

# An epoch of need

by Col. A. R. Pytko



*Marine Aviation in Southeast Asia in 1972, fulfilled a task within the Corps' charter: ". . . and shall perform such other duties as the President may direct."*

*Marine Aviation fills a real need, both within the Marine Corps as part of the air/ground team and in the Nation's air forces as a "swing" force, capable of fighting from the sea or land. This versatility and flexibility will be a major factor as we return to peacetime strengths.*

**Maj Gen H. S. Hill**  
**Marine Corps Gazette, May 1971**

**W**hen A-4 Skyhawks from VMA-311 departed the runway at Danang, 12 May 1971, it marked the close of another era in Marine Aviation; a dynamic era which had begun six years and a month earlier when the Corps' first fixed wing squadron, VMFA-531, arrived at that same location. Throughout the ensuing years, Marine fighter and attack aircraft provided unprecedented air support in all types of weather and light conditions. Close air support was of particular significance. Not only this but also other developments pioneered by Marines were exercised during those years in an effort to speed the South Vietnamese toward nationhood.

As the phase down of United States forces occurred in the RVN, Marine units returned to Iwakuni, Japan, Hawaii and bases within the United States. These redeployments were sequential, and primary emphasis was given to retraining, and increasing unit readiness. Such readiness was given specific attention by a former Commandant of the Marine Corps, Gen Leonard F. Chapman, Jr., on 1 May 1971, while addressing the annual Conference of the Marine Corps Officers Association, when he stated:

"We can and will retain our tradition of readiness. And with such readiness, we can meet any emergency with confidence, because we know two things: First, whenever a crisis comes, those who are ready will go. Second, such a crisis will more than likely be a surprise. So Marines will be ready."

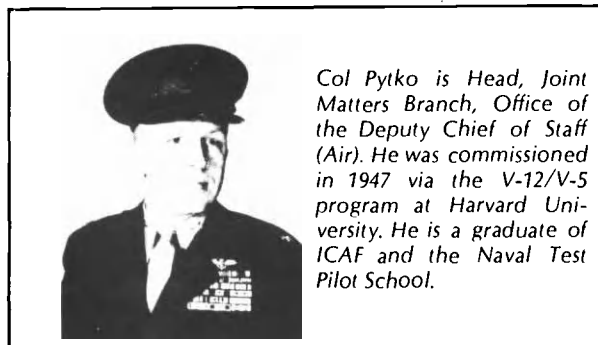
Less than a year after total withdrawal of Marine combat forces from the Republic of Vietnam, a crisis did occur and the first of several needs was identified. During early 1972, North Vietnam ground troops, supported with tanks and heavy artillery, executed a major thrust across the DMZ into Military Region 1, and elsewhere in the Republic of Vietnam. These major incursions by the NVA were initially successful as a result of an extensive buildup of men, equipment and supplies in the border areas. (While it is true that massing of forces to interdict enemy lines of communication and supplies had failed, it can be argued that the full potential of air interdiction could not be used prior to the NVN invasion in February 1972 since deliberate bombing restrictions had been imposed.)

To counter the North Vietnamese invasion, National Command Authorities decided that ini-

tial augmentation assets to Southeast Asia would be F-4 "Phantom" aircraft because of their: (1) inherent dual mission capability-fighter and attack (2) extended range and payload characteristics and (3) compatibility with on-site support at Danang and bases in Thailand. In response, two Iwakuni-based F-4 squadrons of Col Keith O'Keefe's MAG-15 received the green light 5 April 1972. Within 13 hours of the decision to execute at the Washington level, the first aircraft landed at Danang. The remainder of the squadrons deployed in a matter of hours by island-hopping from Japan to the Republic of Vietnam. The maintenance and base support elements of the air group were expeditiously airlifted to the airbase at Danang.

Subsequent to a brief indoctrination period, the F-4 squadrons joined the endeavor to halt the advances of the North Vietnamese. These Marine squadrons were employed primarily in air-to-ground missions in support of the beleaguered RVN forces in Military Regions 1 and 2. The effectiveness of this air support, particularly in Quang Tri and Thua Thien provinces, was reported as the most significant factor in disrupting the North Vietnamese drive. Tanks and trucks were attacked and destroyed and all types of artillery silenced, affording the RVN forces an opportunity to reconsolidate and establish an impenetrable line of defense to the West and North of Hue.

The Marine Corps was not the only service involved in the F-4 augmentation. The U.S. Air Force deployed F-4 squadrons to Danang and Thailand and the Navy increased its carrier strength in off-shore waters. Coincident with the augmentation was the resumption of bombing in North Vietnam. This precipitated a redirection of the total air effort in Southeast Asia. Priorities were established and assets were tasked consistent with capabilities. No longer could the weight of effort be cast within the RVN; a proportionate



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share would be allocated to other aspects of the overall air plan.

In an effort to free F-4 aircraft for operations in North Vietnam, more Marine units were added to the fight. These units were two A-4 "Skyhawk" squadrons from MAG-12, also based at Iwakuni, and commanded by Col Dean Macho. MAG-12 was ordered to Bien Hoa airbase 16 May 1972. The versatile combat tested A-4, which had been the work horse in providing effective Marine Corps close air support to ground forces during early phases of the Vietnam War, was chosen because of its high sortie rate capability, excellent reliability and easy maintenance. More importantly, these forward deployed A-4 units were in a high state of readiness and able to respond in a timely manner. The first aircraft arrived at Bien Hoa, 23 hours from the time of release of the execute order. This response time was impeded by an eight-hour delay due to adverse weather and the requirement to regulate the arrival during daylight hours. This deployment was also expedited by airlift of support personnel, equipment and supplies.

Within a few days, a respectable sustained daily sortie rate was achieved and maintained. Concentration of effort was directed toward supporting RVN units in besieged areas of MR-3 and 4, and names such as An Loc, Katum, and Loc

Aerial view of parking apron at Nam Phong, Thailand.



Ninh appeared almost daily in after action reports. Other areas, however, were not overlooked and the A-4's answered the call whenever needed in support of forces attempting to regain ground relinquished during the North Vietnamese penetrations. The performance of the A-4's was so effective that they were retained during the continuing phase down of U.S. Forces from within the RVN. This allowed MAG-12 to continue the destruction of enemy resources threatening RVN installations and personnel. One of the A-4 squadrons, VMA-311, achieved an enviable milestone when it surpassed the 50,000 combat sortie mark in the RVN on 29 August 1972.

The reduction of U.S. Forces in RVN necessitated, among other things, a movement of the Danang based F-4 squadrons. A survey of operable bases in Thailand revealed that all USAF bases were saturated and could not accommodate Marine squadrons. Consequently, the Marine Corps and the Navy were given the task of activating an austere airbase at Nam Phong in Thailand. Operations were scheduled to begin 10 June 1972.

Nam Phong in the East Central plains of Thailand was, characteristically, "a carving in the jungle." It consisted of a 10,000 foot concrete runway with a parallel taxiway and limited aircraft parking area. Work on this airfield had terminated in 1967 prior to commencement of flight operations. In reality, Nam Phong would not have satisfied even the "bare base" criteria. Undoubtedly, this was a deciding factor in the assignment of the task to the Navy and Marine Corps, due to their wealth of experience in pioneering and operating expeditionary equipment and airfields.

An engineering site survey team arrived at Nam Phong 22 May 1972, and immediately was faced with seemingly insurmountable problems. The main contingent of Marines and Seabees ar-

rived 26 May to commence activating the airfield. Within days, the airbase took on a new look. Roads were constructed and excavation was underway for billeting cantonments, ammunition storage, fuel storage, and aircraft parking aprons. The use of Marine Corps developed and combat proven airfield expeditionary equipment; i.e., portable tower, navigational aids, runway lighting, arresting gear, fuel dispensing system, etc., was a principal factor in acquiring an early operational capability. Marines, equipment, and supplies arrived daily from Japan, Okinawa, and the RVN via air. By 10 June approximately 1,500 personnel were on board.

Despite heavy rains, which periodically hampered the progress at Nam Phong, an operational capability was achieved as scheduled. It was through a near herculean effort of dedicated and self sacrificing Navy and Marine professionals that permitted such an accomplishment under extremely adverse conditions.

The elements at Nam Phong were consolidated into one unit and officially designated Task Force DELTA. BGen Andrew O'Donnell, assistant wing commander, assumed command and declared the airfield ready to accept combat aircraft. The first planes—F-4's from VMFA-115—arrived 16 June after flying combat sorties from Danang. The squadron moved the same day and combat flights originated from Nam Phong within 24 hours.

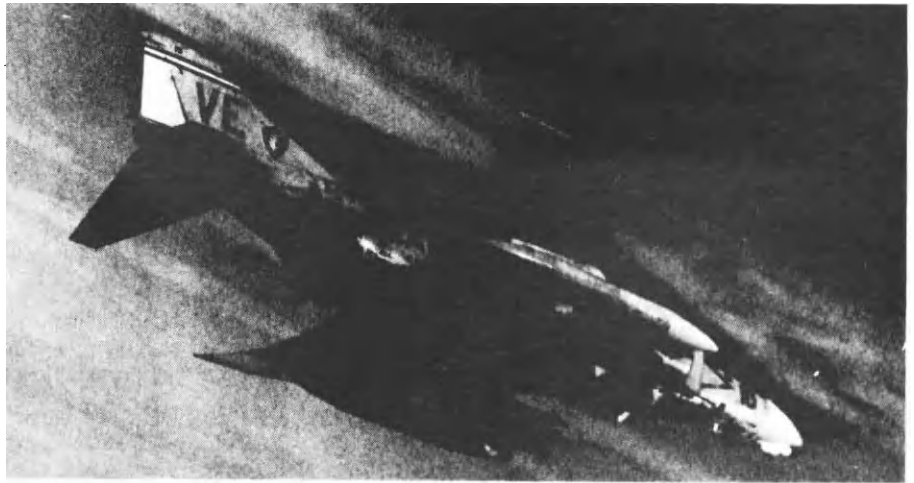
The command element of MAG-15 transferred from Danang to Nam Phong on 18 June 1972 and a second F-4 squadron (VMFA-232) arrived on 20 June. This squadron, like its sister squadron, completed the move with a minimum of lost effort. A third F-4 squadron (VMFA-212), which had deployed from Kaneohe, Hawaii on 10 April 1972, did not make the move to Nam Phong; it was to be replaced with an all-weather attack A-6 squadron (VMA(AW)-533) from Iwakuni. Contributing to this decision were:



*Marine A-4's are refueled over Vietnam by KC-130 tanker aircraft.*



*F-4B of VMFA-115 makes bombing run.*



- the imminent adverse weather season
- extended range and payload of the A-6
- the requirement to return the F-4 squadron to Kaneohe to reinforce the training base. Thus, the "Lancers" from VMFA-212 completed a 70-day round trip from Kaneohe on 25 June after having accumulated over 1,000 combat sorties.

The bulk of Task Force DELTA arrived at Nam Phong during the period 16-22 June, with a peak tally of personnel exceeding 3,100. Approximately, 7,000 short tons of supplies and equipment were airlifted which included engineering equipment and supplies for Seabees. The ultimate composition of the force consisted of one A-6 and two F-4 squadrons, KC-130 and CH-46 detachments of four aircraft each, a Navy Construction Battalion and necessary command and support units. Improvements and programmed construction continued with regularity and noticeable changes were apparent on a daily basis. It was of no great surprise that the base became known as the "Rose Garden" of Southeast Asia.

A reduction in combat sorties caused by the move was soon overcome and an acceptable

sortie rate established even though the distance to the target areas increased significantly; aerial refueling became a routine operational requirement. Other changes materialized as VMFA-232 was assigned its share of air-to-air missions over North Vietnam and VMA(AW)-533 was given night and all-weather assignments north of the DMZ.

The Marine Corps commitment to Southeast Asia was not totally land based—VMA(AW)-224 from Cherry Point, N. C., was aboard *Coral Sea*, operating in the Gulf of Tonkin. Marine squadrons returned to carrier operations in 1970 after a respite necessitated by the extensive involvement of Marine aviation units during the height of the Vietnam War.

As units were removed from RVN and returned to CONUS, a portion of selected carrier decks was assigned to Marine TACAIR squadrons. Such deployments had been predominately to the Mediterranean; however, *Coral Sea* was scheduled for a normal WestPac cruise with VMA(AW)-224 embarked.

During six separate line periods on YANKEE STATION, the squadron participated in various types of missions, i.e., strike and interdiction in both NVN and RNV, aerial mining operations, anti-radiation missile strikes, and close air support for RVN forces. The squadron operated three series of A-6 aircraft which normally included ten A-6A's, three A-6B's, and four KA-6D's. Due to the increased air activities in Southeast Asia, VMA(AW)-224 was extended and completed an eight-month cruise on 18 July 1972, when the squadron returned to Cherry Point. Statistical data indicated that the squadron flew more than 2,800 combat sorties while logging 4,500 flight hours.

No sooner had one Marine carrier based squadron departed the Gulf of Tonkin when another arrived on station. *USS America*, with VMFA-333 embarked, was scheduled for the Mediterranean; now, she was diverted to Southeast Asia to retain the established level of effort. VMFA-333's "Shamrocks" completed a six-month cruise to the Mediterranean in December



*Air-to-air photo of A-4 over Vietnam.*



*EA-6A of VMCJ-2 on photo recon mission prior to deploying to WestPac.*

1971 aboard *America* and were selected for a second cruise after a brief reorganization and training period. The diversion to WestPac was unexpected; however, Vietnam combat was not particularly uncommon to the majority of Shamrocks. The final *YANKEE STATION* period for VMFA-333 terminated on 16 February 1973 with the squadron compiling 1,538 combat sorties during a seven-month stint.

Another aspect of Marine TACAIR was exercised when detachments of electronic warfare (EW) aircraft (EA-6A) from both 1stMAW at Iwakuni, and 2nd MAW at Cherry Point, were ordered to Southeast Asia. The latter squadron having deployed EA-6A detachments during two cruises to the Mediterranean in 1971, was scheduled for another aboard *Saratoga* in 1972. With the diversion of *Saratoga* to WestPac, it was possible to consolidate both EW detachments at a land base. The air station at Cubi Point, Philippines was selected as the primary operating base for these detachments. Even though they were land based, these complex aircraft worked in conjunction with aircraft from CVA's operating in the Gulf of Tonkin, and B-52's over NVN. They provided electronic countermeasure support as needed by penetrating the most formidable and sophisticated anti-air warfare environment ever breached. Credit was also given to significantly reducing the number of aircraft losses to enemy surface-to-air missiles. *Saratoga* and the VMCJ-2 detachment with four EA-6A's were released from operational control of CTF-77 on 13 January 1973 and the detachment returned to Cherry Point after recording 519 combat sorties.

The art of warfare, by and large, generates new requirements and innovations as well as creating a testing ground for available weapons. This period of increased air activities in Southeast Asia was no exception. For example, the mining of NVN harbors restricted the movement of ships in those waters. The immediate reaction was the increased enemy use of waterborne logistical craft to move supplies and equipment from ships and along the coast of NVN. These craft operated principally under the cover of darkness and dur-

ing periods of adverse weather which limited the employment of TACAIR against them. Once again a need was identified and Marine aviation was called upon because it possessed a suitable weapons system and the intrinsic capabilities to exploit a new concept. A detachment of attack helicopters (AH-1J's) from HMA-369 at Futema, Okinawa was ordered initially to *Denver* (LPD-9), subsequently transferred to *Cleveland* (LPD-7), and finally to *Dubuque* (LPD-8) for employment against enemy small boats. The attack helicopters, although not considered as TACAIR in the true sense, were used in search and surveillance of waterborne traffic. Suspected craft and transshipment points were attacked by the AH-1J's, when feasible, and the term "Hunter Killer" was appropriately attached to this endeavor. The AH-1J pilots also provided spotting assistance for carrier-based TACAIR when more lucrative targets were observed. Like other Marine units which had been committed, this detachment cut another notch in the annals of Marine history.

