only 24 hours after the Rock Kick III strike. Success in closing the pass by such strikes, therefore, appeared to have been temporary. In fact, visual sightings and night surveillance photography had indicated the Mu Gia Pass was open and was supporting extensive road traffic. This was serious, since not only had traffic continued, but reported daily sightings increased. Another factor supporting COMUSMACV's thesis (that road traffic had increased) was the fact that there continued to be numerous secondary explosions caused by strikes throughout the STEEL TIGER area of Laos.[43]

It was noted that both day and night armed reconnaissance missions were experiencing greater difficulty each day in accomplishing their missions in the Mu Gia area because of reduced visibility and cloud cover. The weather would have to clear before a BDA study could be initiated.[44]

COMUSMACV wanted to have continuous interdiction of the Mu Gia Pass and

was concerned that every effort was not being made to keep this principal LOC interdicted. He felt this required a concentrated effort by B-52s and tactical aircraft alike. He also wanted to resume B-66B strike aircraft "buddy-bombing" against Mu Gia Pass. This to begin as soon as possible, with sufficient frequency to interrupt enemy movement. Previous to this request, there had been a drastic curtailment of radar bombing using the B-66B aircraft. These radar-bombing B-66B aircraft were being used for navigational guidance and bomb-drop release instructions to accompanying fighters in follow-up hits against road check points in Mu Gia Pass. This curtailment was a result of a munition problem and guidance which had been received from CINCPAC. COMUSMACV felt the accuracy of the B-66 would measure up to the need for exacting the maximum return for each bomb delivered. 45/

Mu Gia Pass was a target of major importance, requiring continuous interdiction by both B-52s and tactical aircraft. COMUSMACV therefore, asked for the resumption of the B-66B strikes against Mu Gia Pass. 46/ CINCPAC promptly authorized the resumption and requested every attempt be made to maintain follow-up BDA. 47/

During a COMUSMACV Staff Conference, on 18 April, the following indications of the results of the B-52 strikes were given: 48/

> "...The Mu Gia strike had closed the pass for no more than 24 hours. A sizable truck convoy was sighted moving through the pass within 24 hours after the strike...."

On 19 April, COMUSMACV again considered the Mu Gia Pass a target of

increasing importance. He told CINCPAC this required a concentrated effort by the B-52s and tactical air as necessary to assure a program of continuous interdiction. The Amemb, Vientiane, also had confirmed that a major enemy effort was underway to move significant logistics down the Ho Chi Minh Trail. He pointed out that the enemy had this place heavily supported with anti-air defenses which resulted in the loss of two friendly aircraft, on 19 March, when antiaircraft fire hit them about 10 miles southeast of the Pass. The assumption could be made, he said, that the enemy was attempting to move heavy traffic through the Pass. He therefore, requested approval to execute Rock Kick IV (Quang Tri 16). 49/

The next day, COMUSMACV advised CINCPAC that the JCS required more evaluation of the first mission against the Mu Gia Pass inside NVN before additional strikes could be made. He recommended that such an evaluation be delayed in order to focus attention on maintaining an interdiction and harassment program on the pass. 50/

During Rock Kick III an interpretive error in read-out of a navigational radar checkpoint on the bomb run rendered the raid less than effective. 51/ Road craters and landslides, however, trapped truck traffic, permitting follow-up attack by jet fighters. 52/

On 20 April, COMUSMACV informed CINCPAC that his staff had reviewed and forwarded all available (admittedly meager) BDA on Rock Kick III. Weather and poor photography precluded determination of much more than that the pass probably was open to restricted or transshipped traffic. In addition, he

noted that continuing tactical air strikes made further post-strike analysis of Rock Kick III pure speculation. He recommended that the evaluation of Rock Kick III be shelved and attention be focussed on the problem of maintaining an interdiction/harassment program on the pass. To do this he needed the authority to use all available resources on a timely basis. The dilemma of the American Ambassador at Vientiane, regarding Rock Kick I and II, was understood but, COMUSMACV said, the experience gained in offset aiming points in Rock Kick III should improve the results in Rock Kick IV. He urgently requested authority to execute Rock Kick IV as soon as possible. He planned to request subsequent ARC LIGHT harassment strikes of varying forces, as deemed necessary, to keep Mu Gia closed. 53/

On 21 April, CINCPAC informed JCS he concurred in COMUSMACV's request of 19 April for strike at Mu Gia Pass (Rock Kick IV) and backed his concurrence by stating that the tactical situation dictated an ARC LIGHT strike to keep this principal LOC interdicted. He added that, to offset SA-2s which could possibly be deployed near the Mu Gia Pass area, daylight operations with SAC's ECM/CHAFF ELINT/IRON HAND would be employed. 54/

On 23 April, CINCPAC CC informed MACV that evaluation of late information on the Mu Gia Pass LOC indicated that hits on this segment would effectively destroy the road and close the pass. He proposed consideration for use of ARC LIGHT forces in the event that Tactical Air was ineffective due to weather, approaches or other difficulties. 55/

Therefore, COMUSMACV proposed 11 ARC LIGHT strikes in Laos and indicated the strikes would be announced to the press as Quang Ngai 17. 56/

On 25 April, COMUSMACV informed CINCPAC that his targeting staff would closely monitor the Mu Gia Pass LOC as well as the entire Pass area. He also informed that ARC LIGHT strikes would be requested, as required, to maintain a constant harassment and interdiction program in the Pass area.[57]

The Secretary of State, on 26 April, expressed extreme doubts as to the ability of the B-52s to create landslide interdiction by area bombing.[58]

Apparently damaged - Records indicate no SA-2 loss

The Mu Gia Pass was struck again on 27 April, but, due to a maximum repair effort by the enemy, closure was effective for only 18 hours.[59]

On 28 April, COMUSMACV told CINCPAC it was disturbing to note the inference in the Embassy message to the Secretary of State of 26 April, that the decisions, judgments and the execution of military operations by those responsible for employing ARC LIGHT forces were inadequate.[60]

On 27 April, the 7th Air Force informed NMCC and CINCPAC that one of its aircraft had been hit by a missile. Fragged to fly escort for an ARC LIGHT strike on Mu Gia Pass, Zinc Flight reported a minimum of two SAMs fired at them, with the hit occurring at 2312Z. This incident took place in the vicinity of 1815N 10537E.[61]

On 23 April, SAC referenced his message of 17 April and stated it should read to the effect that, if intelligence should indicate a SAM in the Mu Gia Pass area, the TOT should be during the daylight hours and the strike would be at high altitude. Also, in this case, the strike would be supported with Elint/Iron Hand/and Big Look operations.[62]

During Rock Kick IV, IRON HAND forces were not permitted to strike SA-2 installations located outside authorized armed reconnaissance area, as given in 7AF OPORD 100-66, 21 January 1966. They were, however, authorized to search for and destroy SA-2 installations or Firecan radars posing a threat to strike force operations in the authorized armed reconnaissance area. Bombs would be expended on targets of opportunity, with emphasis placed on LOCs enroute to the SA-2 search-and-destroy areas. 63/

On 29 April, SAC felt that it was vital he be kept up-to-date with information of enemy defenses and plans to counter B-52 strikes in the Mu Gia Pass area. He informed that requests for repeated ARC LIGHT attacks against the Pass area must recognize the high priority the enemy defenses could be expected to accord the area. He pointed out this could include SAMs and that there was a strong possibility these weapons would be moved into the area if they had not already done so. 64/

On 29 April, CINCPAC requested COMUSMACV to recommend additional countermeasures to effectively reduce the SA-2 threat to ARC LIGHT forces during future operations in the Mu Gia Pass area. 65/

COMUSMACV again proposed, on 29 April, that use of ARC LIGHT forces be made to close the Mu Gia Pass in conjunction with tactical forces. COMUSMACV provided his concept on 28 April and underscored the enemy efforts to keep Mu Gia Pass open. JCS gave approval, on 29 April, to the Back Strap strikes, contingent upon assurance of the best attainable anti-SAM support. On 30 April, CINCPAC concurred with JCS that COMUSMACV's concept would hinder the

Mu Gia Pass traffic and provide opportunities for destruction of trucks. CINCPAC, however, felt the cost should be compared with the returns. The MACV plan would probably close the Pass for a short time; but the enemy would have equal opportunities to open the Pass frequently for short intervals because of weather and bombing probabilities. 66/

CINCPAC estimated that if traffic flow averaged 100 tons or about 50 trucks a period and if these trucks travelled at 10 MPH at night, then this number could move through the Pass to and from fairly distant points during a short period of time. For this reason, he felt the job would require continuing operations at the proposed or even greater weight of effort to achieve a significant blockage and harassment. He wondered if the operation would be feasible when compared to the cost in sorties and probable impact of all ARC LIGHT strikes. 67/

Strike communications procedures would be coordinated by COMUSMACV with SAC. A capability to issue recall messages to ARC LIGHT forces would be maintained by COMUSMACV from initial radio contact until release of ordnance. TOT would be confirmed by COMUSMACV with CINCSAC at least 24 hours prior to the desired TOT and information on this would be given to CINCPAC and JCS. Post-strike ground exploitation photography, useful for assessment of weapons effects and determination of weapons capabilities, would be provided by COMUSMACV to DIAXX, CINCPAC, CSAF, and CINCSAC. 68/

SAR support and escort aircraft, when requested, would be provided by CINCPACFLT and CINCPACAF, who would also provide pre- and post-strike photo reconnaissance, to include BDA as requested by COMUSMACV. Emphasis would be

made on BDA photography suitable for analysis of fuzing and location of bomb craters. 69/

Strike requests would be submitted by COMUSMACV as far in advance as possible. CINCPAC would be the recipient of the action copy, with information copies to CINCSAC GP, JCS, 7AF SACLO, 3AD, 3960 Wg, Andersen, CINCPACAF, CINCPACFLT, Amemb Saigon, and Vientiane, when appropriate. A request would be considered a planning message and would contain an intelligence justification, target(s) name, nickname, coordinates, and sequential number. CINCPAC would provide the nicknames. When more than one strike was to be scheduled in the same general area, within a limited time frame, sequential numbers would be used. The request would state the number of aircraft desired, TOT and a statement as to the latest time bombs could be released. The TOT had to be provided at least 24 hours in advance, if it was not given in the planning message. When significant, the request would recommend the axis of attack and the type of ordnance and fuzing desired. It would also give the distance from target to nearest friendly combatant forces and would provide a statement as to whether it was planned to have ground exploitation or infiltration teams for post strike intelligence. Finally, the request would indicate which map series and scale were to be used for plotting targets and give significant information, (such as location of enemy antiaircraft weapons, etc.), which might effect the accomplishment of the mission. 70/

Targets involving overflights of the Cambodian border, Laos, the limits of the DMZ, or NVN would require that CINCPAC obtain strike approval from higher authority. This would also apply to targets less than one

kilometer from the nearest non-combatant dwellings and target areas which included monuments, temples or other landmarks, the destruction of which might cause serious political problems. For all such cases, planning message had to include ample justification to support the deviation and, when applicable, would indicate the approval of the American Ambassador in Vientiane. Targets not approved by the GVN and the Amemb Saigon would also fall in this category. Time permitting, coordination would be effected with other interested agencies if recall was required. If time did not permit, interested organizations would be advised of the recall and the reasons therefore, as soon as practical. 71/

CINCPAC, on 30 April, noted that the U.S. success in avoiding SAMs with tactical aircraft was due almost entirely to rapid evasive action taken, by these highly maneuverable aircraft in the short period following Elint or visual warning of the SAM. He noted the B-52s were not capable of such violent maneuvers and, therefore, considered them vulnerable to SA-2 shootdown. 72/

On 30 April, CINCPAC told COMUSMACV that the use of the Back Strap ARC LIGHT mission against Mu Gia Pass was not recommended and considered the attack would bring only limited returns. He told General Westmoreland he also continued to believe that Back Strap should not be authorized because of the risk involved in the probable SA-2 threat. 73/

General Westmoreland promptly replied that Back Strap was not designed to permanently close Mu Gia Pass, but to further the efforts to harass, disrupt

and impede the enemy's flow of supplies down the Ho Chi Minh Trail during the period between the end of April and the rainy season. He noted he planned the drop of psychological leaflets along the route, directed at road repair crews and truck drivers.[74]

COMUSMACV noted that, since the limits were extreme in striking the NVN supply entry points, maximum efforts had to be made against those targets most likely to disrupt and impede the flow of supplies. He said, "Mu Gia is the most important of these and, as such, is more important to me now than any other target in SVN except those involving support of U.S. troops." There was no question, he said, that Mu Gia Pass was vital to the enemy's movement of supplies. This had been evidenced by the short closure time subsequent to the last ARC LIGHT strike. COMUSMACV indicated that the value of these strikes would exceed the majority of those carried out in SVN. U.S. intelligence on this target was good, with indications the enemy was using Mu Gia Pass overtly.[75]

General Westmoreland noted he could not pass judgment on the SAM risk, but assumed that tactics and ECM had been developed to cope with this contingency. COMUSMACV, therefore, requested CINCPAC to reconsider the use of ARC LIGHT in Mu Gia Pass and to permit Back Strap I, II, III, to go as proposed.[76]

Further B-52 strikes on the pass were halted by CINCPAC based on the risks attending B-52 operations in a SAM environment.[77]

CINCPAC, on 30 April 1966, recommended to JCS against further use of

ARC LIGHT forces in closing the Mu Gia Pass.[78] From his assessment of the enemy SAM potential in the area, and considering the degree of effectiveness to be expected in closing the pass, he concluded that B-52 employment was not the best use of limited munitions assets. The ARC LIGHT objective was to seek, find and destroy war-making materials (rather than to concentrate on route blockage) which should continue to be the primary effort. Such effort could be seriously diluted by the extensive support required for ARC LIGHT strikes in the Mu Gia area, with no assurance that COMUSMACV's blockage concept would achieve desired results.[79] CINCSAC comments on this assessment were solicited.[80]

On 30 April, the American Ambassador in Vientiane also expressed concern over the number of tactical aircraft being lost to antiaircraft fire on the Laos side of the Mu Gia Pass. For this reason, he felt the time had come when it was appropriate to obtain approval for use of ARC LIGHT forces against targets on the Laos side of the Mu Gia Pass. COMUSMACV, on 2 May, concurred with the Ambassador's thinking.[81]

The same day General Westmoreland reiterated his previous thinking that every effort had to be expended to harass, disrupt and impede the enemy's flow of supplies via the Mu Gia Pass, prior to the rainy season. He felt this route was vital to the enemy's LOC and proposed a series of strikes against Quang Tri 13. The series would consist of three ARC LIGHT strikes against Quang Tri 13, on the Laotian side of Mu Gia Pass.[82]

On 4 May, CINCPAC requested COMUSMACV to submit a detailed plan, as

outlined by the JCS on 29 April, with maximum assurance against the SA-2 threat. CINCPAC further desired this plan contain an assessment of pre-strike recce, Elint, and IRON HAND requirements; an assessment in addition to active ECM and Elint warning necessary during the actual strike. Moreover, Admiral Sharp wanted COMUSMACV to provide assessment of the overall risk expected under such a plan.[83/]

CINCPAC, on 2 May, requested CINCSAC's views on the effectiveness and desirability of utilizing B-52s at a lower altitude for delivery to maximize terrain shielding against the SA-2 acquisition radars, which were possibly located north of the Mu Gia Pass.[84/]

On 7 May, SAC informed CINCPAC he did not consider a B-52 low-level strike against the Mu Gia Pass desirable. He stated he had made numerous evaluations of the use of lower altitudes and found that flights at such levels would not deny SA-2 acquisition but would expose the strike force to AAA without effectively countering the SA-2 threat. He qualified this view by noting that he lacked firm intelligence data on the existence and position of an SA-2 battery within the target area, precluding a qualitative analysis. Admiral Sharp estimated, however, that the varied terrain within the targets dictated flights be conducted at levels at which an SA-2 could not have operational capability.[85/]

On 11 May, COMUSMACV was concerned over the enemy's continued buildup in South Vietnam, as well as in Cambodia and Laos. Moreover, this buildup was on the level of regimental unit increases which, to his mind, portended a possible major enemy offensive in the near future. He indicated, however,

that while this possibility did exist, the enemy had to contend with the effectiveness of U.S. air strikes.[86]

This could be an important consideration affecting the enemy operational plans. General Westmoreland noted, even with this continued buildup, the enemy appeared unwilling, at least during the past few months, to engage U.S. forces in major battle. A concerted effort to interdict this offensive buildup by air appeared necessary. General Westmoreland told CINCPAC that he would continue air strike efforts against the enemy's LOCs from NVN. A special interdiction effort would be made against those LOCs capable of supporting a major enemy offensive which would require the ARC LIGHT tonnages he had requested on 2 May. These B-52 strikes (Mag Drop) would be on the Laos side of the Mu Gia Pass.[87]

COMUSMACV had outlined, on 23 May, certain countermeasures aginst the SAMs. CINCPAC, in his review, felt he did not have sufficient assurance these measures would be effective. For this reason, Admiral Sharp deferred approval of the Mag Drop series of ARC LIGHT strikes.[88]

COMUSMACV felt there was a possibility of eventual deployment of enemy surface-to-air missiles into the far southern portions of North Vietnam and possibly into Laos. If this occurred, ARC LIGHT operations in the Laotian border area which were predicated on positive assurance of SAM elimination or neutralization, could be affected. If this assurance could not be attained then, conceivably, the ARC LIGHT program would be eliminated from this area.[89]

On 25 May, the SA-2 threat, relative to ARC LIGHT strikes in the Mu Gia

area, was discussed by COMUSMACV, who, in considering the vulnerability of the B-52, stated that ARC LIGHT employment should be contingent on development of targets worth the risk involved. 90/

General Westmoreland again asked that he be supported by an effective ARC LIGHT force, with employment contingent on the development of targets within the JCS parameters. 91/

Previously deferred strikes against vital enemy LOCs in Laos and NVN, he noted, were not intended to crater roads or cause landslides but to demoralize transportation support forces and destroy road repair equipment. General Westmoreland informed CINCPAC that the continued employment of ARC LIGHT strikes appeared mandatory during the monsoons, inasmuch as tactical air could not perform effectively during that season. Positive assurance as to the effectiveness of combat operations plans could not be given and it was noted that a certain degree of risk was inevitable; a necessary risk, he felt, if any degree of success was to be achieved in an area of enemy opposition. General Westmoreland told CINCPAC that the 7th Air Force Commander had been queried on this threat. He asked that CINCSAC be requested to look into the Guam-based B-52 ECM capability and its effectiveness in preventing SAM tracking and lock-on. 92/

On 26 May, 7th AF replied that movement of the SA-2 closer to the target area would allow Fan Song tracking, and there could be no absolute guarantee that ECM available to 7th AF would prevent such lock-on or tracking. 93/

CINCPAC noted that, insofar as electronic counter-measures were concerned, he had evidence that transmitters had been successfully jammed by the "Brown Cradle." There was insufficient assurance, however, of jamming success since there were means of circumventing its effects. Considerable ECM capability had been in the hands of CINCSAC, who, for some time, had recognized the problem of strikes in an electronically-controlled enemy air defense environment. Therefore, CINCPAC requested comment as to the degree of ECM effectiveness that could be expected against the SA-2. 94/

The American Ambassador in Vientiane, on 30 May, informed the Secretary of State that he was concerned with the number of tactical aircraft being lost to antiaircraft fire on the Laos side of the border. Since he felt this would be an ideal spot to employ ARC LIGHT forces he pointed out the urgent need to get the strike craft above the effective range of antiaircraft weapons. 95/

He said he would approach Souvanna for concurrence in the use of ARC LIGHT aircraft on the Laotian side of the Mu Gia Pass and felt fairly confident Souvanna would agree. 96/

CINCPAC held that, while ARC LIGHT strikes would have a disrupting effect on enemy support forces and equipment in the Mu Gia area, the anticipated results were not considered commensurate with the risks involved. He stated that his comments on this subject of 30 April still pertained, even in the light of the new objectives given by COMUSMACV on 25 May, and did not recommend the use of ARC LIGHT forces in the Mu Gia area, at that time. 97/

B-52 attacks in Laos continued to face problems relating to the threat of antiaircraft artillery (AAA) and possible SAMs in the area.[98] Continued buildup of AAA in Laos at Tchepone (near the Mu Gia Pass area) required adoption of intensified countermeasures. Known and reported AAA positions were analyzed as to suitability for engagement by B-52s. In soliciting support of these targets by the American Ambassador in Vientiane, COMUSMACV consistently emphasized the beneficial effects of such strikes in relation to Laos operations.[99]

A new, unnumbered motorable route was discovered in May. Proceeding southeast from Route 9, it bypassed Tchepone, met Route 92 and terminated in an area approximately 15 kilometers south of the junction of Routes 92 and 9. The purpose of this road was not definitely known, but it appeared that the enemy was moving loads south along the 9-92 route and returning via the Tchepone bypass. By using this traffic pattern, the enemy could reduce the congestion and delay encountered in the critical Tchepone and Routes 9-92 junction areas.

A major transshipment point/storage site was also discovered, which had developed at the target location to support infiltration of equipment and supplies.[100]

COMUSMACV proposed to strike these targets in the Tchepone area of Laos which had developed into a logistics complex. This complex, he noted, was a primary storage and marshalling area on the Ho Chi Minh Trail consisting of extensive storage facilities, truck parks and bivouac areas. Strikes against

the major fording point on the Xe Pon River, near the junction of Routes 9 and 92, had caused serious disruption of truck traffic during the previous week. For this reason FACs suspected the Tchepone area contained a large backlog of war supplies.[101]

General Westmoreland noted that the effort expended in Laos, during June, was not commensurate with the number of valid targets identified for B-52 saturation bombing. Consequently, additional targets were being currently maintained in the event authority was granted for attack.[102]

CINCSAC, on 15 June, felt the risk generated by the SAM environment in the Mu Gia Pass was greater than in early May and that circumstances might dictate acceptance of this risk because of the necessity for attacking the Pass or other targets within range of the SAMs.

In view of this possibility, CINCSAC recommended a meeting be convened in Hawaii, on 23/24 June, to analyze the problem and develop a plan which could most effectively employ available forces. He suggested that representatives of CINCSAC, CINCPACAF, CINCPAC, and CINCPACFLT attend the meeting.[103]

On 16 June, COMUSMACV proposed ARC LIGHT targets in Laos on Routes 9 and 914, near their junction south of Tchepone. This was recognized not only as a primary storage and marshalling complex on the Ho Chi Minh Trail but was also considered a major route for personnel and supplies infiltrating into Quang Tri and Thua Thien Province. In addition, it was the principal route connecting with Route 92 for infiltration to the south.[104]

Ambassador Sullivan, on 30 June, proposed to CINCPAC that, if military

judgment indicated these targets could be destroyed by other means, he would be prepared to consider these for validation as RLAF targets.[105] In such a case, the usual procedures would be followed for nomination.[106]

"Tiny Tim" Mu Gia Contingency Plan

On 6 September, CINCPAC presented the draft plan for "Tiny Tim." The classified name for the plan was the Mu Gia Contingency (SECRET) and involved attacking targets in the Mu Gia Pass with B-52 forces. He noted the situation necessitated destruction or damage of enemy facilities and equipment in the Mu Gia Pass area, by ARC LIGHT forces, and demanded B-52 interdiction of roads to hinder movement of enemy personnel and material into Laos and SVN. CINCPAC pointed out that in order to do an effective job it would also be necessary to counter NVN's MIG, AAA and SAM capability. Regarding the concept of operations, CINCPAC noted it was paramount to maintain top security in the planning and execution of attacks against the Pass. He noted that all planning for targeting in SVN would be carried out in a "routine" fashion, with provision for alternate targets should diversion become necessary. However, CINCPAC informed that no mention would be made of alternate targets in any communications with Province Chiefs, the GVN etc.[107]

On 21 October the JCS reviewed the possibility of hitting the suspect SAM site at 1708N 10656E by ARC LIGHT forces. The risk was deemed acceptable in view of the protective measures proposed for this ARC LIGHT mission, but concern was expressed over the possible loss of a B-52 to SAM action. Considering the possibility of adverse, world-wide publicity attending such

a mishap, CJCS informed CINCPAC, CINCSAC and COMUSMACV that his staff had agreed this strike should not be made prior to 2 November 1966, but would reconsider such a mission, with the risk factors then present, subsequent to that date. 108/

The JCS gave the following guidelines for ARC LIGHT forces entering a SAM site environment:

> "...Flying Hours and Munitions Savings: The CJCS wanted procedures to be established for the diversion of the ARC LIGHT force to an alternate target should it be established by late intelligence that an active threat exists by a SAM site. This he felt should be done to preclude wasting munitions and flying hours....
>
> "...ARC LIGHT Operations within Range of SAM Sites: Maximum feasible protection should be provided when B-52 strikes are to be conducted within range of a possible SAM site. This protection would include, (MIG CAP, Diversionary actions, Wild Weasel led Iron Hand, and ECM/Elint aircraft)...."

B-52 Strikes in TIGER HOUND Area

On 30 March, COMUSMACV tasked the 2nd Air Division to conduct a low-level photo recce mission in the Panhandle area to discover additional (including B-52) targets. 109/

On 11 April, COMUSMACV urged his J-3 to "move out" on securing authorization for B-52 strikes in the TIGER HOUND armed reconnaissance target area. 110/ Intelligence justification was submitted to CINCPAC supporting a total of ten ARC LIGHT targets in Laos, near the junction of Routes 92 and 922, which appeared to be the focal point for infiltration of personnel and supplies

into the northern provinces of SVN. The most northern motorable east-west route leading toward SVN from Laos was Route 922. The turnoff, at the junction with Route 22, provided the first opportunity to turn infiltration activity eastward after the long trip south through Laos.

Despite continuing armed route reconnaissance and strikes against validated RLAF targets in the area, these two routes had continued to carry a large daily volume of vehicular traffic.[111] To support his request, General Westmoreland indicated that TIGER HOUND air strikes, which had been conducted in this area between 8 January and 7 April, had been responsible for 31 trucks destroyed, two trucks damaged, and 41 secondary explosions. Further, during visual reconnaissance and strike missions, moderate to heavy ground fire had been received continuously. Since 4 February, four aircraft had been shot down while operating in the area. Also, three of the four were lost on 6 and 7 April, which indicated a recent increase in the intensity of ground fire.[112]

Visual reconnaissance had reported that, during the day, on-site work crews were repairing damage from the daylight strikes. It was apparent that the VC/NVA were making a major effort to maintain the flow of personnel and supplies through this vital area. This had been indicated, he noted by early morning observations of fresh tracks made by vehicular convoys moving during the night.[113]

COMUSMACV felt it important and highly desirable that TAC bombing of this area be supplemented with B-52 action. This would hinder the flow of men

and supplies through this important LOC. One important consideration for the use of ARC LIGHT forces was the fact that the B-52s could bomb at night when the enemy was engaged in repairing the damage done by the daylight bombing. These bombings had a saturation capability that succeeded in striking defensive positions along the sides of the road, the repair personnel, supplies, repair equipment, truck parks and other material in the area.[114]

The proposed targets were located in Laos, approximately 12 kilometers from the border of Thua Thien Province. General Westmoreland intended striking the target area with TAC air approximately six hours preceding each day's ARC LIGHT strikes. Road work crews and heavy equipment, it was estimated, would be vulnerable to the B-52s TOT. MACV requested these strikes be executed prior to further consideration of the Rock Kick strikes against Mu Gia Pass (Rock Kick I, II, and IV).[115]

On 12 April, Ambassador Sullivan concurred with COMUSMACV's proposal to mount ARC LIGHT strikes against the targets (designated Jughead 1-10) in Laos, with the understanding these strikes would be executed under the cover of strikes against targets in Thua Thien Province and that press guidance would reflect this cover arrangement. He stated that an essential element in his concurrence was that these strikes were to be carried out during the hours of darkness.[116]

The Ambassador was aware these strikes would represent the deepest ARC LIGHT penetration into Lao territory to that date. He noted these strikes would involve territory falling within normal operating areas of the RLAF

and pointed out the possibility that, since these strikes had not been cleared with the Lao authorities, they could come to the attention of Lao officials unless maximum discretion was maintained by all concerned. 117/

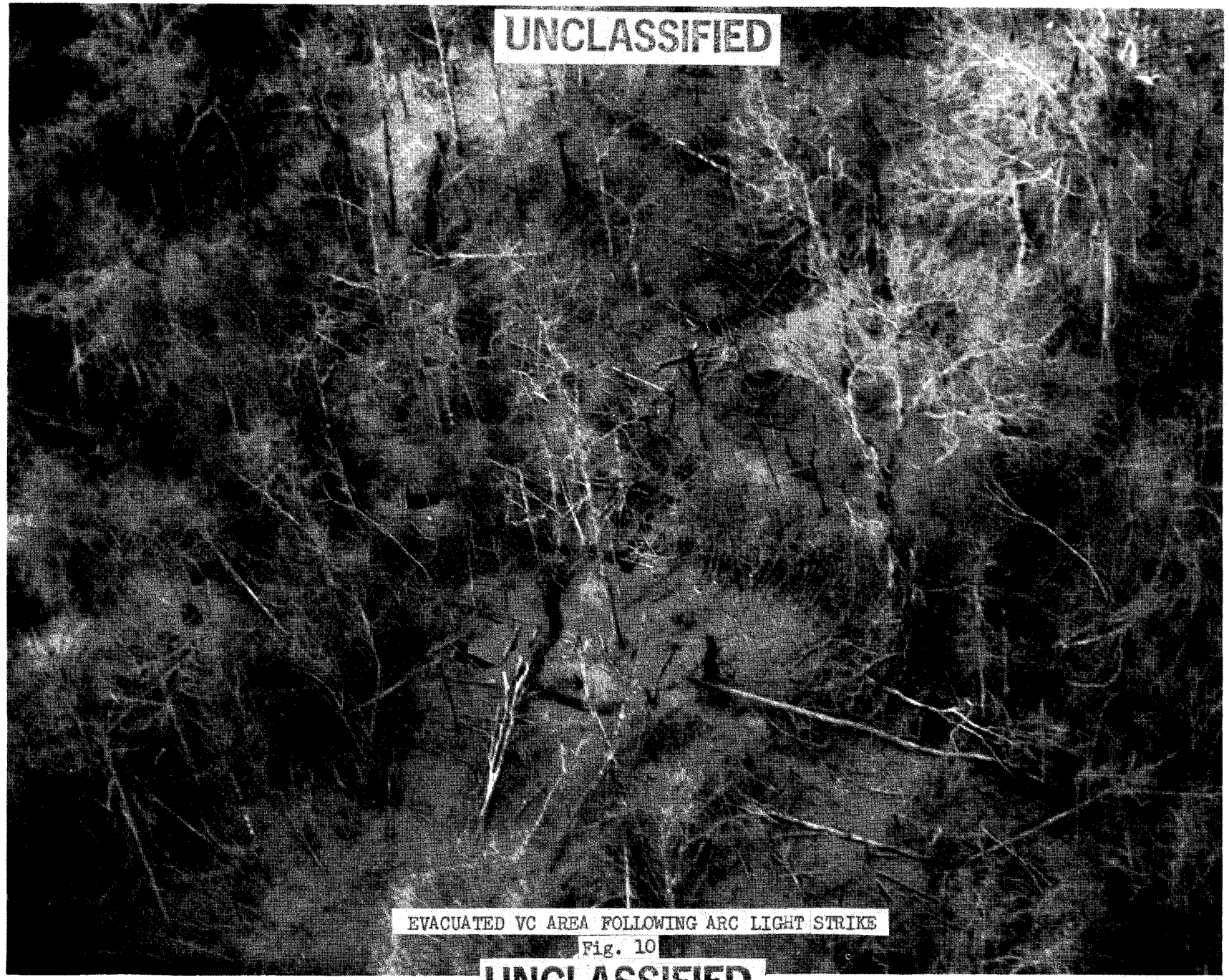
On 18 April the following evaluation of effectiveness was made at a COMUSMACV Staff Conference:

> "...In spite of three successive B-52 strikes in the Tiger Hound area on a known infiltration route, not a single bomb landed on the road. It was not known what effects were obtained by bombs landing in the adjacent area...."