The cease fire agreement on 28 January 1973 brought immediate preparations for augmenta-



*VMFA-232 F-4 touches down on runway.*

tion force reductions in Southeast Asia. MAG-12 with two organic A-4 squadrons departed Bien Hoa on 29 January 1973 and completed the return to Iwakuni four days later. Compiling an unprecedented record during the nine-month commitment, the "Avengers" of VMA-211, and the "Tomcats" of VMA-311, expended 18,000 tons of bombs with impressive statistics. With only 32 A-4's on board, the group flew an average of 50 sorties per day or a 1.57 daily sortie rate, while maintaining an aircraft availability rate of 85 per cent. The withdrawal of MAG-12 from RVN marked another significant milestone—it was the last major U.S. TACAIR force stationed in that country.

The cease fire caused other movements such as the return to Iwakuni of the VMCJ-1 detachment on 18 February 1973 after having participated in 523 combat sorties in support of B-52 and 7th Fleet air strikes against targets in North Vietnam. Hunter Killer operations were terminated on 18 January 1973 and the AH-1J detachment aboard *Dubuque* was returned to Okinawa so that the LPD could prepare for forthcoming mine clearing operations.

The clearance of mines in NVN harbors and elsewhere, some of which had been planted by Marine A-6A's, precipitated another demonstration of versatility and responsiveness by Marine forces. CH-53, CH-46, and UH-1E aircraft from MAG-36 and CH-53D's from MAG-24 were committed to assist the Navy in the mine clearing task. Early in the development of the CH-53, it was acknowledged that the aircraft was suitable for tow operations in a mine countermeasures role. As a result, provisions (hard points) were incorporated to allow for towing of a mine detaching apparatus. For the NVN operation, Marine CH-53's are using a Magnetized Orange Pipe (MOP). CH-46's perform SAR, photographic documentation, and logistics missions with the UH-1E's involved in the command and control effort.

Such an account would be remiss if command and control arrangements for such a varied nature of operations were not mentioned. For all intents and purposes, Marine aviation units executed assignments as directed by COMUSMACV Tactical Air Control Center (TACC) for land based units in the RVN and Thailand and as directed by the Commander, 7th Fleet for ship-based and other units in support of carrier operations. These arrangements were acceptable because Marine ground forces were not actively engaged in combat. Even though they were not committed, a brigade-size force of Marines was readily available off the RVN coast within a matter of hours following the NVN invasion. This force remained in an alert condition until the cease fire agreement was a reality. There is little doubt that in the event of Marine ground force employment, the air component of the unique,

self-sufficient Marine air-ground team would have been available to furnish support in a manner in which ground force commanders are accustomed. Similar future support will be enhanced as a direct feedback of the wealth of combat experience acquired during this year of involvement.

From the foregoing, it is apparent that the USMC commitment was again substantial. This period was, without doubt, a continuation of the six years of dynamism characterized when Marines were previously engaged in Southeast Asia. In addition to those functions routinely performed, innovations and developments were, and continue to be exploited. These new challenges, such as Hunter Killer and mine clearing operations were met head-on by this different breed of highly dedicated professionals. Yet equal, and perhaps more importantly, credit should be directed to pioneers such as the late Gen Keith B. McCutcheon and others who had the foresight, ingenuity, and perseverance to pursue the requirement for such an array of weapons systems, and to perfect the techniques of employment for these systems. In retrospect, Marine Aviation's versatility in performing such varied tasks, and its flexibility in adapting to the specific environments, is a proper application of Marines in their traditional role of the "Nations Force-in-Readiness."

Such an "Epoch of Need" can be classified as one in which a spectrum of air requirements was externally identified and Marine aviation units unquestionably filled those needs. The accomplishments also verify the implementation of the explicit guidance delivered by Gen Robert E. Cushman, Jr., at an address to the District of Columbia Council of the Navy League:

"We are re-directing our attention seaward, and re-emphasizing our partnership with the Navy and our shared concern in the maritime aspects of our strategy."

Though the commitment of Marine forces in Southeast Asia during 1972 did not precisely follow the traditional amphibious warfare mission of the Marine Corps, it quite appropriately fulfilled another task within the Marine Corps charter, "and shall perform such other duties as the President may direct." Because of their high state of readiness, versatility, and flexibility, Marine units were given the green light and they answered the call from the highest authorities in an admirable manner.

The forces committed during 1972 in Southeast Asia have, by and large, returned to their home bases. Once again, unit readiness has become the primary area of concentration. Marine Corps units must continue to hone the edge of readiness while maximizing the benefits of their recent combat experience in order that future needs can be satisfied in a creditable manner.

USMC

# SCRAPBOOK

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## Danang after the armistice

by LtCol R. H. Esau, Jr.

All 32 passengers aboard the Air Force C-130 Hercules aircraft were members of BGen Robert C. Kingston's Thailand-based Joint Casualty Resolution Center. We were still ten miles from the Danang Airfield when I began to notice change. Granted, I had expected change. After all, the last time I had seen Danang was July 1967 and this was August 1973. But the degree of change—it was totally unexpected. All signs of a United States presence at Red Beach; at Hill 327, site of the First Marine Division command post; at the Marble Mountain helicopter facility and the adjacent site where the Danang station hospital once stood; and at the III MAF/XXIV Corps Compound, had been obliterated. Only the runways at the Danang Airfield remained relatively untouched, but even these were rimmed with the skeletons of buildings which had once teemed with life. It was as if we Americans had never been there! Those of us who were about to land knew differently, however, for it is the mission of the JCRC to assist in the resolution of MIA and KIA (bodies not recovered) cases by conducting, among other means, search operations throughout Indochina to recover and subsequently identify the remains of our fallen comrades in arms.

As we taxied to the terminal, the ever growing feeling that I had entered Rod Serling's "Twilight Zone" was heightened by the presence of eastern European Communist members of the Inter-

national Control Commission (ICCS) who were dressed in woolen uniforms, even though the temperatures hovered near 100 degrees. They gave us a perfunctory look as the plane halted and we debarked and continued preparations for what appeared to be a tourist flight to Hanoi. Six days later, while coordinating with Air America for a helicopter lift from one casualty resolution site to another, three of these eastern Europeans actually requested, via pantomime, that I take their group picture in front of the Danang terminal building. Presumably, for enclosure in a letter to the folks back home. The whole scene was unreal. Here were three Communists on "vacation" in a war zone asking a U.S. Marine officer concerned with finding the bodies of missing Americans to take their picture, while off in the distance other Communists just then happened to be breaking the peace agreement the Communist camp had agreed to uphold. Ironically, it is Article 8B of this very same agreement which, in writing, supposedly guarantees freedom of access to all known crash/grave sites throughout Indochina. Needless to say, the Communists are not living up to their end of the agreement. Areas controlled by them continue to remain inaccessible to the U.S.'s overt, humanitarian Casualty Resolution operations presently being conducted only in GVN controlled areas of SVN.

Billeting for Army LtCol Charlie Beckwith's CR Control team had been

established at the Lear-Siegler, Inc. (LSI) compound on the western edge of the Danang airstrip. Access to the compound area, which looked vaguely familiar, was through a Vietnamese hamlet. One of the few highpoints of my return to Danang were the smiles and gleeful shouts of the young children as we drove by. "The Americans are back, the Americans are back," they chanted in the perfect English learned during our eight-year protective presence in their midst. What is going to happen to them now?

The day after my not so "triumphant" return to Danang, VNAF helicopters arrived at the rundown helicopter pad located adjacent to the LSI compound and lifted approximately twenty-five of us to the mountainous area east of the Hai Van Pass some five miles to the north. As we lifted off, I was struck with the sensation that I'd been there before, but I could not correlate anything in my memory bank with my surroundings, and the feeling passed. It was to return.

For the next four days it was my privilege to work with the highly trained and motivated Army Special Forces soldiers who make up the JCRC field operating units. As staff headquarters representative, I was only an observer; a fortuitous position because it afforded me an opportunity to join one of LtCol Beckwith's search teams and participate at the grass roots level. Capt Wickcliffe Walker and his team (SSgt Rodolfo Rodriguez, team sergeant; SSgt Delmar Stricklin, communications specialist; and Sgt Robert Kujawa, medical specialist) "adopted" me and there began the good-natured banter always present when Marines and Special Forces troops operate together. As SSgt Rodriguez later said "we were a completely integrated group, we had a Marine!" A more professional team of men is not to be found in any of the nation's four Services. They were dedicated completely to the mission at hand: find the wreck of an Army UH1E helicopter



Danang Airfield, August 1973



Goodsell Memorial Heliport



*Resupply peninsula east of Hai Van Pass*

which went down in 1968 with all hands. The area in which they worked was almost impenetrable jungle. Without a machete, movement was impossible. The few trails in the area showed signs of recent VC and/or NVA presence; not a happy prospect for *unarmed* men whose uniforms were emblazoned with international orange to show their peaceful intent; also it was not a happy prospect for men whose security was provided by a small group of very young regional force (RF) South Vietnamese troops. But, as with all professionals, the mission came before any personal considerations and Capt Walker, an Olympic canoeist, continued the search until his criss-crossing of the area left no doubt that the helicopter was not at the coordinates given. (In October, LtCol Beckwith was to return to Danang with additional information on the UHIE site which pinpointed its location as east of the area searched in August. Unfortunately, the level of VC/NVA activity in the area made it advisable to defer a second CR attempt.) At this time his team was extracted by VNAF helicopters and returned with two other search teams to Danang. I had preceded him by a few days so I might observe the workings of

the forward operating base (FOB) set up to support search teams in the field.

During those few days I was assisting at the FOB, I was required to fly numerous support missions around the Danang area with either Air America or VNAF helicopter pilots. I found both to be dedicated to the JCRC mission. Air America pilots want to see any doubts concerning America's dead put to rest. VNAF pilots honor our dead as they do their own and want to repay the U.S. in some small way for our efforts on their behalf.

It was at the completion of one of these support missions that I happened to find the key to the now ever-present feeling that I'd been at the helipad adjacent to the LSI compound before. There, to one side just off the rusted marston matting, was what appeared to be a plaque. It was almost covered with debris and was beginning to show the signs of decay everywhere present in the surrounding area. It read:

LZ-11  
GOODSELL HELIPORT  
IN MEMORY OF  
MAJOR WILLIAM J. GOODSELL  
USMCR

C. O. MARINE OBSERVATION  
SQUADRON SIX  
KILLED IN ACTION 6 JUNE 1966  
QUANG TIN PROVINCE REPUB-  
LIC OF VIETNAM  
MARINE AIR GROUP 36  
FIRST MARINE AIRCRAFT WING

The change wrought in the area had been so great that I did not even recognize the MAG 36 CP I'd visited in 1966 while working at the III MAF Headquarters! This was not the twilight zone, this was reality! The plaque, alone and forgotten in the bleakest of surroundings, spoke and continues to speak volumes about America's involvement in Vietnam. I cleared the area the best I could in anticipation of the time when the South Vietnam Government will either find time to care for the Goodsell Memorial or allow its removal to a place of honor in the present MAG 36 headquarters.

We had been in the Danang area nine days when, as is his custom, BGen Kingston flew in to observe the operations of his men in the field. Later in the day, he told me I would return with him to our home at the Royal Thai Air Force Base, Nakhon Phanom, Thailand and resume my staff duties. As our plane lifted from the Danang Airfield I knew that I'd been deeply moved by this second Danang experience and was painfully aware that far more questions had been raised than answered. In fact, I keep asking myself: If I revisit Danang for a third time seven years hence will the children still shout, or for that matter be allowed to shout, with obvious glee, "The Americans are back, the Americans are back!" USMC

Marine Corps Gazette • July 1974



# Operation Eagle Pull

by Col Sydney H. Batchelder, Jr. and Maj D. A. Quinlan

**O**n the 12th of April 1975 when the Marine helicopters swooped into Landing Zone HOTEL, adjacent to the American Embassy at Phnom Penh, it was almost exactly two years to the day from the conception of Operation EAGLE PULL. On the 13th of April 1973, the Commander, United States Support Activities Group, Thailand (USSAG) had been tasked with the responsibility for both the planning and execution phases of non-combatant emer-



gency evacuation (NEMVAC) operations of American citizens and designated aliens from Cambodia. From that date until the time of execution, the never ending effort of developing, refining, and updating evacuation plans required thousands of dedicated man-hours in preparation and coordination.

Marines were involved in the operation from the very beginning of the planning phase. Marine officers in key planning billets on the USSAG staff early recognized the absolute necessity for rapid reaction to evacuation requirements and relied heavily on the responsiveness of forward deployed Marine forces to meet these requirements. As a result, the role of Marine forces and their scope of commitment would grow with the passage of time. This article will briefly attempt to recapture the details of the painstaking dedication of so many to the task at hand.

Before describing how the plan evolved, it would be well to review the background against which it was prepared and ultimately executed.

### **The war in Cambodia**

Throughout the years of major United States involvement in South Vietnam, during the period 1965 through 1969, Cambodia though avowedly neutral had served as a vital link in the Ho Chi Minh Trail. Additionally Cambodian territory offered a convenient sanctuary for North Vietnamese (NVA) and Viet Cong (VC) forces. The regions to the immediate west and northwest of Saigon were of particular importance to the North Vietnam-

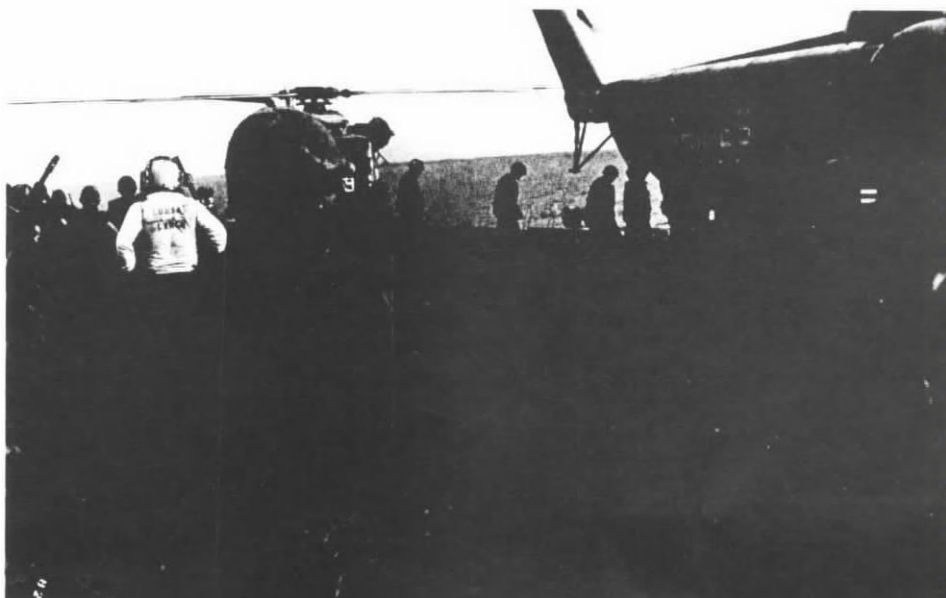
ese as sanctuary areas.

In March of 1970, a coalition under the leadership of then Marshal Lon Nol mounted a successful coup against the "neutralist" Prince Norodom Sihanouk. In April of that same year, U.S. and South Vietnamese forces launched a limited objective offensive into Cambodia to destroy the NVA/VC sanctuaries, principally in the Parrot's Beak region. As a fringe benefit, the offensive served to bolster the fledgling government in Phnom Penh which was struggling against an internal Communist monopolized insurgency movement.

Despite their longstanding ethnic differences which occasionally erupted into mutually destructive warfare, the indigenous insurgents were supported by NVA forces in Cambodia and were joined by additional cadres trained in North Vietnam. Their forces swelled to 60,000 hard core Khmer insurgents. Although these ranks contained a number of other smaller rebel factions, they became known collectively as the Khmer Rouge or Khmer Communists (KC). Although Communist China supplied most of their weapons, the KC for the most part lived off the land.

During the first three years of the existence of the Khmer Republic, the forces supporting the Lon Nol government were little more than a rag-tag, ill-equipped band of soldiers. The Air Force and the Navy soon proved themselves however to be the elite forces of the Khmer Republic. Backed up by U.S. air support, the Cambodian Army, which came to be

*Aboard ship in Gulf of Siam, Marines prepare to depart for emergency evac in Cambodia.*





known as the FANK (Force Armee' Nationale Khmer), was able to hold the better trained, and initially, better equipped KCs at bay.

Any hopes that the signing of the Paris Accords relative to Vietnam would signal a winding-down of the conflict in Cambodia were quickly dispelled. During March of 1973, the KCs escalated their attacks in the area immediately surrounding Phnom Penh, and soon effectively interdicted all five major highways leading into the capitol city. More importantly, the Communists severed the vital Mekong River supply route from South Vietnam. The capitol was experiencing the first of its three seasonal sieges. Predictions of imminent downfall were many, but the city and the defending FANK forces held out. The vital Mekong supply route was reopened as the result of a government counteroffensive supported by waves of U.S. aircraft. As the KC dry season offensive wound down in June of 1973, the stalemate persisted.

Following the cessation of U.S. air support in August of 1973, upon passage of the Cooper-Church Amendment, the struggle which became more violent with the passage of time continued along classic insurgency lines. The government controlled the major population centers which became further swollen by increasing numbers of refugees fleeing from the KCs. The insurgents held sway over 80% of the territory, but they controlled only 20% of the population. One by one the overland lines of communication (LOCs) were interdicted and cut by the KCs until there were only two reliable supply routes into Phnom Penh—by airplane into Pochentong airfield and by ship or barge via the Mekong River. Outlying province capitols, the majority of which were under government control, were resupplied primarily by means of the "fly anything, anytime, anywhere" airlines which operated out of Pochentong airfield.

The Mekong River had always been of significance to Cambodia. It was navigable from the South China Sea to Phnom Penh year round by coastal steamer and barge. As the KCs strengthened their hold on the overland LOCs surrounding Phnom Penh, including its link with the country's only seaport at Kompong Som, the river loomed larger as the country's lifeline. Short of flying everything in through Pochentong which added considerably to the cost of supply, the Mekong River became the only practical means of economically supplying the FANK forces and

feeding the swollen population in the capitol. Even rice grown in Western Cambodia was supplied to Phnom Penh by way of Mekong convoy after being shipped out of country through Thailand.

Mekong convoys comprised of various types of chartered coastal steamers and barges laden with military supplies and civilian cargo of every variety formed at least weekly at the South Vietnamese port of Vung Tau. After a usually peaceful two day journey through South Vietnam, they were met at the Cambodian border by Khmer Navy escort craft for the hazardous last day's steaming to Phnom Penh. The FANK was too small to provide sufficient forces to control every meter of riverbank over the 62 kilometer stretch from the border to Phnom Penh. It maintained sufficient strong points and fire bases along the river to deny the KCs easy access to key chokepoints around river islands and narrows and to provide interlocking artillery coverage of the 62 kilometer stretch of river.

During the monsoon season the convoys were rarely threatened. The foliated river banks in which the KCs dug the fighting positions for their 12.7 mm machine guns and rocket propelled grenade launchers (RPG) were flooded. Typical of the war in Cambodia, the action on the river took place during the dry season.

The five year conflict in Cambodia, as was the case in South Vietnam, was critically affected by the weather. The southwest monsoon season annually inundated the lowlands around the government population centers effectively limiting any offensive action by either side from June through December. During the dry season (January to June), virtually the same scenario began with the start of each calendar year. The KCs attacked the government enclaves, interdicted the LOCs, and attempted to draw sufficient FANK forces away from Phnom Penh to strike a mortal blow before the onset of the monsoon. Neither side clearly gained the upper hand during the first three years of dry season fighting. During this period air support provided by the U.S. played a major role in balancing the combat power of the two sides. It bought time for the FANK to improve its combat capability, particularly fire support coordination. Meanwhile the KCs were also improving, particularly the coordination of their offensive actions which were hampered initially by the many factions that made up the insurgent force. As each new rainy season began, how-

ever, there was the ominous, inescapable fact that the KCs were gradually gaining control over the LOCs. The noose around Phnom Penh was pulled tighter as each dry season came to a close.

### **The plan evolves**

Against the backdrop of the Vietnam cease fire and the withdrawal of U.S. combat forces from South Vietnam, it was obvious to responsible U.S. commanders that plans would have to be developed for the possible evacuation of the noncombatant American presence under emergency conditions. A sense of urgency developed as KC attempts to interdict the Mekong River supply line increased and the siege of Phnom Penh threatened to crumble thin defensive lines.

On 13 April 1973, the Commander in Chief, Pacific (CINCPAC) assigned the Commander, USSAG (A double hat for the Commander of the 7th Air Force) the responsibility for the planning and the conduct of the noncombatant emergency evacuation (NEMVAC) of Cambodia. As the staff at USSAG set to the task of developing a concept plan (CONPLAN), it was clear that political, diplomatic, and humanitarian considerations would delay execution and significantly complicate evacuation operations.

The initial CONPLAN which was promulgated by USSAG described three options. The first two options involved the evacuation of people from Pochentong airfield by fixed-wing aircraft. The first option described the evacuation of all designated persons from Phnom Penh by commercial aircraft with the Ambassador maintaining complete control of the entire operation. The second option would involve fixed-wing USAF aircraft in the transportation of evacuees out of Pochentong. Under this latter option, Commander, USSAG would control the military assets involved in the evacuation.

The Stars and Stripes flying over the Embassy in Phnom Penh were so significant in their signal value of United States resolve and support for the Cambodian government that USSAG prudently and correctly assumed that they would not come down until the eleventh hour had passed. It was further concluded that, at that time of gravest emergency before the fall of Phnom Penh, the airfield at Pochentong, 14 kilometers west of the city, would not be usable. Therefore, the primary planning effort was directed toward development

of the third option which relied entirely on helicopter evacuation of the noncombatants from Phnom Penh. This worst case option was recognized from the outset as being the most likely option.

When it came to detail planning for the third option, the following factors loomed large:

- ▶ Possible opposition into and out of the designated landing zones.
- ▶ Requirements for a landing zone security force on the ground.
- ▶ Surprise.
- ▶ The availability of helicopters.
- ▶ The desire for avoiding time-consuming turn-around flights.
- ▶ Distance from friendly bases.
- ▶ Number of evacuees.
- ▶ Extent of warning time.
- ▶ Command and control procedures.

In consideration of possible opposition, a detailed plan for close air support was developed, given that tactical aircraft were the only weapons systems feasible by virtue of the extended ranges between friendly bases and Phnom Penh. The nature of the operation dictated that stringent rules of engagement would have to be established for CAS, should it become necessary, to ensure an appropriately measured and precise response to potential threats, e.g., antiaircraft fire and ground fire directed against evacuation sites.

The next most important, if not the most important, planning factor and the one on which many of the other requirements hinged was the total number of evacuees and their locations.

This factor not only drove the critical requirement for helicopters, but also dictated the number and location of helicopter landing zones, and consequently, the strength and organization of the security forces required. Because of the time/distance factors related to an extended range operation of this nature, it was essential that only the minimum number of troops necessary to provide the requisite degree of security be introduced. Furthermore, the time/distance factor created a situation wherein the precise number of troops inserted would be based to a significant degree on the helicopter lift capability and not primarily upon tactical integrity requirements of the ground units. The inherent risk in this trade-off could not be avoided.

The amount of warning time would also be a critical factor in determining the availability of forces. USSAG had to be prepared to exe-



**Heavy helicopters from HMH-463 land at LZ Hotel (football field).**

cute on short notice with the forces immediately available. With sufficient warning time, i.e., 24 hours or more, other forces could be taken into consideration and incorporated into the planning. The nature of the developing situation allowed little confidence that 24 hours of warning time would be available.

When the CONPLAN was first formulated, it became apparent that the closest source of infantry units to serve as landing zone security forces was III MAF on Okinawa. Assuming sufficient warning time, plans were made to airlift forces from Okinawa to Thailand for commitment to the operation. In the event that there was no warning time or insufficient warning time, the Air Force security police assigned to the 7th Air Force would be required to provide landing zone security—a high risk, last resort option.

With regard to the availability of helicopters, within the 7th Air Force there were the 56th Special Operations Wing and the 3d Air Recovery and Rescue Group. Within the Wing was the 21st Special Operations Squadron (21st SOS). The Group contained the 40th Air Recovery and Rescue Squadron (40th ARRS) in addition to C-130 and OV-10 aircraft, which then joined by tactical aircraft formed a search and rescue (SAR) package. The 21st SOS was equipped with CH-53 helicopters. The 40th ARRS flew HH-53s. The HH-53, better known as the “Jolly Green Giant,” carries more armor than the CH-53 and has an inflight refueling capability. The Air Force version of the CH-53, the “C” model, is equipped with external fuel tanks. Given the extended range over which the operation would be conducted, it was necessary to plan for the use of only heavy helicopters. Considering the requirements for additional fuel tanks, the medium helicopters of the CH-46 variety did not have the residual payload capacity which was deemed sufficient to commit them. In the early stages of planning, the Marine Corps heavy helicopter assets in the

Western Pacific were committed entirely to Operation END SWEEP, the mine sweeping operations being conducted off Haiphong harbor (GAZETTE: May 1974). Therefore, on the basis of what was immediately available, in theater, the initial planning envisioned the use of Air Force helicopters and Marine security forces from Okinawa, if prepositioning time allowed airlift of the latter.

Operational control of the forces committed to the evacuation would be exercised by USSAG through its airborne battlefield command and control center (ABCCC) in which was located the air mission commander (AMC). He would act as the forward extension of the command headquarters. The ABCCC would be located in a specially equipped C-130 which would orbit over a station at some distance from Phnom Penh. The control of tactical aircraft operating over the landing zones and along the helicopter approach and retirement routes would be under the control of tactical air coordinators (airborne) (TACA) who would be flying in OV-10 aircraft. The helicopters would be under the control of a separate helicopter direction center located in another C-130. The 7th Air Force had sufficient assets to relieve these control aircraft on station, thus maintaining the capability of continuous round-the-clock operations. The commander of the forces providing security for the landing zones would be under the operational control (OPCON) of Commander, USSAG, relying on the ABCCC for communications relay and exercising control through the AMC.

#### **Marine involvement**

The same message that assigned responsibility for the conduct of NEMVAC operations in Cambodia to USSAG also tasked the Commander in Chief, United States Pacific Fleet (CINCPACFLT) to be prepared to provide one reinforced rifle company of Marines to be placed under OPCON of USSAG for the dura-

tion of an emergency evacuation. This company was specifically assigned for ground security operations in Cambodia.

As the number of potential evacuees grew larger (directly related to the instability of the host government) USSAG foresaw the requirement to increase the number of potential landing zones which would be used for extraction. With the increase in the number of LZs came the requirement for additional security forces. Therefore in June of 1973, III MAF was tasked to provide an additional reinforced rifle company and an austere command group in support of the operation. This tasking was subsequently assigned to the 3d Marine Division (3d MarDiv). From the 26th of June until the operation was executed, the normally assigned air contingency battalion within the 3d MarDiv was assigned the additional responsibility to provide the EAGLE PULL forces.

Because of their commitment to END SWEEP, Marine Corps heavy helicopter assets were not considered during initial planning stages. Finally, on 30 July 1973, following the completion of the mine sweep, the 31st Marine Amphibious Unit (31st MAU) was reconstituted as a helicopter capable organization. (The 31st MAU is one of two units from the III MAF which are deployed aboard amphibious shipping of the 7th Fleet). On this same day, the MAU assumed a response time to the waters off Kompong Som, Cambodia, and provided significantly greater flexibility to the USSAG planners. It should be noted that at this time the only units within the MAU which were incorporated into the planning for the operation were the helicopters. The landing zone security forces were still scheduled to come from the 3d MarDiv.

During the period 3-5 August 1973, the first of a series of planning conferences between representatives of III MAF and the USSAG staff was conducted at USSAG's headquarters at Nahkon Phanom, Thailand (NKP). The purpose of the initial conference was to coordinate the participation of III MAF units in the operation. In addition to the Marine Corps representatives, to include the commanding officer of the 31st MAU, Col D. M. Twomey, and the commanding officer of the 9th Marines, Col S. G. Olmstead (designated commander of the ground security forces), representatives from the 7th Fleet's amphibious ready group Alfa (ARG Alfa) and representatives from participating Air Force units were present. The conference was chaired by

Marine Corps Col E. J. Bronars, recently assigned as the Chief of Surface Operations and Plans Division at USSAG. During the conference, he was supported by Maj H. W. Baker, a member of his staff who served as action officer for EAGLE PULL and principal briefer for the conference. As part of the conference schedule, Col Olmstead and designated landing zone security force commanders visited Phnom Penh on 4 August and, while maintaining a low profile, conducted a visual reconnaissance of designated landing zones from a moving vehicle. While in Phnom Penh, Col Olmstead participated in a command post exercise with the Embassy staff. The Marines who remained at NKP participated in working conferences for coordinating helicopter scheduling, procedures for the rescue of downed helicopters, approach and retirement lanes, and emergency resupply of committed forces.

When Col Olmstead and his party returned to NKP on 5 August, Col Twomey and selected officers from the MAU were given the opportunity to visit Phnom Penh and conduct a low profile reconnaissance of key areas. During these two visits especially valuable liaison was effected between the Marines and key members of the Embassy staff and the Military Equipment Delivery Team, Cambodia (MEDTC). The members of MEDTC were responsible for organizing, supervising, and controlling all Embassy evacuation procedures, and proved to be key elements in coordinating all aspects of evacuation operations.

Subsequent conferences involving III MAF and 31st MAU representatives occurred with greater frequency as the situation in Cambodia deteriorated. During each conference significant progress was made in refining and updating plans, to include the addition of two new options involving the employment of elements of the 31st MAU. As it turned out, the most important accomplishment of this close coordination was the integration of both helicopter and ground elements of the MAU into the plan. As a result, the final plan listed five courses of action for the helicopter evacuation option:

▶ Alternative A: Quick reaction with little or no warning and MAU forces unavailable. Using only USAF helicopters, two reinforced Marine Corps rifle companies (from Okinawa) prepositioned at Ubon Air Force Base would provide two 90-man forces for landing zone security.

▶ Alternative B: MAU available, mini-

imum number of evacuees, integrated landing force (MAU providing security for one LZ with 60 Marines and prepositioned 3d MarDiv force providing security for two LZs, (60 Marines each) ). Integrated helicopter flow utilizing both USMC and USAF aircraft. The anticipated required time from launch to clearing the last LZ was 2.5 hours. Each helicopter would go in and come out once.

► Alternative C: Essentially the same as "B" but a maximum number of evacuees. This would require a larger landing force, i.e., 360 Marines, and was estimated to be 6 hours and 55 minutes in duration. Given a fixed number of helicopters, this alternative was based upon each helicopter doing one complete turn-around, i.e., in and out twice.