COMUSMACV, therefore tasked the 7th Air Force to investigate the use of TIGER HOUND FACs in developing B-52 strikes. 118/

COMUSMACV told CINCPAC that it was of interest to note that, in one target area in Laos (the Thua Thien 92/022 area), the enemy appeared to have departed after the 6 and 7 April strikes. During that time, heavy ground fire was noticed and three aircraft were lost. During restrikes of 14, 15 and 16 April, however, enemy reaction was such as to indicate the previous strikes had caused enemy gunners and road repair crews to evacuate the area. The cratering of the road by TAC in Thua Thien 26, on 17 April, delayed road repair until the 19th or 20th of April. Interdiction by the earlier strike had apparently caused a road blockage, leaving trucks vulnerable to attack. That the road had been closed and trucks forced to back up was attested to by the fact that, on 20 April, TAC air destroyed 30 trucks and damaged 14 north and south of the target areas on Route 92. With the apparent damage and evacuation caused by the ARC LIGHT strikes, TAC air strikes were able to follow up. This resulted in road cratering that could not be

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EVACUATED VC AREA FOLLOWING ARC LIGHT STRIKE

Fig. 10

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immediately repaired because repair crew personnel and equipment were not available in the area.[119] Restrike by B-52 aircraft in the 92/922 areas could possibly achieve the same results.[120]

The Secretary of State noted concern regarding the pattern of coordination and critical command judgment of SAC versus TAC strikes. He cited, as an example, an incident occurring on the 25th of April in which a B-52 mission bombed directly through a Navy AY mission. He said that both were apparently working the same target.[121]

Seventh Air Force TACC, on 28 April, informed CINCPAC and others that, when there were B-52 strikes in the TIGER HOUND area, this fact was included in the TIGER HOUND frag order, with instructions for all units to remain clear of the area within a ten nautical mile radius of the target, from 30 minutes prior to the TOT to 30 minutes after the NLT time for the last bomb.[122]

SVN Cover Strikes

The Secretary of State, on 26 April, expressed skepticism regarding four proposed ARC LIGHT strikes in Laos under the code name Round Hill. He questioned the quality of military judgment and wanted to know the level at which the decision had been made to use B-52 aircraft for such a purpose. He said he had not seen a CINCPAC endorsement, nor did he receive a CINCPAC query on the proposals. He noted the proposed raids would place a great number of 750- and 500-pound bombs in the mud of Laos. This, he said, hardly seemed to be the most economic use for either the ordnance or the aircraft.[123]

In response to the Secretary of State message, on 26 April, COMUSMACV stated that the proposed Round Hill strikes would be provided a cover target in SVN. The procedure to be used in public media release, he said, would follow the SecState message of 26 March. Road watch teams, located approximately seven kilometers from the nearest target, would be guaranteed safety. He noted that SAC had consistently kept its distance of one kilometer from huts and villages and three kilometers from maneuvering friendly troops for bombing safety purposes. He further pointed out there was no question of competition between SAC and Tactical Air regarding targets along Route 912. He added that justification for these strikes was based on extensive NVN activity in the target area and were not directed at cutting the route. He said the most effective and efficient weapons system available was the B-52 with its capability for harassment and devastation by bombing from high altitudes, in all types of weather and without warning. This would free tactical air for exploitation of ARC LIGHT results. 124/

On 30 April, CINCPAC told COMUSMACV that he believed COMUSMACV's proposed strike against the Round Hill target areas did not warrant B-52s; that this was a border-line case which he would support if munitions had not been limited. He noted he did not have sufficient information nor had COMUSMACV provided adequate justification that the scope of activity in these areas warranted strikes by B-52 aircraft. He said that, other than a number of gun positions and a degree of trellis-work under construction, activity was not extensive and seemed more suited to tactical strikes. Further, the limited traffic (the sighting of only one truck) made it unlikely that

ARC LIGHT would destroy or trap trucking activity.[125]

On 30 April, COMUSMACV told his staff the B-52 strike requested for Mu Gia Pass had been disapproved by the JCS. General Westmoreland therefore, instructed his staff to identify an appropriate substitute target to block Highway 15, which was the supply life-line for the North Vietnamese forces in Laos.[126]

On 1 May, COMUSMACV re-examined the latest intelligence on ARC LIGHT targets Round Hill 1-4 (Quang Tri 29, 30, and 31) and concurred in deferring execution of these strikes.[127]

The DMZ Program

The Demilitarized Zone (DMZ) was created at the Geneva Conference of 1954. The NVN, however, had been infiltrating men and material through this buffer zone for many years. The VC also had been active in areas of the DMZ south of the demarcation line.

Forward Air Controllers (FACs) flying along the southern edge of the DMZ reported the existence of camouflaged road and trail nets, road construction, and support structures which appeared to be supporting the movement of troops in the DMZ and north of it. In April, indications had been received that an NVA division was moving southward toward the DMZ. By June, it appeared that major elements of the 324 B Division had moved across the DMZ into Quang Tri Province. Intelligence reported that the mission of these forces was to liberate the two northern RVN provinces of Quang Tri and Thua

Thien. There were also intelligence indications during June and the following months that division-sized units were being deployed south from MR4 in North Vietnam to the area of the DMZ. During operations in June, additional intelligence was developed through secondary explosions, aerial photography, and combat reports, confirming that the NVA had gone to great lengths to establish supply areas and structural facilities in the DMZ and adjacent to it. 128/

During the mid-year Honolulu Conference, President Johnson had asked General Westmoreland what he would do if he were Giap. COMUSMACV replied that he would move down into Quang Tri Province in an effort to achieve a spectacular victory. General Westmoreland pointed out to President Johnson that this would involve a short line of communication and said that the terrain, consisting of rugged mountains and jungles, was adapted to covert movement of troops and supplies. General Westmoreland further told the President that, during the past few months, he had concluded the enemy would not undertake such an operation during the good weather period in the I Corps area but, rather, prepare himself to move during the northeast monsoon season in October. 129/ On the other hand, he added he suspected the enemy might decide to move earlier in order to take advantage of the political disturbance in the Hue/Quang Tri area. 130/

Shortly after this COMUSMACV received intelligence (on 10 July) that the North Vietnamese 324 B Division had been crossing the DMZ into Quang Tri Province. It had been known for some time that the 324 B Division was moving south, but final destination had not been known. General Westmoreland,

therefore, instructed that forces required, up to a division, be moved to the Quang Tri area and prepared for offensive action. This force would be supplemented by a Special Landing Force and air support or reinforcements, as needed, would be given. He also stated that they would have priority on B-52 strikes, which were to begin 12 July. The operation was to be named TALLY HO. 131/

On 12 July, COMUSMACV informed the 7th Air Force Commander of the situation and outlined his plan of action to support the III MAF campaign in Quang Tri Province. General Westmoreland expressed his feeling that the enemy was prepared to attack across the DMZ and, perhaps, from Laos. He stated he had evidence suggesting the enemy had considerable numbers of troops in Laos as well as stockpiles sufficient to support a campaign probably designed to roll up the ARVN outposts and units stationed along Highway 9. He summarized that the enemy would probably attempt a diversionary attack against Phu Bai to pin down the Marine reserves. Other probable courses of enemy action would be to harass the airfield or to cut Highway 1 leading north. General Westmoreland told the 7th Air Force that further evidence indicated that the 95 B Regiment was in the vicinity of Hue. He, therefore, urged that preparations be made to counter this possibility of enemy action in the DMZ area, and wanted the successful pattern of TIGER HOUND followed. 132/

That same day, General Westmoreland told CINCPAC there was ample evidence to confirm that major units of the 324 B Division were crossing the central and western parts of the DMZ. He noted that, since 10 July, the enemy had fired more than 600 mortar rounds in Quang Tri Province and that

a large enemy buildup was reported, just north of the DMZ. He pointed out that the enemy was in need of doing something since his infiltration attempts by sea had been blocked and the TIGER HOUND program had disrupted his LOC through Laos. The enemy was hurt further by the rains in Laos which had almost halted his truck traffic. Because of all this, the enemy probably had chosen a new route across the DMZ. This, COMUSMACV noted would give him a short LOC. This all meant that the enemy was placing great effort to open the interdicted routes leading into southern NVN. 133/

COMUSMACV, therefore requested CINCPAC that he be provided assistance in accomplishing the following: 134/

> "...Lift the restriction on B-52 strikes in Laos so that logistical and training areas could be hit. Grant COMUSMACV authority to strike identified enemy targets in the DMZ west of the populated areas and remote to the ICC posts. Institute and intensify an air interdiction campaign of the TIGER HOUND type along the lines of communication south of Vinh...."

In this connection, CINCPAC, on 10 July, had suggested a change of policy to the effect that sorties would be diverted to strategic types of targets, as opposed to the interdiction of the enemy's LOC. COMUSMACV noted, at the time of the Secretary of Defense's visit to Honolulu, he did not have confirmed information on the movement of the 324B Division. COMUSMACV told CINCPAC he deemed it "essential that we disrupt in major degree this movement of the enemy to the battlefield even at the expense of.... the destruction of Rolling Thunder targets" and urged that top priority continue to be given the ground war in the south. He believed the enemy had found

his planned offensive actions blunted in II, III and Southern I Corps and that he would "go for broke" in the Northern I Corps. He added, "the enemy's efforts must be spoiled and advantage of the opportunity must be taken to destroy his forces with all means available." He urged CINCPAC to support him in his effort to get at the confirmed new supply route through NVN/DMZ/SVN which had been developed for the purpose of sustaining the newly infiltrated units operating in the Quang Tri Province, SVN. 135/

CINCPAC responded on 18 July and noted that, with regard to strikes against identified enemy targets in the DMZ, the JCS message J3 4882, 21 June 66, specified requirements for State concurrence. He said that a follow-up message had been sent to JCS supporting COMUSMACV's position. 136/ At the same time, CINCPAC sent a message to JCS in which he stated: 137/

> ...Heavy buildup in I Corps and expressed determination to continue large-scale support to the VC requires NVA to seek multiple shorter routes of infiltration. This can only be through the DMZ. It appears that NVN had abandoned all pretense of respect for neutrality of the DMZ and is now embarked upon additional infiltration and supply means....

To counter the enemy's shift in operational area, TALLY HO began operations on 20 July. 138/

Seven areas for ARC LIGHT strikes in the TALLY HO area were sent forth as nominations by 7AF on 26 July 1966. The areas were "believed to be lucrative and suitable targets for B-52 strikes at the earliest possible date consistent with priorities." Justification was included, based on FAC strike results for the first five days of operations. Within a

four-kilometer radius of YD010768, a large ammo dump and considerable military activity had been noted; several trails were heavily used; there were numerous AW and AAA weapons positions; extensive ground fire had been received, and several hundred secondary explosions, mostly ammunition, had occurred from fighter strikes.[139] Indications were that the area was a major supply depot for the NVA 324B Division heavily engaged in Operation HASTINGS south of the DMZ.[140] On 30 July, the ARC LIGHT forces struck enemy facilities in the DMZ for the first time.

On 30 July, COMUSMACV informed CINCPAC that, on the 28th, he had visited Operations HASTINGS/LAMSON 289. He observed this combined operation had been highly successful; had served the purpose of spoiling the attack planned by the 324B Division; and that fighting had virtually petered out. General Westmoreland gave the following observations:[141]

> "...We received, during April our first indication that another division was moving from NVN to the south. At that time, my feeling was that it would probably move through the Laos Panhandle to reinforce NVN troops already positioned in or near the central highlands of the II Corps area. This deployment was consistent with my estimate of Hanoi's strategy....
>
> "...In mid-May night air reconnaissance first noted considerable truck traffic moving south towards the DMZ on highways 1A and 101. On 1 June we received indications that elements of the division were moving across the DMZ. I believe that the enemy's initial plans for deployment of this division were changed because of the successful Tiger Hound operation and in consideration of the political turmoil in I Corps. On 10 June, it became clear that major elements of the 324th B Division had moved into Quang Tri Province. By the 13th our intelligence had crystallized to the point where a decision could be made to execute contingency plans that had been developed several months

ago for offensive operations in Northern I Corps. On the 15th Operation HASTINGS/LAMSON 289 was launched following B-52 strikes which were initiated on the 13th. Participating were major elements of the Marine 3rd Division, the SLF, 5 Battalions of the Vietnamese general reserve and battalions of two regiments of the 1st ARVN Division....

"...Indications that some of the initial B-52 strikes hit a control headquarters. There were also indications of new enemy tactics to secure likely landing zones in the area. As a result 14 out of 18 patrols that were inserted had to be extracted because of enemy pressure. Extensive air strikes and artillery had to be placed on the landing zones before they could be safely used. The enemy had prepared a division base in the rugged hills on the north central Quang Tri Province. LOC was two routes across the DMZ. Stockpiles were pre-positioned in and north of the DMZ in heavy jungles....

"...The 7th Air Force had intensified the interdiction program north of the DMZ in operation Tally Ho. This resulted in destroying significant transport and supplies. B-52s targeted against dispersed supply dumps....

"...Nine Shining Brass teams in Laos confirmed major infiltration routes from Laos through a valley 10 kilometers south of the DMZ and a logistics base 7 kilometers south of Highway 9. TAC air strikes had many secondary explosions. B-52s were required....

"...MACV believed that the enemy had planned to overrun friendly positions and towns in the hills of Quang Tri, isolate Dong Ha and Quang Tri, and launch an offensive along Highway 9 in western Quang Tri. The enemy had been successful in interdicting Highway 1 and the RR between Da Nang and Dong Ha, destroying a number of bridges and mining the RR....

"...As a result of friendly action, the 324th B Division was dispersed and demoralized. The Division was no longer an effective fighting unit, and would require some time to reconstitute itself. Elements had remained in the Quang Tri Province. A number of troops had moved back across the DMZ. On three occasions NVN troops broke and ran when engaged by the Marines....

> "...The operations were well planned and executed by the III MAF. In addition they were effectively supported by the Navy Support Activity, Da Nang. Air and B-52 support as well as artillery fire support were extremely effective...."

COMUSMACV informed CINCPAC that he was preparing a detailed defense plan to prevent further intrusion by the enemy, in large numbers, across the DMZ. His staff, he said, had been studying this project in coordination with III MAF and that forces would be appropriately positioned for this mission before the beginning of the NE monsoon season. 142/

The Commanding General, III MAF noted that ARC LIGHT strikes supporting Operations HASTINGS since 13 July had caused significant destruction and disorganization to major elements of an NVA regiment. 143/

On 3 August, Operation HASTINGS terminated in I CTZ with 1,209 sorties flown in support. A total of 882 enemy were confirmed KIA, 15 captured and 254 weapons seized during the 28-day campaign. Friendly casualties totalled 147 KIA and 488 WIA. 144/

B-52 aircraft continued to strike the enemy buildup in the DMZ south of the provisional military demarcation line. 145/ However, the inability to secure approval for strikes north of the Demarcation Line persisted through August. 146/

On 1 August, COMUSMACV informed CINCPAC that the upsurge of enemy infiltration through the DMZ was causing him to make a complete revaluation of his posture in the Quang Tri Province. He said that if, as strongly

indicated by recent intelligence, the enemy had, indeed, made the decision to increase the tempo of his operations through the DMZ, then additional steps had to be taken to block that approach.[147] COMUSMACV noted the necessity for authority to use B-52s in the area immediately north of the DMZ, as well as the employment of naval gunfire along the coast north of the DMZ. He said he would again request authority for use of defoliants in the area south of the DMZ, and for a major leaflet campaign to be carried out within the DMZ, north of the demarcation line, and in the area north of the DMZ.[148]

The need for rules of engagement in the DMZ became a consideration, on 13 July, when COMUSMACV requested guidance from CINCPAC covering friendly operations in the immediate vicinity of the DMZ. In response, CINCPAC, on 26 July, granted COMUSMACV authority, after justifying and obtaining approval from JCS and State Department, to conduct air strikes in the DMZ against clearly-defined military activity. COMUSMACV was directed to minimize civilian casualties and to make no public disclosure of the DMZ actions, except in accordance with instructions to be provided by Washington.

By mid-August, rules of engagement applicable to TIGER HOUND were adapted to strikes within the DMZ, authorized under conditions that military targets of opportunity would be identified and controlled by FAC aircraft; preplanned strikes against fixed targets would be contained on TALLY HO frag orders; coastal armed reconnaissance would be conducted south of 17 degrees; strikes would be confined to land targets, unless engaged by hostile water craft; all water craft operating east of the DMZ or within river

estuaries or mooring areas of the DMZ would be considered friendly vessels; and water craft which fired upon any U.S. craft would be considered hostile and could be attacked. On 19 August, COMUSMACV emphasized that all possible air actions would be taken against the NVA 341st and 324B Divisions, as well as any other NVA units in or near the DMZ. To insure that 7th AF planners had all information available to MACV, daily communication would be maintained regarding location of these units.[149]

By September, there was general concern that the enemy was preparing for an offensive.[150] General Westmoreland had expressed such concern, in late August, when he requested ARC LIGHT strikes be authorized in the DMZ and NVN.[151] This request was refused, on 2 September, by the Secretary of State,[152] for the following reasons:[153]

> "...Our reasoning, which is applicable to all B-52 strikes in NVN (including the north portion of the DMZ) is that this action at this time would be regarded in some circles and the press as escalation and possibly even a misinterpretation as a softening up for more direct military action on the ground....
>
> "...Additionally, and more specifically at this time, we believe such strikes would work against the current GVN initiative with the ICC in respect to NVN use of the DMZ. As you know, the GVN is preparing a comprehensive protest with the objective of an ICC investigation of NVN's use of the DMZ and an ICC proposal for a joint commission which will provide the means to neutralize the DMZ....
>
> "...However, should intelligence establish positive lucrative targets beyond the capability of TAC air, we will of course reconsider such proposals on the merits of each individual case...."

On 8 September, the CJCS informed both CINCPAC and COMUSMACV of the above and that he had received the following memo from the Secretary of

Defense: [154]

> "...In consideration of the views of the Secretary of State as expressed --- (in his memo), I desire that no B-52 strikes be conducted against targets in NVN or the DMZ north of the demarcation line....
>
> "...As an exception to the foregoing, consideration will be given on an urgent basis to specific strike proposals which might be warranted by military developments of a highly critical nature. Should you wish to discuss this matter with the President I would be happy to make the necessary arrangements...."

On the same day, Admiral Sharp informed COMUSMACV that emphasis was being placed on preparations for operation Grand Slam and that it was necessary to up-date the ARC LIGHT strike requests which were then being considered by DOD, the Department of State and JCS. CINCPAC asked for a priority revaluation of the proposed ARC LIGHT strikes in the DMZ and NVN, based on the most recent intelligence. The purpose would be to determine whether it was appropriate to adjust coordinates, eliminate certain targets, and/or submit new targets. CINCPAC wanted COMUSMACV to include any additional justifications not available at the time of original submission [155] and added: [156]

> "...It would be helpful to have your revaluation of those strikes which directly relate to combat actions contemplated for the immediate future, particularly strikes in Route Package One and the area north of the Demarcation Line in the DMZ. It is essential that the justification be strong and specific. Criticality and urgency appear to be key characteristics. Targets not warranting consideration at this time might better be held for submission at a later date. Expectation of approval would be significantly enhanced if positive evidence can be submitted on targets which threaten security of friendly forces...."

General Westmoreland responded with concern over the enemy buildup in several areas. He pointed out that a serious, direct threat had been engendered to the US/FW/and GVN forces in the I CTZ. The security of Quang Tri and Thua Thien Provinces had also been threatened by the enemy buildup in the DMZ and NVN, immediately above the DMZ. The urgency of using all practical means available to counter this threat was underscored. Immediate action was necessary to prevent the enemy from generating a major offensive which might be designed to "liberate" the Quang Tri and Thua Thien Provinces. In addition, such an offensive might be carried out to inflict maximum casualties on GVN/US/ and FW forces in the areas in question.[157] Enemy troops were moving along the southern border of the DMZ, with a distinct possibility of reinforcements coming into the area. General Westmoreland reasoned that an NVA offensive could be supported by in-place supplies "for an indefinite period." The enemy's course of action was expected to encompass the attack and seizure of "Ca Lu, Cua, Cam Lo, or Dong Ha." The General directed that contingency plans be reviewed and updated,[158] and, as suggested by CINCPAC, he supported his concern by presenting the following considerations:[159]

> Enemy Reconnaissance and Probing Attacks: COMUSMACV noted that, in the area south of Route 9 in Quang Tri Province, the enemy was conducting probing attacks and reconnaissance missions....
>
> Enemy Preparations for Attack: Preparations for attack were being made by the enemy, in the area south of Route 9 in Quang Tri Province, involving the preparation of AA emplacements, entrenchments, foxholes, automatic weapons positions, tunnels, fortified caves and minefields. This, he said, pointed to the development of an enemy base in and south of the DMZ which could lead to support of enemy

operations. Such development was a well recognized tactic for detailed preparation of the battlefield....

DMZ Base: The enemy was continuing to use the DMZ as a supply head. He also was using this area as a troop haven. Both were being used for enemy forces moving into the Northern I CTZ, and that the enemy was consolidating his position in northern I CTZ, and that reinforcements were moving into the area. The 324B Division had been reinforced, according to his J-2, by the 341st Division. He pointed out that this was being further reinforced by possibly two additional divisions....

Enemy AA Defenses in the DMZ: Addition of an AA regiment had enhanced the enemy defenses in the DMZ....

SAM Defenses Towards the DMZ: There were indications of enemy effort to extend the SAM envelope southward toward the DMZ. Tactical air strikes by the 7th Air Force against missile associated vans and trucks attested to this effort, which was threatening the free use of the B-52 weapon system in northern I CTZ....

Indications of Enemy Offensive Action: COMUSMACV noted the enemy was developing an offensive rather than a defensive posture. This was indicated by forward stockage of supplies, size of enemy buildup, disposition of forces, deployment southward of AA weapons systems, and depth of patrol penetrations by the enemy....

Weather Factors: COMUSMACV observed that weather in Laos would be clearing by October and the enemy could be expected to start moving supporting material and personnel, in quantity, through the area. This would permit the enemy to engage the friendly flank in the Quang Tri Province from the west. At the same time, the worsening weather in the coastal plain area of I and II CTZs would also work to the enemy's advantage by facilitating attack on friendly positions in those areas....

Laos Panhandle Routes: The enemy, according to COMUSMACV, could utilize his traditional routes through the Laos Panhandle and be afforded the advantage of reinforcing large scale diversionary attacks further south. These, he felt, might be made in coordination with a main assault through the DMZ and against the friendly western flank....

General Westmoreland observed that spoiling attacks by air and ground

forces had been responsible for successfully disrupting the enemy's plans before he could complete his preparations for attack. This action had kept the enemy off balance and had prevented them, according to COMUSMACV, from mounting a successful offensive. Because of the success of air and ground forces actions, the enemy appeared to be employing new tactics, entailing use of sanctuaries in and to the north of the DMZ, in an effort to prevent spoiling attacks. 160/

COMUSMACV pointed out that since he was unable to move ground forces into the DMZ or into North Vietnam, his only instrument of attack was firepower. General Westmoreland said it was imperative that aerial firepower and naval gunfire (NGF) be utilized to thwart the enemy's pending offensive in the area given above. 161/

CINCPAC presented JCS, on 9 September, an overall plan to counter the mounting enemy threat to I Corps envisioning that operation Grand Slam would be followed by a large III MAF operation in Quang Tri Province. 162/ He noted that naval gunfire might be required upon the request of COMUSMACV. CINCPACFLT, the day before, had been directed to support Grand Slam operations through CVA and alerted NGF support. 163/

CINCPAC expressed concern that the restrictions placed on ARC LIGHT operations might hinder the effectiveness of his plan. He pointed out to JCS that: 164/

> "...Our concern is that such targets will develop rapidly, probably within the next few days, while ARC LIGHT strikes

remain limited to the area south of the Demarcation Line. The same is true with regard to NGF. Recent intelligence has verified activity of considerable scope along the southern coastal regions of RP I against which NGF would be highly suited....

"...The threat to the I CTZ could become critical. We are about to put our troops into a battle which could develop into a major effort, requiring the support of assets other than ground forces and tactical air. Request for ARC LIGHT strikes warranted by military developments of a highly critical nature will be submitted on short notice. NGF is an additional asset that could be used to advantage under the conditions existing now along the coastal areas of Route Package I...."

On 11 September, Admiral Sharp asked COMUSMACV for information on Quang Tri with reference to ARC LIGHT support for Grand Slam plans.[165] General Westmoreland responded that SLAR coverage of August and September, along the coast of NVN immediately north of the DMZ, indicated heavy movement by sea and truck to the DMZ area. He also noted that numerous secondary fires and explosions had been produced on a consistent basis, by air strikes along this coastal area. The TALLY HO forward air controllers (FACs), inside the DMZ, reported that a large portion of the truck movement was being funneled into Route 102. COMUSMACV felt that the most lucrative single target in the enemy's buildup complex was the final motorable portion of Route 102, immediately north of the demarcation line. He said that all available evidence supported this conclusion. He noted the target designation of "Quang Tri 145," which was the truck head where supplies were broken out for further movement by porters, animals and bicycles over an extensive and much-used trail network.[166]

COMUSMACV noted that Quang Tri 145 had certain characteristics which required destruction of the jungle canopy by ARC LIGHT forces to permit observation of the tactical air strikes against the truck head. It was of significance, he added, that Quang Tri 145 was situated in a sparsely-populated, jungled-covered area remote from ICC presence. The remote location of the target in the northern portion of the DMZ also reduced the possibility of public knowledge. However, efforts to conceal the nature of the strike could be enhanced by selecting a TOT during the hours of darkness. COMUSMACV presented the following factors as favoring the attack on Quang Tri 145 by ARC LIGHT forces: 167/

> "...Quang Tri 145 met the criteria of being a highly critical target, was directly related to combat actions contemplated for the immediate future, and was a target that initially had to be engaged by ARC LIGHT forces in order to allow tactical air to exploit the target subsequently."

To disrupt enemy logistic activity within the area, General Westmoreland deemed essential the earliest possible engagement of the target to prevent the enemy from dispersing or burying his supplies. COMUSMACV observed that, at this time, the enemy considered he could proceed with impunity, using the DMZ as a base for offensive operations. A severe psychological blow could be inflicted on the enemy by prompt engagement. 168/

COMUSMACV told CINCPAC that FACs had been unable to operate on a line from XE 6815 to XD 9672 due to enemy ground fire and that this situation had existed since the inception of TALLY HO on 20 July 1966. Because of this, he felt that the use of the NGF capability took on special significance.

He also noted there was considerable AA/AW in the area and that some 12 U.S. aircraft had been damaged and three shot down.

All of these air defense sites, he pointed out, were within an NGF envelope. Visual reconnaissance and FAC-controlled air strikes against enemy weapons, troops and supplies going into the DMZ would be facilitated by NGF suppression of fire from these AA/AW sites. 169/

COMUSMACV concluded that an urgent military requirement existed for the employment of B-52s against the Quang Tri 145 target and requested authority to hit the target, under cover of darkness, without delay. Moreover, he wanted to employ NGF against suitable enemy targets in the coastal segment of the TALLY HO area, with priority given the AA/AW sites. He added that additional B-52 targets in the area north of the DMZ were being revalidated, pursuant to CINCPAC's message 082128Z September 1966. The American Ambassador in Saigon concurred with this planning. 170/

Naval Gunfire and ARC LIGHT Strikes

On 13 September 1966, CJCS informed both CINCPAC and COMUSMACV that he had authorized an ARC LIGHT strike on Quang Tri 145 but had not approved COMUSMACV's associated request to employ naval gunfire along the coastal area from the 17th parallel to 17° 52' North. He indicated, however, that favorable consideration for naval gunfire along the southern coast of North Vietnam probably could be obtained in support of combat operations, provided that COMUSMACV and CINCPAC could limit the area of operation or further specify the targets. CJCS noted the difficulties involved due to the

fluidity of the situation but was confident that the more important targets and areas could be selected for employment of naval gunfire.[171]

On 15 September, COMUSMACV outlined to CINCPAC his plans to use ARC LIGHT forces in support of operations south of the DMZ. General Westmoreland commented:[172]

> "...III MAF is currently conducting Operation PRAIRIE, south of the DMZ. On 15 Sep 66, Operation DECKHOUSE IV will also commence. In support of the above, Quang Tri 145 will be struck by 24 B-52s on 160400 Hotel. Recon in force operations will continue south of the DMZ while intense air reconnaissance is being conducted in the DMZ and contiguous areas. When major targets are developed, COMUSMACV will execute Grand Slam with an appropriate B-52 ARC LIGHT strike against one or more targets. Following the B-52 strike, USAF, III MAF, and SEVENTHFLT tactical aircraft, if required, will strike targets developed by airborne FACs. The number of tactical sorties scheduled will be determined by the target engaged...."