► Alternative D: Similar to Alternative B. Landing force of 150 Marines from the MAU only. Marine helicopters from the MAU insert the landing force and extract evacuees. USAF helicopters go in empty and extract the landing force. Each helicopter in and out once.

► Alternative E: Similar to Alternative C. Landing force of 240 Marines from the MAU only. Multiple sorties by both USMC and USAF helicopters. Landing force extracted on a first available helicopter basis.

The one facet that was common to all of the alternatives was the fact that the command element for the landing force would come from the 3d MarDiv. This was a point of considerable concern, particularly with regard to the "D" and "E" alternatives. All of the Marine forces involved were from the 31st MAU. Therefore, was it not logical for the command element to come from that organization? For this operation it was not. The Commander, USSAG stipulated that he wanted the commander of the landing force (in USSAG terminology: The Commander of the Ground Security Force) to be prepositioned at USSAG Headquarters at least 72 hours before the operation was executed in order that the commander of the security forces could participate in last minute planning and be available for liaison. Quite simply stated, the command element from Okinawa was always available to meet this requirement, not so the MAU command element.

Other significant accomplishments which resulted from this conference pertained to logistics and communications. An emergency resupply of CH-53 parts was arranged, i.e., a lateral shift of USAF parts. The parts would be delivered to Utapao for pick up. The land-



*CH-53's in LZ resemble large insects.*

ing force was assigned a block of USSAG frequencies for its internal use. A copy of the draft USSAG communications plan was made available to the Marines. Most importantly, the Marine commanders were exposed to USSAG communications procedures and specifically to the communications flow via the AMC located in the ABCCC.

In addition to their participation in and exposure to the planning for the operation, the fleet Marines gained valuable insight which made for a more comprehensive understanding of the operation. The general impression, key assumption if you will, at USSAG was that the evacuation would not be ordered to be executed until the situation on the ground had deteriorated to the point that only helicopter landing zones would be available to extract evacuees. Consequently, landing forces would be required to provide security. It was also apparent that the attitude in the embassy in Phnom Penh fluctuated from "never-go" to "maybe tomorrow," on almost a daily basis.

#### **Alerts and exercises**

Following the return of the Marine representatives to Okinawa, "the word" was disseminated. This was done on a close hold basis in view of the sensitivity of the operation. Overt emphasis in planning or training, and particularly any publicity attendant thereto, might work to generate a self-fulfilling prophesy. But gradually, and often ingeniously more and more NEMVAC drills or NEMVAC related training subjects began to appear in the training schedules of the III MAF organizations.



*F/2/4 Marines move out to avoid mortar fire in landing zone.*

The air contingency battalion within the 3d MarDiv, a rotational designation among the six infantry battalions, was drilled more extensively and more often in air movement exercises. Regularly scheduled loading exercises and joint air movement air transportability exercises with the Air Force not only toned up the battalions, but of equal importance, the division's embarkation and movement control agencies were honed to a fine edge of efficiency. Starting with command post exercises and culminating in air-ground field exercises, the 3d Marine Division's infantry battalions and the squadrons in Marine Aircraft Group 36 became increasingly proficient in the execution of NEMVAC or NEMVAC like evolutions.

In the amphibious environment, increased emphasis was placed upon the conduct and execution of NEMVAC operations. With increasing frequency the regularly scheduled 9th Marine Amphibious Brigade landing exercises were developed using a NEMVAC theme. The 31st MAU in particular emphasized NEMVAC in its normal training. For example, on 5 December 1973, the MAU conducted a landing exercise in the Philippines. During the course of this exercise, unbeknownst to most of the participants, the helicopter evacuation alternatives for EAGLE PULL were tested.

As far as the Okinawa based air contingency battalion was concerned, the assumption of EAGLE PULL responsibilities did not inordinately affect its normal readiness posture. Two of its reinforced rifle companies and an austere command group assumed an increased deployability status. The designated security force commander and his small staff which consisted of an air liaison officer and two communicators were on-call at all times.

The reaction time of the 31st MAU varied with the season. During the dry season in Southeast Asia, the reaction time of the ARG

in whose ships the MAU was embarked would vary from a few hours to a few days sailing time from the launch points off the Cambodian coast. With the latter reaction time, the ARG could remain in the Subic Bay area. During the wet season and during turn over periods for either the shipping or the Marines the reaction times would be further relaxed.

The seasonal variations in Southeast Asia had a telling effect upon the helicopter mix in the MAU. During the wet season when the probability of the evacuation being executed was at its lowest, the helicopter mix within the MAU would be built around the nucleus of one of the medium helicopter squadrons in Marine Aircraft Group 36 (MAG-36) i.e., the vast majority of aircraft in the MAU's squadron would be CH-46s. During the dry season with its increased enemy pressure and consonant increased probability of evacuation, the helicopter mix would be built around the heavy helicopter squadron of MAG-36. The number of CH-53s would be increased to at least 14 aircraft with an appropriate reduction in the number of CH-46s. When the KCs opened their dry season offensive in January of 1974, the MAU was configured with Marine Heavy Helicopter Squadron 462 (HMH 462) as its aviation component.

The KC offensive opened shortly after the first of the year in 1974. It appeared for several weeks as though the evacuation would take place in a matter of a few days. In response to this "maybe tomorrow" attitude, USSAG requested that the command element be prepositioned at NKP. On 23 January 1974, Col Olmstead, accompanied by his regimental ALO and two communicators, deployed to USSAG Headquarters at NKP. When the initial crisis period (late January through early February) had subsided, Col Olmstead and his command element returned

to Okinawa (16 February 1974). It began to appear as though Phnom Penh would weather the season through.

#### **Dry season offensive—1974**

During the previous year's dry season operations the KC had been successful in their intermittent interdiction of the LOCs into Phnom Penh. For a time all of the supply routes had been blocked and it appeared as though the capital would be starved out. However, to be able to block effectively the LOCs, the KCs had to mass their forces in an exposed manner. This caused severe casualties when FANK counterattacked with U.S. tactical aircraft flying close and deep support missions against the massed insurgent forces. Whether the same KC tactic would have worked in 1974 is a matter for conjecture. The fact is that the KC did alter their tactics in 1974.

Instead of concentrating their forces to break or block the LOCs into Phnom Penh, the KC attempted to terrorize the capital into submission. From their positions in the surrounding countryside, the insurgent forces began to bombard the capital with artillery and 107mm rockets. It appeared for a while that these attacks by fire against the civilian population would succeed. But once again the Cambodian government confounded the experts and the capital did not fall. The dry season came to a close with the KCs enjoying an even tighter strangle hold on Phnom Penh. That the KC did not attempt to block the river would give the Lon Nol government another year to survive. It can be inferred from the mauling that their units received during the 1973 campaign that their manpower resources were insufficient to mount an offensive on the scale of 1973. Regardless, the evacuation did not take place during 1974. In June the MAU changed to its wet season mix of helicopters. A new year group of Marines was arriving in WestPac to relieve the 73-74 group.

#### **Fine tuning the plan**

During the summer of 1974 there was a complete change over of the key Marine Corps personnel involved in EAGLE PULL planning and execution. Col S. H. Batchelder, the commanding officer of 3dSerBn, 3dMarDiv was assigned the additional duty as the commander of the EAGLE PULL landing force vice Col Olmstead. Col J. F. Roche III relieved Col Twomey as the commander of the 31st MAU. Within the III MAF headquarters, Maj G. L.

Cates replaced Maj J. Hicks as the key planner for EAGLE PULL in the G-3 Section. The key action officer at USSAG, Maj Baker, had been relieved by Maj E. A. Grimm in March of 1974. In view of this fact, Maj Grimm was well read into the plans and was able to conduct detailed briefings for the newly arrived MAF officers.

During the period July through December 1974 the newly assigned key personnel made several liaison visits to USSAG headquarters and to Phnom Penh. As a result of these visits, the first three options of the EAGLE PULL plan were further refined. Additionally a concept was explored and rejected as too risky, whereby the evacuation would be conducted by loading the evacuees in ships and sailing down the Mekong River. In December, LtCol C. G. Lawson relieved LtCol G. C. Shaver as the division air officer with the all important additional duty as the air liaison officer for the command element. Also in December, HMM 462, now commanded by LtCol J. L. Bolton, was designated to become the dry season aviation component of the 31st MAU, in relief of HMM 164 then deployed with the MAU. On 12 December, Battalion Landing Team 2/4 (BLT 2/4), commanded by LtCol G. P. Slade relieved BLT 3/4 (LtCol E. J. Godfrey) as the ground combat component of the 31st MAU. Throughout the PACOM area final preparations were being made for the expected KC dry season offensive.

#### **Dry season offensive—1975**

Right on schedule the KCs opened their offensive on 31 December 1974. Immediate pressure was put on all of the FANK positions around the capital and the cities in the surrounding provinces. Combat activity was particularly intense around the government outposts along the Mekong River supply line. As the new year progressed the intensity of combat along the river became greater. The vital convoys which came up the river from South Vietnam were subjected to increasing amounts of direct fire from the banks of the river. During the third week in January two small convoys reached Phnom Penh, but the ships suffered considerable damage from insurgent fire during their hazardous 60-mile trip up the river. On 27 January, two tankers and five ammunition barges made it to the docks at Phnom Penh. These were the only ships of an original 16-vessel convoy to brave the KC fire. Their superstructures and hulls bore the marks of rocket, bullet, and shrapnel





**Loaded 'copter departs LZ at Phnom Penh.**

holes. Phnom Penh and its vital Pochentong airfield were beginning to receive incoming rocket and artillery fire, but the volume of fire was considerably lighter than that of the 1974 KC offensive. It was obvious to even the casual observer that the thrust of the new offensive was directed not at the capital itself, but against the convoys which brought about 80 per cent of the city's supplies up the river. Since the short-lived KC interdiction in 1973, it had been customary for three or four large convoys to make it up the river every month. The convoy that limped in on 27 January would be the last.

On 3 February the KC inflicted the mortal blow. The supply ships which had arrived at Phnom Penh were returning empty to South Vietnam. The convey was torn apart when it ran into a minefield laid by Communist-led Cambodian insurgents. In the vicinity of Phu My about forty-six miles from Phnom Penh where the Mekong River narrows, the fate of the Khmer Republic was sealed.

The Cambodian Navy possessed a limited capability to sweep the minefields which were for the most part composed of command-detonated mines. The prescribed method for this kind of sweep was to drag the shallow waters of the river adjacent to the banks and thereby expose and sever the command wires. This meant gaining control of the river banks. Otherwise the Navy was looking at the unappealing prospect of being blown out of the water by the rebels on the banks.

The government attempts to reopen the river during the remainder of the month of February can be described as too little and too late. The score or more isolated garrisons that the government held around the country were stripped of troops to provide more soldiers for

the battle of the Mekong. Not only did these moves further weaken the garrisons, but the newly constituted counterattack force was too meager to disrupt the KC defenses let alone break them. By the end of the month, the only portions of the river that were controlled by the FANK and the Cambodian Navy were in the immediate vicinity of Banam and the adjoining major naval base at Neak Luong. These two isolated outposts daily felt the pressure of the insurgents' attacks.

During the month of March the KC increased their pressure of attack around Phnom Penh, particularly in the sectors to the north and west of the city. These attacks placed the airfield, which the insurgents were able to interdict by fire at will, in greater jeopardy.

The U.S. increased the airlift effort by adding three DC-8s to the fleet of C-130s which were operated by Bird Airways. By this means the minimum daily resupply requirements for the FANK were met. Despite the increased effort of the American airlift, it was obvious that if the Khmer Republic were to survive, the Mekong supply line was the key. The airlift was too expensive and becoming much too vulnerable as the KC increased the volume of rocket and artillery fire on the air field. Any surviving hopes that the Khmer Republic would gain another wet season's reprieve were soon shattered.

The last remaining government strongholds on the Mekong, Banam and the vital naval base at Neak Luong, were overrun by the insurgents on the third day of April. The sagging morale of the FANK plummeted even further—and for good reason. Five KC regiments which had been engaged around Neak Luong were now freed to move on Phnom Penh. As these units were moving north the evacuation began.

#### **Positioning the forces**

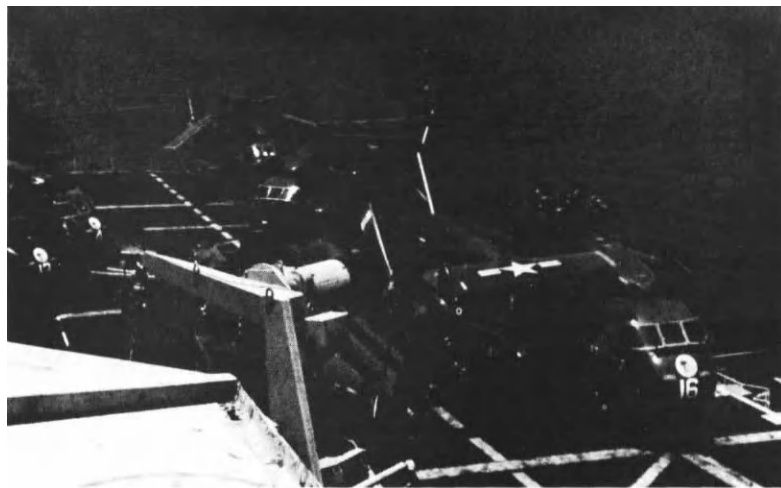
On 6 January 1975, CINCPACFLT was directed to place the 31st MAU/ARG "A" in an increased state of readiness for Operation EAGLE PULL. The following day HMH 462 was alerted to deploy to Subic Bay to replace HMM 164 on board *USS Tripoli*. On 8 January, the CH-53s of 462 were flown to Subic from MCAS Futema. The MAU was then configured for the evacuation operation. Also in response to the diminished reaction time, BLT 2/4 moved back aboard ship from the MAU Camps at Subic. The 31st MAU/ARG "A" were ready to get underway should a fur-

ther deterioration of the situation have required immediate response. With *USS Okinawa* in bound as relief for *Tripoli*, the ARG remained at Subic until the turn-over could be effected. The turn-over was completed on 28 January and the ARG was underway in accordance with its 3d Quarter Employment Schedule.

During the last week in January, Commander, USSAG called a planning conference at his Headquarters in NKP. Attending this conference were Col Batchelder, his ALO, LtCol Lawson; Col Roche and other key personnel from the 31st MAU; and representatives of the III MAF and 3d MarDiv staffs. This conference was singularly important in view of the fact that all of the key commanders who would execute EAGLE PULL were able to exchange mutually essential information face-to-face. This was particularly true for Cols Roche and Batchelder in view of their unique relationship, i.e., Roche providing the landing force and Batchelder exercising OPCON of the committed Marines. This conference provided the opportunity for the two Marine commanders to exchange ideas with respect to the utilization of particular landing zones, timing, numbers of evacuees, and the tactical situation that was developing around Phnom Penh. The conference adjourned and the Marines returned to their commands. LtCol J. I. Hopkins of the III MAF staff remained at NKP. He was inserted into Phnom Penh to assist the MEDTC and to coordinate evacuation plans.

In response to the second clearly defined step in the KC escalation of the 1975 Offensive, the mining of the Mekong, the U.S. responded by placing the evacuation forces in an increased state of readiness. The Command Element was flown back from Okinawa to USSAG Headquarters. The MAU/ARG response time to launch points in the Gulf of Thailand was reduced. When it became clear that the Cambodian government was able to weather this new crisis, at least in the short term, the response time was relaxed, and the ARG returned to Subic for upkeep.

The upkeep period was short-lived. On 28 February, the response time was reduced to 24 hours. This short reaction time would require the ARG to take station in a modification of location (MODLOC) area in the Gulf of Thailand. For the next 43 days the Marines of 31st MAU and the sailors of ARG "A" would learn at first hand what "MODLOC



***Grounded CH-53 (right) awaits new rotor head.***

Liberty" was all about.

The contingency was of apparently short, but uncertain duration. As bad as the situation was, the Cambodians continued to hold the perimeter around Phnom Penh. The longer the Cambodians were able to hold, the longer the 31st MAU/ARG "A" must remain on station and therefore the more pressing became the requirement to create an additional helicopter capable MAU/ARG as a relief/rotation force. The other ARG in the Western Pacific at that time (ARG "B") did not possess a major helicopter deck. CINCPACFLT directed the attack carrier *USS Hancock* to proceed to Pearl Harbor to embark the heavy helicopter squadron from the 1st Marine Brigade, HMMH 463 commanded by LtCol H. M. Fix. When *Hancock* sailed from Pearl Harbor on 26 March, the prudence and urgency of the deployment was even greater. The collapse of the northern and central defenses of South Vietnam had created a second contingency for which the WestPac forces were directed to prepare to respond.

On 2 April, in response to the further deterioration of the FANK defenses around Phnom Penh, the Ambassador requested that the Command Element be inserted into Phnom Penh. On 3 April the Command Element flew into Pochentong airfield. On the following day, the fixed-wing evacuation of personnel began, utilizing USAF C-130s. Simultaneously, the MAU/ARG assumed a six hour response posture. During the week of fixed-wing evacuations from 4 to 10 April sufficient numbers of evacuees were extracted so that it became apparent that most recent developed course of action would not be executed. The probability of executing the helicopter option became greater.

On 9 April, HMH 463 embarked in *Hancock* sailed from Subic as part of Col A. M. Gray's 33d MAU, for the waters off the Vung Tau Peninsula of South Vietnam. On the following day HMH 463 and *Hancock* were detached from 33d MAU/ARG "B" to join the 31st MAU and ARG "A", respectively. They arrived on station during the late evening hours of 11 April, D-Day minus one for the execution of Operation EAGLE PULL.

#### **Command element in Phnom Penh**

While they had been ensconced at USSAG Headquarters, the members of the command element had participated in the final planning preparations for the operation. Immediately upon their arrival in Phnom Penh on 3 April, they went to work on final preparations at the Embassy.

From the very outset of their assignment, beginning with an immediate audience for Col Batchelder with Ambassador Dean, the members of the command element were integrated into the country-team. The execution of the fixed-wing phase of the evacuation which began on 4 April, by means of which many Embassy employees were evacuated, resulted in the command element personnel taking over some of the billets normally filled by the Embassy staff, particularly with regard to the implementation of the evacuation. The members of the command element were placed in control of the evacuation aircraft and the evacuees flying out of Pochentong airfield. During this phase of the evacuation, the command element coordinated the movement and manifesting of some 750 evacuees who were taken out of Pochentong prior to the execution of the helicopter extraction. Their efforts at Pochentong were considerably hampered by daily averages of 80 to 90 rounds of incoming 107mm rocket and artillery fire which was directed at the airfield operations areas.

As a result of the very close working relationships that developed between the members of the command element and the members of the Embassy staff, refinements and modifications to the plan for notification, assembly, and transportation of evacuees were the more easily made.

With each passing day the situation at the airfield became more untenable. The KC were pressing their attacks all around the city. The weight of insurgent reinforcements arriving from the Neak Luong area tipped the balance of combat power in favor of the KC on the eastern side of the Mekong. By 10 April the

airfield was so heavily interdicted by fire that the fixed-wing evacuation was halted. With the KC's in control of the east bank of the river, the decision was made not to use the two designated landing zones closest to the embassy on the west bank of the river. Landing zone Hotel, a soccer field about 900 meters southwest of the Embassy, was selected as the single evacuation site. It was masked from the river by a row of apartment buildings. If the KCs wanted to interdict the evacuation by fire it would therefore be impossible for them to lay direct fire weapons on the zone. Embassy personnel were prepared to be evacuated on 11 April. The decision was made, however, to wait one more day. By the morning of the 12th, *Hancock* with HMH 463 embarked would be in a position to launch CH-53s. With two Marine squadrons on station, the plan to use both Marine and USAF helicopters was modified to the extent that the USAF helicopters would be utilized as back up and SAR aircraft during the initial phases of the operation. They would be used as necessary to augment the Marine aircraft which would be responsible for extracting Embassy personnel and the security force. The command element would be extracted at the very end of the operation by two USAF CH-53s.

On the morning of the evacuation each of the remaining Embassy personnel and the command element members set about his assigned task. At 0730, Ambassador Dean notified the acting chief of state that the Americans were evacuating. Other Embassy personnel notified and marshalled predesignated groups of people. The command element stationed itself at the landing zone. Each of the ten members drove a vehicle from the Embassy compound to the LZ. The vehicles were parked and disabled in such a manner that they blocked off access to the LZ from other parts of the city. The Marine Security Guards at the Embassy took other vehicles and blocked off the southern entrances. The only road left open to vehicular traffic was from the Embassy. Once the landing zone area was blocked off, the command element set up its radios and laid out the marking panels. Communications were immediately established with the ABCCC and the helicopter control aircraft. The latter was given the landing zone brief to be relayed to the incoming helicopters. At 0855, just slightly ahead of the established 0900, L-Hour, the first elements of the 2d Battalion, 4th Marines landed in the LZ. As the Marines from 2/4 debarked, and as

each unit moved immediately to its pre-designated sector, it was obvious that they were well prepared.

### Final preparations

The third day of April, the day that the Command Element was inserted into Phnom Penh, was the 34th consecutive day that the 31st MAU and ARG "A" had been on station in the Gulf of Thailand. During this extended period of time at sea the morale of the Marines and sailors never flagged. Throughout the period it was evident that a Navy-Marine Corps team was truly united by a common purpose.

The teamwork was particularly noticeable in the area of aviation maintenance. The maintenance of aircraft demands a timely, responsive supply system, especially when the aircraft are embarked aboard ships for lengthy periods of time. Through an enormous effort on the part of a great many people within the navy-sponsored aviation supply system, the MAU was provided with remarkable support, particularly for the CH-53s. Extraordinary efforts were made to keep the level of spare parts stocks at their highest. Ships were periodically positioned so that MAU helicopter could fly in to pick up the vital parts prestaged at Utapao.

One of the most remarkable aspects of the on-station period was the superlative small unit leadership in evidence throughout the MAU. The junior officers and the young NCOs were not only responsible for generating innovative and ingenious training programs, but for maintaining a continuous flow of information which kept their people well advised of the situation.

The detail and precision of planning on the part of the MAU were remarkable. The situation that confronted the Marines afloat wherein the landing force could be inserted into any/one or all of several designated landing zones required the development of several different helicopter landing tables (HELTS). Additionally, several different heliteam configurations were required. The several different courses of action developed by USSAG for the helicopter evacuation were based upon varying numbers of evacuees. Each course of action used a different combination of LZs, and each required a different number of landing forces. By means of extremely close planning and coordination between the BLT and HMH 462, the required HELTS were developed.

As a result of the several liaison visits that the commanders in the MAU had made to US-SAG headquarters, there was an abundance of intelligence material available to the MAU, particularly photo coverage of each of the landing zones. Every unit commander within the BLT was briefed in detail regarding what the lay of land should be when he arrived in a particular LZ. Finally, for each of the several courses of action, the position of each Marine within the helicopter and the position he would assume in the defense sector once he debarked were rehearsed again and again.

Commencing on 7 April, the MAU went to a one-hour standby to execute the operation. Therefore by 0400 each day every heliteam was in its assigned assembly area, saddled up. Ammunition was broken out by heliteam lots to be issued just after the signal to execute had been received. Each heliteam's ammunition was staged in a particular area and marked with that team's number.

On the afternoon of 11 April, the MAU received the execution order for EAGLE PULL with L-Hour established for 0900 the following morning. The course of action selected involved the use of the single landing zone—HOTEL. At 1930 that evening, the commanding officer of the 31st MAU conducted a meeting on board *Okinawa*. In attendance were all of his subordinate commanders. One last time before the execution, the MAU S-3, Maj J. R. Brown, briefed the designated course of action. Using the single LZ HOTEL would re-



*Last of security forces leave Phnom Penh.*

quire a security force which numbered 360 men. Balancing the principal superiority with deck space availability, the spread load of 2/4, and the all important helicopter flow schedule, necessitated a trade-off. Whereas two rifle companies could satisfy the troop strength requirement, it would be necessary, because of the other factors, to commit elements of three companies. LtCol Slade had previously designated elements of Companies F and H on board *Okinawa*, and Company G on board *Vancouver* to comprise the landing force. Later that evening, *Hancock* joined the Task Group off the Cambodian coast.

In view of the limited time available in which to integrate HMH-463 into the planned helicopter flow, the decision was made to use the already existing HELT for an insertion into LZ HOTEL. This meant that HMH-462 would insert the landing force and extract the evacuees. The CH-53s of HMH-463 would follow the flow of HMH-462 helicopters and would extract the landing force after the last of the evacuees had been taken out. The planned elapsed time from L-Hour to extraction of the last landing force element was two and one-half hours.

### Execution

Commencing at 0700 on 12 April 1975, twelve CH-53s from HMH-462 launched from the decks of *Okinawa* and ascended to orbiting stations above the Task Group. At ten-minute intervals the aircraft were called down to the decks of *Okinawa* where elements of Companies F and H, and the command group were loaded, and to the *Vancouver*, where elements of Company G were loaded. While loading the heliteams, the aircraft took one last drink of fuel. The helicopters, with 360 Marines and corpsmen embarked, then were launched again according to the helicopter flow schedule, formed into waves of three aircraft each, above the Task Group, and at ten-minute intervals set course for Phnom Penh.

The helicopters crossed the coast line north of Kompong Som, penetrating Cambodian air space at 0743, and proceeded along a track parallel to Route 4 to Point Oscar which was a check/holding point. In bound to Point Oscar, the pilots checked in with the helicopter controller in his USAF C-130. Based upon the latter's awareness of the situation on the ground, the first wave was instructed to proceed directly into the LZ six minutes ahead of schedule. LtCol Bolton, flying the lead aircraft, was passed-off by the Air Force controller to the

local landing zone control operated by LtCol Lawson.

The lead helicopter, with Col Roche embarked, touched down in HOTEL at 0854. The troops immediately debarked and dashed to their assigned sectors in the perimeter. LtCol Slade, the BLT commander, reported to Col Batchelder, the Senior Security Force Commander.

The Marines were confronted by large crowds of people, mostly curiosity seekers. Once the perimeter defense was fully established, the Marines started moving the crowds back from the landing zone. The designated evacuees were loaded aboard the waiting helicopters which then launched for the return trip to the ships. If evacuees were not ready to embark aboard the aircraft, the helicopters were launched empty and ascended to holding points above the landing zone. This was done to ensure that the build up of landing forces in the zone went according to schedule. The succeeding waves were held at Point Oscar beyond their scheduled ETAs, awaiting evacuee arrival in the landing zone. As evacuees arrived from the Embassy, the waiting helicopters were called down and loaded. The entire operation in the zone went like clockwork. The only thing that was not according to plan was that the number of evacuees was considerably less than had been anticipated.

Twenty-five minutes after the last three of 462's aircraft were inbound, HMH-463 launched the first of four three-plane waves, plus two back-up aircraft for Phnom Penh. These aircraft were held at Point Oscar approximately thirty minutes beyond their scheduled ETAs. Upon confirmation from the Embassy that the last evacuees, including Ambassador Dean and the acting President of Khmer Republic, had been loaded aboard a 462 helicopter, the aircraft from 463 were called in to begin extracting the landing force. At 1050, 107mm rocket fire commenced impacting in the vicinity of the landing zone. This was followed at 1058 by 82mm mortar fire. At 1057, the last element of 2/4 was lifted out of the zone. At 1115, Col Batchelder and the Command Element were extracted by the Air Force CH-53s, as scheduled. The entire operation that had taken two years in the planning took two hours and twenty-three minutes to execute. As the very last helicopter lifted out of Landing Zone HOTEL, the KC gunners found the mark and dropped several rounds into the center of the pad.

USMC



# Frequent wind

## organization and assembly

by BGen Richard E. Carey  
and Maj D. A. Quinlan

**A factual beginning to a successful evacuation as seen through the eyes of the commander and his staff.**

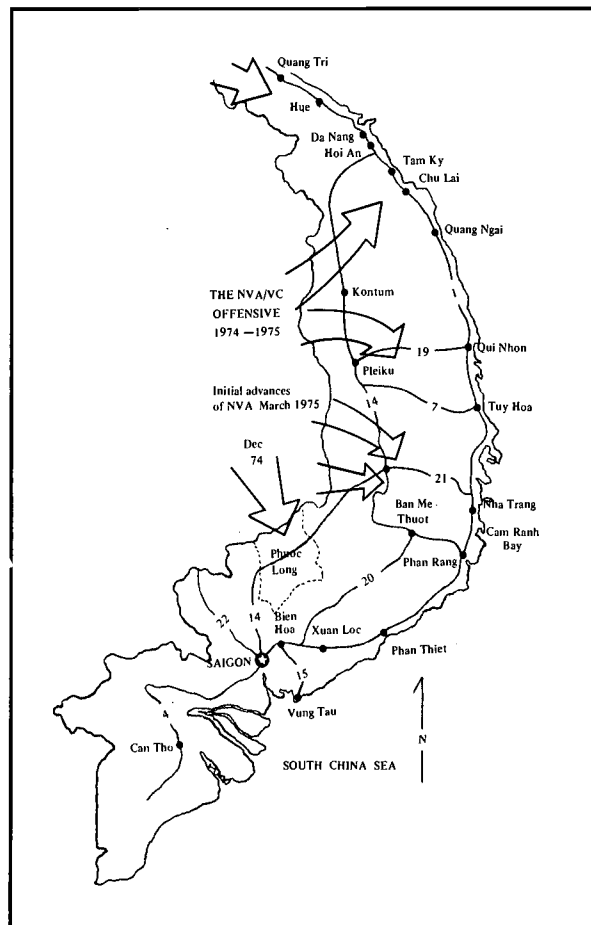
EDITOR'S NOTE: This is an abridged version of the original article which appeared in three parts in the *Marine Corps Gazette* from February 1976 to April 1976.

## NVA/VC 1974–1975 offensive

The final sequence of events which led to the fall of the Republic of South Vietnam and the American withdrawal started in December 1974 in Phuoc Long Province along the Cambodian border north of Saigon. The NVA launched an attack in Phuoc Long about New Year's Day 1975. They encountered little resistance. The thrust into Phuoc Long in MR-3 was as much as anything a test of American reaction to a major offensive. Finding the temperature of the water to their liking, the NVA prepared to plunge in with more forces.

There was a lull of sorts following the capture of Phuoc Long Province. The NVA were content with a *status quo* while making final preparations for larger scale assaults. The South Vietnamese began to prepare defensive plans in earnest, especially in MR-1 where the heaviest attacks were expected. In MR-2 attacks were anticipated around the vital civilian and military complexes at Kontum and Pleiku.