In planning for this contingency, 7AF developed Operations Order 458-67, "Grand Slam" which envisioned the employment of a "36-hour concentrated air attack centered around two target areas in the DMZ." The operation was to commence with a large B-52 force striking the area at first light. Airborne FACs would then VR the area, develop targets and direct TAC air. Eight fighters were to be scheduled into the target area every 15 minutes during daylight hours and two fighters every 15 minutes during the night. For a complete 36-hour operation, the effort would involve 870 strike sorties, 117 support sorties and 1,613 tons of ordnance.[173]

From the initial planning stages, certain limitations were apparent. Major enemy forces would be difficult to pinpoint for lack of ground

intelligence. Because of recent pressure from air attack, the enemy had dispersed his forces and equipment over a large area. With visual surveillance and bombing involved, good weather would be a necessity. To employ the sizable fighter force envisioned, approval for the use of Thailand-based USAF aircraft was required, although the plan could be executed on a reduced scale without the use of these aircraft.[174] 16 Sept.

Control of the operation was to be exercised by the Commander, 7AF, who was to be aboard the ABCCC on the morning of the 16th. The B-52s dropped on schedule, with FACs over the target area before first light. However, the lack of suitable targets, plus deteriorating weather, prevented official declaration of Grand Slam.[175]

On 17 September, COMUSMACV reported heavy enemy activity in the DMZ area and presented the targets given on 21 August and 3 September for revalidation. The enemy was building up in the DMZ and contiguous areas and it appeared the enemy was making every effort to push supplies and troops, via Route 103, down the infiltration net. There were indications the enemy had hopes of setting up a base support area, in either the DMZ or SVN, before the northeast monsoon began.[176]

CINCPAC informed JCS, on 17 September, that he concurred in COMUSMACV's revalidation and recommended early approval of these strikes.[177]

Attempts to honor and restore the DMZ, as envisioned in the 1954 Geneva Convention, were made during this period. On 26 September, COMUSMACV had informed the Commander 7th Air Force, CG III MAF, and COMNAVFORV by

message that "Effective immediately, and until further notice..., all air strikes, artillery fire, naval gunfire, and ground maneuver in the DMZ, east of Route 1A, will be suspended." The directive pertained to the area in the DMZ, both north and south of the Demarcation Line, with the purpose of permitting the newly-reinstituted ICC Mobile Team 76 to patrol the area and report violations of the 1954 Geneva Accords.[178]

While a major enemy offensive had not occurred by the end of the month some felt the threat remained. On 29 September, Lt. Gen. Walt, Commander III MAF, gave his assessment of the war near the DMZ. He believed a massive NVA offensive was imminent, regardless of losses the enemy might incur, and expected the enemy move during the first bad weather, perhaps in the next three or four days.[179] Numerous trail patterns in the DMZ had been investigated and it appeared new trails, up to motorable size, had been constructed in northern Quang Tri, through the DMZ. There were two general routes into Quang Tri Province: the first went south from Route 102, crossed the Ben Hai River in the DMZ, then traveled west and entered RVN; the other followed a dense trail and road net from Route 102, turned east, followed the Ben Hai River for about 10 kilometers, turned south and exited into RVN.[180]

In early October, COMUSMACV and CINCPAC agreed that suspension of operations in the eastern part of the DMZ was working to the advantage of the NVA/VC. COMUSMACV reported that the ICC patrols could not be effective and expressed strong concern that resumption of these patrols in only the southern half of the DMZ would hamstring the Free World military response to

NVA actions. The North Vietnamese refused to cooperate with the ICC, so restrictions in the extreme eastern portion of the DMZ were rescinded (13 October) and COMUSMACV was again authorized to conduct military operations.[181]

On 23 October 1966, COMUSMACV informed the 7th Air Force Commander and others that he was suspending, temporarily, the authorization for B-52 strikes in and near the DMZ. He noted this suspension did not alter the authority he had granted, on 1 October, to conduct tactical air strikes throughout the DMZ against military activities which were clearly defined. Moreover, that authority had been granted to deliver artillery fire and naval gunfire, into the DMZ south of the military demarcation line, against clearly-defined military activities.[182]

COMUSMACV informed that intelligence had been developed on ARC LIGHT targets in the Quang Tri 288, 289, 290, 291, and 296 areas which indicated clearly-defined military activity. He noted, however, that a larger portion of these targets in areas 288, 289, and 290, were south of the military demarcation line and were within the range of friendly artillery. COMUSMACV therefore suggested consideration be given to hitting these targets with artillery, even though they were validated for B-52 strike.[183]

At the end of 1966, COMUSMACV remained concerned over the infiltration of the NVA/VC through and near the DMZ. He believed that not enough had been done to counter NVA activities in the DMZ, particularly in the more populated eastern half. MACJ2 had continued to report infiltration in the eastern areas of the DMZ, along with evidence of a buildup of NVA units in

that area. COMUSMACV again considered the possibility of further B-52 strikes in the DMZ.[184]

Public Affairs Guidance

There had been four strikes in North Vietnam and 17 in the DMZ since publication of the Secretary of Defense Public Affairs Guidance Message 3080/192333Z September 66.[185]

COMUSMACV on 5 November informed CINCPAC that B-52 raids in the DMZ and NVN, just north of the DMZ, had become routine occurrences. For this reason General Westmoreland recommended a review of the guidance to allow MACV to release information concerning these raids in the daily release (except 28 miles west northwest of Dong Ha in the northern half of the DMZ, etc.).[186]

The routine inclusion of this information in the daily release caused much less of a flurry among the press corps than would a vague written statement which always produced a series of questions intended to pinpoint the raid location.[187]

The Slam Concept

On 16 September 1966, COMUSMACV told CINCPAC that he was increasingly concerned with the enemy's buildup capability in the Laotian Panhandle during the dry season, which had been demonstrated during the previous northeast monsoon period. He informed CINCPAC that, because of this concern, he had tasked his staff to develop a plan to spoil, block, deny and disrupt

the enemy's infiltration of both supplies and personnel through the Laotian Panhandle into South Vietnam. He named this concept "Slam"..an abbreviation for Seek-Locate-Annihilate-Monitor. 188/

The plan utilized the Grand Slam concept (which was designed for support of III MAF forces near the DMZ) as a departure point, and embodied the same principles, i.e. hitting a lucrative target with B-52s, with immediate follow-up of FAC VR and tactical air as required. Whereas the biggest limitation in Grand Slam had been inadequate, real-time intelligence for target selection, the Slam concept added Shining Brass for initial target development and selection. The plan was to be executed in Laos. 189/

To detect concentrations of enemy personnel, trucks or supplies, all means of reconnaissance and intelligence collection would be employed. Sensors would be air-dropped in the vicinity of suspect areas to monitor for movement. When concentrations were detected, Slam operations would be initiated and continued so long as targets remained in or around the area. 190/

The Slam concept incorporated the use of B-52s to inflict initial shock and to open the area to follow-up exploitation by fighter aircraft and other means. The plan called for this concept to be employed in most instances. However, when quick reaction against a detected concentration was required, Slam operations would be initiated by concentrated bombing from fighter aircraft. Under this concept, an airborne FAC and a flight of fighters would be nearby to search the area for remaining targets and to accomplish the initial exploitation. It was noted that the force to perform Slam

operations was available in-theater and no additive resources were required.[191]

Laotian Political Factors

On 27 May, COMUSMACV recommended approval of a series of ARC LIGHT strikes in Laos, subject to concurrence by Vientiane.

The American Ambassador in Vientiane pointed out that, for the proposed Polo Pony series, he had a real political problem. Since ARC LIGHT was being carried out in Laos, without the knowledge or concurrence of the RLG, they also would have to be executed in a fashion permitting denial, if necessary, to RLG inquiries. He pointed out that the proximity of several Polo Pony targets to friendly forces at Ban Houie Sane would make them fully aware of the strikes. Such strikes, he felt, could not be refuted.[192]

Ambassador Sullivan pointed out that the target areas for Polo Pony 1, 2, and 3 contained a considerable number of civilians in the immediate vicinity of the targeted military installations. He concluded, considering these factors, he could not concur in Polo Pony 1, 2, and 3.[193]

On 27 May, and again on 6 and 16 June, COMUSMACV had requested approval to strike 22 ARC LIGHT targets in Laos. CINCPAC had concurred, contingent on the approval of the American Ambassador in Vientiane. On 20 June, Vientiane disapproved these strikes for the following reasons:

1. These strikes could be identified as ARC LIGHT strikes since they would be located near enough to friendly areas to be heard as massive bombings.

2. The friendly population center of Attopeu was in

the immediate vicinity of some targets.

3. Strikes would be too close to road watch teams and watch team sites.

4. The strikes were deeper into Laos than those previously executed. Denial to the RLG that such strikes were taking place would become difficult for the American Ambassador at Vientiane which would endanger the approval status of future requested ARC LIGHT strikes in Laos.

5. Some targets were of doubtful value since they were based on intelligence which was a month old.

6. Some of the targets were astride the Sihanouk Trail which was under reconnaissance by the RLAF.

COMUSMACV, on 30 June, gave CINCPAC his comments on the reasons for Vientiane's non-concurrence and pointed out that numerous tactical air strikes had been made repeatedly in the populated areas proposed by him for ARC LIGHT strikes. He felt it unlikely that civilians, other than those actively engaged in support of the enemy's LOCs, would remain in such areas. In view of the altitude from which munitions were employed, he doubted if civilians could identify the B-52 aircraft in view of their similarity to known B-66/B-57 saturation-type bombing. He pointed out that areas within one to three kilometers of friendly forces or noncombatants had been bombed safely and consistently by SAC. As for watch teams, there were none within six kilometers of any nominated target, with the majority over 15 kilometers away. This, he thought, was ample as a safety factor. COMUSMACV felt that procedures for developing and validating B-52 targets by MACV had proven successful; that all ARC LIGHT targets were revalidated continually prior to execution; and that all Laos ARC LIGHT targets had been under

continuous observation. On the question of outdated intelligence, he noted he had submitted three targets, on 6 June, for approval. Fourteen days later (20 June) this request was disapproved by Vientiane for lack of current intelligence. COMUSMACV, however, concurred with Vientiane on the problem of denial to RLG. He understood that the Secretary of State had not given positive guidance on the subject of discussions with the RLG for approval of B-52 strikes in Laos and noted, in this connection, there was a risk involved that could lose all ARC LIGHT strikes in Laos but he felt it worth the risk in view of the potential damage that could be done to the enemy by striking the 22 targets now denied. He pointed out these targets could best be struck by ARC LIGHT aircraft inasmuch as, under restrictive weather conditions, effective TAC attacks could only be accomplished by radar-controlled bombing. Since trucks and supplies were in dispersed open areas (due to washed out roads and wide dispersal of enemy positions) the TAC target coverage would be reduced. To obtain a high degree of effectiveness, under these conditions, commitment of TAC would require a prohibitive number of sorties. 194/

From his analysis of the situation COMUSMACV, surmised that the reason for Ambassador Sullivan's denial was political in that the Ambassador did not want to risk informing the RLG. 195/ COMUSMACV, therefore, recommended CINCPAC approval of the 22 strikes in question. 196/

Admiral Sharp responded that the latest efforts to gain approval for B-52 strikes against logistics and training area targets in Laos had been disapproved by the American Ambassador in Vientiane. CINCPAC assured

COMUSMACV of JCS support for these ARC LIGHT missions. He told COMUSMACV he expected early receipt of a statement regarding the Secretary of State's position. 197/

A few days later, the Secretary of State, in a joint message with DOD, told Admiral Sharp that strikes in Laos would continue to be reviewed on a case-by-case basis. It would be the understanding that these strikes would be executed without the knowledge or concurrence of the RLG. The question of seeking Prime Minister Souvanna's concurrence was held in abeyance. It was recognized that special problems might arise in the handling of news releases, thus each strike was to have a press cover story in the form of a strike in nearby SVN territory. The possibility existed that RLG authorities would inquire about these strikes, in which case the reply would be a denial. In turn, the RLG might release the U.S. denial to the press and/or to diplomatic circles as a matter of self protection. Consequently, U.S. spokesmen would adhere strictly to current press guidance should RLG authority complain that U.S. spokesmen did not support such a statement. The best response would be "no comment" to all inquiries regarding air operations, since the press would quickly pinpoint willingness to comment when no problem was involved and unwillingness only when an operation had in fact occurred. 198/

Near the end of the month, COMUSMACV met with the Amemb Vientiane to request authorization for pending B-52 strikes and cross-border operations. General Westmoreland felt the B-52 strikes had been withheld by the American Embassy because Laotian authorities did not fully appreciate their importance. USAIRA agreed with COMUSMACV's request but was unable to alleviate the B-52 question without instructions from SecState and until Prime Minister

Souvanna returned to Vientiane late in July.[199]

COMUSMACV, on 9 August, informed 7th Air Force that certain lucrative targets in Laos could not be struck because of area restrictions by the Ambassador in Vientiane, and that the Laotian government had not granted approval for use of this particular weapon. The U.S. position, therefore, remained that the strike appeared to be a mistake, or that the target was hit due to inaccurate border alignment on air operational maps. He said that, in order to strike with the B-52, "we must first be near the Laos/Vietnam border and, second, out of sound of any village area." Target nominations not within these parameters could not be favorably considered for ARC LIGHT programming.[200]

The Secretary of State noted that the EMBTEL BERP, 19 July 66, had reviewed COMUSMACV's request for reconsidering approval for 25 proposed ARC LIGHT strikes in Laos. On 2 August, COMUSMACV had revalidated 11 of the highest priority targets which he recommended for attack. These targets were located in the vicinity of Tchepone and east to the RVN border.[201]

The Secretary of State recognized the military requirement for ARC LIGHT strikes and so advised the American Ambassador in Vientiane. He said ARC LIGHT operations in Laos could be jeopardized if agreement could not be reached with Souvanna and concurred in having the Ambassador consult with Souvanna along the lines noted in the EMBTEL BERP, 19 July 1966.[202]

The Secretary of State noted that Souvanna, on numerous occasions, had made it very clear he wanted the U.S. official spokesmen to deny Communist

charges of U.S. air operations in Laos. Secretary Rusk, informed Ambassador Sullivan that he would not do this; that, at best, all that could be offered was the standard U.S. public affairs guidance of "To provide no comment or confirmation." This would be given with an assurance that each ARC LIGHT strike on Laos would have a cover strike in SVN. He provided the following guideline for the Ambassador's talk with Souvanna: 203/

> "...The ARC LIGHT bombing was done from a high altitude and was highly accurate. (This he wanted stressed to Souvanna). Extreme precautions would be taken to avoid endangering the lives of the Lao people. Friendly forces, population centers, and villages would be avoided through the target selection process. Souvanna would be informed that SAC had a record of consistently and safely bombing targets within one to three kilometers of noncombatants or friendly forces in the SVN.
>
> 'Souvanna would be assured that no targets would be struck if civilians were located there. Souvanna would be told that, regardless of the proximity to enemy military installations, no areas would be hit that had civilian population. Souvanna would be assured that strikes would not be made against towns, villages of other populated areas. Prior clearance for each strike would be given by the American Embassy in Vientiane, as a method of ensuring these precautions. If Souvanna so requests, the prior clearance could be given by Souvanna or his designee...."

On 16 September, the American Ambassador in Vientiane informed the Secretary of State that he had requested Souvanna to give his concurrence to certain ARC LIGHT strikes in Laos. Souvanna informed Ambassador Sullivan that his concurrence depended upon obtaining the following conditions: "That the pilots make no mistakes and that the bombing be accurate. That absolutely nothing be said about the strikes." In response, the American Ambassador presented Souvanna with an outline of the general operating accuracy of the MSQ-77 system. Ambassador Sullivan informed the Secretary of

State that this seemed to satisfy Souvanna's first condition. On the second condition, the Ambassador informed the Secretary of State he had told Souvanna of the U.S. intention to fly cover strikes in SVN. He told him that announcement to the press would be of the cover strikes in SVN, and that the press would not be told of the concurrent strikes in Laos. He noted to the Secretary, contrary to earlier discussion, he had tacitly skirted the question of U.S. "denial" of strikes in Laos and that Souvanna had concurred in the cover strike procedure. He pointed out that Souvanna had some reservations about security and appeared worried that some leaks might occur. For this reason, Souvanna requested the Ambassador not to mention these strikes to anyone else in the RLG, specifically General Ma and the General Staff. Ambassador Sullivan stated he had agreed to these conditions. The Ambassador felt Souvanna wanted to test the U.S. ability to maintain an effective control over possible information leaks and stated that, from his past experience, he entertained serious doubts as to the ability of the U.S. to maintain tight security in this matter. He felt, also, that performance in these strikes would be the major factor in determining whether there would be subsequent permission for other strikes of this nature. For this reason, Ambassador Sullivan thought it would be a good idea to separate the ARC LIGHT strikes into two categories: "Category I, those strikes conducted on a deniable basis. Category II, those strikes for which Souvanna's permission had been sought." 204/

General Westmoreland observed, on 22 October, that lucrative targets had been lost because of the inflexibility of the ARC LIGHT strike mechanism.

He was particularly concerned about the long delay between the time a target was found and the request for TOT was made. One cause for this delay was the time required to obtain approval from CINCPAC and JCS. He pointed out that an attendant time delay was engendered in cases where he had to obtain the concurrence of the American Ambassador in Vientiane. Another factor was the B-52 force regeneration capability. 205/

He cited the case of New Troop, a lucrative enemy troop infiltration target found in Laos on 5 October. Because of the inflexibility of the target approval system, his request for TOT was 080600H October, a delay of three days. Since the target was of a fleeting nature, this long delay presented difficulties, of which CINCPAC was appraised on 22 October. General Westmoreland noted that, later, (approximately nine hours prior to TOT) Shining Brass intelligence reported a group of enemy troops observed in the area of XD 645 685. This was outside the approved New Troop target area by about two kilometers. COMUSMACV expressed concern over the fact his command had been unable to reschedule or divert the ARC LIGHT force from the approved New Troop target in time to strike the new target which was only two kilometers away. This, he pointed out, was due to restrictions imposed by target approval procedures and the lack of in-flight diversion authority. COMUSMACV concluded that this lack of flexibility precluded the opportunity for him to take advantage of a changing situation. This, he observed, possibly permitted a more valid fleeting target to escape. 206/

He noted that, in that instance, he had two choices. He could continue the strike on the approved target based upon previous intelligence or he

could obtain approval from JCS/CINCPAC and concurrence from the American Embassy in Vientiane to change the ARC LIGHT target. General Westmoreland told CINCPAC he had decided to go after the New Troop target, as approved, rather than to attempt to alter the ARC LIGHT strike. This had set back the programmed ARC LIGHT strikes on other approved targets.[207]

A subsequent study of events emphasized the need to attain the flexibility in approval and concurrence procedures for targets in Laos. COMUSMACV therefore, presented the following suggestions as an interim solution to this problem:[208]

> "...The SAC-proposed procedures for reducing reaction time of the B-52 force should be applied to Laos targets. For this procedure he referred to CINCPAC TS message 082247Z October 1966....
>
> "...A greater degree of flexibility in target shifting could be made to match last minute ground or air reconnaissance intelligence if the ARC LIGHT target box could be surrounded by an area where ARC LIGHT could hit on a preselection basis. The area could be approximately 6x8 kilometers around the proposed ARC LIGHT target box. In this area, he felt that as many as six Desired Points of Impact (DPIs) would be preselected....
>
> "...If approved for tactical air strikes COMUSMACV wanted the Special Operation Area concept to be applied to ARC LIGHT operations. He noted that this concept had been proposed and had been concurred in by the American Ambassador in Vientiane. Detail of this conference, he noted were given in the ARC LIGHT Conference Report dated 28 September 1966 (S)...."

General Westmoreland requested favorable consideration be given to these proposed actions and that he be given authority to implement the DPI presented.[209]

A few days later, CINCPAC responded and told General Westmoreland he concurred in the DPI concept. COMUSMACV's recommendation for the adoption of a reduced-reaction procedure for strikes in Laos, however, would be considered only after experience had been gained with similar operations in SVN. 210/

CINCPAC, at the same time, told the American Ambassador in Vientiane that existing requirements for the approval of strikes could reduce the flexibility in the use of force. He pointed out that COMUSMACV had presented this problem in COMUSMACV's 46629/220320Z October 1966. Admiral Sharp further told the American Ambassador in Vientiane he concurred with the necessity for closely controlling these and other operations. He recognized the possibility of compromising a favorable position but felt that the recommendations made by COMUSMACV on 22 October, (specifically paragraph 5C of COMUSMACV's message 46629/220320Z October 1966) would enhance significantly the ARC LIGHT operations in Laos. 211/

Admiral Sharp, therefore, requested Vientiane's concurrence with CINCPAC's approval of ARC LIGHT strikes within the "Special Operations Area" as described by Vientiane's message 2059/070543Z October 1966. CINCPAC told Ambassador Sullivan he would be appraised of all strikes in this area which would give the Ambassador the opportunity to veto a strike, should conditions warrant. He told the Ambassador that, if he concurred, CINCPAC would recommend a revision of the General Planning Instructions, which he would send to JCS. 212/

Overflight Penetration

On 17 March, JCS authorized execution of B-52 strikes on three targets in Thua Thien Province, with no overflights of Cambodia or the limits of the DMZ allowed. However, minimum feasible penetration into Laos, at or above 15,000 feet altitude, was authorized as necessary for desired pre/post flight path.

On 25 March, COMUSMACV requested JCS approval for two ARC LIGHT strikes (Soft Shoe I and II) which had received the approval of Amemb Vientiane that day. JCS recommended approval, subject to concurrence by Amemb Saigon and the GVN. 213/

On 22 April, COMUSMACV informed Amemb Vientiane that, prior to the Rat Mat series, all ARC LIGHT strikes executed in SVN penetrating Laos airspace were approved by higher authority, with Amemb Vientiane's comments. He further stated that MACV was scheduling strikes only 24 hours to 48 hours in advance of TOT, which meant the approval authorities would be required to react in minimum time. For these reasons, General Westmoreland requested Amemb Vientiane's blanket approval for possible minimum Laos overflight on all strikes physcially located in SVN. 214/

Ambassador Sullivan believed the record showed that higher authority such as CINCPAC, had regularly submitted planned overflights of Laos to Vientiane for approval in accordance with procedures outlined in the ARC LIGHT Basic Operations Order, paragraph 4c. He further suggested that COMUSMACV follow this system.

For ARC LIGHT strikes on Quang Tri 24, 25, 26, the JCS, on 27 April, authorized overflight of Laos at 15,000 feet or over, as necessary for desired pre- or post-target flight path. JCS told CINCPAC and CINCSAC that no overflights of Cambodia or DMZ were authorized.[215]

Civilian Casualties

On 19 February, the American Ambassador in Vientiane informed COMUSMACV that occasional lapses had continued in procedures governing USAF operations in Laos. He informed COMUSMACV that he required photography and other documentation to validate a target. Moreover, the closest sort of coordination with RLG would be required if a target were to be validated outside agreed operating zones. He informed that in, all prudence, any new target in a sensitive area would be authorized only for a FAC-controlled strike rather than a free strike, and that an ARC LIGHT strike would seem the least likely course of action. Ambassador Sullivan was extremely anxious to avoid incidents in which Laotian civilian could be bombed.[216] It is of interest to note, shortly before this, that F. E. Warcup, the British air commander in the successful Malayan campaign, warned that a few civilians deaths from air strikes in villages "do more harm than all the good you may do.... You have made these people enemies for good."[217]

COMUSMACV, on 2 September, informed CINCPAC that every attempt was made, using all intelligence resources available to him, to insure that targets nominated were purely military in nature and that no danger existed to the civilian population. He noted, however, that short of actually

placing a man on the ground, no means existed to confirm that a hut or village was used in a purely military capacity and that noncombatants were not present. 218/

Inadvertent Bomb Release

On 16 March 1966, CINCPAC requested COMUSMACV to add JCS and CINCPAC to the list of addressees for notification regarding inadvertent bomb drops by ARC LIGHT forces. 219/

Classification of Aerial Photography

On 22 December, CINCPAC told CINCPACAF that prints and IFIR's relating to ARC LIGHT strikes in Laos should have a special handling caveat due to the sensitivity of those strikes. He felt that widespread knowledge could compromise the trusted relations with the RLG and would adversely affect the ARC LIGHT effort in Laos. 220/

Admiral Sharp concluded that CINCPAC had no objection to marking such IFIR's and prints as: "No Foreign Dissemination except Australia and New Zealand." He felt, however, this determination should be made in coordination with COMUSMACV and U.S. officials in Laos. 221/

Tiny Tim Support Plan

On 31 December 1966, CINCPAC presented a plan to provide anti-SAM support to B-52 forces operating in areas containing suspected SA-2 sites. On 10 January, CINCPACAF asked the 7th Air Force Commander to provide COMUSMACV

with necessary data and other factors and information required for the preparation of a MACV Support Plan in accordance with CINCPAC's thinking given on 31 December. 222/

In addition, CINCPACAF wanted the 7th Air Force Commander to provide the following: 223/

> Anti-SAM Support: This support would be provided with capability to nullify the SAM threat. He informed that this would be done by ECM or by destruction. This would be done as required by MACV....
>
> Photo Coverage: Pre and post strike photo coverage would be provided by 7th Air Force, as required....
>
> Fighter Strikes: CINCPACAF wanted fighter strikes, when applicable, to be scheduled in advance of the B-52s. Stereotype actions by both B-52s and the fighters would be avoided. The idea was to achieve maximum deception through employment flexibility....
>
> Tiny Tim Coordinating Authority: CINCPACAF informed that the 7th Air Force Commander would act as the coordinating authority for CINCPACAF on matters relating to Tiny Tim....

CHAPTER VII

BOMB DAMAGE ASSESSMENT AND EFFECTIVENESS

Introduction

The problem of evaluating the qualitative and quantitative effects of the ARC LIGHT program persisted throughout 1966. The need for accurate and comprehensive analyses was difficult to meet because many of the targets were such as to preclude judgment of the bombing effects as well as effectiveness of the strikes. A considerable number of targets were fleeting in nature and others were in areas where ground exploitation could not be readily made. The statistical base remained weak, with data at year's end insufficient to make an overall evaluation.

The BDA and Effectiveness Analysis Problem

During the first quarter of 1966, the BDA in jungle areas had been tenuous, at best, and ground followup was not normally scheduled. Photo interpretation reports usually had to resort to a simple count of craters "in" and "out". However, the exposure of tunnels and dug-outs in facilities identifiable from larger scale photography, usually confirmed the validity of the target, and that some ordnance had exploded in the vicinity. PACAF noted this was about the best to be expected, without detailed ground follow-up of each strike, because of the nature of targets struck, terrain and foliage restrictions, and the VC policy of concealing results of our actions. Even a foot-by-foot search of the entire target box, a day or so

following a strike, would give indefinite proof of actual results. These hidden results could be the important ones - the killing or wounding of key VC cadre or staff, the loss of valuable documents or equipment, the disruption of planned VC operations, and the effect on morale and motivation of the unit.[1/]

Another BDA problem was the difficulty of ascertaining loss of leadership as a result of the ARC LIGHT strikes. Good leadership was particularly vital to the effectiveness of isolated units, the loss of which would have great impact on VC efforts. PACAF noted this was illustrated in Malaya when the killing of a key leader by an aerial bomb was credited as a significant step toward breaking the back of the communist insurgency.[2/] However, there is at this time no positive indication that ARC LIGHT strikes have accomplished this.

The BDA problem will remain for some time to come. PACAF belief was that regular and reliable assessment of the multitude of factors would not be readily available until the snow-balling effect of total US-RVN efforts had penetrated the main VC structure. The improved strength and capabilities of parallel actions, both military and civilian (i.e., ground sweeps, pacification, returnee program, intelligence gathering and exploitation, psy war, etc.) were necessary to fully exploit and accurately assess the tremendous potential of these strikes.[3/]

Until this goal was achieved, PACAF felt the effects of the strikes could only be assessed in the light of available photo intelligence, limited

but encouraging POW reports and the results of other detailed intelligence collection efforts.[4/]

PACAF concluded that time and combat experience would eventually make it obvious to some high ranking VC leaders that continuing the fight was a futile, bottomless pit. They noted that only then, and when some of the leaders rallied to the RVN side, would a complete and reliable estimate of the effects of B-52 strikes be obtained.[5/]

Another problem of assessment was the divergence of reports. For example, Shining Brass Reconnaissance Teams, on 1 and 3 March, conducted BDA of the ARC LIGHT strikes on Roads I, II, and III. This BDA indicated little or no results from B-52 strikes in the area; most of the bombs exploding in the tree canopy with minimal ground damage. They further reported that too few bombs were dropped in too large an area. However, three post-strike BDA's, submitted on 1 March, indicated the majority of bombs were in the target area.[6/] CINCPAC asked COMUSMACV for his comments. COMUSMACV responded that, only a thorough ground exploitation, which was not possible with the ground force utilized, the time available and the conditions of accessibility, would substantiate that the majority of the bombs did, in fact, detonate in the jungle canopy with no damage to the enemy.[7/]

In summary, the outstanding bomb damage assessment problems remaining at the end of the quarter were:[8/]

1. Limited scope of interrogation reports.

2. Limited number of interrogation reports.

3. Inadequate photographic inspection.

4. Inadequate intelligence coverage in captured enemy documents.

5. Frequent lack of total area ground sweep of strike impact area.

6. Published studies appeared to provide inadequate data and information to make a complete BDA analysis.

7. Better interviews were needed to analyze ARC LIGHT results.

8. Sources were insufficient in numbers to make more than a random base for analysis. (For instance, one report written by the Rand Corporation considered the effects of B-52 bombing, based on interviews with only 450 persons, 150 of whom had defected since June 1965, and only 35 of whom came from areas actually bombed by the ARC LIGHT program.)