When large scale combat did again erupt on 4 March 1975, it was along the major LOCs (Routes 19 and 21) to the central highlands. The roads were swiftly interdicted and on 10



*A tactical error lost Ban Me Thout.*

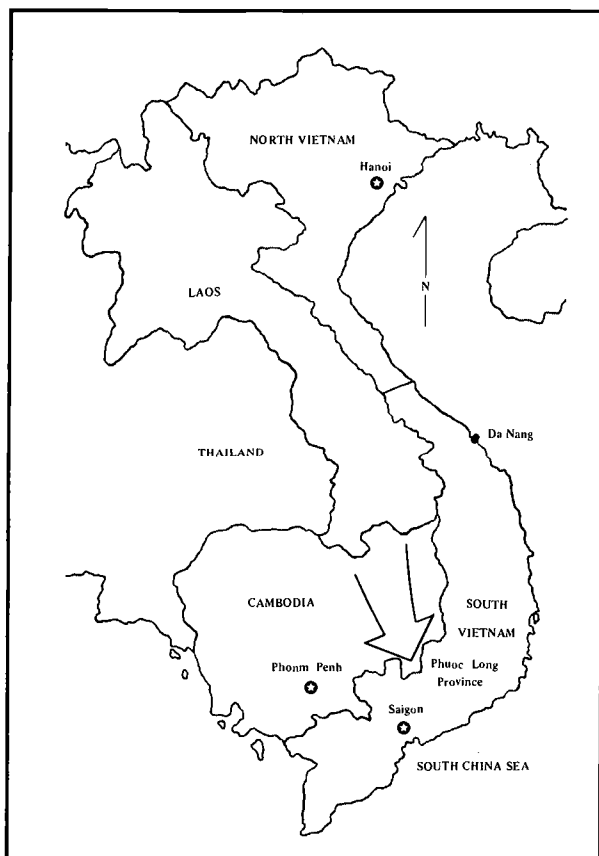
March, Ban Me Thout was attacked suddenly by two NVA divisions. The major roads into the area being closed, the South Vietnamese forces (ARVN) began the piecemeal commitment of reinforcements. This tactical error resulted in the loss of Ban Me Thout and the defeat in detail and eventual destruction of one ARVN division.

### Retreat from the highlands

On 16 March, after deciding on their indefensibility, President Thieu ordered a withdrawal from the highlands to what he considered to be more defensible terrain. A lack of detailed prior planning and organization turned the subsequent withdrawal into a rout. The NVA moved quickly to capitalize on this situation. A few ARVN units resisted the aggressors, but otherwise the Communist drive to the coast met little resistance. South Vietnam had been successfully cut in two.

The remainder of the month of March reads as a chronological litany of defeat:

- 18 March—An Loc, north of Saigon, fell.
- 19 March—Quang Tri City and Province



*Testing the U.S. reaction at Phuoc Long.*



were abandoned as the general retreat from MR-1 commenced.

- 24 March—Quang Ngai and Tam Ky fell.
- 26 March—Hue and Hoi An fell.
- 27 March—Chu Lai fell.
- 29 March—Da Nang fell.

Da Nang fell without a struggle. The northern aggressors walked into the city to find planes, tanks, guns, and equipment in serviceable condition left abandoned.

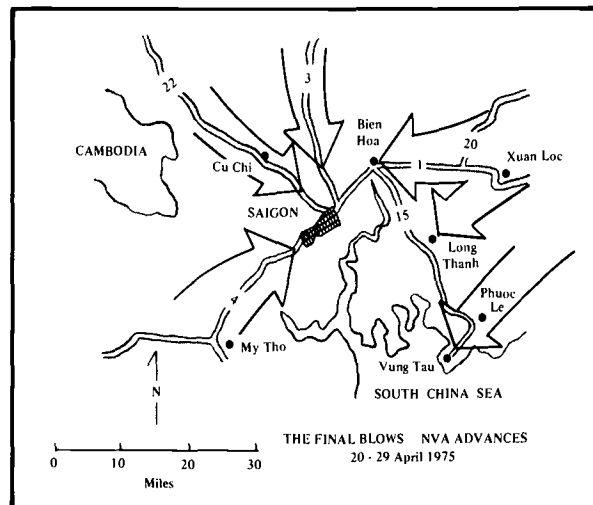
Thousands of the civilians and ARVN, uprooted in the path of the onrushing North Vietnamese forces, fled to the coast seeking refuge. Many thousands of these refugees were evacuated aboard U.S. Navy and Military Sealift Command (MSC) ships from the northern port cities of South Vietnam to havens farther south.

### Closing In

By 3 April the NVA held most of MR-2. The major cities of Qui Nhon, Nha Trang, and Dalat had been abandoned.

### The final blow

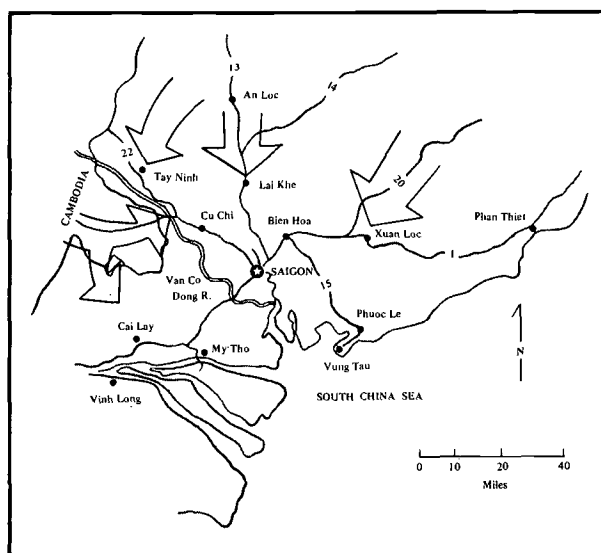
Major combat activity in MR-3 began in Tay Ninh Province. A massive combined arms attack there eliminated all ARVN presence west of the Van Co Dong River. This action was followed quickly by launching heavy attacks in the eastern portion of the region against the ARVN positions along Route 1 and Route 20. Heavy fighting subsequently shifted to Xuan Loc, the capital of Long Khanh Province. Here, four NVA divisions commenced attacks on 9 April in order to defeat the ARVN defending there and to gain



**Attacks against Saigon marked end of war.**

control of the main highway (Route 1) approach through Xuan Loc into the Bien Hoa/Saigon area. The South Vietnamese swiftly reinforced Xuan Loc. It appeared that they would make one final effort to throw back the northern invader. And fight they did, valiantly and professionally, but they were badly outnumbered. Despite stubborn resistance, as well as taking heavy casualties, on 20 April the NVA was able to take Xuan Loc maintaining its momentum and moving on west toward Bien Hoa. The badly battered ARVN forces withdrew to take up the defense of Bien Hoa. While some of the NVA forces moved westward toward Bien Hoa, others moved to the south from Xuan Loc to interdict effectively the main Bien Hoa-Vung Tau highway (Route 15) north of Long Thanh. The loss of Xuan Loc and the effective interdiction of Route 1 and Route 15 signalled the end of major organized ARVN resistance in eastern MR-3 and opened the way for attacks against Bien Hoa and Saigon.

On 21 April, President Thieu finally bowed to increasing pressure and resigned. He was succeeded by Vice President Tran Van Huong, who initially assumed a militant policy of continued resistance. However, only seven days after he had assumed office Huong turned over the presidency to former General Duong Van "Big" Minh, who immediately began implementing plans for negotiations with the North Vietnamese. The Communists added a new prerequisite for negotiations by demanding the eliminations of the South Vietnamese machinery of war in addition to the previous demands for the expulsion of "all U.S. agents and of the Thieu clique" by 26 April 1975.



**NVA advances first week in April 1975.**

True to its word, when their demands went unanswered, the NVA launched the final assault on 26 April. Strikes were made against ARVN elements in the Long Thanh and Long Binh areas. Phouc Le, near Vung Tau, came under simultaneous attack and was quickly taken, thereby isolating the Vung Tau Peninsula. The Bear Cat Armor School and Long Thanh District were overrun sealing off the escape route from Saigon to the sea over Route 15. Route 15 was the key to massive evacuation to the Vung Tau Peninsula. The South Vietnamese had planned, as a last effort, to conduct an overland evacuation from Saigon by way of Route 15 to Vung Tau. There the evacuees would be loaded onto South Vietnamese and friendly vessels for transport to safe havens. As Route 15 fell, so went the option to execute this plan.

On 28 April, direct attacks on Long Binh began. Poorly defended by a polyglot of units decimated by casualties and suffering from continuous defeats which generated increased fear and panic, the defenses around Bien Hoa broke down. The South Vietnamese Air Force units which had operated out of Bien Hoa for most of the war were now forced to fly to Can Tho. Also on the 28th, Saigon and the vital Tan Son Nhut Air Base came under heavy rocket and artillery attacks for the first time since the Tet Offensive of 1968. Additionally, turncoat South Vietnamese pilots began bombing and strafing the airfield. The North Vietnamese AAA and SAM envelope closed more tightly around Saigon. Simultaneously, ground attacks were launched against the ARVN in Cu Chi, Lai Khe, and virtually all ARVN positions around the city of Saigon. The NVA strategy apparently was to destroy the remaining ARVN units outside the city and avoid a prolonged fight in Saigon itself. On 29 April, Bien Hoa and Vung Tau fell. Saigon was defenseless.

#### **Ninth Marine Amphibious Brigade**

As the situation in South Vietnam continued to deteriorate the Marine forces who would eventually become involved in one of the most extensive humanitarian evacuations in history began to assemble off the coast of South Vietnam. The 9th Marine Amphibious Brigade (9th MAB) would ultimately be comprised of over 6,000 Marines and Navy corpsmen, 80 plus helicopters of various types, and the other vehicles, supplies, and equipments normally associated with an embarked Marine air-ground task force prepared to conduct

amphibious operations. Together with their partners of long standing, the amphibious forces of the Navy, the Marines of the 9th MAB were prepared to support airlift, sealift, or helicopter evacuation operations.

In order to avoid any possible confusion it should be pointed out that the 9th MAB is not maintained in a fully structured status. A staff nucleus is maintained continuously and normally collocated with the Commander of Task Force 76, (CTF-76), the commander of the amphibious forces in the Seventh Fleet. The staff nucleus is headed by the Chief of Staff, 9th MAB and consists of representatives in each staff functional area. For contingencies and exercises the full brigade staff is activated by drawing designated personnel from the staffs of III MAF (at the time commanded by MajGen Carl W. Hoffman), 3rdMarDiv (at the time commanded by MajGen K. J. Houghton) and 1stMAW (commanded by MajGen N.W. Gourley). The nucleus is absorbed into the full staff. Ground combat, aviation combat, and service forces are then attached to the brigade as the mission or operational requirements dictate.

On 26 March 1975, the 9th MAB was activated by III MAF ostensibly to participate in a scheduled brigade level landing exercise. By fortunate coincidence a major combined landing exercise had been scheduled months in advance. (Subsequent events would reveal how fortunate was this coincidence.) Most importantly, an amphibious squadron overlap had been planned for this exercise, i.e., during the scheduled exercise period (April-May 1975) there would be twice as many amphibious ships as are normally located in the Western Pacific. The activation order, reflecting however, the events ongoing in Southeast Asia, stipulated a dual purpose for the activation: ". . . activated for MABLEX and such contingencies as may be directed." At the time of the activation, there was little doubt in anyone's mind as to the primacy of purpose.

The Assistant Wing Commander, 1st MAW, was named as the Commanding General, 9th MAB. He proceeded from Wing Headquarters at Marine Corps Air Station, Iwakuni, Japan to III MAF Headquarters at Camp Courtney, Okinawa on 3 April. There he would assemble part of the staff which, in conjunction with the 9th MAB staff nucleus already deployed, would comprise the brigade headquarters. Assembly of the full brigade staff would not take place until the 11th of April.



**Marines rush to board CH-53 on USS Okinawa.**

It would be well at this point to reflect on the rapidly changing situation which brought about the circuitous route by which the brigade headquarters and the forces assigned to the brigade assembled.

On the date of activation of the 9th MAB the principal forces which would eventually be assigned were disposed as follows:

► On station in the Gulf of Thailand, was the 31st Marine Amphibious Unit (31st MAU), consisting of Battalion Landing Team 2/4 (BLT 2/4), Marine Heavy Helicopter Squadron 462 (HMH-462), and Logistic Support Unit 2/4 (LSU 2/4), embarked in Amphibious Ready Group Alfa (ARG "A") shipping. This force was in an increased readiness posture for possible execution of the Phnom Penh evacuation and had been on station in the Gulf since February.

► Ashore for normal training at Camp Fuji, Japan were BLT 3/9 and LSU 3/9, the landing forces regularly assigned to ARG "B" shipping.

► On Okinawa were BLT's 1/9 and 1/4, the primary and back-up air contingency BLTs on alert for possible deployment to Southeast Asia by fixed wing aircraft, but continuing to conduct normal training; and Marine Medium Helicopter Squadron 165 (HMM-165) and Marine Light Helicopter Squadron 367 (HML-367), likewise conducting normal training.

► At Pearl Harbor, Hawaii, HMH-463, the heavy helicopter squadron of the First Marine Brigade, was embarking aboard *USS Hancock*, an attack carrier now configured for helicopter operations.

The Navy forces which became involved in

the operation were situated as follows:

- ARG "A", consisting of the amphibious assault ship *USS Okinawa* (LPH-3), the amphibious transport dock *USS Vancouver* (LPD-2), the dock landing ship *USS Thomaston* (LSD-28), and the tank landing ship *USS Peoria* (LST-1183), on station in the Gulf of Thailand.
- ARG "B", consisting of *USS Dubuque* (LPD-8), the amphibious cargo ship *USS Durham* (LKA-114), and the *USS Frederick* (LST-1184), in port for upkeep at Yokosuka (*Dubuque*) and Subic Bay (*Durham* and *Frederick*).
- The amphibious command ship *USS Blue Ridge* (LCC-19) in port at Okinawa.
- Amphibious Squadron Five, consisting of *USS Denver* (LPD-9), *USS Duluth* (LPD-6), *USS Anchorage* (LSD-36), *USS Mount Vernon* (LSD-39), *USS Mobile* (LKA-115), *USS Barbour County* (LST-1195), and *USS Tuscaloosa* (LST-1187), was getting underway from San Diego for its normal rotational tour in WestPac.
- *USS Hancock* in Pearl Harbor loading HMH-463.
- Other units either in port or conducting routine operations.

The Seventh Air Force, in Thailand, was in an increased state of readiness for possible commitment to Southeast Asia contingencies.

Within 48 hours of the activation of 9th MAB, the situation in South Vietnam had deteriorated so badly, particularly in MR-1 and MR-2, that immediate modifications to freshly issued plans and orders had to be made. The northern Provinces of South Vietnam were to be evacuated. The populace and troops were to be transported to safe havens in the southern provinces. Navy ships with Marines embarked for internal security purposes were or-

***USS Okinawa is flanked by ships of task force.***



dered to close the coast of South Vietnam at the earliest possible time. III MAF was maintaining a capability to meet multiple contingencies. While repositioning forces to meet new contingencies, there was no decrease in readiness to respond to existing contingencies.

The MAB staff nucleus was dispatched with CTF-76 on 30 March to act as a control headquarters for Marine security platoons destined for employment aboard Navy and MSC ships involved in the evacuation from MR-1 and MR-2. The 1st Battalion 4th Marines, less most of its Headquarters and Service Company and reinforced by military police, counter-intelligence, and interrogator/translator personnel; and HMM-165 (-) were embarked aboard *Blue Ridge* and *Dubuque* as elements of the unit which was entitled the Amphibious Evacuation RVN Support Group. The Marines were commanded by Col D.C. Alexander, who concurrently retained his position as chief of staff, 9th MAB.

On 4 April, the Commanding General, 9th MAB, moved to Subic Bay, Republic of the Philippines. He took with him not only the assembled staff augmentation personnel, but Col A.M. Gray, the commanding officer of the 4th Marines, as his deputy commander. Col Gray was assigned concurrently as the commanding officer (designate) of the 33rd MAU.

Much was accomplished at Subic Bay in preparation for sailing to join up with CTF 76, RAdm Donald B. Whitmire, off the coast of South Vietnam.

On 7 April, the 33rd MAU was activated with BLT 1/9 and LSU 1/9 as its attached elements. By this time BLT 1/9 and LSU 1/9 were ensconced in the MAU Camps at Subic Bay. These units had been alerted on 5 April and, including their organic amphibian tractor platoon, had been flown in a round the clock shuttle by Military Airlift Command (MAC) aircraft to the Naval Air Station at Cubi Point, adjacent to the Naval Base at Subic Bay. The tailing elements of the BLT closed on Subic just 27 hours after the initial alert.

Simultaneous with the movement of 1/9 to Subic, BLT 3/9 was alerted for air movement from Camp Fuji, by way of NAS Atsugi, to Okinawa. There BLT 3/9 would join up with PHIBRON 5 shipping coming hard westward across the Pacific. With the shipping to which he was normally assigned off the coast of South Vietnam, the BLT commander was experiencing a marooned feeling. These orders



did much to assuage his land-locked pangs. The movement was accomplished in its entirety by utilizing the aircraft from Marine Aerial Refueling Transport Squadron 152 (VMGR-152). Flying round-the-clock while maintaining a low profile, this movement was accomplished in 72 hours. Every day during this dynamic period, the KC-130's of *Ichi Go Ni* would prove their worth.

It is difficult in a narrative of this type to recapture the turbulence and dynamism of the period, with units out-chopping and in-chopping on a daily basis. Admittedly, the greater portion of this and subsequent articles will describe the activities of the higher visibility, forward afloat units. This was however, in the classic sense, an all hands evolution, the flight crews and ground crews of VMGR-152; the drivers and mechanics in the 3rd and 9th Motor Transport Battalions; the personnel of 3rd Shore Party Battalion, 3rd Force Service Regiment; the list goes on; . . . suffice to say, every Marine and sailor in WesPac had shares in the enterprise—some greater and very few lesser.

**Ninth Marine Amphibious Brigade (9th MAB) headquarters began final planning for the non-combatant emergency evacuation (NEMVAC) operations from the Republic of South Vietnam (RVN) on 11 April 1975.**

For all practical purposes the MAB was formed for planning and, with the exception of the 35th MAU which was to arrive within a few days, was ready for operations. The MAB was organized as follows:

9th Marine Amphibious,  
Brigade BGen R.E. Carey

### 31st Marine Amphibious

Unit	Col J.F. Roche
BLT 2/4	LtCol G.P. Slade
LSU 2/4	Maj J.A. Gallagher
HMH-462	LtCol J.L. Bolton

### 33rd Marine Amphibious

Unit	Col A.M. Gray
BLT 1/9	LtCol R.L. Bond
LSU 1/9	Maj D.O. Coughlin
HMM-165 (-)	LtCol J.P. Kizer
HMH-463	LtCol H.M. Fix

### 35th Marine Amphibious

Unit	Col H.G. Edebohls
BLT 3/9	LtCol R.E. Loehe
LSU 3/9	Maj F.W. Jones
HML-367 (-)	LtCol J.R. Gentry

### Amphibious Evacuation

RVN Support Group (1/4)	LtCol C.E. Hester
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### Command relationships

The Commander in Chief, Pacific (CinCPac) had designated the Commander, United States Support Activities Group, Thailand (USSAG) as his coordinating authority for NEMVAC operations in the RVN. The headquarters of USSAG were collocated with the headquarters of the Seventh Air Force (7 AF) at Nakhon Phanom, Thailand (NKP). The Commander, USSAG was double-hatted as the Commander, 7 AF. In addition to exercising operational control (OPCON) over all U.S. forces assigned in Thailand, the Commander, USSAG/7 AF would likewise exercise OPCON of the 9th MAB or elements thereof once they crossed the coastline or were ashore in RVN. This was the "feet dry" command relationship. While afloat, or with wet feet, a command relationship prevailed whereby the commander of the amphibious forces assigned to the Seventh Fleet would exercise OPCON over the 9th MAB. The amphibious force was designated as Task Force 76 (TF 76). The 9th MAB was assigned the designator Task Group 79.1 (TG 79.1). The parent organization of the 9th MAB, the III Marine Amphibious Force, carries the designation: Task Force 79 (TF 79). A clear understanding of the command relationships, particularly the dual command relationship of the Commanding General, 9th MAB (CTG 79.1), is to the reader's advantage while the description of the planning evolution continues.

### Initial liaison with Saigon

After arriving off Vung Tau on 10 April, one

of the first orders of business was to make contact with officials in the U.S. Embassy and the DAO in Saigon. In addition, a III MAF liaison team had been sent to Saigon via US-SAG headquarters to assist in the advance planning.

On 11 April, the III MAF liaison team visited and briefed the MAB staff on the situation in Saigon. This visit was of vital importance for it opened the door to future liaison. When the MAF team left the ship that day it was asked to inquire into the possibility of 9th MAB commanders and key staff officers visiting Saigon for the purpose of conducting a reconnaissance of potential evacuation sites. This was approved, and the next day a delegation of air and ground officers spent the day in Saigon.

Upon their return to *Blue Ridge*, they reported to the Commanding General that the two prime evacuation sites were the DAO/Air America Compound and the Newport Pier. They brought back schematics and photographs of these facilities. Further, they advised of a situation which would complicate preparations for an evacuation. Any overt preparations for evacuation could become a self-fueling prophesy, thus speeding the collapse of the South Vietnamese government. Outwardly, business would be conducted as usual by U.S. officials. Therefore, evacuation planning and preparations would be conducted *sub rosa*.

Armed with the report of his reconnaissance team, the Commanding General was granted permission to conduct a personal reconnaissance and a courtesy visit to the area. The next day, 13 April, he flew to Saigon, taking with him Col A. M. Gray, CO, 33d MAU. During his visit the CG talked with the Defense Attache and the CinCPac and CinCPacFlt representatives in Saigon. He made a personal reconnaissance of the DAO/Air America Compound, Tan Son Nhut airfield, the Newport Pier, and various LZ's throughout Saigon. While en route to and from Saigon, he reconnoitered the Vung Tau Peninsula. The following day Task Force 76 was ordered back to Subic Bay, thus depriving the brigade staff of six on-scene days for planning.

### Return to Subic

On 15 April, Task Force 76 was ordered to return to Subic Bay for badly needed upkeep. Evacuation of refugees on Navy vessels had

been terminated and activity had lulled on MSC shipping. Moving away from the coast at this time was a calculated, but necessary, risk. Accordingly, the return to Subic was completed by midday on 17 April. This was to be a very short-lived upkeep period. Overnight, the tensions in South Vietnam had heightened and the task force was directed to sail that very afternoon (18 April) back to the contiguous waters of the Republic of South Vietnam off the Vung Tau Peninsula. While enroute, the existing MAB/MAU organization was replaced by a doctrinal brigade organization. This reorganization was effected on 19 April. The three MAU's were deactivated and simultaneously Regimental Landing Team 4 (RLT 4), Provisional Marine Aircraft Group 39 (PROVMAG 39), and a Brigade Logistic Support Group (BLSG) were activated. In addition, a unique organization, the Amphibious Evacuation Security Force (AESF) was included in the newly reorganized brigade. The AESF replaced the 1st Battalions, 4th Marines as the force designated to provide security detachments aboard Navy and MSC ships. Initially, the AESF was comprised of a Control Group drawn from Headquarters, 9th Marines and ten 72-man detachments task organized from various 3d MARDIV organizations.

The reconfigured MAB was organized as follows:

9th Marine Amphibious	
Brigade	BGen R.E. Carey
Comm Co (-) (Rein)	Maj R.L. Turley
Regimental Landing	
Team 4	Col A.M. Gray
BLT 1/9	LtCol R.L. Bond
BLT 2/4	LtCol G.P. Slade
BLT 3/9	LtCol R.E. Loehe
Provisional Marine Air	
Group 39	Col F.G. McLenon
HMH-462	LtCol J.L. Bolton
HMH-463	LtCol H.M. Fix
HMM-165	LtCol J.P. Kizer
*HML-367	LtCol J.R. Gentry
Brigade Logistic Support	
Group	Col H.G. Edebohls
LSU 1/9	Maj D.O. Coughlin
LSU 2/4	Maj J.A. Gallagher
LSU 3/9	Maj F.W. Jones
Amphibious Evacuation	
Security Force	Maj D.A. Quinlan

\*Command remained at Subic. Aircraft were attached to other squadrons in PROVMAG 39. (As were the "Cobras" of HMA-369.)



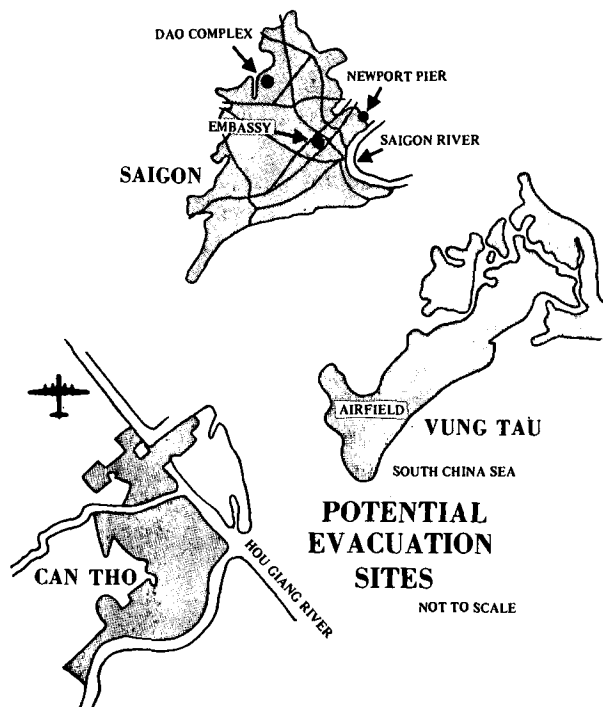
**Aboard USS Hancock prior to evacuation.**

On 20 April the reconfigured MAB arrived back at Vung Tau and reported to CTF-76 for operations.

#### The advance command element

As a result of the initial on-station time off Vung Tau commencing on the 11th of April, the importance of a full-time direct representative of the CG at the DAO Compound was realized. With this in mind, the CG requested, and got, permission to insert an Advance Command Element, 9th MAB.

The element consisted of Col W. W. Taylor, Deputy Commander, 9th MAB; LtCol



**Figure 2**

D. J. Verdon, Communications Officer; Maj D. E. Cox, Air Liaison Officer; Capt R. J. Mc Manus, Explosive Ordnance Disposal Specialist; and MSgt W. East, Explosive Ordnance Disposal Specialist.

Early on the afternoon of the 20th, the advance element returned to Saigon and established a command post in the DAO Compound.

#### **Possible evacuation sites**

There were several potential evacuation sites identified by USSAG and other headquarters:

◀ **Newport Pier**—This facility, situated adjacent to the Long Binh Bridge along the Saigon riverfront, featured four deep-water berths and a number of ramps and landings for assorted tugs and smaller craft. Parking lots provided nine CH-53 landing spots. Newport was envisioned as a large scale evacuation site accommodating up to 100,000 evacuees by waterborne means. A minimum of one battalion would be required to secure the pier. In addition to AESF detachments which would search and screen the evacuees, and provide internal security for the ships, there would be a requirement for reinforced rifle platoons to provide external security for the ships during the perilous voyage down the Saigon River to the South China Sea. Insertion of the landing force could be by helicopter or up the Saigon River on ships. Extraction was equally flexible. It should be noted that this possible evacuation site was considered viable as late as 29 April.

◀ **DAO/Air America complex**—Situating adjacent to Tan Son Nhut Air Base, this complex was the primary potential evacuation site considered by the DAO and the Marines in Saigon. Numerous landing zones were available, with some preparation, in the DAO Compound, the Annex, and across the highway on the Air America apron. Up to two infantry battalions would be required to provide security for this complex. If the scope of the operation were broadened to provide security for fixed-wing evacuation flights out of Tan Son Nhut, it was conceivable that all three battalions would be required. The DAO Compound was divided roughly into two separate areas, one called the Alamo and the other the Annex. The Alamo housed the main headquarters building and the Emergency Command Center. The Annex consisted primarily of the Exchange and a gymnasium.

◀ **Can Tho**—A CONPLAN had been developed for moving up the Bassac River to Can

Tho, about fifty miles southwest of Saigon, for evacuation of many as 2,000 people. In support of this plan MAB elements were prepared to insert and extract by helicopter or waterborne means.

◀ **Saigon Rooftops**—One of the plans for assembling evacuees was to collect them at approximately a dozen billets throughout Saigon. Helicopters would then transport them to the DAO/Air America Complex for further processing and marshalling. Fire team size elements were envisioned as rooftop security and landing zone control teams in support of this plan.

◀ **U.S. Embassy**—With only one rooftop LZ, restricted to a single CH-46 or smaller aircraft at a time, the Embassy was never seriously considered as a mass evacuation site. It was envisioned that the number of evacuees from this site would not exceed 100 people. An additional LZ was considered available in the courtyard parking lot, but only after a large tree and lesser obstacles had been removed.

◀ **Vung Tau**—The largest potential evacuation site, and the one that plagued planners from the beginning to the end, was Vung Tau. Hundreds of thousands of refugees, as well as the remnants of RVN Army and Marine units, had retreated to the Vung Tau Peninsula by mid-April. Many of them had hopes of being sealifted from there to safe havens. It was conceivable that the MAB would be committed to an amphibious landing to secure the airfield and port facilities in order to develop a major marshalling/evacuation center. The estimated size of the force required to secure the vital areas ranged from one battalion landing team to the entire brigade. Until the very last, Vung Tau would be something of an enigma.

#### **Planning: RLT-4**

Based upon the MAB mission, RLT-4 promulgated its OPLAN on 20 April 1975 with specific tasking to subordinate units.

By 28 April, the peninsula was isolated and contained hundreds of thousands of refugees seeking passage to safe havens. To ensure proper readiness, BLT 3/9, supported by BLT 1/9 was directed to accelerate its planning for possible deployment on Vung Tau.

During the evening of 28 April the situation in Saigon changed totally as to the potential tasking of the RLT. Since the primary means of evacuation at this point was via C-130 aircraft from Tan Son Nhut, the RLT was tasked to provide security for Tan Son Nhut airfield.



The RLT units were placed on alert, BLT 2/4 was tasked to provide security for the DAO Compound and BLT 1/9 was directed to be prepared to provide security for the Air America Compound. BLT 3/9 was held in reserve.

### Helicopter planning

As planning progressed there were many details involving air operations which had to be resolved. It was absolutely essential that the MAB helicopter flow plan be coordinated with that of USSAG. Communications with USSAG via message resolved this matter. It had been necessary for PROVMAG 39 to develop a helicopter flow schedule that would support the scheme of maneuver ashore for the insertion of the landing force, evacuation operations, and the extraction of the landing force. The helicopter flow schedule had to be one that could be controlled by the ABCCC "feet dry" and the helicopter direction center (HDC) "feet wet."

Second among the major planning considerations was the clarification of L-Hour. To Marines, it meant the time that a helicopter would touch down in a landing zone. To the Air Force, it meant that time that a helicopter would launch, a definition used during the evacuation from Cambodia on 12 April. Once clarification was sought, L-Hour was defined for all forces as the time that the first helicopter would touch down in a landing zone.

A major concern for the CG, 9th MAB was the potential requirement to conduct the operation during periods of inclement weather, or at night. Ceilings of less than a thousand feet and reduced visibility below that normally considered for visual operations were contemplated. Planning included a capability to conduct the operation under instrument conditions. Admittedly, normal operational parameters could not be met, e.g., an approved helicopter let down would not be available, perhaps only limited navigational aids would be available. Plans were formulated and promulgated to all air crews. Ship's radars were integrated into a makeshift air control system which was tested during command post exercises.