In March 1966, the USAF Operational Analysis Office (AFGOA) felt that an evaluation of the effectiveness of B-52 Bombing Operations should consider the following terms: 9/

1. Accomplishment of assigned tasks.

2. Contribution of successfully accomplished tasks to overall military operations and objectives.

3. Cost and effectiveness of B-52 employment relative to that of alternative means of neutralizing selected targets.

AFGOA pointed out that a thorough check had to be made of data consistency and its validity in an effective analysis. The office pointed out this would necessitate discussion with essentially all echelons in the

data chain. It was felt that some of this validation was possible in the Washington area, however, some would require contact with sources at or near the conflict area. They said DIA had stressed the opinion that considerable risk was involved in using data from Vietnam without a first-hand investigation of the conditions under which it was generated, the meaning it had for those who collected it, and the confidence the source had as to the accuracy and significance of the material.[10/]

AFGOA noted that, as a first step, the analysis effort had to be and was being directed toward finding answers to three questions considered germane to creating a base for evaluation of ARC LIGHT results:[11/]

> 1. How effectively have B-52 operations fulfilled the purely operational military tasks of MACV as contained in the ARC LIGHT mission requests?
>
> 2. What has been the cumulative effect of ARC LIGHT operations on VC operations, morale and effectiveness?
>
> 3. What has been the cumulative effect of ARC LIGHT operations on the effectiveness of VC Logistic support?

Subsequently, this analysis would proceed to the question: Could a different aircraft accomplish the mission as well, at lower cost?

AFGOA noted that an analysis employing the following steps would be made for each target in order to arrive at an answer to the first question:[12/]

> 1. List the target elements (e.g., personnel, supplies, military installations) whose known or suspected presence has generated the ARC LIGHT strike.

2. Establish the average mean area of effectiveness (MAE) for the bombs and fuzing employed with respect to these elements.

3. Estimate area of bomb distribution from reported Initial Aiming Points, intervalometer settings, and observed fraction of hits.

4. From the estimated number and distribution of bombs in the target area, calculate a crude, estimated fraction of the total target area covered by the total MEA for all hits inside.

The second and third questions presented more difficult analytical problems and reflected the primary purpose of ARC LIGHT missions as being to disrupt and harass the enemy. The actual damage inflicted to personnel or materiel, they pointed out, was viewed by COMUSMACV as distinctly secondary, though not unimportant.[13] The targets, weapons, fuzing and size of strike were selected by MACV, approved by JCS and ordered by SAC Headquarters, via fragmentary orders to the 3rd AD. The major problem with ARC LIGHT strikes was the fact that direct, unequivocal effectiveness measures for this type of strategic effort were almost never attainable until after the conflict and not always then. Nor was it as complete as one could wish. MACV reports, they noted, continued to reflect the view that ARC LIGHT missions were a substantial aid to ground operations.[14]

The big problem in securing answers to the second and third questions was one of approach. They pointed out the problems of a statistical approach. DIA, they said, had abandoned abortive efforts to establish a statistical correlation between ARC LIGHT missions and VC "incidents". In this connection AFGOA said:[15]

> "The main difficulty with the statistical approach seems to be that VC activity is either so random, or of a pattern so little understood, that cause and effect relationships do not emerge above the random noise."

What was needed was a quantitative data base which would lead to a meaningful analysis of ARC LIGHT operations. The big problem was that little real progress had been made in creating that data base. AFGOA indicated they were proceeding with an effort to establish such a base and, as an initial approach, had established the following base factors for evaluation of ARC LIGHT results:[16/]

1. Ground opposition to US and ARVN movement.
2. Interference with friendly LOC.
3. Abandonment of areas of established VC occupancy.
4. Trend toward smaller rest, training and resupply group.
5. Patterns of VC activities.
6. VC defection rate.
7. Responses to interrogation.

The question "could a different aircraft do the mission as well at lower cost?" remained until after the B-52 bombing effectiveness had been analyzed and evaluated.[17/]

The DIA informed CINCPAC, on 25 April, that the Department of Defense was extremely interested in both the effectiveness and the results of the ARC LIGHT strikes made against Viet Cong targets in South Vietnam. To

examine the operations, he noted a request had been made, as far back as 26 October, for pertinent information which was desired in order to provide a base for an analytical evaluation of the effectiveness of the B-52 strikes in relation to the overall U.S. military objectives in South Vietnam. He informed CINCPAC that the information which had been received, to date, was insufficient and, for this reason, he was requesting CINCPAC provide an analysis of both the results and the effectiveness of each ARC LIGHT strike, as it occurred. He requested CINCPAC provide him with these reports as soon as they had been prepared and that a monthly report be furnished to DIA, with copy to USAF.[18/]

By the end of April, the following MACV analysis had been made of the effectiveness of the ARC LIGHT program:[19/]

1. Hindered the initiation of the third phase of insurgency warfare.
2. Precluded large scale troop concentrations.
3. Disrupted the logistical support organizations.
4. Alienated non-combatants from the VC cause.
5. Affected the VC economic support base.

ARC LIGHT bomb damage assessment continued to be extremely difficult to obtain for several reasons. For one, the multilayer canopied jungle made assessment by photography or by visual inspection from the air almost impossible. Post-strike photography of target Dry Dirt, as an example, failed to reveal significant damage or existing installation. Ground exploitation, by elements of the 1st Inf Div, of this jungle-canopied

target found more than 1,400 tons of rice in 22 different locations within the target box. Ten percent was found destroyed or unusable as a result of the attack. Military items and equipment also were damaged.[20] For this reason it was felt that valid statistics on the overall effect of bomb damage could only be derived through ground exploitation, immediately following a strike. This could help in planning future strikes, since accurate bomb damage assessment (BDA) was of prime importance in evaluating the capabilities and limitations of B-52 bombing raids. VC countermeasures to minimize the bomb destruction capability could also be gained from ground exploitation.[21]

Agent reports were also found to be of value in assessing the results of ARC LIGHT strikes. One example, the post-strike photography of the NET TON strikes in War Zone C, revealed evidence of 14 secondary explosions, 12 destroyed bunkers and other items of military value with varying amounts of damage. There was no ground follow-up, but agents reported (unvalidated) more than 100 killed and a radio station severely damaged as results of the raid. Neither of these assessments were apparent in the post-strike photography.[22]

COMUSMACV noted that several problems in obtaining timely and accurate BDA results had persisted.[23]

On 6 May, COMUSMACV informed DIA and CINCPAC that BDA Photo Intelligence reports were accomplished subsequent to each B-52 strike. General Westmoreland pointed out that 90 percent of the targets struck were in dense jungle

and, thus, the reports were not an accurate measurement of actual total damage to the target. The only point where assessment could usually be made was at the area of blowdown caused by bomb impact. This, he noted, was where maximum destruction occurred. His opinion was that consideration had to be given to the type of construction materials being used in SEA. Because of the type materials used, ground structures, he felt, were usually totally destroyed. In most cases, however, it was impossible to assess damage to subsurface facilities. Visual reconnaissance by Forward Air Controllers (FACs) was scheduled for all strikes. General Westmoreland noted, however, that in general, only when a ground follow-up was conducted after a strike was significant information obtained. Ground follow-ups could be conducted for only about ten percent of the strikes, due to other commitments and the poor accessibility of the target area. Another problem affecting BDA was that reports on strikes were delayed for various reasons. Because of the varied duration of ground action, as an example, reports of ground follow-up activities did not reach MACV immediately. Moreover, returnee reports, captured documents and agent reports concerning effectiveness of B-52 strikes were sometimes six months old. General Westmoreland, therefore, did not feel an accurate assessment could be made for each strike. All that could be done, he said, was to gather all the information that could be gathered and send it to DIA and CINCPAC as rapidly as possible.[24/]

MACV made a semi-annual evaluation of the ARC LIGHT results published under title "Effects of B-52 Raids". The first edition was published on

1 March 1966. A monthly evaluation would also be made, with the first report out by 7 June, for the month of May.[25/]

Another problem in quick and accurate BDA was weather. For instance, with reference to Strike 308 Box Wave II on 7 May 1966, COMUSMACV informed that visual reconnaissance could not be accomplished immediately after the strike due to thunderstorms and minimal weather conditions in the area.[26/]

Ground observations had proven to be the only productive means of determining specific results of ARC LIGHT strikes. While VR and Photo Reconnaissance were routinely planned for all strikes, General Westmoreland wanted his field commanders to make every effort to obtain results of the strike from ground observation of the target area.[27/]

General Westmoreland noted that, during May 1966, ARC LIGHT forces conducted 45 strikes. Of these strikes, 16 were in I Corps while II Corps accounted for three and III Corps accounted for 16. Laos accounted for the remaining ten.[28/]

The primary direction of the 16 strikes in I Corps was to the destruction or disruption of the command and control exercised by Military Region V. To take care of the ten strikes in Laos, ten of the sixteen strikes were timed as cover strikes in conjunction with strikes in Laos. Due to the heavy tree canopy and hilly terrain in the target areas, significant physical damage could not be determined from visual aerial reconnaissance or photography. Ground follow-up operations were not made, although a major ground operation was in the planning stage for this area. There was

Number of Aircraft	Frequency			TOTAL
	Jan.	Feb.	Mar.	
3	0	5	2	7
6	4	14	0	18
9	7	2	0	9
12	8	7	1	16
15	2	4	2	8
18	1	3	1	5
21	2	0	0	2
24	3	0	1	4
27	1	0	0	1
Totals	28	35	7	70

ARC LIGHT MISSIONS

(Frequency & Force Size; 1 Jan-7 Mar 1966)

Fig. 11

a good possibility that BDA results would become available from this operation. Technical means provided the only concrete results of strike effectiveness against Military Region V.[29]

Ground support was the reason for the three strikes in II Corps. No significant damage was revealed by visual reconnaissance and photography. Determination of results was difficult since the targets were in heavily canopied areas, situated in rough terrain.[30]

Support of ground operations, likewise, was the reason for the sixteen strikes in III Corps. The rapidly changing ground situation precluded exploitation of any targets by ground troops, with the exception of Port Rail. Initial information indicated the bombing caused some enemy casualties and destruction of facilities.[31]

Men and supplies had been infiltrating into SVN through Laos and the ten strikes in Laos were directed to stemming this flow. Truck parks, bivouac areas and supply storage areas on the Ho Chi Minh Trail were the primary targets. Reports by an eight-man ground reconnaissance follow-up team, conducted on Kontum 11, 12 and 13, indicated the bombing was effective.[32]

COMUSMACV summarized that it was a continuously difficult problem to provide adequate and accurate BDA results on a timely basis. Ground follow-up, in his opinion, was the only effective means of determining strike results. He noted, however, that according to information provided by the few follow-up operations, conducted during May 66, the B-52 strikes were

effective. The enemy's greatest fear was still the B-52 strikes, according to information obtained from prisoners, returnees, and agents.[33/]

The ARC LIGHT program in SEA had completed its first year of operation on 17 June 1966. Considerable munitions had been dropped into enemy areas during the period by 3,715 B-52 sorties.[34/]

It was learned, at this time, that accurate and comprehensive ARC LIGHT BDA could be obtained only through thorough ground exploitation. Experience indicated that tactical ground manuevering and target locations would not always permit troops to be committed for such exploitation. General Westmoreland said that, whenever possible, MACV encouraged the use of troops for post-strike target coverage.[35/] because previous evaluations had analyzed only the effects of B-52 raids and not their effectiveness. Assessment of effectiveness was difficult because of insufficient statistical data. From 18 June 1965 through 19 January 1966, only one-third of the 150 strikes were covered by at least partial ground follow-up operations. Subsequently, only about ten percent of the strikes had been so covered (23 out of 219). Reasons for this decrease in follow-up operations varied. Some scheduled follow-up strikes were cancelled because of adverse weather. The ground tactical situation, the internal political situation in SVN, the monsoon rains were other factors which impinged on the disappointing low percentage of strikes covered by ground follow-up operations. Another reason for lack of ground follow-up was the fact that the B-52 raids were being conducted deeper in enemy territory. For instance, 52 of

the ARC LIGHT raids took place in Laos and NVN, where no RVN troops were committed and where few agents had penetrated.[36]

In view of the limited ARC LIGHT BDA availability, COMUSMACV requested a one-time, consolidated report be made of each commander's personal estimate of the effectiveness and value of ARC LIGHT support. The command level for these reports would be through brigade for the Army, and regiment for the Marines. For this purpose, he desired the commander's estimate include the total evaluation of ARC LIGHT support including direct support, spoiling attack, VC base areas, etc., to be submitted by 15 July 1966.[37]

Within a few days after General Westmoreland's request, the Commanding General of the III MAF responded that ARC LIGHT strikes had been employed in direct support of III MAF operations. The B-52 force had been used against Viet Cong bases in the I Corps Tactical Zone. The III MAF Commanding General told General Westmoreland that not all of the ARC LIGHT strikes had been exploited and for this reason, his evaluation was limited. The limitations were especially marked in assessing damage done to the Viet Cong base areas, which were located in jungle covered areas and in mountainous terrain. Plans had been made for the use of ARC LIGHT resources in direct support of operations MALLARD, HARVEST MOON and DOUBLE EAGLE, and, additionally, strikes had been planned and conducted in conjunction with operation HOLT.[38]

The Commanding General of III MAF summarized his evaluation and said it gave an indication that the ARC LIGHT program was an effective way of

attacking the Viet Cong without warning. He noted that harassment was a very important part of military operations in a counterinsurgency environment and added that, for this purpose, the ARC LIGHT strikes were considered to be well suited. Destruction of targets was another story. This, he discovered, depended primarily on the quality of target intelligence for the ARC LIGHT program, with effectiveness highest for permanent targets. For transitory targets, the effectiveness of ARC LIGHT strikes were limited because of the slow reaction time.[39]

The III MAF Commanding General noted that, during Phase I of Operation DOUBLE EAGLE, three ARC LIGHT strikes were made on 30 January. Immediate ground exploitation was not possible due to weather conditions. However, on the next day, one battalion exploited the target areas and found no enemy or significant sightings.[40]

The Commanding General noted that the terrain features of the ARC LIGHT strikes supporting Operations HARVEST MOON and MALLARD were similar. He felt that a detailed assessment was in order and presented COMUSMACV with the following analysis:[41]

> "The terrain consisted mainly of rice paddies and stream beds with a scattering of low brush and scrub covered hills. The slopes of the hills ranged from 40% to 70%.
>
> "It is not known what VC units were located in the target area.
>
> "VC installations consisted of straw huts, stone buildings, caves and tunnels. Very extensive natural and man-made tunnels and caves were approximately 5 feet in height and led into underground rooms averaging

10 feet by 15 feet by 10 feet. The buildings in the area consisted mainly of straw and mud huts with a few concrete/plaster structures and some bamboo framed, tin buildings. From observation, all types of buildings within 25 meters of the point of impact were destroyed. Straw huts outside of a 25 meter radius of impact had little or no visible damage, showing their ability to withstand the blast waves and fragmentation effect. Concrete or plaster structures from 25 meters to 75 meters from impact had structural damage to the side facing the blast and varying in proportion to the distance from the point of impact. Tunnels, caves and trenchlines were destroyed by direct hits and damage decreased out to 25 meters from the point of impact. Where bombs landed in a rice paddy, 90% of the damage was caused by blast with secondary damage inflicted by fragmentation. There was no damage observed as a result of fire. Craters observed in paddies were approximately 40 to 50 feet in diameter and 15 to 20 feet deep. Terraced rice paddies and brush covered slopes reduced the blast and fragmentation effect.

"No other information was obtained as to whether or not large VC units were in the strike area at the time of the strike. If so, it is assumed that they took cover in the many caves and tunnels discovered in the area. There were no other protective techniques discovered that were employed by the VC.

"The psychological effect of the strikes is assessed as good. It cannot be stated that any VC have rallied to the GVN cause because of strikes. However, information received from a rallier of the 802d battalion that 12 of his comrades had been killed by a strike may have been a factor causing him to rally. A VC taken during Operation FLORIDA on 12 June stated that the strikes are "greatly feared" by the VC. Civilians encountered in strike areas exhibited extreme shock and in several cases the shock was so great that individuals could not talk to interpreters.

"Intelligence reports apparent reluctance of VC to return to target areas for 24 to 48 hours after strike has been conducted."

On 13 June, the Commanding General of the FFV presented his analysis of

the effectiveness of the ARC LIGHT program. He told General Westmoreland he had found two critical factors which he presented as:[42/]

> Reaction Time: Effectiveness depended on the shortest possible reaction time from the initiation of an ARC LIGHT request to the completion of the B-52 bomber strikes.
>
> Strike Timing: The timing of the ARC LIGHT strikes had to be planned so as to permit the immediate post strike analysis and troop exploitation.

He noted that his 1st Air Cavalry Division had found, through VC interrogation, that ARC LIGHT strikes were lowering morale and upsetting Viet Cong tactical and logistic plans. The Division felt that the 14 hours from initiation at Brigade to strike was satisfactory and that fast reaction was necessary, since targets decayed rapidly. Another factor was that troop safety considerations required disengagement and, for this reason, it was imperative reaction time be the shortest possible. The Division recommended that, to facilitate troop exploitation, these missions be flown early in the morning. Also recommended were spoiling attacks and base area destruction, at Division or Corps level, where target data was available. He noted also, that attacks had been successful in denying enemy route movement in Chu Pong and in isolating jungle area.[43/]

The CG, FFORCEV, further noted that the 1st BDE 101st Abn Div considered ARC LIGHT strikes of great value. The Division had found that best results had been obtained when ground troops had fixed the enemy target. The Division recommended that B-52 strikes should not be limited to any specific type support. Strikes late in the day or during hours of darkness were not

considered of high value, as the enemy was then able to recover from shock and clear the area. This rendered post-strike analysis and exploitation ineffective. He recommended that troops be heli-lifted right after the last bomb fell. This recommendation was made because he had found, during Operation Hawthorne that his follow-up forces had discovered NVA soldiers, in a state of shock, who had been unable to offer much resistance. The Division recommended, where multiple ARC LIGHT strikes were placed in the same area, an overlap pattern would be particularly effective. 44/

The Commanding General of II FFORCEV also presented his mid-year assessment of the effectiveness of the ARC LIGHT program in his area of responsibility and informed COMUSMACV that the ARC LIGHT program had probably upset the VC/NVA timetable considerably. He felt that the ground tactical effort in III CTZ had been aided through the harassment of the Viet Cong in the area. He noted that B-52 bombers had a massive destructive power which could cover a relatively wide area and that those bombers could come into an area with almost complete surprise. He indicated to General Westmoreland that his assessment was qualified by the word probable, since a lack of complete information regarding BDAs did not permit him to have a solid base on which to substantiate his position. He noted the results of ground exploitations, reports of captured prisoners, information obtained from captured documents and reports of civilians near target areas indicated that the ARC LIGHT program had engendered general fear. Moreover, this information had indicated that B-52 strikes had an adverse effect on Viet Cong morale and that material damage had been inflicted on units, activities and

installations. [45]

The Commanding General stated there were many problems impinging on accurate assessment. He said: "True quantitative and qualitative assessment probably must await cessation of hostilities." [46]

He presented General Westmoreland with the following problem factors facing the ARC LIGHT program: [47]

> Enemy Tactical Operations: The available information was found to be incomplete to make a complete appraisal of the effects of the ARC LIGHT program in the enemy tactical operations.
>
> The important point was that there had been no definite information available to him that would indicate that planned enemy operations had been disrupted or frustrated by the ARC LIGHT strikes. It was only probable that the enemy had changed his tactical operations as a result of the B-52 strikes.
>
> Effects on Friendly Operations: Extensive cratering and tree blowdown by the ARC LIGHT strikes were found to inhibit and canalize friendly ground movement during exploitation.
>
> Fleeting Personnel Targets: The B-52 strikes had demonstrated that the use of ARC LIGHT forces against fleeting personnel targets was impractical. The reason for this impracticality was that the reaction time between the initiation of a request and the execution of a strike was too long.
>
> Ground Operational Planning: It was found that Ground Commanders had been reluctant to consider the use of ARC LIGHT forces when planning ground operations. The big problem was that they could not be sure of obtaining the TOTs that they needed. This, of course, was in addition to the major drawback of time delay between the Commander's request and the actual strike. Another factor was that the ground commander could not always count on the ARC LIGHT forces. For one thing, a desired TOT could be cancelled by MACV if a more lucrative

target appeared elsewhere.

Ground Exploitation: It was found that ground exploitation required quick timing and positioning of forces to do the job - The ground commanders, however, frequently found that they had their hands tied as far as carrying out a follow-up operation, since they could not be sure of a TOT or even the approval of a strike mission.

Strike Requests: Since the ARC LIGHT program was found to have drawbacks for quick direct support, the problem remained of getting proper and full utilization. Emphasis of requests tended to favor interdiction and isolation missions against targets representing a physical threat to forces.

Enemy Base Areas: It was found, in several instances, that the enemy had moved back into zones and areas hit by the B-52 bombers. Insufficient information was available on the effects of the ARC LIGHT program on the enemy's base areas. Some visual and photo aerial reconnaissance had revealed that there was wide variance in effects on targets due to the type of ordnance employed, the number of bombs dropped, the dispersion of the aircraft, soil and terrain composition and foliage.

The Commanding General II FFORCEV concluded that ground exploitation was the answer to getting the best BDA. Another conclusion was that, had the ARC LIGHT strikes coincided more closely with the timing and location of the ground commander's maneuver plans, many of these strikes could have had the benefit of ground exploitations. 48/

In this connection, he pointed out there was a natural reluctance on the part of ground commanders to change their maneuver plans just for the purpose of exploiting the B-52 strikes, unless, of course, the strikes and exploitations would contribute to the overall tactical effectiveness he was responsible for. Quicker response, he said, was needed, as was flexibility in target designation, based on the dictates of ground operations. In this

connection, he noted that the Quick Run system should provide assistance.[49]

An evaluation of the effectiveness of the B-52 operations in SEA was prepared on 1 September by a member of the USAF Operations Analysis Office, as a result of a 60-day TDY assignment with the 7th Air Force. His findings and 7th Air Force comments are presented:[50]

Evaluation of Effectiveness

1. Evaluating Effectiveness:

The B-52 operations have the unqualified support of General Westmoreland who believes that they are productive and contribute to the defeat of the VC. However, there are real problems in evaluating the effectiveness of the B-52 strikes. The following factors impinge on the evaluation of B-52 effectiveness:[51]

> "...Any evaluation of physical damage resulting from the B-52 raid is sensitive to intelligence. SAC's ability to deliver bombs on a given target area can be established from training CEPs or bomb count from photos. Therefore, evaluations of the physical damage is more properly an evaluation of intelligence's ability to predict size and location of the enemy....
>
> "...The B-52 strikes are subject to compromise because of the extensive system of notification and approval. A number of POW and Chieu Hoi (ralliers) interviews revealed that the VC are receiving warning of B-52 strikes. There is evidence of the enemy moving out of an area giving credence to the fact that they are receiving effective warning and that the items which are in jeopardy are those which cannot be moved. However, this may be general information and may have some compensating features - such as the VC receiving false alarms of B-52 strikes to the point that they may become distrustful of these warnings....
>
> "...The practice of conducting psychological warfare

pre-strike warnings reduces the physical damage done by the B-52s. These have been reduced and are infrequent now....

"Data collected from ground follow-up action is sensitive to the amount of area covered....

"...The number of ground follow-up actions is too small to provide a statistical base for evaluating the B-52 effectiveness....

"...There is a tendency to breakout the damage accomplished by air and damage accomplished by ground forces when the basis for evaluation should be the combined results since in a number of cases the ground forces would not be able to occupy the area and capture the equipment without the B-52 raids. The value of the B-52 strikes must be considered from the vantage point that the B-52 strikes created a permissive environment for ground forces to penetrate enemy territory and capture or destroy large quantities of enemy material...."

2. Units of Measure:

There is difficulty in selecting the units of measure for effectiveness. Possible units of measure: 52/

...What change occurred in the tactical situation? This can be evaluated by examining the tactical situation prior to the B-52 attack and then subsequent to the B-52 attack....

...What are the numbers of Chieu Hois ralling to the government in the provinces where B-52 raids have been conducted? Or, what has been the rate of Chieu Hoi ralliers versus the B-52 attacks?....

...What effort is the VC committing to overcome the B-52 strikes, on the thesis that if the B-52s are causing damage, the VC would undertake countermeasures against the B-52s?....

3. Force Sizing:

In making a force determination, there should be a comparative

analysis of the small strikes versus the large strikes on the thesis that with a given force one has the option of many small strikes or fewer large strikes. Under present criteria of three B-52s per square kilometer, using bombs, you conduct five small strikes versus two larger strikes - any combination that would equal 15 sorties. The effect of increasing the size of strikes is to increase the level of damage expectancy against any given target whereas the effect of many small raids is to accept a lower level of damage expectancy against any given target but has the function of summing the damage done to all targets attacked. The analysis should determine which concept produces the greatest level of damage on the enemy's total resources considering the probability of intelligence to locate, size, and determine the amount of resources in any given target area. 53/

7th Air Force Comments on the Findings

B-52 impact on tactical situation is a good measurement guide. Operation HAWTHORNE provided a good example. Project CHECO Special Report "Operation HAWTHORNE," dated 8 September 1966, classified SECRET, is quoted in part: 54/

> "...The strike devastated the area. The damage, in places resembled that which could be expected from a low yield nuclear weapon. The blowdown and cratering effect were enhanced by the use of 1,000 pound bombs which seemed to have significantly greater effect than the 750-pound bombs....
>
> "...This strike is considered the most effective strike ever exploited by this battalion. It is felt that the strike contributed significantly to the annihilation of the better part of an NVA battalion...Of special significance is the fact that the 2d Battalion (Airborne) 502d Infantry

suffered no friendly casualties subsequent to and in the area of the strike, during the period 13-18 June (when the operation was closing up)....

"...Unlike previous B-52 strikes, where some four to eighteen hours elapsed before friendly troops entered the impact area, the strike on 13 June 1966 was immediately followed by the heli-lift of a company into the target area. No preparation of the LZ, other than helicopter gunships, was conducted. U.S. troops moving into the target area found those NVA soldiers still alive wandering around in a state of shock and offering little, if any, resistance. No friendly casualties were sustained and, as a result, it was decided to lift the reserve company, the tactical CP and the mortars into the same LZ. In the six days between 13-18 June, friendly forces were able to thoroughly and systematically search enemy positions following the B-52 strike. This resulted in a much higher number of captured enemy weapons and equipment than would otherwise have been found. The B-52 strike, in effect, was the turning point of the operation and only light contact was made with the enemy until the operation terminated on 21 June 1966...."

The NMCC, on 30 December 1966, informed both CINCPAC and COMUSMACV that he attached great importance to reports on ARC LIGHT ground follow-ups. General McPherson pointed out that his message of 6 December (JCS 9660/061919Z Dec) had so indicated. He noted, however, that the flow of information had been less than desired. This, he added, was the problem continuing to plague Washington. He was concerned with the exceedingly small percentage of reports received on ground follow-up actions. This had caused difficulty in digesting meaningful analysis and briefings which were being used to justify the program. General McPherson, moreover, noted he frequently found himself in the awkward position of trying to explain why so few reports were received, why so much time elapsed before the receipt, or why some reports were sketchy in content. 55/

COMUSMACV, on 5 January 1967, informed both NMCC and CINCPAC he was taking steps to provide accurate and timely information on ARC LIGHT ground follow-up and that he had completed an in-house review and evaluation of existing reporting procedures. 56/

COMUSMACV noted that, in the past, delay in reporting results of ground follow-up had been due, at least in part, to the administrative processing; the time consuming methods of collation, analysis, processing and dispatch of reports. He told CINCPAC and NMCC that procedural changes had been made to speed these processes and that future reports would be transmitted by electrical means rather than by the slower administrative channels used in the past. 57/

General Westmoreland touched on the conduct of ground follow-up and said that the decision to conduct such a follow-up depended upon a variety of factors. One of these factors was the purpose of the strike. COMUSMACV noted that, when a strike was used as an economy of force or fire support measure, the ground scheme of maneuver sometimes did not include or permit the passage of troops through the strike area. He noted that use of BDA ground reconnaissance had to be on a selective basis, in the near time frame, because of competing demands for their use. This, he noted, was the case in spite of the fact that BDA ground reconnaissance capabilities (other than use of maneuver units) were being improved and expanded. 58/

Another problem was that because of tactical or other cogent reasons, planned ground follow-up had to be cancelled in some instances. COMUSMACV said that, henceforth, when this occurred, it would be reported. 59/

COMUSMACV discussed the lack of depth of some reports. He pointed out that to do a thorough and deliberate search of a strike area was a time-consuming process which could involve a considerable number of troops. It was not always practical to conduct the thorough search desired. 60/

He concluded that he would take all feasible steps to provide the ground follow-up information in as much detail and as promptly as possible. 61/

COMUSMACV, on 1 January 1967, informed CINCPAC that field units assigned to MACV, in compliance with SICR U-UPE-U0192, were required to submit interim daily reports on the results of ground follow-up operations in the ARC LIGHT target areas. Moreover, they had to submit a final report within seven days after the completion of ground follow-up operations. He told CINCPAC he had emphasized to unit commanders that maximum ground follow-up would be accomplished. 62/

General Westmoreland informed CINCPAC further that, in the future, the results of ground follow-up would be transmitted within 24 hours after completion of exploitation. He said the complete ground exploitation report, including ground photography, would be submitted, when available, within seven days after the completion of the follow-up operations. The complete BDA report, as prepared at that time, would include post-strike photography, visual reconnaissance, ground follow-up reports, and imagery interpretation reports. He added that, to date, some reports had been delayed due to the non-receipt of a portion of the information, but he would forward, within seven days after the strike, all the information available. Additional

information received, subsequent to the initial report, would be forwarded to CINCPAC under separate cover.[63]

Pronouncements and Reports on Effectiveness

On 6 January 1966, Air Force Secretary Harold Brown said that experience with B-52s in Vietnam will "generate something of a change in planning a new manned bomber." The added B-52 capability for carrying conventional bombs was previously "not fully appreciated." He declared that the B-52 strikes "have been worth the effort."[64]

By January 1966, PACAF felt the ARC LIGHT program had given an essential assist to effective ground operations against the Viet Cong and had forced the Cong to change his mode of operation.[65]

PACAF noted that these attacks, although many times more difficult to assess as to specific effectiveness because ground operations infrequently followed the attacks, had forced the Viet Cong to keep on the move, increased their logistic problems, and added to their fatigue. The increased employment of tactical air and ARC LIGHT forces had had a definite adverse effect upon VC morale.[66]

PACAF pointed out that, to counter air strike effectiveness, the Viet Cong had developed new antiaircraft techniques. This was achieved by greater density of fire and having troops fire at incoming aircraft rather than at opposing ground troops.[67]

PACAF concluded that Viet Cong and PAVN forces' fear of air attacks

was well-documented and their casualties from these attacks had been considerable.[68]

There are two broad categories of ARC LIGHT bomb damage effects - immediate and delayed. An immediate effect is defined as direct effect produced at the time of the bombing and relates directly to the damage inflicted by the bomb load. A delayed effect involves the psychological repercussions of the bombing on the VC and on the population under the VC/NVN control.[69] Both types were reported in 1966. One strike for which an impressive BDA effectiveness report was provided, was mission "Dry Dirt," flown 3 January, near YT 045345 in III Corps.[70]

The target for Dry Dirt varied from lightly wooded areas with 20-40 foot trees, to trees up to 100 feet high with dense and secondary canopy. The terrain was a generally flat hill-mass, sloping down on the east and north to the Song Be River. Undergrowth in the area was generally 10-12 feet high, with medium density. Following the bombing, all undergrowth was completely destroyed up to 100 meters from the bomb craters. Tree blowdown extended up to 150 meters, heavy near the crater and moderate up to 150 meters. Craters in the target area varied in size from 18 to 36 feet in diameter and 10 to 15 feet in depth. Hard chunks of laterite earth were thrown up to 200 meters from the point of impact.[71]

Ground troops going into the area found 22 rice and supply caches in the bombed area and 13 in immediately adjacent areas which they destroyed.[72]

They also found 52 bunkers, untouched by the bombing raid, which they

destroyed. Rice caches of 1,700 fifty-kilo bags in the target area took direct hits. Five rice storage shelters were blown down. Three L-shaped tunnels, approximately eight feet long by three feet wide, were completely destroyed. Two bomb shelter tunnels were destroyed. Nine five-ton trucks and one ¼-ton truck were found in the operational area, three of which were destroyed and two slightly damaged. There were no indications the VC had foreknowledge of the strike, although there was no evidence of troop units being in the target area prior to the strike. Although contact was made with a squad-sized force on three occasions during the ground operation, they were believed to be part of the security force that protected a huge supply installation. The 1st Brigade, 1st Infantry Division, which swept the area, reported that bunkers and L-shaped tunnels found in the area afforded good protection from blast and fragmentation. There were no enemy casualties reported from the strike. 73/

Again, on 5 January, COMUSMACV reported the results of the ARC LIGHT strikes in support of Operation CAST IRON, in which he gave an example of what was being hit and the effectiveness of the effort.

COMUSMACV noted that terrain in the strike area consisted of a valley bounded by mountain ranges with peaks 200 to 500 meters high. Valley and terraces contained rice fields. Elements of the 1st VC Regiment and the attached 195th AA Bn (PAVN) were reported as having been in the general vicinity of the target area. The amount of equipment and supplies abandoned indicated the area had been used extensively as a logistic base. Viet Cong installations consisted primarily of straw huts, stone structures, caves

and tunnels. Most of the tunnels and caves were approximately 5 feet high and led into underground rooms approximately 10 feet by 15 feet by 10 feet high. Primary use of these rooms was for storage of food, weapons and ammunition. All types of structures within 25 meters of impact were destroyed. Straw huts outside a 25-meter radius of impact had little or no visible damage. Concrete or plaster structures from a 25- to 75-meter radius from impact were damaged on the side facing the impact. Direct hits destroyed caves, trench lines and tunnels. Outside the 25-meter circle no appreciable damage was done to the caves, tunnels or trenches. Craters in the open fields approximated 40 to 50 feet in diameter and 15 to 20 feet deep. In wooded or brush covered areas, craters were from 8 to 10 feet deep and about 40 feet in diameter. Trees within ten meters of the crater were ripped apart by blast and fragmentation. Within 50 meters of the craters, trees and brush were scorched and burned. 74/

MACV noted the success of the ARC LIGHT strikes against the Viet Cong strongholds and hideouts. During Operation Mallard, a two-battalion search-and-destroy operation conducted during the period 11 - 17 January, an ARC LIGHT strike was made (on 12 January) which was successful in destroying caves and tunnels. Although the Viet Cong casualties were relatively light, the operation kept the Cong on the move. As a result, friendly forces were able to move in and confiscate large quantities of rice, which were turned over to the GVN authorities for redistribution. 75/

Again, during Operation Crimp, the effort of the B-52s was not forgotten. During this operation, the ARC LIGHT forces preempted the targeted

enemy positions one night prior to the actual ground operations. FACs reported 257 structures, 14 tunnels, six bunkers, seven tons of rice and one trench complex destroyed. Five secondary explosions were reported. 76/

On 24 January, ARC LIGHT mission "Copper Wire" bombed the area of Phuoc Tuy 1. An agent reported the bombing resulted in heavy losses to a VC battalion. He further reported morale was low, and that the social and political affairs cadre had initiated drives for food and money among the people of Binh Ba village. Some of the VC were trying to obtain supplies from travellers along inter-provincial Road #2, near Song Cau. 77/

Another significant operation began in the I Corps (Quyet Thang 12), on 16 January, as an exploitation follow-up of a B-52 strike. 78/

On 25 January COMUSMACV discussed forthcoming Operation Double Eagle with General Walt. He felt the operation was well planned and noted the Marines had designated many B-52 targets. COMUSMACV agreed to provide the initial strike, preliminary to going into the hills, after getting established ashore. 79/

Analysis of the ARC LIGHT support of Operation Double Eagle was made by COMUSMACV in late January. The target area consisted of predominately jungle terrain with steep, rugged slopes covered with dense vegetation and heavy canopy. Elevations varied from 300 to 600 meters. Shallow mountain streams, flowing generally from north to south, were encountered in the target area. The single exception to the overall jungle-like terrain was found in a relatively flat cultivated area, located in vicinity of BS 665475,

which was utilized as a helicopter landing zone during the ground follow-up operation. No roads were found within the target area; however, an extensive trail network was discovered. 80/

The trees which provided the canopy averaged approximately 80 feet in height and served to obscure most VC installations from aerial observation. The jungle floor on the mountain slope consisted of small leafy plants, bamboo, and vines. Saw-grass and marshes covered the valley floors. The blast effect of the bombs produced craters 10 to 25 feet in diameter and 20 feet deep in the loose and rock-free soil. Craters 6 to 15 feet in diameter were noted in the rocky areas. The fragmentation effect of the bombs severed or split trees within a 150-foot radius and scattered rocks and other debris within a 250-foot area. In no case was an incendiary effect noted. None of the existing installations within the target area were destroyed or damaged by bomb effect, however, all were destroyed by the marine units conducting the ground sweep. 81/

The target was the suspected area of operation for elements of the 2nd VC Regiment. The presence of this regiment in Quang Ngai Province had been confirmed for some time prior to the strike. The target area had been determined to be the current area of operations, at the time of the strike, through the intelligence holdings of COMUSMACV, I Corps, III MAF, 3rd Marine Div, and from additional agent reports. There were no indications of enemy or enemy units in the target area during the air strike. Bomb damage assessment photography flown on the afternoon of the strike did, however, indicate activity within the target area. During the conduct of

ground sweep operations, a group of 5 VC were observed at 011845H February in the vicinity. 82/

No enemy casualties are known to have resulted from the strike, however, it should be noted that aerial photographic analysis revealed activity in the target area immediately after the strike. Thus, the enemy casualties could have been removed in the 48 hours elapsing between termination of the strike and commencement of ground follow-up operations. 83/

No evidence was revealed, upon which a determination could be based, that evasive or protective measures were taken by the enemy. The psychological effectiveness of the strike had not been confirmed at that time; however, it was considered to be substantial. No known ralliers or civilians returned to government control because of the strike. 84/

An agent reported that "on 26 January 1966, friendly aircraft bombed-the area of Lo Go Tay Ninh 5 Area. This strike destroyed 150 weapons. The weapons were brought into the RVN from Cambodia in early January 1966. They had been transported by boat on two separate occasions. The VC in the Lo Go area started rebuilding the destroyed areas after the air strike. In addition, they brought in more VC troops to help search for weapons misplaced during the air strike." 85/

The following report on B-52 bombing effectiveness was obtained from the interrogation of Nguyen Dinh Nhut, Assistant Platoon Leader, 82nd Logistic Group, who rallied in Cay Ninh Province on 4 April 1966. The information is evaluated by JGS as F/3: "In January 1966, B-52s struck

Ba Hao area vicinity XT 450550 and killed 30 persons and a number of others whose bodies were dispersed." 86/

Other reports, coming in a few months after the actual ARC LIGHT strikes, also attested to possible leaks and to the effectiveness of the strikes. The following report of B-52 strike results was obtained from interrogation of Nguyen Van Va, Assistant Platoon Leader, Q761 Regt AKA 271 Regt, who rallied in Tay Ninh Province on 1 March 1966. The information is evaluated by JGS as acceptable: "During a period of stationing in Phu Khuong, the Regt Q.761 has been shelled 6 times by B-52s, in November, December 1965 and January 1966. The regimental headquarters was hit twice while the other 4 raids were conducted approximately 2 to 5 KM away. The first bombing was conducted during the operation Indau Tieng in late November 1965. The regimental CP located in Nui Ong vicinity YXT 500570 was bombed causing the following casualties: 87/

2 cadre KIA including Nam (S) Ngoc, ordnance commander

8 soldiers KIA."

(Being away from the impact area, subject was at the front lines and later they moved the unit to another location. Therefore subject could not see the result of the bombing on the spot.) The second bombing was conducted around December 1965 near Saigon River XT520680. This time the regimental CP was hit causing the following losses: 88/

12 KIA included 2 physicians, 1 nurse, 1 assistant platoon leader and 8 laborers.

14 WIA included 1 Platoon leader, 1 assistant platoon leader and 12 laborers.

500 uniforms burned, 12 rolls of nylon and a large quantity of provisions such as sugar, condensed milk cans and green beans destroyed.

The following report of B-52 strike effectiveness was extracted from an enemy document captured in the Hq MR-7 area by the 173 Airborne BDE (US), on 14 March 1966, during Operation Silver City II. The document is believed to be an annual report by Hq MR-7 on their 1965 accomplishments. The document is titled: "Report on Activities in 1965 Submitted by H4 (Military Staff) Party Committee, RM 1 (MR-7) whose main lines are these:" Paragraph II of the document contains the information concerning B-52 strike effectiveness: Political education and ideological guidance: Ideology: In the first half of 1965, the units and agencies fully and timely accomplished their missions but the following ideological weakness were noted: 89/

Comparison of position and rank.

Lack of discipline

Sluggishness and backwardness.

In the second half of 1965, the major ideological weaknesses reduced but there was evidence of reluctance in mission performance, due to fear of B-52 aircraft, and the comparative treatment of main force and specialized units. It is interesting to note that one of the largest and most important VC Hq in SVN singled out fear of B-52 strikes as being a major deterrent to the accomplishment of assigned missions by subordinate units. 90/

On 28 January, COMUSMACV visited Tay Ninh Province and received the general concensus that B-52 strikes were affecting the morale of the Viet

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THE B-52 UNLOADS
Fig. 12

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Cong.[91] PACAF supported this view and observed:[92]

> "Although we do not in all cases know the specific results in terms of the number of enemy killed and supplies and facilities destroyed, there has been sufficient hard information from ground follow-up operations, returnees, prisoners, enemy documents, photography and special agents to substantiate the fact that the B-52 bombing has been highly successful.
>
> "The most reliable means for evaluation of the effectiveness of each B-52 strike has been by ground follow-up. However, due to the non-availability of ground forces or inaccessibility of the target, only one out of 15 targets is being evaluated by ground follow-up and very few of these have been thorough enough to obtain a complete evaluation."

The Rand Corporation pointed out that the Viet Cong may have experienced a psychological set-back due to the ARC LIGHT strikes and presented the following observations[93]

1. Airpower is the most frightening weapon system.

2. Bombs have shock effect on morale. Bombing raids have degraded their reliance on the effectiveness of the Viet Cong Shelters.

3. The soldiers' morale has been deeply affected by the B-52s. The B-52s have a surprise effect, their approach is inaudible. The raids on long-standing sanctuaries have shaken the villagers' faith in the Viet Cong and in their promise of victory.[94]

   In the same vein, the U.S. public press noted: "The aim of the B-52s is to deny the Reds a safe sanctuary where they can sleep, eat and train between attacks. The method is 'pattern bombing' to spray the jungle in hopes of hitting Communist strong points. Prisoner interrogations are 'very clear evidence that the effect is' substantial."

Intelligence sources in contact with Viet Cong Unit C-20 learned that

the two types of U.S. weapons feared most by the Viet Cong were napalm and a "new type" of bomb being used by U.S. aircraft which, from the Viet Cong description, appeared to be the CBU (cluster bomb unit) weapon. The source informed that the CBU-type weapon had devastating effects against personnel, even when well concealed or sheltered in trenches or dense foliage. He noted the projectiles emitted by the bomb easily penetrated the helmets of the Viet Cong. 95/

Other reports said the B-52 raids had enabled government forces and U.S. troops to probe jungle strong-points held by Communists since 1945 - the beginning of the Red struggle against the French. Ground troops had destroyed tunnels, assembly areas, and captured rice caches. 96/

The following report was received from a sympathizer and is evaluated by JGS as F/3: 97/

> "On 19 February 1966, B-52s went to bomb Bau Chieu area vicinity XT 137929 and destroyed the VC Tan Bien District Party Committee's Base, killing 30 VC cadre and wounding 40 others. Forty barracks were destroyed together with a lot of equipment and signal items and documents."

There was also a B-52 strike, on 19 February 1966, in the area reported by the sympathizer. 98/

An agent report concerning B-52 strike results was received from a coded source (C) who gained it through personal observation and conversation with VC cadre: 99/

> "On 19 February 1966, American B-52s bombed the area of Bau Tam Quan (WT977685) destroying a military training center of Tay Ninh Province. Approximately 43 VC camp security personnel were wounded. In addition, approximately 140 recruits were killed and 130 were wounded."

There was a B-52 strike, on 19 February 1966, in the area reported by the agent.

Another agent report was received from a coded source (F), who obtained it from a casual source (F), who obtained it through personal observation:

> "At 1000 hours, 21 February 1966, US B-52 bombers struck the Ca Tomg Area (Vicinity XT 570470). About 27 VC were seriously wounded as a result of the air strike. About 16 of these wounded were female VC cadres. One of the local residents was forced to drive an ox cart filled with an unknown number of the wounded. They were taken to a hospital located in Van Houng (Vicinity XT 600480). This hospital was directed by the VC Binh Duong Province committee."

There were B-52 strikes on 21 February 1966 in the area as reported by the agent. The targets were Binh Doung 29, 30 and 31. 100/

Operation Lam Son 234, conducted from 21 through 26 February, was a 1st Division search-and-destroy operation in conjunction with two B-52 strikes. Held in the foothills of Phong Dien, in Thua Thien Province, six ARVN battalions, a platoon of the 4th Armored Cavalry, and the Black Panther Company (special reaction force) were committed during the operation. Contact was made with two VC battalions. Friendly losses were 16 KIA (one Australian), 106 WIA and six MIA. Enemy losses were 106 killed and one captured. 101/

Not all ARC LIGHT missions could be assessed and photography for several revealed no items of military significance.[102] However, an agent reported on 19 Feb 66, that American B-52s had bombed the area of Bau Tam Quang and destroyed a military training center of Tay Ninh Province. Approximately 43 VC camp security personnel were wounded. In addition, approximately 140 recruits were killed and 130 wounded. COMUSMACV noted to DIA that there was a B-52 strike, as reported by the agent. This strike was in the area with target Tay Ninh Eight, code name Fog Horn VIII.[103]

PACAF also noted many reports had been received from various field sources which revealed the telling effect the B-52 strikes were having on enemy ground forces in War Zone Charlie. It was interesting to note that one of the largest and most important VC Hq in SVN singled out fear of B-52 strikes as being a major deterrent to the accomplishment of assigned missions by subordinate units.[104]

However, some enemy documents did not support the contention. According to one enemy document, the percentage of casualties inflicted by a B-52 bombing, when the bombing was accurate, was only from 10 to 12 percent of the total personnel in the area. With small anti-personnel bombs, the percentage of casualties for exposed personnel was approximately 40 percent. However, anti-personnel bombs caused no casualties if the VC were in shelters.[105]

In late March, CINCPAC, at an interview at Camp Smith, Hawaii, discussed the effectiveness of the ARC LIGHT program.[106] Admiral Sharp noted:

> "...in South Vietnam, we will go out and find them in their base areas. As we find the base areas, we will use B-52s on them. We will follow-up, when possible, with ground troops to destroy the war material the Communists keep in their base areas. If we can knock off their stores of war materials, sooner or later we'll get them to the point where they're hungry, short of ammunition, medicines, and so forth. We have reports already that the VC are suffering from lack of food. We have captured thousands of tons of rice from the Viet Cong.
>
> "Hopefully, we'll get them so they're suffering from lack of food, ammunition, medicine, and everything else. They can't keep this pace up forever, particularly as such measures are carried out effectively throughout the countryside."

By the end of March, the B-52s flew 2,866 sorties and dropped 49,754 tons of ordnance. PACAF noted that infrequent ground follow-up made exact damage difficult to evaluate; however, BDA usually showed better than 92 percent of the bombs in the target area. Ralliers reported intense fear of the B-52 bombings. There also had been an abrupt change in the Communist propaganda theme from belittling B-52 attack to one of wailing about the "inhumane and immoral" weapon system. PACAF noted the results had been impressive.

By the end of March, SAC strikes were being directed against VC strong points and troop concentrations in contact with friendly ground forces. Targets hit during the first quarter of the year included infiltration route-segments and way stations, VC food and ammo storage areas, major VC headquarters and secure bases, communications areas, training bases and rest areas, munitions and armament manufacturing facilities, troop concentrations and other hard to identify enemy areas. Many of these targets

were in regions where government penetration had been slight. PACAF noted that the primary VC War Zones C and D had been particularly hard hit. These blows by the B-52s to the heartland of VC strength had deprived the Communists of the security of secret bases which had given the guerrilla-theory of maintaining "invulnerable" bases a severe jolt. PACAF pointed out these strikes contributed to a decline in VC/NVA morale-no longer was the enemy able to hide from government forces, no longer was he able to rest and rebuild his forces in the safety of his secret bases. Directly related to this was the number of "ralliers" to the government side which had significantly increased by the end of March. 107/

Several intelligence sources again attested to the effectiveness of the ARC LIGHT strikes. One returnee stated that, in March 1966, B-52s had struck the Xom Gua Area (vicinity WT 989690), killing and wounding 50 VC. PACAF noted that there were numerous B-52 strikes in the areas and during the month specified by various returnees. 108/

Another source stated that, during the Plei Me battle, a friend of his saw a VC unit carrying many casualties. Source's friend asked where the fight had occurred and was told, "All the members of my company were killed by the bombing of B-52 aircraft." Source also indicated his unit had passed through the area bombarded by B-52 aircraft at Plei Me. He described this area as being about 300 to 400 meters wide and about 1 kilometer long. He said all the trees had been knocked down, the earth had been torn up as if it had been plowed into furrows, and in some places the bombs had dug round holes about four to five meters deep and about 15

to 20 meters in diameter. The source said he had not heard anything about VC counter-measures against the B-52 aircraft, however, he noted the VC had tried to keep the location of their camps a secret. This was often mentioned due to the fear of B-52 bombings. He indicated that almost all military cadres in his unit were frightened of this type of aircraft. They often expressed their fear and, while digging trenches, told one another, "We can dig shallowly as well as deeply since we will be killed anyway." 109/

PACAF noted that the pay-off to this increase of activity by friendly forces was the admission on the part of the enemy he was actually being hurt. Numerous reports were being received depicting the Viet Cong's life as an intolerable hardship. Interrogation reports covered the fears of the Viet Cong concerning different types of aircraft and the weapons used by those aircraft; the activities of the Viet Cong during bombardment and their experiences in attempting to avoid being bombed; the activities concerning Psywar and B-52 operations in South Vietnam. 110/

PACAF noted that the themes of world-wide Communist-controlled propaganda and demonstrations, by the end of March, had given some clues to enemy reaction to the B-52 strikes. Their initial reaction was to belittle the effort and accuse the B-52s of making big trees into toothpicks. By March, this had changed to wailing over the slaughter of innocent people, with particular emphasis on getting the United States to halt the "inhumane and immoral" B-52 strikes. 111/

As a result of ARC LIGHT Low Stoop 1 and 2, (in support of Operation Birmingham) heliborne landings were conducted into an important enemy supply area near the Cambodian border. The area contained base camps, rice and ammo caches which were discovered and destroyed. The area was only two kilometers from the Cambodian border on what was considered a major supply route into Tay Ninh from Cambodia. The B-52 support of Operation Birmingham (as of 28 April) had destroyed 14 VC base camps in addition to 435 buildings and huts, 1,267 tons of rice, 184 tons of salt, 19 boats with motors, 24 sampans and numerous other items. 112/

The effects for April can be best summarized by the pertinent statements and observations made by the Viet Cong agents and soldiers, given in part below: 113/

> "...because its destructive power was more frightening (VC Liaison Agent Report).
>
> "...Nothing is more effective in destroying the morale of the men than bombs (VC Squad Leader).
>
> "...The Psychological impact was magnified because the approach of the B-52s on a strike mission could not be heard.
>
> "...The B-52s could not be detected until the bombs had struck.
>
> "...Existing shelters were not adequate, according to many VC conclusions, based on the large bomb craters seen in the target areas." 114/

Personnel found in areas bombed by B-52s were often in a state of shock. These people remained in trenches and shelters until they were discovered by U.S. or allied troops. They reported that even though not hit

by fragments, the concussion resulting from the bomb explosions has caused chest pains that persisted for hours.[115]

A former VC stated: "It is only natural that GVN authorities bombed the VC-controlled areas," and added that "although the Americans have stirred up the villages so that the villagers can no longer stay in them, they have at the same time, dislodged the VC resulting in less VC activity."[116]

On 17 April, the Deputy Secretary of Defense spoke on the defector program in Vietnam and pointed out there were 2,366 defectors in March from the VC and NVA, and that March was the highest month since records had been kept. Of interest was the fact that 25% of the recent defectors had been officers.[117]

Although the VC desertion and defection rate increased, no direct correlation between B-52 bombings and the rising rate can be made. However, the number of deserters and defectors sharply increased since the ARC LIGHT program began, and it can be inferred that at least some of these were encouraged to desert or defect by B-52 bombings.[118]

In addition to losing officers and men through defection, the Viet Cong began to have problems with tactical doctrines. It was reported that, as a result of the ARC LIGHT program, the Viet Cong were forced to alter tactics. A captured Viet Cong directive indicated the following requirements for operational changes:[119]

> Camouflage: More effective camouflage would have to be utilized so as to decrease detection to ARC LIGHT strikes.

Personnel Security: Personnel Security was becoming a problem and steps had to be taken to increase precautions in this area of defense against the B-52 bombers.

Bivouac Areas: The dispersion of bivouac areas became a necessity because the B-52 bombers had the capability of doing considerable damage within the confines of a target box.

Base Defense: Due to the destructive power of the ARC LIGHT strikes, the base areas had to be strengthened.

Ground Tactics: Troops had to be shifted more frequently and troops concentrations had to be decreased so as to decrease the vulnerability to attack by the B-52s.

In addition to captured documents, enemy propaganda gave circumstantial evidence to his concern over the ARC LIGHT program. The broadcasts from North Vietnam voiced condemnation of the B-52 strikes, claiming that hospitals, innocent civilians and sanitariums were being hit by the B-52 bombers. It was felt that this propaganda was being aimed at getting international sympathy and support. The Viet Cong, however, took another propaganda line, stating the B-52 strikes manifested weakness and desperation. One Viet Cong document profiled this line: "...the more the enemy is defeated militarily and politically, the more he uses aircraft and artillery against us.." 120/

Other highlights on the effectiveness of the ARC LIGHT program were given in short comments by COMUSMACV to DIA and CINCPAC. On 9 June, General Westmoreland presented a bomb damage assessment of an ARC LIGHT strike on the B-52 target Dead Sea III, located in Binh Dinh Province, approximately 26 km northeast of An Khe City and 40 km west of the coast. There were 83 impacts within the target area and 42 impacts outside the target area. The target was located in a dense rain forest, having a double canopy, which

prevented damage assessment except where blow-downs exposed the ground. One exposed hut was 95% damaged.[121] On 13 June, he noted that the ARC LIGHT strike on Kontum 9 had been carried out on 9 June and was reported as being very accurate. The road was cut in three locations.[122] COMUSMACV found from a ground count, that during the strike conducted on 5 June, 83 percent of the bombs were ground bursts and that only 13 percent were tree bursts.[123]

General Westmoreland told CINCPAC and others, on 13 June, that an infiltration reconnaissance team had gone into the area and found destroyed facilities that had not been observed by visual reconnaissance or through BDA photography.

COMUSMACV gave this as an example of the need for ground follow-up reconnaissance as being the only effective means of conducting BDA in the type of environment such as that of Kontum 11, 12 and 13.[124] Another example of effectiveness was given in a message from MACV, dated 240505Z and signed by Lt. General Walt: "ARC LIGHT strikes Saddle Horse 1 through 4 and Pink Poppy 1 through 5 of 15, 18, and 21 June were especially effective in assisting to spoil an enemy attack." However, a later message from MACV, dated 13 July 1966, stated that a VC returnee had said the Pink Poppy 3 and 4 missions of 21 June 1966 hit on either side of an ammunition dump but did no damage to the target.[125]

On 27 July, MACJ2 presented his summary assessment of the ARC LIGHT program for the first half of 1966:[126]

"...The B-52 bombing raids during the period from

20 January 1966 to 17 June 1966 have continued to make intrusions into traditional Viet Cong Sanctuaries, to kill personnel, to destroy structures and supplies, and to disrupt the VC logistics and communications system in South Vietnam, North Vietnam and Laos. Bombings have facilitated ground penetrations that have enabled US and ARVN troops to gather field intelligence previously not available.

"Although immediate bombing effects are confined to the proximate area of impact, the destruction, surprise and shock of these attacks have undermined VC morale, and partially accounted for the increasing number of desertions. Interviews with refugees, defectors, and civilians, as well as VC propaganda and captured documents, testify to the effects of the B-52 raids and to the Viet Cong's search for safety measures and warning systems."

127/

The 7th Air Force in a news release in mid-June said:

"...18 June 1966 bombing of an enemy troop concentration 70 miles northeast of Saigon in Tay Ninh Province marked a year of strikes by the B-52 against VC targets in SVN. Since 18 June 1965, when B-52 aircraft struck a suspected VC troop concentration and storage area in war Zone D about 30 miles north-northwest of Saigon. 318 strikes had been flown. The B-52s were used against North Vietnam targets for the first time on 21 April when approaches to the Mu Gia Pass was struck. The Pass was attacked again on 26 April. A partial evaluation of the strikes could only be made, however, since the nature of the terrain had precluded full evaluation and because full results could only be reported on when ground troops could follow-up the bombings. A partial evaluation, however, indicated that the strikes had shaken Viet Cong morale as was evidenced by increased defection rate for both regular and guerrilla troops since saturation bombing had begun."

128/

A news release from the 3rd Air Division on 24 June 1966 stated:

"...COMUSMACV on his visit to Guam in late June told the 3AD that the SAC B-52 strikes in SVN had enhanced the morale of the South Vietnamese and American troops and

drastically hurt the morale of the enemy because he is no longer safe anywhere even in the jungles or mountains. The enemy has no place to hide. General Westmoreland said that the B-52 raids hurt the enemy bad both physically and in their morale, and that since the bombings, the number of Viet Cong defectors turning themselves in had multiplied manyfold. He told the 3AD Commander: 'I do lean heavily on your support because weather does not bother you--you are equally effective during the hours of darkness as well as those of daylight and during periods of poor weather. COMUSMACV noted that before the B-52 strikes began a year ago, the Viet Cong had sanctuaries that he could operate in and out of without being touched.' He noted that these demanded saturation, area-type bombing and he stated to the SAC crews: '...you are the people who could deliver the goods and you have in magnificent fashion.' He noted that the organization displayed the ingredients needed for a top-quality, professional unit, commenting on the division's outstanding discipline, the multiple skills of its personnel, and the pride in their organization."

The June issue of Aviation Week touched on the effectiveness of ARC LIGHT strikes: 129/

"...The Air Force Secretary Harold Brown stated in early June that a study program had been initiated by the US Air Force to analyze USAF's success in its four primary missions in the Vietnam conflict-supply interdiction, direct air support, B-52 raids and logistics support. Paul A. Hower, director of operations analysis at USAF Headquarters said that it was hard to gauge the effectiveness of the total operation and its impact on the over-all goals. Seymour J. Deitchman of the Institute of Defense Analyses said that you can get data on operations that can be misleading. He said that, for instance if the number of Viet Cong killed goes up, it does not necessarily mean that the tide of battle is going against them; it could actually indicate the population base of the guerrilla movement is growing. He pointed out that tallies of bridges and trucks destroyed or similar counts are obtainable-but the real payoff-its effect-is another thing. We are trying to measure this effect on supplies in relation to enemy requirements to see if it is having a restraint on their operations. He added: At this point it looks very, very difficult to

interdict the flow of supplies below the level they require.

"Delivery of firepower from the air in support of ground operation was examined in terms of comparing success in achieving ground objectives with and without air support. Hower said in his report: 'Our first look at this indicates that air support is having a tremendous effect. We have lots of testimony from Army units that air support is making substantial contributions to their success'.

"In evaluating the B-52 raids on Viet Cong headquarters and supply bases, USAF was trying to evaluate effectiveness in terms of changing patterns and the intensity of Viet Cong operations after the bomber strikes. The objective of the B-52 raids was to deny the Viet Cong these 'havens' and disrupt and harass them. Hower said: 'It's hard to get a handle on this effort.' Major General William R. Peers, special assistance for counter-insurgency and special activities for the Joint Chiefs gave a more positive assessment of the B-52 role. He said North Vietnamese and Viet Cong prisoners had repeatedly indicated that even battle-tested troops fear nothing more than the B-52 attacks. 'They complain that the attacks allow them no time for rest, regrouping or re-equipping.'"

COMUSMACV on 2 August, informed both the JCS and CINCPAC that available intelligence indicated not all B-52 strikes achieved a large KIA figure. He pointed out the total confirmed KBA, attributable to the B-52 strikes during the year ending 17 June 1966, was 42.[130/]

General Westmoreland shortly after stated:[131/]

"...Since the United States became involved directly in the war in Vietnam, many innovations have emerged to the benefit of our efforts. If these innovations could be tallied in order of their contribution to the overall war effort, the use in SVN of SAC B-52 bombers would be high on my list. This capability, combined with timely intelligence on the location of the enemy, gives the ground commander an unprecedented

> advantage over the enemy and a means to deter or counter the Asian communist tactic of employing mass formation on the battlefield...."

Realizing the psychological impact of the B-52 strikes on the enemy could not be measured in quantitive terms, General Westmoreland pointed out that VC and NVA captives and returnees repeatedly stated they feared B-52 strikes more than anything else. This alone attested to far more effective results than was generally realized. 132/

The enemy was a master at traversing the difficult terrain prevalent in Vietnam. He was constantly on the move, except when preparing for attacks on friendly forces and installations. MACV strategy had been to attack his forces during his preparatory phase and thereby keep him off balance. Often it was extremely difficult, if not impossible, to position sufficient ground combat power to successfully attack enemy forces, due to mobility limitations and the requirement for FWMF to meet a number of threats simultaneously. The B-52s took up a large part of this slack by enabling friendly forces to counter the enemy's attempts to stage for offensive operations. 133/

The effectiveness of the B-52 had been proven in Vietnam as a means of breaking up large enemy formations, disrupting the enemy's supply and communication lines, penetrating otherwise inaccessible base areas, bolstering the operational aggressiveness of ARVN, and creating a deep-seated psychological fear among the enemy. 134/ General Westmoreland stated:

> "...We have a sophisticated, thoroughly tested weapons system in being, manned by highly trained personnel and supported by a well organized global logistical base.

> We have developed techniques for its use which are improving constantly. We should capitalize on available assets and experience by providing more planes, more and closer bases, and sufficient stocks of munitions to support an increased effort...."

To further enhance the effectiveness of the ARC LIGHT program, General Westmoreland recommended the following: 135/

> ...Munitions: COMUSMACV wanted to have provisions made so that there would be production and fully adequate stocks of munitions as required to support a sustained campaign in SEA....
>
> ...B-52 Aircraft Availability: COMUSMACV desired that provisions be made for increased availability of B-52 aircraft....
>
> ...Forward B-52 Bases: COMUSMACV wanted provisions made for B-52 bases closer SVN....
>
> ...Reaction Time: COMUSMACV desired that provisions be made so that the strike reaction time could be greatly reduced....

On 24 August, COMUSMACV expressed great appreciation for SAC. He said: 136/

> "...It's not generally understood what a tremendous impact the B-52s have on our ground operations. I am sure that we could not have achieved our present posture had it not been for this support...."

A lieutenant colonel from the 5th Viet Cong Division, who defected to government forces, said that the B-52 strikes affected the morale but that the Viet Cong were now digging shallow holes which offered protection; the implication was that previous trenches and holes were too deep and that the walls collapsed. The defector further indicated that a mixture of bombs and napalm should be employed to saturate a specific region instead of spreading ordnance over a large target area. 137/

On 27 August 1966, the 7th Air Force Commander was tasked by COMUSMACV to undertake an analysis of the relative effectiveness of B-52 versus tactical air strikes against area-type targets. The MACV Chief of Staff noted the analysis would concentrate on the possibility of focusing weight of attack against specific targets within a larger area target. 138/

The 7th Air Force commander observed that, in the SEA theater of operations, there were not the massed enemy troop formations or large logistical concentrations that could justify an increase in the ARC LIGHT Force. He said it was difficult to find enough good targets to apply ARC LIGHT force against with an effect which would justify the resources expended. An increase would not serve to encourage greater selectivity in B-52 employment. The B-52 had made a significant contribution to the war, but a contribution which must be measured in terms of what it might have prevented, rather than in quantitative terms. This would continue to be the case unless the enemy committed the error of massing. The requirement was for highly selective application of a relatively small but powerful force, and two B-52 squadrons were sufficient. General Momyer supported the concept of basing B-52s closer to SVN for more efficient use (e.g. by reducing flying hours, tanker requirements and reaction time). However, reduced reaction time was considered to be a secondary consideration, because the nature of the weapon system dictated its most effective use on preplanned missions-not as a substitute for tactical fighters or artillery. 139/

General Momyer reflected that, when the heavy bombers had been used for close support in the past, there had always been a large concentration of

troops, varying from five to seven divisions. The bombers were being used to soften up enemy positions for follow-on exploitation attacks. Usually, these bomber attacks were followed by fighters hitting detailed positions. When used in this manner, or to prevent a major enemy breakthrough, the bombers made a very substantial contribution to the ground campaign. 140/

The 7th Air Force Commander noted that none of these factors prevailed in the SEA theater of operations. He observed there had been no large logistical concentrations and moreover, no multi-division attacks. He said: 141/

> "...Consequently, we have to be careful about overstating the case for B-52s in this environment. I do not believe we should look at B-52s like fighter forces for quick reaction. The problem of loading, briefing, navigation, terrain unfamiliarity, coordination with other air and ground operations all tend to stylize bomber operations to a degree...."

He indicated that the B-52 bombers should be used on preplanned missions, where there was a positive scheme of maneuver planned for ground action. He pointed out that, for quick reaction against a suspected rapid assembly of enemy forces, there were sufficient fighter-bombers to contain an attack until the bombers could be brought in at a later time. He said: 142/

> "...We know, apparently fairly well in advance, that these enemy concentrations did not happen in a matter of a few hours like the pattern has been with classical forces. This is true because of terrain and mobility. Fighters can handle most situations of these limited concentrations until we are set to bring in the bombers...."

September strikes were directed at infiltration supply points and truck

parks, storage areas, troop concentrations and bivouac areas.[143]

Ground follow-up reports were limited and continued to show little tangible results for most strikes. They did, however, contain descriptions of damage to foliage and terrain. There were some indication, also, that the enemy may have received prior warning of strikes. There were further indications that the enemy had taken action to minimize casualties as a result of the possible prior warnings received.[144]

On 19 September, the B-52 bombers hit both sides of a trail just north of the Ben Hai River. There were indications the strike might have caught a large number of enemy in the area. The FAC reported that several fresh trails through the bomb craters converged into one larger trail, an estimated two to four feet wide. Since none were observed through several bomb craters to the south of the main trail activity, the FAC presumed it was quite possible that many troops were in the area at the time of the strike and had moved north afterward.[145]

One of the best strikes in September, from the FACs visual BDA, occurred on the 22nd, on the lower part of Route 103. Bombs were released several hundred yards on each side of the road. Much of the foliage was destroyed and several hundred storage holes and personnel bunkers were disclosed. A suspected base camp was exposed and damaged. Suspected piles of supplies were put to flames. Areas of importance to the enemy, as revealed by fresh trails through the bomb craters and debris, were observed and exploited.[146]

Other reports, however, showed that some of the strikes did little, if

any, material damage.[147] A ground follow-up of the Anchor Chain II strike, on 11 September, disclosed no recent bomb damage in the target area. The report said that "craters appeared to be old, contained water and their rims eroded from rainfall."[148] Likewise, the follow-up report on Quang Tri 405 showed disappointing results. While vegetation in the impact areas was completely destroyed, only one large hut was almost completely destroyed; the remaining four sleeping shelters, made of bamboo, were not touched.[149]

About 90-95 percent of the personnel, and probably the bulk of the supplies moving from NVN to SVN, as of late November 1966, had followed routes which would cross the Laos portion of the air-delivered barrier system. Friendly air operations in the Laotian Panhandle during 1966 had not effectively reduced personnel infiltration through that corridor-evinced by the increased enemy strength in SVN during the period. However, by denying the enemy free use of the Panhandle, friendly air interdiction had held enemy resupply and stockage levels below those which otherwise could have been achieved over these routes. Local shortages, especially in the DMZ area, had been reported. This could be attributed to friendly air and ground operations. However, there had not been, (as of late November), any evidence of overall, critical enemy shortages of ammunition and other supplies.[150]

During November, 59 ARC LIGHT missions, were flown in South Vietnam. The program provided 531 sorties against enemy targets in I, II, and III Corps, and supported U.S. ground operations Attleboro (15 strikes), Paul Revere (15 strikes), and Thayer II (3 strikes). B-52 strikes were delivered in the following Provinces: I Corps - Quang Tri, Thua Thien, Quang Ngai;

II Corps - Binh Dinh (4 strikes), Kontum (19 strikes), Pleiku (2 strikes); III Corps - Phuoc Long, Binh Long, Tay Ninh (21 strikes), and Hau Nghia. 151/

During the month, B-52s delivered ordnance on six VC/NVA regiments (271st VC, 88th NVA, 95B NVA, Song Ma NVA and 101st NVA), a VC Division (9th Light Infantry), and the VC top echelon, COSVN. In addition, enemy bases, staging areas, food caches, ordnance storage areas, command posts, medical facilities, arms depots, weapons factories, communications installations, and infiltration networks were also targeted. 152/

Follow-up reports confirmed the effectiveness of the ARC LIGHT forces against suitable targets. 153/

Ground follow-up operations during November yielded the following B-52 effects: 154/

Binh Dinh Province

...ALFA-I: Ground forces found that two tons of rice, 40 structures, 100 foxholes, 23 huts, and 100 lean-to's had been destroyed. Fifteen bodies, some 30 to 50 structure, weapons, ammunition, and miscellaneous equipment were also discovered....

...ALFA-40: The strikes destroyed a camp site and 40 bunkers scattered throughout the area; other bunkers, foxholes, and huts were undamaged. Equipment found consisted of 23 hand grenades, four weapons, and four bags of medical and surgical supplies; a ton of rice was destroyed by ground forces. Total enemy losses as a result of the follow-up and the air strike were 41 killed (11 body count, 30 possibly), two ralliers, and 50 detainees....

...ALFA-4: Four bunkers, ten foxholes, and three huts were destroyed, and ground troops found and destroyed 4,400 pounds of rice. A small quantity of equipment

and supplies was also discovered along with documents that indicated the area had been occupied by elements of the 2nd VC Regiment. Enemy losses from air and ground operations were one killed and two captured....

Tay Ninh Province

...ALFA-44: Undergrowth was completely destroyed up to 100 meters from the point of detonation. Ground troops found small foxholes, rope-vine structures, and prepared sleeping places for a platoon-size element. Several bombs had caved in what might have been tunnels or fortifications....

Hau Nghia Province

...ALFA-20: Ground forces found a tunnel containing an ammunition cache, seven light machine guns, and several documents. Sleeping quarters, bunkers, tunnels, and trenches were scattered throughout the area; several had been destroyed by direct hits. Four 40mm grenades, a rifle, six Chinese Communist bayonets, several machine guns, 32 rifle grenades, and 6,000 rounds of small arms ammunition were also discovered....

The JCS, on 9 November, noted that his message of 12 September had required a comprehensive report on strike results obtained during ground exploitations. He noted the COMUSMACV report of 23 August was an excellent example of a ground follow-up summary report. 155/

The JCS noted that one of the most effective means of assessing ARC LIGHT strike results was through the review of the information contained in ground follow-up reports. He said that the timely receipt of such reports provided the data required to respond to questions concerning ARC LIGHT effectiveness. JCS expressed disappointment in the small number of reports received, however, he appreciated the fact that the military situation may have created unavoidable delays in the reporting by field units. He requested

a review of ARC LIGHT ground follow-up operations since 1 October 1966. This review would include the identification of missions scheduled, together with the ground follow-up operations conducted. He desired a summary report by 18 November 1966.[156]

During General Westmoreland's conference, on 20 November, General Weyand touched on the effectiveness of the B-52s in Operation Attleboro:[157]

> "...We had wonderful luck with the B-52 strikes. We got 18 strikes and the 25th and 1st Division used them like close air support or long range artillery. A B-52 strike severely damaged COSVN headquarters and another landed directly on the 9th Division headquarters. These strikes severely disrupted the enemy's command chain...."

ARC LIGHT missions supported ground actions including Operation Prairie in the DMZ area and Paul Revere III and IV in Kontum Province. Also hard hit were VC encampments, storage areas and infiltration routes in Thua Thien, Binh Dinh, Quang Ngai and Tay Ninh Provinces. Strikes were targeted against suspected headquarter bases of COSVN (Central Office SVN/VC Hq), the 610th and 630th NVA Divisions, and the 9th VC Division. As usual, substantive ground follow-up reports were not received for most strikes, although sporadic summaries of FAC reports did reveal that bombs landed in target areas, caused secondary explosions and uncovered installations and fortifications.[158]

The following lone example is a report that does provide a suggestion, aside from ambiguous POW reports, of success of a strike:[159]

> "...This information is based on visual reconnaissance (VR) by FAC: Strikes 588 and 589, GREEN MAT 1 and 2, Quang Tri 118 and 160, 2300H 22 Sep. Reconnaissance

was from XD 740 838 Northwest to XD 755 837 south to XD 735 787 east to XD 751 792. The FAC estimated 30 percent area coverage in the northern half of the target area and 50 percent area coverage in the southern half. At XD 751 834 a permanent underground structure (10x20 feet) appeared to have been struck by a hit within ten meters. The FAC considered the structure badly damaged. Within a 100 meter radius of XD 753 830, numerous storage/personnel bunkers and 100 meters of trenchwork were uncovered. At XD 755 822 the FAC noted heavy foot traffic through two 1,000 pound bomb craters. Based on this activity the FAC requested TAC air strikes at XD 757 822. Two medium secondary explosions from ammo stored in underground bunkers, resulted from these strikes. At XD 739 813 signs of moderate foot traffic through 1,000 pound bomb craters were noted. The FAC estimated that there was a probable base camp and bivouac area in the immediate vicinity. At XD 745 808 there was moderate foot traffic through a bomb crater and 25 meters to the east the FAC estimated that 100 storage or bivouac bunkers were uncovered. At XD 754 895 the strike ignited a large pile of stores or a structure that was still burning at 1115H 23 September 1966. The FAC noted a direct hit on structures at XD 751 796 and four personnel bunkers and 30 meters of trenchwork leading out from the structures were uncovered. The FAC estimated that an additional strike against the target area could achieve similar results. Secondary reconnaissance in the area revealed the area at XD 740 816 had approximately 60 personnel and storage bunkers uncovered. There were two five foot long "V"-shaped storage trenches uncovered on the east edge of Route 103 at XD 748 818. At XD 749 815 approximately 30 underground bunkers were uncovered. A trail at XD 741 805 was uncovered that leads into a heavily wooded area to the west...."

The majority of ground follow-up reports, however, indicated little significant damage. Examples of such strikes are highlighted by date of strike and results:

...Mud Bath, 1 Oct. There was no apparent bomb damage to the foxholes and the bunkers in the impact area. However, clothing and debris indicated that several huts in the vicinity of the bunkers were completely demolished.... 160/

> ...Old Head, 5 Oct, All structures were located approximately 30 meters from the closest bomb impact area. There was no apparent damage to the bunkers and the hut containing the rice cache. The thatched huts were damaged by bomb fragments and blast effect but remained standing.... 161/
>
> ...Fox Box, 15 Oct, two straw huts on stilts were found within the area. Neither of these huts showed any damage as a result of the strike. No other installations, tunnels, fortifications, or caches were found in the target area.... 162/
>
> ...Hot Pipe, 21 Oct, there were no apparent installations, tunnels, or supply caches in the bomb target area.... 163/
>
> ...Alfa 6 and Alfa 44, Foxtrot 85 and 86, 23 Oct, effects of bombs on installations - several craters appeared to have filled in what might have been tunnels or fortifications. Foxholes and bunkers showed no visible effects of damage.... 164/
>
> ...Strike Red Mat, 26 Oct, there were no installations, tunnels, fortifications, or supply caches in the bomb areas.... 165/

Lessons Learned Thru Effectiveness Analysis

General Pearson noted that, in Operation Harrison, four daylight helicopter assaults and one night assault were made to exploit B-52 strikes. He said that, at first, he was disappointed because of the low body count. He later learned the enemy had been thoroughly disrupted through this attack. The result was a large number of ralliers. General Pearson made the following observations: 166/

1. Air strikes should use more napalm for strikes in target area.
2. Fighters should be equipped with noisemakers.
3. Dampening air activity in an area and going in at night produces the greatest surprise.

CHAPTER VIII

TARGET NOMINATIONS AND JUSTIFICATIONS

Target Nomination and Request Procedures

To facilitate the nomination of lucrative ARC LIGHT targets, COMUSMACV, after consultation with the RVN JGS and the CG, I CTZ, granted authority on 20 January 1966 to the CG, CTZ, for direct nomination of prospective B-52 targets to Hq MACV, through the CG, III MAF. In doing so, COMUSMACV cited criteria for nomination: (1) Targets should warrant bombing by B-52 aircraft as opposed to tactical aircraft; (2) targets should persist through the time required for development, approval and strikes; (3) nominations could be made as developed, but not later than eight days prior to recommended date of strike; (4) targets of extreme emergency, or targets of unusual opportunity could be nominated not later than 24 hours prior to recommended strike time, and nominated targets should be accompanied by all significant intelligence and other pertinent data. 1/

Any one of the four ARVN Corps Commanders, Commanders of the two Free World Field Forces, Vietnam (IFFV and IIFFV) or the Commander of the III Marine Amphibious Force, could file a request with MACV for an ARC LIGHT strike in support of their ground operations. These requests fell in two categories: one concerning preplanned to support future ground operations (48 hours for planning) and one considering immediate strikes in response to a fast-developing target which was time sensitive or developed as a direct result of forces in contact. J-2 MACV was responsible for developing

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Month ('66)	Strike Distribution LAOS	DMZ	NVN	SVN	Total Strikes	Total Tonnage
Jan	0	0	0	372	372	6118.8
Feb	0	0	0	315	315	3570.5
Mar	0	0	0	407	407	5989.2
Apr	54	0	30	336	420	9195.9
May	102	0	0	322	424	9192.8
Jun	66	0	0	334	400	7426.5
Jul	9	24	0	444	477	9410.9
Aug	34	12	0	421	467	8563.1
Sep	39	118	47	229	433	8069.7
Oct	65	32	24	295	416	8347.5
Nov	27	0	0	515	542	10,677.0
Dec	42	78	35	504	659	13,512.0
TOTALS	438	264	136	4,494	5,332	100,073.9

ARC LIGHT STRIKES - 1966

Fig. 13

[redacted] SECRET

targets not in support of a specific ground operation. The Combined Intelligence Center Vietnam (CICV) nominated targets based on collected intelligence information. MACV was responsible for getting host government clearance before submitting an ARC LIGHT request to CINCPAC. ARVN approval was obtained from the Province Chief concerned, or the central government. For strikes in Laos, the U.S. Ambassador was the approval agency. 2/

The machinery for getting a strike going and the coordination with interested agencies in the theater is explained in Chapter I.

JCS, on 5 February, informed CINCPAC that there was a continuing need for timely information relative to results of ground follow-up operations to ARC LIGHT strikes. He further requested that ground follow-up operational results in connection with future strikes be provided as these operations progress. 3/ This would have bearing on targeting criteria, B-52 capabilities and BDA results. In this connection, COMUSMACV later in the month arranged to directly provide CINCSAC and 3d AD with BDA information. This information would be used for analysis and briefing of results of ARC LIGHT strikes. 4/

COMUSMACV, anticipated he might be queried on the extent to which B-52 capabilities were being exploited and tasked his J-3, in collaboration with J-2 and the 2d Air Division, to conduct an objective appraisal of the B-52 program. This appraisal would recommend ways and means of ensuring optimum utilization of the ARC LIGHT strike capabilities. This ad hoc group would

also formulate answers to several potential questions. Of particular interest was whether maximum use of the B-52s was being made; whether procedures for laying on strikes were as streamlined as they could or should have been; or whether anything could be done to increase the effectiveness of the B-52 weapons system and air strike sortie effectiveness. 5/

The 2nd AD reviewed the existing and projected ARC LIGHT program with the view to recommending measures to insure sortie effectiveness. In this connection, it was noted that a full range of air power existed and was programmed to increase. Moreover, the supply of air munitions was critical and expenditure and priority of use had to be closely monitored. He pointed out that a target acquisition system did exist, with general priorities assigned for air strikes. 6/

It was the 2AD assumption that the force structure, proposed in Case III, IIA at the Honolulu Conference, would be approved with a corresponding increase in the sortie rate. Referring to the munitions problem, General Simler assumed the supply would increase in the latter part of CY 66. Further, that the level of effort would be increased for specific air strike programs as the aircraft/munitions inventory increased. He indicated that, to enhance air strike sortie effectiveness, an analysis had to be made of sortie utilization for DRV/Laos and the RVN. His conclusion was that, despite limiting factors, the employment of air power in SEA could be enhanced through procedural and management improvements in the utilization of available combat sorties. Based on this, General Simler recommended to MACV that the ARC LIGHT program be increased as programmed and the area of

operations for those forces be expanded. [7]

COMUSMACV wanted ARC LIGHT target nominations to contain detailed information on target composition so that requirements for aircraft, sorties, munitions, and munitions fuzing could be properly determined. [8]

In this connection, 2d Air Division noted that the primary purpose of the B-52 strike program was the destruction of command and control systems and personnel, supply facilities, base camps, training facilities, LOCs, as well as harassment and psychological effects. Targets were located in enemy-controlled areas where friendly ground forces frequently had not been able to operate. No set targeting criteria could be used inasmuch as each target was subject to case-by-case examination. Targets were selected based upon information from photographic analysis, IR, SLAR, SPAR, ARDF, VR and reports from various personnel sources. Targets selected for ARC LIGHT strikes were not generally suited for attacks by tactical forces. It was further noted that B-52 targets had been generated which exceeded the capability of the ARC LIGHT strike force. An average of 12 targets per month had not been struck due to the lack of sorties. [9]

The 2d AD pointed out that ARC LIGHT forces had been diverted to contingency targets of massed enemy forces, which resulted in delay or deletion of strikes against approved targets. The value of these diversions, which occurred during Operations Silver Bayonet, Harvest Moon, Double Eagle and Masher had not been determined due to lack of strike results. It was pointed out that extreme care should be exercised to insure that all

ARC LIGHT strikes be conducted against only those targets holding high promise of immediately affecting the Viet Cong or PAVN forces. Conversely, no strikes should be conducted against targets which might not achieve significant results. 10/

The 2AD assessment was that the mountain passes of Nape, Mu Gia and Barthelemy, known infiltration routes leading from North Vietnam through Laos to South Vietnam, were excellent targets for B-52 attacks using bombs with delayed fuzes. These passes were being covered with a single B-66 and F-105s in formation, releasing bombs on signal from the B-66. The 2AD felt the B-52 was more accurate and efficient means of accomplishing this task. In addition 2AD noted there were other LOCs currently covered by B-57s which could be struck by B-52s using time delay bombs. This, it was indicated, would free B-57s for application to more suitable in-country targets. 11/

In this connection, it was noted ARC LIGHT targets were developed primarily at the J2 MACV level, by the Combined Intelligence Center (CICV) and that COMUSMACV was the final approving authority for B-52 targets in SVN. 12/

On 10 March, Major General Larsen informed COMUSMACV that recent experience indicated increasing mobility would be the key to the conduct of operations in the II Corps Tactical Zone. He noted, in such operations, targets suitable for ARC LIGHT strikes appeared on short notice and were, therefore, essentially targets of opportunity. In the III Corps Tactical

Zone, he pointed out, the targets had been, and most likely would continue to be, more static in nature. General Larsen felt that, under these conditions, the targets in the III Corps Tactical Zone could be generated over a period of months and that they could be accurately pinned down. 13/

The rules for submission of targets did not allow sufficient flexibility for attacks on relatively short notice. General Larsen's concern was that the rules required an ARC LIGHT strike request to be submitted at least one week prior to the time on target. Three targets which, in his judgment, were most lucrative and important to the success of an operation, were lost because of a request refusal by the 1st Air Cavalry. General Larsen recommended a system be designed which would be more flexible and responsive to his needs, a system capable of quick reaction against fleeting targets of opportunity and those targets considered important to the success of key operations. This had become a necessity since the war in II Corps Tactical Zone was moving rapidly. 14/

COMUSMACV, on 20 March, told General Larsen he was in agreement and supported the requirement for an ARC LIGHT targeting system as flexible and responsive as possible to meet the needs of the respective Field Commanders. He told General Larsen that many changes in this direction had been made, with the most recent being the passing of authority to approve ARC LIGHT targets from the Department of State to the JCS and, subsequently, to CINCPAC-CINCSAC. Improvement was also noted in the scheduling of ARC LIGHT strikes. Schedulings he pointed out, were being made approximately 48 hours prior to TOT requests to preclude an inflexible commitment program. For

this reason, both air and ground operational planning were important considerations. The development and submission of target nominations, well in advance of TOT, when possible, would allow for proper air and ground operational planning. By this means, the air support requested by the commanders would be more certain. COMUSMACV indicated that, while flexibility was important, experience had proven it wise to make strikes against targets developed through full utilization of all available sources of intelligence, information that was properly correlated. Such a procedure would produce more reliable, appropriate and consequential results. 15/

The increasing need for ARC LIGHT strikes continued through April. Justifications and requests for strikes were carefully scrutinized so as to place limited ARC LIGHT resources on the most pressing targets. Commanders in the field were sometimes allocated less force than they had requested for a particular operation.

On 7 April, COMUSMACV visited the 1st Division Tactical Command Post, in Phuoc Tuy Province, and discussed tactical matters and requirements for B-52 strikes with General Depuy. General Westmoreland received General Depuy's request for support and concluded that the final phase of a planned operation could be carried out with one strike instead of the three requested. COMUSMACV asked that the requirement be reduced since B-52 strikes were seriously needed in other areas. 16/

General Westmoreland received intelligence, on 13 April, indicating an estimated NVA regiment (approximate strength 1,000) was poised to attack the Khe Sanh Special Forces Camp in Quang Tri Province. 17/ He estimated, based

on reports of enemy forces and weapons in the area, that a mortar attack, of the type launched against this camp in January 1966, could be repeated. This could be followed by enemy troop attack designed to overrun the camp. COMUSMACV pointed out that, in the event of such an attack, it would be difficult to support the camp with sufficient relief forces inasmuch as the only ground route to the camp, Highway 9, had been closed for over a year, due to the destruction of bridges along the route. He noted that, while the Xom Chan Airport near the camp could allow the air transport of forces into the area, it was difficult to defend and, moreover, prevailing low ceilings in the area hindered large scale airlifts. 18/

COMUSMACV noted that Khe Sanh was the northernmost Special Forces Camp in SVN and that it was extremely important this camp not be lost to the enemy. He did not think it desirable for friendly forces to be drawn into a defensive battle for the area and recognized air power as the answer. He said that air power would be the best means of defense and possibly could preclude an attack. For this purpose he highly recommended an ARC LIGHT strike, noting that such an attack had been used previously to solve a similar problem. 19/

His request for the ARC LIGHT strike was made on 18 April and noted that the target was located on an infiltration route emanating from Laos. The location was reported to contain a small VC base area which could support enemy personnel and equipment moving into Quang Tri Province. In addition, it was believed that the area contained a staging base and a command and control center which could support Viet Cong/NVA offensive action

against the Khe Sanh Special Forces Camp.[20]

COMUSMACV was also concerned with movement of enemy personnel and equipment into Quang Tin Province. A few days after his request for ARC LIGHT support for the Khe Sanh Special Forces Camp, General Westmoreland presented a justification for three ARC LIGHT attacks against Bravo Targets 17, 18, and 19, in Quang Tin Province. He noted that three NVA, two Viet Cong and one reconnaissance battalion had been sighted, on 4 April and that the III MAF had informed, on 22 April, that three additional VC battalions were undergoing training in the target area. He also pointed out agent information indicated enemy intent to attack the Tien Phouc Special Forces Camp.[21]

Intelligence, on 26 April, also, indicated that Quang Ngai 17 and 18 were suitable for light load ARC LIGHT missions with the objective of keeping the Viet Cong and NVA units near the Tra Bong Special Forces Camp off balance.[22]

COMUSMACV informed the Commanding General, II FFORCEV, on 27 April, there would be no deviation in scheduled strikes unless direct ARC LIGHT support was required for the safety of friendly forces.[23] It had been noted earlier in the month (in a MACV report) that B-52 bombers could be diverted from planned missions to support ground tactical operations. The report noted, however, that the distance between B-52 bases and targets was too great to allow the use of B-52s in "on-call" tactical situations. The report indicated that, for this reason, the B-52 were employed primarily in planned missions against permanent Viet Cong base areas.[24]

On 3 June, CINCPAC informed COMUSMACV he had reviewed the results of the strikes and that his review indicated a significant increase in the number of targets in Laos during the months of April and May. He said, "I'm certain you will agree that our mutual concern is one of obtaining optimum returns per sortie." 25/

Admiral Sharp noted that the B-52 strikes in SVN had the bonus effect of demoralizing the Viet Cong. He added that these B-52 strikes had discouraged the Viet Cong from massing his forces and that hitting his sanctuaries, strongholds and base areas in SVN, as well as strikes in Laos had been productive. He pointed out that such targets as Fly Traps 5, 6, and 7, and others pinpointed by Shining Brass, were good examples of profitable strikes. 26/

Admiral Sharp noted, on the other hand, that a few of the targets in Laos (i.e. truck parks and storage facilities) might have been more economically destroyed by tactical aircraft, particularly during good weather. He added his appreciation of the operational problems imposed by weather and the necessity for continual harassment of the infiltration activity through Laos. 27/

CINCPAC said that COMUSMACV's thoughts on just how 'we' might obtain more significant targets for ARC LIGHT strikes and a more judicious expenditure of ordnance would be appreciated. He felt that, during that period of reduced munitions allocations, it might be that strikes on known enemy concentrations in SVN would give better returns than the LOC targets in Laos. 28/

COMUSMACV responded the following day, informing CINCPAC that he fully and enthusiastically supported the objectives of obtaining the optimum returns per ARC LIGHT sortie; that the attainment of this objective entailed detailed consideration of two factors: [29]

> The operational purpose of the strike.
>
> The availability of timely, reliable intelligence as the basis for target selection.

COMUSMACV pointed out that the effort in Laos was designed to assist in destroying an integrated enemy logistics system associated with well-defined LOCs. He said the U.S. air programs in the Panhandle were, in a very real sense, directed against a vital portion of the enemy's communications zone. Noting that more than harassment of infiltration activity was involved, General Westmoreland said he wanted to identify and destroy depots, staging areas, maintenance facilities, transfer points, truck parks, bridges, ferry sights, control installations and road repair capabilities. [30]

With regard to intelligence, COMUSMACV indicated that he enjoyed the benefit of a high order of FAC saturation in the area in question. Rich dividends had been produced as a result of the increasing FAC familiarity with the enemy's logistic system and his pattern of activity associated with the operation of the system. He pointed out that the TIGER HOUND record was illustrative of effective intelligence based largely on visual observation. He noted moreover, that the enemy had been operating overtly throughout his LOC network in southern Laos which had afforded him an intelligence advantage generally unknown in SVN. [31] He said: [32]

"It is my considered judgment, in this regard, that our targeting in Laos has been supported more generously by effective intelligence than has the bulk of our targeting for SVN.

"How might we obtain more significant targets for Arc Light strikes and more judicious expenditure of ordnance? I know of but one solution: Periodic review in depth of targeting status and procedures. This is an undertaking in which I participate personally, the most recent instance having occurred within the past several weeks. Coupled with this must be command approval of each strike based on detailed assessment of all factors, including intelligence. I personally approve each Arc Light target as an outgrowth of this system."

General Westmoreland informed CINCPAC that, for the above reasons, he was in a position to assure CINCPAC that his selection of these targets not only reflected maximum refinement of available information, but took full advantage of all assessment techniques and targeting expertise available to MACV. Of prime importance was the fact that both Laotian and SVN targets were competing for selection, based on the merits and supportability of the target and not upon any preference for geographical division of effort. 33/

COMUSMACV noted that, since 11 December 1965, 240 B-52 sorties had been carried out under an approved program as follows: 34/

DATE	LAOS	NVN	SVN
Dec 11-31	1		25
Jan	0		26
Feb	4		33
Mar	5		33
Apr	22	2	38

DATE	LAOS	NVN	SVN
May	10		35
Jun 1-4	3	—	3
	45	2	193

General Westmoreland noted that only about 20 percent of these sorties had been directed against targets in Laos and that, in one sense, this was at the expense of more lucrative targets in SVN. 35/

COMUSMACV recommended to CINCPAC that the approach being taken to ARC LIGHT targeting be continued. He said he was satisfied it best supported the objective of obtaining optimum returns per sortie. 36/

On 13 June 1966, MACV prescribed the responsibilities and procedures for development, nomination, and selection of targets for B-52 conventional weapon strikes within SVN. These strikes were aimed at accomplishing five objectives: 37/

1. Foremost was the destruction of enemy defensive, logistic, training and control installations.
2. Enemy lines of communication would be interdicted.
3. The enemy would be harassed so as to degrade his capability to take offensive action.
4. Heavy aerial bombardment would have psychological effects which would help deter the enemy through full exploitation.
5. In specific areas under preparation for planned offensive combat operations, these strikes could help soften enemy defenses.

COMUSMACV or his designated representative had the responsibility for final selection of targets, which had to be of a nature warranting bombing by B-52 aircraft, as opposed to tactical aircraft; further these targets had to persist through the time required for development, approval and strike.[38] ARC LIGHT target nominations would come primarily from four sources: COMUSMACV and his staff, U.S. field commanders through U.S. channels to CICV, ARVN field commanders through ARVN channels to CICV, and from within CICV.[39]

Under ordinary circumstances, target nominations could not be made later than seven days prior to a recommended strike date. In instances of extreme emergency, or for targets of unusual opportunity, such nominations could be made not later than 24 hours prior to the recommended strike time. The RVNAF would be encouraged to participate in this program and the MACV ACofS-J2, and Joint General Staff (JGS) issued a directive establishing pertinent responsibilities and procedures for this purpose. It was felt that coordination between U.S. and the RVNAF, at various levels of command, was essential. The initiation and development of targets would be the responsibility of the MACV ACofS-J2. In addition, J2 would be responsible for the following: 1. Collate targets submitted by subordinate U.S. Commands and the ACofS-J2, RVNAF, JGS. 2. Nominate targets and present to ACofS-J3 and COMUSMACV for strike consideration. 3. Furnish intelligence justification to higher headquarters. 4. Keep subordinate commands informed of changes in status of target nomination in their areas of interest.[40]

The ACofS-J3 would arrange for the presentation to COMUSMACV of targets and supporting data received from ACofS-J2, JGS, RVNAF, and others as directed by COMUSMACV. In addition he would be responsible for securing requisite authority and coordinating operational scheduling with concerned command for target selected by COMUSMACV. Subordinate commanders would develop targets in accordance with the policy outlined in the directive; target nominations would be forwarded to Hq MACV by the subordinate commanders. In addition, the commanders in the field would initiate coordination with appropriate RVNAF authorities. Details on the procedures for the development, nominations, and selection of targets for ARC LIGHT strikes within SVN are presented in MACV Directive 381-22, dated 13 June 1966. 41/

On 29 June, COMUSMACV informed that the number of aircraft normally required against a specific target for ARC LIGHT should not exceed the number requested in an ARC LIGHT message. General Westmoreland told CINCSAC he preferred that a degradation be made in target coverage, rather than to have over-saturation on a second target, in a case where there was no chance of a spare aircraft replacing an aborted B-52 on the same strike mission. 42/

Although the scope of the ARC LIGHT program was increased sharply in 1966, at the end of July there were still more targets available in South Vietnam and Laos than could be struck on a timely basis. The reason this increase could not take care of the available targets was primarily the result of continual improvement of MACV's overall intelligence structure with the resultant capability to locate the enemy and his facilities more accurately,

as time went on. Also, with the continuing increase of enemy forces and a corresponding increase in U.S. Allied, and RVN forces, direct support targets were requiring an ever-increasing ratio of the available force structure.[43] For this reason the MACV Deputy Chief of Staff informed his J-2, J-3 and J-6 that the following areas were to be alerted for B-52 programming:[44]

> "...Special targets of opportunity. War Zone "C" (This would be targeted at least once a month). Quang Tri-Thua Thien Province. The 620th Division. The 610th Division, Binh Dinh...."

A growing number of strikes were being integrated with the field commander's immediate operational plans and tactical situations. It became apparent in July that the ARC LIGHT program would be targeted more against fleeting targets, such as troop concentrations in contact, and less against persistent targets, such as base camps.[45]

During the mid-year assessment of the ARC LIGHT targeting and strike program plans, the 7th Air Force pointed out the strict limitations on B-52 bomber use. He noted there were distinct advantages, with no significant disadvantages, for MACV to obtain 7th Air Force coordination during the basic targeting program and in the strike utilization planning stages, prior to the submission of strike requests to CINCPAC for final approval. This coordination would allow full utilization of the 7th Air Force staff expertise and facilities in the mounting and control of the ARC LIGHT missions. The 7th Air Force pointed out the advantages which would accrue from such an arrangement:[46]

...Tactical Air: Planning and employment of tactical air with the ARC LIGHT program could be afforded full integration....

...Air Operational Functions: The detailed air operational functions would no longer have to burden the MACV staff. This would still permit MACV to retain control of the basic targeting policy and priorities....

...Strike Capability: Such an arrangement would bring the total USAF strike capability under the cognizance of the Air Component Commander. This would allow MACV to take advantage of the knowledge and expertise of the 7th Air Force....

...Established JAGOS: The arrangement would allow MACV to take full advantage of the established JAGOS to coordinate, control and monitor the ARC LIGHT missions....

The 7th Air Force concluded that developments, beginning in mid-July, made wider participation by the 7th Air Force in the ARC LIGHT program even more advisable. 47/ The 7th Air Force gave the following supporting factors:

...The program was under planned expansion. A diversion capability was being instituted. There was a probability of an increase in immediate missions....

The CG II FFORCEV Long Binh, on 4 August, urged COMUSMACV that target nominations made in support of ground forces operation be given priority over target nominations which do not directly support ground operations. 48/

Early in August, General Crumm asked COMUSMACV why there were not more B-52 strikes between 2300 and 0300 hours. COMUSMACV noted there were few strikes during siesta time between 1200 and 1400 hours. On 13 August, MACV J-3 in conjunction with the 7th Air Force, was tasked to look into the

timing of strikes.[49]

In response to a JCS message of 27 October 1966, SAC discussed the selection of ARC LIGHT targets. He said that a reduction in the target size would not necessarily mean an increase in density of destruction for a given number of aircraft. He noted that, with the offsets available in South Vietnam and Laos, the CEP had averaged about 1,500 feet. This fact, plus the target size, were the influencing factors in selecting the desired points of impact (DPI). He gave an example of how this worked: Where a target box had a narrow side of 3,000 feet, he would select a single DPI and program the train length according to the target length. Under this method, the reduction of the target below a width of 3,000 feet would not influence the selection of the single DPI. The density of destruction, in either case, would be achieved by the random distribution around the DPI and the normal dispersion of the bombs.[50]

SAC pointed out that the problem was different if the object was to attain a density of destruction. Where density of destruction was the primary goal, it could only be achieved by the addition of aircraft or, to some extent, by increasing the number of weapons per aircraft. Increasing the number of weapons per aircraft was a matter of availability. He felt this increase would be realized when SAC had sufficient munitions to exploit the full capability of the B-52D, and noted this would mean 108xMK-82s or 66xM-117s as compared to the existing loads of 24xMK-82s and 24xM-65s.[51]

The MSQs were another consideration. SAC said that the use of MSQ

sites for strikes, when high density was required, would be a second consideration; that with the lower CEP that could be expected, additional DPIs could be programmed. This could be done with more effective target coverage, or the target box could be reduced, commensurate with the CEP. SAC noted that his MSQ CEP, on missions up to that time, was about 1,000 feet but that, as additional missions were run and positive indications were received (K-17 Photo scores), this CEP would be refined. He provided the following important factors in considering bomb density: 52/

BOMB	FUZING	RADIUS TREE BLOW DOWN
M-117	Instant	90 feet
M-117	Delay	48 feet (including 35 foot diameter crater)
M-65	Instant	105 feet
M-65	Delay	70 feet (including 38 foot diameter crater)
MK-82	Instant	65 feet
MK-82	Delay	30 feet (including 22 foot diameter crater)

In addition, he provided significant factors impinging on the considerations for target lengths: 53/

> " ...The bomb train length for the maximum area coverage, SAC noted, was the diameter of the area of effectiveness of the weapon multiplied by the number of weapons carried. The externally hung bombs, normally, released simultaneously with those carried internally. However, it was possible to delay, if desired, the release of the 24 externals to extend the overall train length. The optimum train length could be reduced downward, of course, to a minimum of about 1,200 feet with commensurate overlap of weapons effects. The maximum internal load by type bomb was found to be:
>
> | BOMB | MAXIMUM INTERNAL LOAD |
> |---|---|
> | M-117 | 42 |
> | MK-82 | 84 |
> | M-65 | 24 (Internal only)" |

SAC noted that the most critical factor in considering target width was the CEP. Thus, the reduction of the target width would be limited to a minimum of about 3,000 feet (based on the assumption the target could be attacked along the long axis).[54]

CINCPAC, on 28 October, had requested comments pertaining to reducing the size of ARC LIGHT targets. JCS, the next day, suggested smaller targets to obtain greater bomb density.[55]

COMUSMACV, on 4 November, told CINCPAC that tactics to be employed against given ARC LIGHT targets were constantly under study to obtain optimum results. He noted that past experience indicated that intelligence available to him was not sufficiently definitive to allow point-bombing tactics. He emphasized that ARC LIGHT targets in SEA were not the traditional hard targets associated with saturation bombing. Unlike targets for saturation bombing, the precise location of ARC LIGHT target elements usually were obscure, even in permanent base areas. Moreover, the vulnerability of the target was decreased by the passive enemy defense measures. Added to the imprecise location of the target were the strict security measures, secrecy, concealment afforded by the jungle environment and operations involving frequent displacement.[56]

COMUSMACV pointed out that each target was evaluated to determine the optimum tactic or ordnance to be used. Moreover, target areas, in all cases, were condensed as much as possible with relation to the available information to achieve optimum results, utilizing minimum strike resources. He

noted the MACV "rule of thumb" did not preclude committing more aircraft, or further reducing the target area, to achieve greater destruction for a target warranting maximum weapon density. He noted that definitive intelligence, generally, was not available to further reduce target sizes. 57/

General Westmoreland observed it was possible, by utilizing Skyspot tactics and inflight diversions, to refine a target even after the strike aircraft were airborne. 58/

COMUSMACV concluded that a general reduction of target size, at that time, did not appear feasible due to the lack of definitive targeting. He added that the capability to define targets was improving constantly but that it was likely there would continue to be variations in the size of targets which, in turn, would continue to be dependent on available intelligence. 59/

Examples of Target Justifications

COMUSMACV, on 21 March 1966, requested approval for an ARC LIGHT strike in Tay Ninh Province (War Zone C) to continue the harassment and destruction program. General Westmoreland indicated that, in addition to the strike, leaflet drops would be scheduled, subsequent to the B-52 strikes, in the area around the target box. COMUSMACV noted that preliminary field reports indicated that the leaflet drop program, in conjunction with ARC LIGHT strikes, had been extremely effective in Tay Ninh Province. This had been verified by the substantial number of VC and non-combatants who had returned to GVN control. 60/

Intelligence developed at MACV in early March indicated enemy activity in an area six miles north of the Xom Cat Special Force Camp. The area was reported as having facilities of the logistical base, Hqs MR-7. In addition the C626 Battalion had its base camp in this area and, since 1 January 1966, some four battalions were sighted. In the target area there had been 35 infra-red emissions, the last on 3 February 1966. Since 4 January 1966, there had been 4 ARDF fixes in the area, with the last on 14 February. COMUSMACV, therefore, requested an ARC LIGHT strike on this area. 61/

On 6 March, COMUSMACV informed CINCPAC that it was anticipated that targets of an urgent or immediate nature (fleeting targets) might develop during Operation Silver City which would warrant the use of ARC LIGHT forces. For this reason, he informed that the ARC LIGHT targets, with timing, would be submitted in small packages over a maximum of seven days. 62/

In early March, an area about 30 miles east of Saigon was believed to have contained a Viet Cong Tactical Command Headquarters and an estimated regimental size force. This target was struck by 18 B-52s on 5 March. In addition, three B-52s struck an area 45 miles northwest of Saigon which also was believed to be a Viet Cong Tactical Command Headquarters and troop location. Another area, some 53 miles northwest of Saigon, was struck by three B-52s. This latter target was believed to have included elements of the Viet Cong Central Office and a battalion of security forces. No ground follow-ups were planned for these strikes. 63/

COMUSMACV informed, on 7 March, that maximum ARC LIGHT support would be committed to a major search-and-destroy operation in War Zone D. The CG

of the FFORCEV had requested three immediate ARC LIGHT strikes in support of the 101st Abn Division in Phu Yen Province. In view of the urgent situation, COMUSMACV, on 7 March, recommended maximum TAC air be requested. The Commanding General of the FFORCEV also requested three ARC LIGHT strikes (TOT 10 March) in support of operations to be conducted by the 1st Cav Division in Binh Dinh Province. COMUSMACV concurred but recommended scheduling the strike subsequent to 14 March. COMUSMACV assured the Commanding General that ARC LIGHT forces would continue to be provided in direct support of U.S. troops. 64/

COMUSMACV informed CINCPAC, on 10 March that the A Shau Special Forces Camp, Thua Thien Province in I Corps, had been under continuous attack by units of the North Vietnamese Army since 9 March. Of the 14 U.S. advisors in the camp, ten had been wounded and four killed. It was also reported that, of the 347 Civilian Irregular Defense Group force, less than one-third were still effective. Weather ceilings of 200 feet had precluded TAC air support previous to 10 March. At this point, I Corp asked for ARC LIGHT help and recommended a target containing an enemy regimental CP and one rifle battalion. According to an intelligence report of 5 March, the target area had contained the 95th B NVA Regiment of the 325th NVA Division. 65/

On 11 March 1966 COMUSMACV noted that two enemy base areas and a guerrilla training camp were located just west of Da Nang, long a haven for the Viet Cong. The nearest friendly military unit was located at Giao Ai, 14 km southeast of the target area. Fourteen penetrations had been made by the U.S. Marines resulting in 71 contacts with the enemy. The Marines felt

this entire area continued to threaten the security of the Da Nang military complex and needed to be neutralized. COMUSMACV told DIA that the proposed B-52 strikes could help the Marines in doing this job.

If approved, the III MAF would carry out a major ground follow-up operation.[66]

On 23 March, COMUSMACV presented intelligence justification to CINCPAC for proposed strikes on four targets in War Zone C in the Tay Ninh Province. He reported that, through the ARC LIGHT program, VC activities, installations and troop units in that area had been subjected to continuous B-52 bombings since 30 December 1965. He noted that recent reports had given indications that the VC were losing popular support. One result of the bombings was that local inhabitants were evacuating the area for the safety of the Tay Ninh and Bing Long provincial capitals. From a highly evaluated report obtained through ARVN channels, it appeared this exodus would deprive the VC of a labor pool for battlefield duty. Because of this, COMUSMACV wanted the ARC LIGHT pressure continued. This effort was desirable, COMUSMACV noted, to demonstrate the validity of psychological warfare claims and to destroy or harass the higher echelon VC control agencies.[67]

On 22 February 1966, COMUSMACV outlined ARC LIGHT plans in support of a test in RVN for destroying jungle/forest growth (Chu Phong Mountain Area, Pleiku Province) by fire. The plan called for B-52 delivered M-35 bomblets as the ignition source.[68] COMUSMACV proposed a tentative TOT in March.

Because of weather the test scheduled for 3 March had been canceled,

but was rescheduled for 090600Z March 1966. A high-confidence, 48 hour-forecast, on 7 March, would be used to set the 9 March date. Until this high-confidence forecast was available, the strike date would slip, day by day, consistent with other operational requirements. Weather watch by 21st TASS and forecasts would proceed after the firm date was set. Decision points would be at 24 hours, 18 hours, and 8 hours prior to TOT. The eight-hour forecast would be used for the final decision to launch.[69] On 11 March, B-52s using M-35 fire bomblets conducted an inclusive jungle-burning test on Chu Pong Mountain.

COMUSMACV said that, during June, the B-52s would continue to hit War Zones C and D. They would continue also to hit other established bases in Do Xa and the mountains to the west of Quang Tri and Hue. He added that, in Laos, the B-52s would strike enemy construction camps, with the objective of driving away the porters and road maintenance people.[70]

Operation Hawthorne

A combined U.S. - ARVN operation, Operation Hawthorne had as its mission the relief of an outpost in northern Kontum Province. The 1st BDE, 101st Abn Division, had planned a three to five day search-and-destroy operation in the area from Dak To to Tou Mo Rong and, at the same time, evacuate the Tou Mo Rong Garrison to Dak To. The Division requested that ARC LIGHT forces be used, on 3 June, to destroy enemy forces and facilities in the target area. Such B-52 strikes would help prevent enemy attack into the 1st BDE rear during the Hawthorne operation. No exploitation of the strike area was planned.[71]

On 8 June, COMUSMACV requested execution approval for an ARC LIGHT strike in Kontum Province. The purpose of the strike was to destroy enemy forces and facilities as well as to prevent enemy attack against friendly forces during Operation Hawthorne. Operation Hawthorne commenced on 3 June in Kontum Province. The operation was scheduled for an indefinite period and was a combined ARVN/I FForce V search-and-destroy operation. The proposed ARC LIGHT target was located along a known infiltration route in an area of VC buildup. The area was defended by enemy antiaircraft and contained a possible VC Regimental Headquarters. 72/

The combined I FFORCEV/ARVN, commenced their search-and-destroy operation in Kontum Province on 3 June. Sporadic contacts were made until 9 June, when the 24th NVN Regiment was engaged. The area containing the NVA Regiment was heavily entrenched with previously prepared positions, including bunkers and spider holes. COMUSMACV, on 11 June, proposed this area be bombed by ARC LIGHT forces and noted the Field Commander had the proposed target area encircled. The tactic proposed was that ground forces contain the enemy within the target box until the B-52 strike, and then immediately move into the area for exploitation. MACV proposed to schedule 24 strike aircraft to accomplish maximum destruction and shock to the VC Regiment. These strikes would be conducted on 13 June and would be designated Kontum 24 and 25 (Bull Thistle 2 and 3). 73/

The results of the 13 June strikes were given by the 101st Airborne Division in a summary report which stated that enemy resistance had been very determined and effective prior to the strikes, but had become very

weak and completely ineffective afterward. This supported the premise that B-52 strikes could be, at least temporarily, detrimental to VC combat effectiveness. 74/

After the NVA 24th Regiment had been encountered on 9 June, continuous contact was made for six days. Round-the-clock air support was provided totalling 499 sorties. Some 15,000 troops were airlifted in 30 separate airmobile operations. Of significance was the fact it was possible to exploit the B-52 strike 30 minutes after the strike. As a result of this operation, 479 Viet Cong were killed, a ratio of ten to one; 112 weapons were captured. Six million leaflets were dropped. With the help of continuous air support, the 24th Regiment was rendered ineffective by this operation. 75/ His monsoon campaign was frustrated.

Certain lessons were learned from this operation. It was found that double-envelopment was a most effective maneuver if accomplished in conjunction with massive air support and artillery. It also established the B-52 as definitely effective in close support. Brigadier General Willard Pearson, CG, 1st Bde, 101st Airborne Division, noted that shooting CS grenades into an area first, to flush the enemy out of his holes, increased the effectiveness of the B-52 strike. He added that immediate exploitation of the B-52 strike catches the enemy dazed. From this operation, he noted the hoist of the UH-1D med evac chopper needed redesigning and expressed preference for the Air Force Huskies. 76/

77/
COMUSMACV noted:

> "...Ground follow-up operations revealed that fortifications, such as tunnels, bunkers, trenches, and spider holes, which did not receive direct hits remained virtually intact. Spider holes located as near as fifteen meters to bomb craters were only slightly damaged. Two captives stated that they hid in spider holes where they survived bombs as close as twenty meters away. They did, however, suffer shock and temporary deafness. Additional information gained by the Military Interrogation Center (MIC) from captives and defectors indicates that the enemy did suffer significant losses."

The greatest lesson learned from Operation Hawthorne was that the effectiveness of a B-52 strike conducted in direct support role can be enhanced when used against targets identified by accurate intelligence and when the area is immediately exploited by ground forces following the strike. 78/

MACV J-2 had confirmed, on 24 June, a minimum 50 percent destruction of the 24th NVA Regiment in Operation Hawthorne. 79/

COMUSMACV, on 15 June, noted it was apparent the NVA/VC forces had begun their Highlands/SW Monsoon campaign several weeks ago. He noted that in II CTZ, the 24 NVA Regiment had sustained a large number of casualties as a result of Operation Hawthorne. It was now necessary to locate and attack the newly-infiltrated 88th NVA Regiment before they could even see action. 80/

Operation El Paso

On 14 June, COMUSMACV presented intelligence justification for the Tay Ninh 26 target, the TAOR of Operation El Paso, which was being conducted by the 1st Infantry Division. Contact had been made with battalion-sized enemy units from a regiment of the 9th VC Division. The proposed ARC LIGHT target

was believed to be the VC Headquarters controlling the VC units. 81/

Border Areas

COMUSMACV, on 3 June presented intelligence justification for three ARC LIGHT strikes on targets located along the Tay Ninh/Binh Long Province boundaries, adjacent to the Cambodian border. He noted a marked increase in Viet Cong activity in the Binh Long Province. According to reliable intelligence, major elements of the 9th Viet Cong Division were in the three target areas. Study of the terrain in the target area and the location along province boundaries and the Cambodian border indicated the area as being ideally suited as a base area for Viet Cong. 82/

On 13 June, COMUSMACV requested execution approval for three ARC LIGHT strikes along the border of Quang Tin and Quang Nam Province, SVN. From various sources COMUSMACV had learned that major elements of the 620th NVN division were in the target area. Defector reports indicated Viet Cong units massing for a summer campaign against the city of Thang Binh, in northern Quang Tin Province, and the Que Son District, in southern Quang Nam Province. According to these defectors the target area contained three Viet Cong regiments and an artillery battalion, armed with 120mm mortars and 75mm recoilless rifles. On 27 May and 9 June there had been ARDF fixes in the target area; another, on 12 June, in Que Son District, four kilometers west of Thang Binh. Defector intelligence was substantiated in the case of the mortaring of a town in Que Son District in that an attack shortly followed the report. 83/

COMUSMACV felt that the execution of the proposed ARC LIGHT strikes could significantly disrupt any planned Viet Cong offensive in the area.[84/] For this purpose COMUSMACV proposed strikes on Quang Tin 17, 18 and 19.[85/]

CHAPTER IX

MISSIONS AND STRIKE REQUIREMENTS

Introduction

The ARC LIGHT program increased significantly during 1966. By the end of the year, the monthly B-52 strikes were almost double the number at the end of 1965.[1/] The expansion of the strike effort came gradually and was applied against an ever-widening area during 1966. By the end of the year, B-52 strikes had been conducted in the DMZ, Laos, the Cambodian border area and the North Vietnamese border area, as well as in South Vietnam. While the strikes conducted during 1966 were mainly to support the ground commanders, some of the strikes were carried out to interdict lines of communications along the infiltration routes leading into South Vietnam.

Summary of Missions

The program started in June 1965 with only 27 sorties being flown. By December 1965 the monthly sortie rate was 306 and, by the end of December 1966, the rate was up to 659 sorties per month.

SAC B-52 crews flew 163 ARC LIGHT missions during the first four months of 1966 for a cumulative total of 298 since their mission began on 18 June 1965. Sorties flown ranged from 350 in January to 423 in April. Of the 130 missions flown in SVN (January-April 1966) more than half (76) were flown against targets in the III CTZ, primarily in Tay Ninh Province. Laos, first struck by ARC LIGHT forces in December 1965, received 31 strikes by

30 April 1966. Two interdiction missions were flown in NVN, during April, against the Mu Gia Pass. Nearly 25,000 tons of bombs had been dropped on VC/NVA targets in 1,500 sorties, during 1966, by 30 April, - this included more than 26 thousand napalm bombs and over 10 thousand delayed fuze BLU-3 bombs. 2/

In terms of percentages, 60 percent of the ARC LIGHT strikes have been in III Corps Tactical Zone (CTZ), 18 percent in II CTZ, 15 percent in I CTZ, and eight percent in IV CTZ. The three provinces in which most strikes have occurred are Binh Duong, (III CTZ), Tay Ninh, (III CTZ), and Pleiku, (II CTZ); areas in which most targets have a low population density. 3/

The 420 April strikes were conducted in South Vietnam, Laos and North Vietnam. The out-of-country sortie rate totaled 166, which included 44 strike sorties against the Mu Gia Pass in NVN. 4/ In the TIGER HOUND area, 90 ARC LIGHT bombers took part in 22 missions. A total of 9195.9 tons of bombs were expended for the April ARC LIGHT effort. The total ordnance dropped by these strikes consisted of 646x500-pound bombs, 9001x750-pound bombs, and 9681x1,000-pound bombs. 5/

At the end of April, JCS informed CINCPAC and CINCSAC that the sortie rate for May and June 1966 was projected at 450 per month. This would include 50 BLU-3B sorties per month. 6/

During May, the ARC LIGHT program flew 424 B-52 sorties from Guam into Laos and South Vietnam. A total of 9192.8 tons of bombs were dropped during the period and consisted of 9112x750-pound bombs, 9238x1,000-pound bombs,

and 4890xADU-253 canisters. 7/

ARC LIGHT accounted for 54 strikes, totalling 385 sorties, during June. I Corps accounted for 24 strikes, II Corps for 13, III Corps for 11 and Laos for six. II Corps strikes were significant in that they jumped from 3 in May to 13 in June. This increase reflected the enemy build-up in the important highland area of II Corps.

Strikes in I Corps were primarily directed toward destruction or disruption of command and control of the Military Region 5 headquarters and its subordinate units. While significant physical damage could not be determined from visual aerial reconnaissance or photography, because of the hilly terrain and heavy tree canopy, indications were that ARC LIGHT strikes during June had been very effective in I Corps, with no major enemy offensive operations in evidence. That these attacks had successfully interfered with MR-5's command and control was borne out by the move of that headquarters to an area ten kilometers southwest of their former base. A major operation in the Hiep Duc area of Quang Tin Province, reportedly planned by the 620th Division, failed to materialize. In a personal message to COMUSMACV, Lieutenant General Walt, Commanding General III MAF, singularly credited the B-52 spoiling attacks as the primary reason for the enemy withdrawal. 8/

In the II Corps, the 13 B-52 strikes were directed toward enemy withdrawal areas. These strikes were evaluated by all concerned as being

highly effective and instrumental in bringing Operation Hawthorne to its successful conclusion. The weight of ordnance dropped by the B-52s contributed heavily to the total enemy casualties and was effective in disrupting enemy defensive operations. COMUSMACV noted that the effort expended in Laos during June had not been commensurate with the number of valid targets identified for B-52 saturation bombing. 9/

General Westmoreland summarized that the only effective way to determine strike results was through ground follow-up. This had been proven on follow-up on Kontum 24 and 25. He concluded that a continuing, difficult problem was to get adequate and accurate BDA results on a timely basis. 10/

The B-52 sorties flown in Laos, the DMZ and in South Vietnam, totalled 477 in July. A total of 9,410.9 tons of bombs were dropped, consisting of 11,078x500-pound bombs, 11,270x1,000-pound bombs, and 1,614xADU-253 canisters. 11/

A total of 68 strikes were flown by the B-52 bombers during July 1966. Thirty-three of the strikes were in I CTZ, six in II CTZ, 14 in III CTZ, five in IV CTZ, seven in Laos, and three in the DMZ, south of the Demarcation Line. 12/

Ten of the missions flown over the 1st Corps, in July, were designed to disrupt further the command and control capabilities of the Viet Cong Military Region (MR) V Headquarters and its subordinate units. 13/ It was felt that such action would reduce the opportunity for a major campaign. Six of the missions flown in I Corps were over Quang Tin Province 14/ and were

designed to continue the harassment of elements of the 629th Division.[15] Fourteen missions were flown over Quang Tri and three were flown over the Demilitarized Zone. The idea was to strike at the scattered elements of North Vietnam's 324B Division and to support Operation Hastings.[16] Results of these strikes in I Corps could not be fully assessed; visual and photographic reconnaissance failed to provide an accurate accounting of significant physical damage. Indirect evidence was available, however, which indicated these strikes were effective. It was apparent the enemy was cautious and hesitated to mass his troops for fear of being hit by the B-52 bombers. The Commander of III MAF, and Lt. General Walt had this to say about the ARC LIGHT support for Operations Hastings:[17]

> "...There exists considerable evidence that these strikes caused significant destruction and disorganization of major elements of a NVN regiment. Coverage was timely, effective, and assisted in the attainment of successes enjoyed to date during the operation...."

The six ARC LIGHT strikes in the II Corps area were undertaken in support of ground operations. In addition, they were programmed to make likely withdrawal areas untenable.[18] Reported results were given as minimal.

Ten of the ARC LIGHT raids over III Corps were directed at Viet Cong headquarters (COSVN) and supporting elements of War Zone C. This was a continuing effort to disrupt committee control, create a feeling of insecurity, and to destroy certain physical facilities. Bomb damage assessment continued to be extremely limited in Viet Cong-controlled War Zone C. The remaining six targets were suspected troop concentrations, and troops in contact with the enemy.[19]

The strikes in IV Corps were directed mainly at base areas. Two of the five targets hit were in the U Minh Forest area, which had been a Viet Cong "liberated" region and an operational base area used by the Dong Thap Regiment and the U Minh Provincial battalions. The remaining three strikes were against base areas characterized by strong defensive positions, many large unit sightings and contacts with ARVN forces. The purpose of these strikes was to relieve the enemy pressure in SVN along the Cambodian border. 20/

Bomb damage assessment was limited because only a few ground follow-up operations were carried out. The 7th Air Force noted the persistent BDA problem: 21/

> "...Ground sweeps have been necessarily restricted in the scope of coverage afforded to the target area because of very dense undergrowth; restriction is also due to the necessity of ground troops to avoid booby traps and other pitfalls; further, the sector of search is usually restricted to a very narrow front. The use of ground troops for combat operations precludes frequent use of them for post-attack reconnaissance in support of BDA. In summary, the effectiveness of B-52 strikes can not be adequately judged on the basis of ground sweeps....
>
> "...Visual reconnaissance also produces marginal results as to effectiveness of B-52 strikes because of visibility restricted by vegetation and opportunities for close observation limited by altitude. In some instances, the target is located under a dense jungle canopy which precludes the pilot from seeing anything at all.
>
> "In summary, visual produces no better BDA information, as a whole, than does a ground sweep...."
>
> "...Information gleaned from photography tells one nothing more than the number of bombs that impacted inside or outside the target area. It does not generally provide detailed information as to damage....

"...It is alleged that the principal benefits from the B-52 strikes is a psychological one, witness the number of ralliers, always on the increase each month, who attribute their change of heart to fear of the B-52. Refugees and captives are also quoted in the same manner. However, there is no statistical basis for attributing the flow of a given number of ralliers or refugees to B-52 strikes, since, in many cases, they expressed the same fear of aerial attack in general; this, of course, includes tactical air as well as B-52 strikes....

"...In summary, evaluation of the effectiveness of B-52 strikes remains an unknown quantity. The merits of employing such a strategic weapons system against the types of targets that have been selected are still debatable. The expenditure of ordnance by B-52s does not appear to be justified either on the basis of target selection '...reliable information indicates major elements of Viet Cong division are located in the area. Study of the terrain in the area of these targets, and their location along province boundaries indicate they are ideally suited as a base area for the Viet Cong....', or on the basis of BDA which presumably should provide justification for subsequent B-52 strikes. Thus, several hundred tons of bombs are dropped into a small area, and are perhaps wasted, whereas the same tonnage could be parcelled out among a greater number of fighter bomber sorties tailored and directed against a wider spectrum of targets. Furthermore, in the latter instance there is a much better probability of acquiring meaningful BDA, and thus rendering a more substantive evaluation of effectiveness of Tactical Air Forces in this theater. There are proper targets for B-52 mass, saturation attacks; but these no longer exist in-country. Whereas once such targets as base camps were considered suitable B-52 targets, they have now become so small as to warrant only tactical air strikes...."

During August the ARC LIGHT program flew 467 sorties in Laos, the DMZ, and in South Vietnam. A total of 8563.1 tons of bombs were delivered by the B-52 bombers from Guam. This height of effort consisted of 9728x500-pound bombs, 9704x1,000-pound bombs and 7329xADU-253 canisters. 22/

Near the end of August, the Commander of the 3d Air Division summarized

the B-52 activity: [23]

> "...We've flown a total to date of 4,590 sorties and dropped a total munitions load of 222.1 million pounds. Our missions delivered versus missions requested stands at 98.1%. We have flown ARC LIGHT strikes on 381 days and hit 531 targets, of which 40% were for troop support...."

Eight of the strikes were flown in Quang Tri Province (I CTZ). Three B-52 strikes were made in Quang Tin Province (I CTZ). One strike was made in the Quang Ngai Province (I CTZ). Four strikes were made in the Binh Dinh Province (II CTZ). Six strikes were carried out in Phu Yen Province (II CTZ) and five in Pleiku Province (II CTZ). Six strikes were flown in Binh Tuy (III CTZ), six in Phuoc Tuy Province (III CTZ), one in Long Kanh Province (III CTZ), three in Binh Duong Province (III CTZ), 14 in Tay Ninh Province (III CTZ), and three in IV CTZ.

Two of the I CTZ strikes were within the DMZ but south of the demarcation line. Several targets in III CTZ were restruck, for a total of 34 strikes in that area. Targets for the strikes were enemy regiment, division, and military region headquarters; troop concentrations; base and training camps; storage areas and antiaircraft positions; ordnance and communications facilities; infiltration routes and field fortifications. [24] In addition to the preplanned strikes, ARC LIGHT provided direct support and quick reaction strikes for the following U.S. ground operations: Hastings, Prairie, and Colorado in I Corps; Paul Revere and Emerson in II Corps; and Toledo, Oahu, and Deck House III in III Corps. [25]

During September, the program flew 433 sorties in Laos, the DMZ, North

Vietnam and South Vietnam. A total of 8069.7 tons of bombs were dropped. Ordnance expended consisted of 9036x500-pound bombs, 9,283x1,000-pound bombs, and 6,336xADU-253 canisters.[26/]

The ARC LIGHT program flew a total of 42 missions in September. Twenty-three of these were against targets in the Quang Tri Province-DMZ area and connecting infiltration routes. Two were in direct support of ground troops on Operation Prairie, in northern Quang Tri Province. Ground follow-up was scheduled for six missions; Red Beet, Wet Rat, Gold Coin, Blue Yarn, Fan Tail I and Black Bear II.[27/]

During October, ARC LIGHT flew a total of 416 sorties. The B-52s from Guam flew 65 sorties in Laos, 32 in the DMZ, 24 in NVN and the remaining 295 in RVN. The total sortie figure, since the program began, reached 5,864. During the month a total of 8347.5 tons of bombs were dropped, 10,158x500-pound bombs, 42x750-pound bombs, 9,706x1,000-pound bombs, and 2,157xADU-253 canisters. Total ordnance expended reached 114,485 tons by the end of October.[28/]

During November, B-52 sorties flown from Guam increased over 25 percent from previous monthly levels when 542 sorties were flown. Twenty-seven were flown in Laos and 515 in South Vietnam. A total of 10,677 tons of bombs were dropped. Ordnance consisted of 12,900x500-pound bombs, 12,674x 1,000-pound bombs, and 1296xADU-253 canisters.[29/]

During December, the B-52s flew 659 sorties in North Vietnam, Laos, and the DMZ and South Vietnam. Thirty-five were flown in NVN, 42 in Laos, 78 in

the DMZ, and 504 in South Vietnam. These sorties made up 68 ARC LIGHT strikes in North Vietnam proper and two in the DMZ, north of the provisional military demarcation line. There were seven strikes in the DMZ, south of the provisional military demarcation line, and 20 in I CTZ proper, 20 in II CTZ, 15 in III CTZ, and none in IV CTZ. Of the targets struck, 41 were nominated by U.S. field commanders, three by ARVN, one by 7th Air Force, and 23 by MACV J-2. 30/

The four strikes in North Vietnam were conducted against infiltration routes and storage areas. The two strikes in the DMZ, north of the provisional military demarcation line, were conducted against bivouac areas, infiltration routes, and staging areas. 31/

The seven strikes in the DMZ, south of the provisional military demarcation line, were conducted against bivouac areas, infiltration routes, storage areas logistical routes, staging areas, troop concentrations, and CICV Base Area 512. Of the 20 strikes wholly within I CTZ, eight were in Quang Tin Province, seven in Quang Tri Province, two in Quang Ngai Province, and three in Thua Thien Province, including one in support of Operation Chinook. The strikes in I CTZ were directed against logistical routes, staging areas, support and command facilities, bivouac areas, infiltration routes, training areas, base camps, supply facilities and troop concentrations. 32/

Of the 20 strikes in II CTZ, nine were in Kontum Province including one Quick Run strike. Three strikes in Kontum Province, including one Quick Run, were in support of Operation Paul Revere IV. There were five strikes in Binh Dinh Province, including two Quick Run strikes. Three strikes in

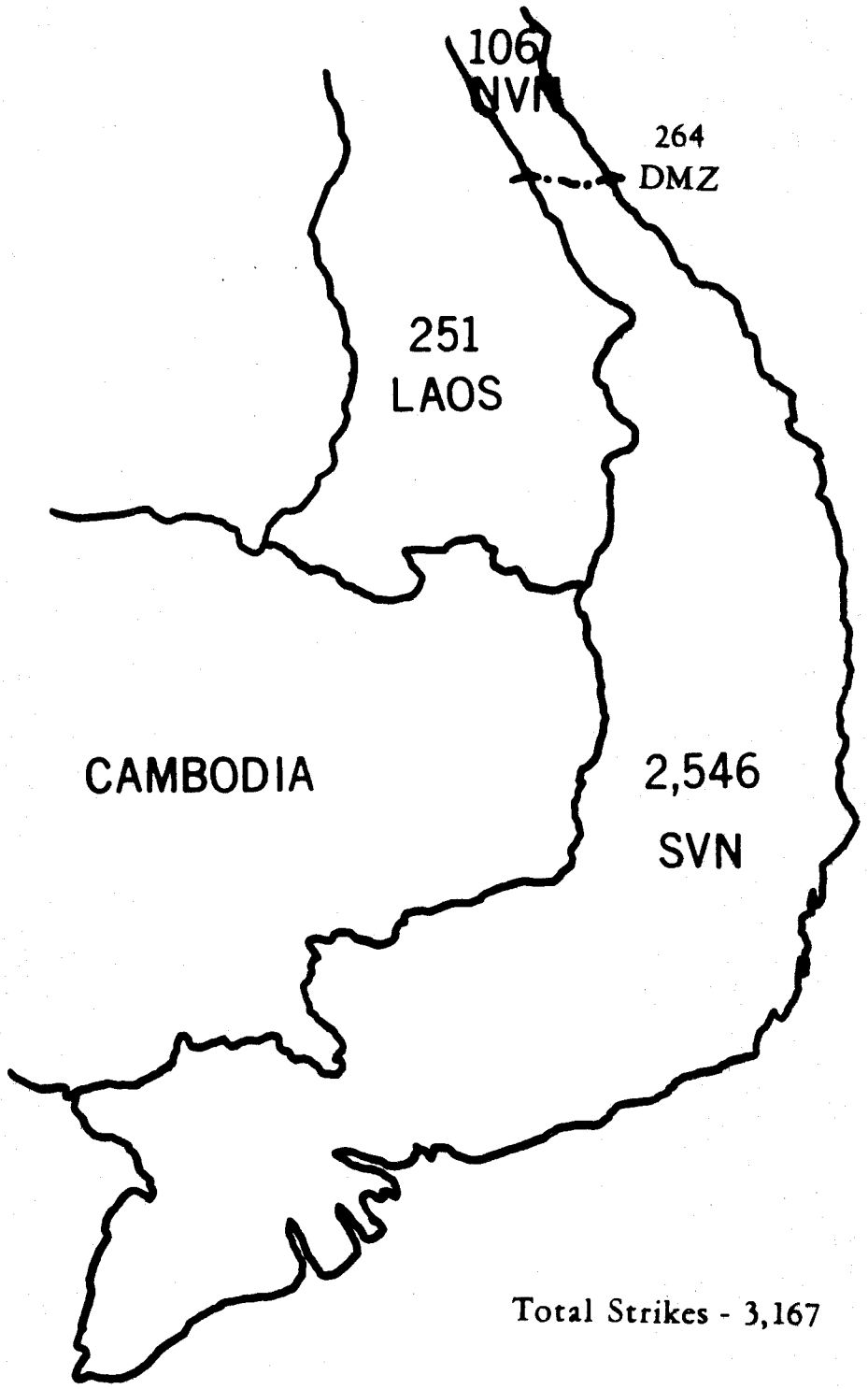
Binh Dinh Province, including the two Quick Runs, were in support of Operation Thayer II. There were two strikes in Phu Yen Province, one in Binh Thuan Province in support of Operation Byrd, one in Pleiku Province in support of Operation Paul Revere IV, and two in Darlac Province as MSQ-77 alternates. The strikes in II CTZ were directed against staging areas, weapons sites, rest areas, defensive positions, infiltration routes, base camps, troop concentrations and withdrawal routes. Of the 15 strikes in III CTZ, five were in Tay Ninh Province, including two Quick Run strikes. One strike in Tay Ninh Province was in support of Operation Fairfax and one in support of Operation Ala Moana. There were five strikes in Binh Duong Province, one in support of Ala Moana. There were three strikes in Phuoc Long Province and two in Bien Hoa Province. The strikes in III CTZ were directed against hard installations, base camps, infiltrations routes, and troop concentrations. 33/

Sortie Requirements

CINCPAC, on 4 February, had restricted MACV to 400 sorties for the month of March, 50 of which would be BLU-3B sorties. 34/

SAC, on 18 March, stated that problems with the newly-modified Hayes Weapon Dispenser System had dictated suspension, with an unknown "get-well" date. 35/

COMUSMACV told CINCPAC that MACV's current planning would require approximately 15 iron-bomb sorties each day during the period 25 thru 31 March. Total monthly sorties would be approximately 35 over the H.E. iron-bomb



NUMBER AND DISTRIBUTION OF B-52 STRIKES

(18 June 1966-31 December 1966)

Fig. 14

allocation, as stated by CINCPAC on 4 February. In view of the sorties lost, due to the Hayes Dispenser, COMUSMACV requested MACV's sorties allocation be revised to approximately 385 for March. 36/

CINCPAC approved COMUSMACV's request for 385 ARC LIGHT sorties in March. COMUSMACV, however, saw the need for greater expenditure of B-52 effort noting that, by mid-March, the number of suitable strategic-type targets and requests for B-52 support had greatly exceeded the sortie rates. This was so, he indicated, even though the sortie rates had gone up since January 1966 and would be increased from 450, in April, to 600 in July and the following months. Further increase in sortie requirements was anticipated with the expansion of U.S. ground forces in SVN. Because requests exceeded the availability of sorties, COMUSMACV wanted field commanders to personally review each strike request to assure that use of the ARC LIGHT force was warranted. After that, the order of priority would be determined by COMUSMACV, based on his evaluation of all competing strike requirements. 37/

JCS told CINCSAC, in May, that allocations provided by CINCPAC on 24 April to CINCSAC, called for 450 sorties per month, during the period April through October 1966. This monthly allocation would include 50 BLU-3B sorties. Moreover, starting in June, the M-117 bomb (for external carriage) would be replaced by the MK-82. 38/

On 18 May, COMUSMACV justified a proposed target in the Quang Ngai Province, just south of ARC LIGHT Zone Bravo. He told CINCPAC this was a

section of the Do Xa MR-5 base area and contained their major command and control elements. General Westmoreland noted that these elements had occupied the area in 1963 and 1964; in 1965 they had moved into ARC LIGHT Zone Bravo; however, repeated B-52 hits in August-September 1965 in Zone Bravo, had forced the MR-5 elements to move back to the old location. COMUSMACV, felt that every effort had to be made to disrupt or destroy the MR-5 capability to command and control the strengthened units under their control. The ARC LIGHT strikes were needed to upset any offensive operation the enemy may have had in mind. 39/

CINCPAC, on 28 July 1966, had outlined his requirement for 600 iron-bomb sorties and 200 ADU-253/272 sorties. At that time, CINCPAC provided the conversion factors for equating iron-bomb to ADU sorties. JCS queried SAC, on 1 August, re the capability to support sorties desired by CINCPAC. On 4 August, DIA informed CINCPAC that SAC had the capability to exceed the planned 800/month sortie rate. 40/

JCS wanted more information on the operational requirements to support the ARC LIGHT program and requested clarification as to the exact number of B-52 sorties required per month during 1967. CINCPAC, by "Rule of Thumb", advised JCS on 9 August that with three HE sorties per one ADU sortie, an additional 315 HE sorties would be generated to offset the shortage of 125 ADU sorties. This would increase the total ARC LIGHT effort to 1,050 sorties per month, of which 75 would be ADU. In order to generate 1,050 sorties per month, accomplishment of the following would be necessary: 41/

"...Relocation of the Young Tiger KC-135 tanker forces to Thailand; the availability of adequate air munitions; Kadena AB to become bomber capable in March 1967; Ban-U-Tapao to become support capable in March 1967; Ching Chuan Kang AB to be tanker capable including single point refueling by March 1967; and support by Air Force Logistics Command (AFLC) of the increased supply and POL requirements at the operating locations...."

CINCPAC could not substantiate the requirement for more than 800 ARC LIGHT sorties per month for CY 1967. It appeared that selective targeting and judicious use of 800 ARC LIGHT sorties would satisfy the requirement for this type of bombing. Initially, these sorties would be divided into 725 HE and 75 ADU sorties. As additional ADUs became available in CY 1967, they could be reduced on a one-for-one basis until reaching the desired level of 600 HE and 200 ADU sorties per month. CINCPAC concluded that, while 800 ARC LIGHT sorties would appear sufficient, steps should be taken to provide a capability for 1,050 sorties per month as soon as possible. 42/

By the end of July, MACV was prepared for a continuing increase in employment of the B-52 heavy weapons system. The sortie allocation of 450 each month, through October 1966, and 600 for November and December, was expected to go even higher in 1967. MACV estimated a minimum sortie requirement of 800 (600 HE and 200 CBU) per month to allow the flexibility necessary to get the greatest possible effectiveness out of the B-52 program. 43/

COMUSMACV told CINCPAC that, as of the second quarter 1966, the ARC LIGHT program had a monthly sortie allocation of 450, of which only 127 were used. General Westmoreland gave the following reasons for this variation: 44/

"...The American Embassy in Vientiane had disapproved 25 sorties. Strikes were being carried out only on those targets that offered a high probability of yielding the best results consistent with munitions expended...."

CINCSAC noted it was most desirable to maintain a steady average of 20 sorties per day. He told COMUSMACV this pattern should be scheduled for a two-launch period per day, approximately 12 hours apart, and consist of 9-12 aircraft each. He felt this would provide an even flow of recovery and regeneration actions. He realized there would be times when the tactical situation dictated larger forces; however, strike size and frequency capability was governed, primarily, by the force size and the time elapsed since the previous strike. 45/

COMUSMACV wanted to augment the ARC LIGHT program with the B-52s being employed, on a timely basis, in the RVN. This concept was related to the fact that the 7th Air Force had increased, appreciably, its all-weather air support and bombing capabilities with the deployment of MSQ-77 radar units, operation of ground long-range weather detection radar, B-66B Pathfinder Buddy Bombing System, the F-4C UHF/DF Homing Capability, and X-Band Radar beacons. Therefore, General Westmoreland approached CINCPAC on the idea of obtaining a B-52 surge capability - a single ARC LIGHT effort consisting of 100 B-52 sorties. 46/

On 25 October, CINCPAC told COMUSMACV he required amplification on the meaning of this term and that further information would have to be developed, particularly regarding the time frame. He noted that a surge could mean the involvement of more aircraft, i.e. a surge of 100 sorties would mean

100 aircraft. However, this would mean the configuration of approximately 118 aircraft in WESTPAC, a figure far above the planned number of 70 B-52s to meet the requirements of the 800-monthly ARC LIGHT sortie rate. He observed that basing could be closer to the target area and, if the time frame for the hundred sortie surge was within a 24-hour period, it might even be possible to do the job with fewer aircraft. 47/

CINCPAC observed that the surge capability desired by COMUSMACV was of a great magnitude and felt that explicit and detailed justification would be required. The requirement would have to be measured against the factors of aircraft assets, construction requirements, and supporting forces. Justification would have to be based on potential targets, experience, intelligence capability to develop targets. Moreover, a concept of operational employment would have to be given. 48/

Increased sortie rates for ARC LIGHT continued to be discussed in November. JCS noted he had presented, on 3 September, a planning date of 1 January 1967 for reaching COMUSMACV's desired goal of 800 sorties per month. He further observed that the Secretary of Defense had approved this rate for 1967 for planning purposes. On 18 November, he informed both CINCPAC and CINCSAC he was changing the implementation date to 1 February 1967. 49/

COMUSMACV, on 25 November, noted CINCPAC had authorized the substitution of HE sorties for BLU sorties, on a one-for-one basis, for the month of November (CINCPAC 232250Z). COMUSMACV, therefore, requested that

future ARC LIGHT sortie allocations be adjusted in the same manner to allow MACV greater flexibility in scheduling. 50/

Authorization for 520 sorties to be flown during November was actually received from CINCPAC on the 23rd. Ordnance loads were to be all HE bombs or a mix of HE and up to 50 BLU-3B sorties. On 25 November, COMUSMACV requested future sortie allocations be adjusted in the same manner which would give him greater scheduling flexibility. 51/

Admiral Sharp observed, on 3 December, that during the 11-month period from January to November 1966, 525 BLU-3B sorties were authorized and 218, or 42 percent, were flown. This was an average of 18 sorties per month. He noted that Guam had assets to support 156 BLU-3B sorties. He added that the ADU-272 (BLU-26) sorties were programmed to commence in January 1967. The BLU-26 bomblet was common to the ADU-272 canister carried by the B-52 aircraft and the CBU-24 anti-pan cluster bomb used by the tactical aircraft. Each B-52 sortie loaded with ADU-272 canisters equated to 38 CBU-24 bombs. Admiral Sharp told COMUSMACV that there was an urgent requirement for significantly greater quantities of CBU-24 munitions by the tactical aircraft as compared to ADU-272 requirements; that he might recommend a diversion of some BLU-26 from ADU-272 to CBU-24 production until the overall BLU-26 availability improved. He said, "The tactical requirement for CBU-24 and the historical underexpenditure of BLU-3B munitions by ARC LIGHT indicate that the COMUSMACV CY67 requirement for ADU-253/272 sorties should be reviewed." 52/

On 9 December 1966, JCS presented the JCS rationale for delaying implementation of the 800 sortie rate until April-June 1967. COMUSMACV's comments on this delay was requested by CINCPAC on 10 December. CINCPAC also requested COMUSMACV to give his comments on the requirements for an 800 sortie rate before April-June 1967. On 12 August 1966, COMUSMACV had presented his rationale for increased B-52 sorties and the forward basing of B-52s.

COMUSMACV, on 15 December, again reiterated to CINCPAC that he needed to attain the 800 per month ARC LIGHT sortie rate at the earliest possible date as being essential to maintaining the initiative in South Vietnam. The expanded sortie rate was also required to support the large-scale ground operations that had been planned in anticipation of attaining the 800 sortie capability. At the same time, the augmented sortie rate was needed to provide the surge capability needed to combat any large scale enemy offensive or massing of troops. 53/

COMUSMACV noted that spoiling attacks and operations, such as Attleboro in War Zone C, had been successful; that these successes, coupled to the buildup of friendly ground forces, permitted him to plan for a general ground offensive in the immediate future in both the II and III CTZs. In addition, plans were in the making for other offensives. COMUSMACV was concerned with the fact the enemy would benefit by any diminution of the increasing friendly pressure. Such diminution at this juncture would allow the enemy the respite needed to recover from the friendly offensive. Such a recovery, he felt, would prolong this stage of the war. 54/

COMUSMACV noted he did not have the required flexibility of action because the sortie rate was inadequate to his needs and, because of this, he could not maintain a sustained attack on known enemy base camps, lines of communications and supply points and, at the same time, provide the weight of effort required to support planned major offensives. General Westmoreland informed CINCPAC it was his intention to continue to increase the offensive pressures, aimed at the early destruction of the major Viet Cong/NVA forces in South Vietnam. Denial of the required ARC LIGHT sorties would result in increased personnel casualties since this would require him to conduct assault operations of areas without the essential ARC LIGHT support. 55/

COMUSMACV noted that the most effective and desirable support would be realized if he could obtain the 800 sortie rate by 1 January 1967. 56/ On 16 December, CINCPAC told JCS that the attainment of that sortie rate for ARC LIGHT was deemed essential and concurred with General Westmoreland's justifications. 57/

CINCPAC, in support of COMUSMACV's position, recommended to JCS that, effective 1 January 1967, authorization be given for 800 B-52 strikes and that forces required for the implementation of this sortie rate be deployed to PACOM. 58/

On 29 December, CINCPAC authorized COMUSMACV to exceed the 650 sorties allocated for December as required. 59/

SAC informed COMUSMACV, on 6 January 1967, that SAC planned to deploy

additional ARC LIGHT forces between 10 and 20 January, and that a total of 725 sorties were authorized for that month. Thereafter a total of 800 sorties would be authorized, out of which, he said, he would authorize 20 BLU munitions sorties each month. 60/

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GLOSSARY

AAA	Antiaircraft artillery
AW	Automatic weapons
ABCCC	Airborne Command & Control Center
ACofS	Assistant Chief of Staff
ADU	Air defense unit
ADVON	Advance echelon
AFR	Air Force Regulation
ALO	Air liaison officer
AMEMB	American Embassy
ARVN	Army of the Republic of Vietnam (SVN)
BDA	Bomb damage assessment
Bde	Brigade
Bn	Battalion
CEA	Circular error, average
CEP	Circular error, probable
CICV	Combined Intelligence Center, Vietnam
CIIC	Combined Intelligence Interpretation Center
CINCPAC	Commander-in-Chief, Pacific
CINCPACAF	Commander-in-Chief, Pacific Air Forces
CINCPACREP	Commander-in-Chief, Pacific, Representative
CINCSAC	Commander-in-Chief, Strategic Air Command
CJCS	Chairman, Joint Chief of Staff
COMNAVFORV	Commander, Naval Forces, Vietnam
COMUSMACTHAI	Commander, US Military Assistance Command, Thailand
COMUSMACV	Commander, US Military Assistance Command, Vietnam
COSVN	Central Office, South Vietnam (Viet Cong Hq)
CP	Command post
CSAF	Chief of Staff, US Air Force
CTZ	Corps tactical zone
CY	Calendar year
DASC	Direct air support center
DEPCOMUSMACV	Deputy Comdr, US Military Assistance Command, Vietnam
DIA	Defense Intelligence Agency
DMZ	Demilitarized Zone
DRV	Democratic Republic of Vietnam (North Vietnam)
ECM	Electronic countermeasures
ELINT	Electronic intelligence
FAA	Federal Aviation Agency
FAC	Forward air controller
FFV	Free World Free Force, Vietnam

GCI	Ground-controlled intercept (radar)
GDF	Ground diverted force
GVN	Government of the Republic of Vietnam (South Vietnam)
ICC	International Control Commission (Geneva)
IDF	In-flight diverted force
IR	Intelligence report
JAGO	Joint Air-Ground Operation
JGS	Joint General Staff
KIA	Killed in action
LIMDIS	Limited distribution
LOC	Line(s) of communication
MAF	Marine Amphibious Force
NM	Nautical miles
NVA	North Vietnamese Army
PAVN	Peoples' Army of Vietnam (See NVA)
Plt	Platoon
POL	Petroleum, Oil and Lubricants
POW	Prisoner of war
PPF	Pre-Planned force
QR	"Quick Run"
QRF	Quick reaction force
Recon	Reconnaissance
Regt	Regiment
RTG	Royal Thai Government (Thailand)
RVNAF	South Vietnamese Air Force
SACLO	Strategic Air Command Liaison Officer
SAM	Surface-to-air missile
SEA	Southeast Asia
SecDef	Secretary of Defense
SLAR	Side-looking airborne radar
SVN	South Vietnam
TACC	Tactical Air Control Center
TACS	Tactical Air Control System
TOT	Time over target
TRANSEC	Transmission Security
UHF/DF	Ultra-High Frequency/Direction Finding

VC	Viet Cong
VR	Visual reconnaissance
WIA	Wounded in action