When a tropical storm threatened from 25 April onwards, the crews were prepared and could have conducted the entire operation under instrument conditions. Likewise, since L-Hour was unpredictable, it was imperative that extensive plans for night operations be prepared. Accordingly, equipment was gathered, plans were exhaustively reexamined,

and the crews were conditioned to fly a portion, or if necessary, all of the operation at night.

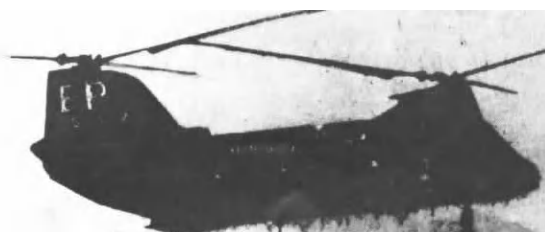
The thirty-four Marine CH-53's had been augmented by ten USAF helicopters of the H-53 type, which were embarked aboard *USS Midway* (CVA-41). This gave a total troop lift and evacuee transport capability of forty-four CH-53's and twenty-seven CH-46's. Based upon most recent experience, it appeared reasonable to plan for an initial launch capability of forty CH-53's and twenty-four CH-46's.

For the landing force insertion and extraction the helicopter flow was developed to accommodate two battalions (1,680 people). Helicopter employment and assault landing tables were developed accordingly.

The cycle rate of ninety minutes was based on a round trip to the furthest potential evacuation site, the DAO Complex, from the average modification of location (MODLOC) station in the South China Sea.

Deck availability was an important planning factor. The desired troop transport helicopter was the CH-53. Among the various helicopter-capable ships in the task force (including *Midway* and *Hancock*) there would be thirty CH-53 operational spots available for the initial launch.

The battalion landing teams were disposed among the various amphibious ships in such a manner that maximum tactical unit integrity was maintained. This was necessary to meet the requirement for operational flexibility dictated by the various courses of action. Depending upon the course of action selected, a greater or lesser amount of pre L-Hour transfers and crossdecking was necessary. When forces are spread throughout a fleet of the magnitude and disposition of Task Force 76, there is a direct correlation between the magnitude of the crossdecking and the complication of the process; this holds true for the amount of time consumed. Suffice to say, there were as many crossdecking options as there were alternative courses of action.



## **Tactical Air Planning**

Very detailed and elaborate air plans were distributed by USSAG/7 AF to cover the operation. These plans were simplified and purified to meet the requirements of the landing force. The only major deficiency was a lack of helicopter escort aircraft. Fortunately, the MAB organization provided an ideal gap filler in the form of Cobra gunships. Also, Navy carrier deck alert aircraft would also be called into action if and when required.

The CG made one major point with regard to the application of tactical air: a strong show of retaliatory force with an armada of fixed-wing aircraft would be a major deterrent against anti-aircraft fires directed at the helicopters, and also against rocket and artillery fires directed at the landing zones. This concept was endorsed by all of the commanders. Along with the entire tactical structure of 7 AF, the Seventh Fleet committed all available aircraft from two attack carriers, *USS Enterprise* and *USS Coral Sea*, for round-the-clock air support. By 26 April it was apparent the plan for insertion into the DAO/Air America Complex should provide the flexibility to tailor the landing force selectively to the existing conditions in and around the complex. The CG knew that the force should be large enough to provide adequate security. His dilemma was twofold: the force must be large enough to provide a strong deterrence; however, every extra man that was inserted had to be extracted. Too many could create serious problems later. With these factors in mind, the CG announced four planning options varying in force application. These were:

- First, the hostile threat, requirements for crowd control and security, and the number of evacuees could be such that a battalion-size landing force would be required in the DAO Compound. Insertion and extraction would be by helicopter into and out of the landing zones at the PX parking lot, the softball field, the tennis court, and the north and south parking lots. The other options were developed from this basic option.

- Second, with similar security conditions envisioned as the primary option, an additional battalion command group and one company could be inserted into the Air America Complex, with the capability of building to a full battalion, if necessary. This would provide for additional landing zones, enhance security of the DAO Compound, and permit faster evacuee and landing force extraction by helicopter.

- Third, should the situation allow, only two companies and a battalion command group would be inserted into the DAO Compound using only the landing zones in Alamo itself. This option envisioned minimal hostile threat and a relatively small number of evacuees.

- Fourth, the CG could elect to conduct the evacuation with no landing force at all. Naturally, this option would be exercised only if a totally permissive atmosphere prevailed.

## **Liaison with USSAG/7 AF**

Midway through the planning phase, the G-3 Plans Officer, Maj R. K. Young, was sent to USSAG headquarters to act as the 9th MAB Liaison Officer for Operation FREQUENT WIND. He remained there until the operation ended.

Direct communication with 9th MAB headquarters on *Blue Ridge* from NKP was difficult. Circuits were available to the Deputy Brigade Commander in Saigon. These circuits were used daily to clear up questions relative to the operation.

## **Rules of engagement**

The rules of engagement (ROE) for a NEM-VAC operation must be restrictive in nature to ensure that only the minimum force required to complete the mission is exerted. Nevertheless, these rules must provide the commander with enough flexibility to increase prudently and rapidly the degree of force required when the situation warrants an escalation. The ROE developed for the evacuation of Saigon which were incorporated into the 9th MAB OPLAN, provided the operating forces with just such flexibility.

Both air and ground commanders, though they might be exposed to heavy hostile activity, were directed to comply with the basic principles of the ROE by using only the amount of force required to complete the mission.

The ROE as finally adopted provided the 9th MAB with the guidelines and flexibility required for such operations, and should be a valuable source for planning future NEM-VAC operations.

## **A new option**

At the beginning of the last week in April, USSAG published its final option for NEM-VAC operations in South Vietnam. Although it was a proposed concept, the Commanding General determined that there was sufficient credibility to the plan to warrant the MAB's consideration. A new MAB operation plan was written in support of the final option.

Encompassed in the new option was an evacuation from Tan Son Nhut air field by fixed-wing aircraft or helicopter, a sealift, a helicopter lift from Newport Pier, and the establishment of an evacuation site on the Vung Tau Peninsula. This plan envisioned that the number of refugees would range from over one thousand up to almost a quarter of a million people. The plan included an amphibious task force with a MAB reinforced by two fixed-wing airlifted battalions, and a specially configured Marine evacuation security force for employment aboard MSC shipping.

The new MAB plan offered a concept of operations as follows:

- ▶ A battalion size landing force from the ATF, or introduced from out of theater by fixed-wing aircraft, would secure a perimeter in the vicinity of Tan Son Nhut Air Base/DAO Compound to permit evacuee assembly and control for fixed-wing evacuation. If/when the fixed-wing evacuation was no longer feasible, the landing force would withdraw to the DAO Compound and continue the evacuation by helicopter. Upon completion, the landing force would extract by fixed-wing aircraft or by helicopter.

- ▶ A battalion size landing force direct from the ATF or from Tan Son Nhut, after introduction by fixed-wing aircraft, would be inserted by helicopter at Newport Pier to secure an assembly area which would permit the evacuation of refugees by helicopter or by MSC shipping. Upon completion, the landing force would extract by either ship or helicopter.

- ▶ Up to a brigade size landing force would land on the Vung Tau Peninsula and provide protection and control of port facilities, the airfield, and the refugee marshalling areas within the force evacuation beachhead. Vung Tau would be used as an interim processing area for subsequent movement to designated safe havens. The landing force would be extracted by helicopter and across the beach, or at piers.

#### **Advance command element**

Command arrangements in Saigon for evacuation were complicated, and a "business as usual" posture was still being maintained. Overt preparations for evacuation would have been inconsistent with the attitude that was being conveyed. Liaison between the brigade and U.S. officials in Saigon overcame some of the difficulties. It was obvious, however, that an all-out, last minute effort would be required to ensure the success of the operation. The

DAO had been assigned nominal responsibility for NEMVAC, and the vast preponderance of efforts took place within that organization. The DAO had evolved a structure of its own for handling the impending emergency. It provided for an Emergency Action Group organized on a part-time basis, under the Emergency Command Center (ECC).

While the DAO gave the outward appearance of conducting business as usual, on a daily basis the Emergency Action Group, with the blessing of the ECC, actively engaged in planning for NEMVAC operations. When the massive fixed-wing evacuation of Americans was ordered, the DAO was promptly tasked with this evolution. This fixed-wing evacuation was an all consuming task which required a full time effort on the part of the entire staff. The immediate effect was the arrival of literally thousands of Vietnamese at the DAO Compound.

Of the many deleterious effects that this operation had at DAO, perhaps the most serious from the standpoint of Operation FREQUENT WIND was a curtailment of preparations by the Emergency Action Group and the ECC. Both their people and their assets became completely absorbed in the fixed-wing effort, which reached a peak of 7,500 persons per day, with as many as 5,000 refugees remaining overnight in the DAO Compound. Security became extremely difficult due to a shortage of people and an overwhelming number of refugees.

Late in April the security problem in the DAO Compound was eased when a Marine rifle platoon was inserted. This unit from BLT 1/9, under the command of 1st Lt B. P. Thompson-Bowers, assumed responsibility for Annex security.

The major problem encountered by the Advance Command Element during this period was an almost total abandonment of planning for helicopter evacuation. The sheer volume of the on going fixed-wing evacuation virtually crippled any other effort. Preparations underway by the ACE continued, but they could best be described as lonely, unnoticed matters.

#### **Preparation of helicopter LZ's**

At the DAO Compound landing zone improvements were necessary in each of the several locations in order to provide the landing force with a wave capacity of 12 CH-53s. See Figure 3. Concurrent with the development of the landing zone improvement program, a briefing was presented on the proposed



**Figure 3**

interface between evacuee staging and processing and the evacuation helicopter lift. The actual landing zone improvements were accomplished very slowly, because of a shortage of labor and because DAO priorities were directed to the fixed-wing evacuation.

On 25 April, the ACE air liaison officer, Maj Cox, briefed the Commanding General, his principal staff, and the staffs of both RLT-4 and PROVMAG-39. Included in the briefing aboard the *Blue Ridge*, was a 35mm slide presentation of the DAO landing zones, obstacles to flight, aerial checkpoints, and the ingress/egress route between the task force and Saigon. He was then briefed by the MAB staff on the plan for employment of the landing force in the DAO/Air America Complex. Further, upon his return to Saigon, he briefed the Defense Attache on the MAB plan as it related to helicopter operations, landing zone organization and evacuee processing.

Also on 25 April, the landing zones were declared ready for use. All LZ's were marked with CH-53 "footprints" in luminescent paint. The measurements were taken from the CH-53 NATOPS Flight Manual and the "footprints" were placed to provide maximum rotor-to-rotor to obstacle clearance. Where the landing zone surface could not be painted, iron rods were installed to which standard USMC marking panels could be attached prior to L-Hour.

#### **Communications preparations DAO**

On 20 April, the Communications Officer of the Advance Command Element received a comprehensive briefing on the communications facilities and services resident in the DAO Compound. Additionally, a cogent summary of the telecommunications organization

was presented. Upon completion of the briefings, a walk-through of all facilities was accomplished.

During this period a number of visits and updates of information were exchanged with the CEO, 9th MAB and the RLT-4 Communications Officer. Daily consultations were accomplished to ensure receipt of the latest information and understanding of stated or perceived problem areas.

#### **EOD Operations**

By the evening of 29 April Captain McManus and Master Sergeant East had completed preparations and only the order to execute was necessary. At approximately 2400 on the 29th, and just prior to the lift off of the last helicopter from the DAO Compound, the order was given. Within minutes, the destructive action was completed, leaving nothing of value.

#### **Business as usual comes to a halt**

Business as usual came to an abrupt halt on the evening of 28 April when three A-37 aircraft bombed Tan Son Nhut airfield. Concurrent attacks by fire on adjacent ammunition dumps led even the most dubious observer to realize that the noose around Saigon had tightened. At that time some 800 to 2,000 evacuees remained in the DAO Compound. Routine evacuation by fixed-wing aircraft had been planned for 29 April. At 0400 on that date the NVA/VC interdicted both Tan Son Nhut airfield and the DAO Compound with high velocity artillery. The result at DAO was two Embassy Marines killed. Following the attack, a tour of the area disclosed calm and absolutely no panic. Security had been increased and only one gate to the Alamo and to the Annex remained open. Tan Son Nhut had numerous fires and rounds continued to fall in that area. No large numbers of Vietnamese were accumulating around the DAO.

With the impact of the artillery and obvious proximity of combatant forces, the decision was made to continue evacuation by tactical transports (the old reliable workhorses, the C-130s) which had been staged for this massive lift. The first lift for the C-130s was staged and departed for Tan Son Nhut. Unfortunately, no more than two flights departed before Tan Son Nhut was closed by aircraft and vehicles abandoned on the runways, the SA-7 threat (VNAF aircraft had been shot down by these missiles in the vicinity of the airfield that

morning), and the continuing artillery barrage. In the meantime, evacuees continued to arrive at DAO. Unfortunately, no valid information was available regarding numbers of evacuees, either American or Vietnamese, and it literally seemed that the Vietnamese "pipeline" was open wide.

At approximately 1000 the decision was made in Saigon to evacuate by helicopter. At about 1130, the Commanding General talked by radio with his deputy. Col W. W. Taylor, in the DAO Compound. He was told of the earlier attacks by fire. The decision was made as to the size of the force to be employed for security. It was determined that initially one battalion, LtCol G. P. Slade's 2/4 would be inserted into the DAO Compound and Annex, and another, LtCol R. L. Bond's 1/9 would be prepared to insert a command group and one company initially into the Air America Compound if required for security and crowd control.

The 9th MAB was officially notified to execute the helicopter evacuation by USSAG message received at 1215 (local). Of course, with earlier notification that an evacuation was imminent, the MAB had commenced preparatory actions. Regimental Landing Team 4 (RLT 4), commanded by Col A. M. Gray, had been alerted to provide a security force in support of the C-130 airlift, and was still up on the step. Helicopter pilots and crews had been alerted. When the signal to execute came by radio, there was little hesitation.

The hour being what it was, 1215, and having just 45 minutes earlier talked with his deputy commander in the DAO Compound, the

Commanding General was apprised of the situation on the ground at DAO and was aware of the urgency for moving as quickly as possible. He immediately ordered the cross-decking operations to begin. Following receipt of detailed information from his helicopter direction center (HDC) aboard *USS Okinawa* (LPH-3), CTF-76 announced that L-Hour would be 1500.

#### **Prior to L-hour**

An integral part of the plan for the insertion of the landing force often requires pre L-Hour multi-deck operations. FREQUENT WIND was no exception. Sufficient helicopters had to be launched in the proper sequence to pick up the appropriate heliteams on the various ships, and then refuel. The helicopter schedule called for loaded helicopters, fully fueled to be positioned on *USS Okinawa*, *USS Hancock*, *USS Dubuque*, *USS Denver*, *USS Duluth*, *USS Mobile*, *USS Peoria*, and *USS Vancouver* for liftoff thirty minutes prior to the scheduled landing zone touchdown. This was basically the same type of evolution which had been employed during the evacuation from Phnom Penh—by the same squadrons, LtCol J. L. Bolton's HMH-462 and LtCol H. M. Fix's HMH-463, and the same BLT 2/4.

Since it was necessary in planning to respond to a variety of multiple options either singularly or concurrently, the multi-deck operation was influenced by its impact on helicopter availability; the wide separation of shipping; the limitations on billeting aboard specific ships in which troops could be desir-



***Transport aircraft  
burns at Tan San  
Nhut Air Base after  
being hit by NVA  
missile.***

ably cross-decked; and the requirement for ships to be positioned as early as possible at their evacuation stations.

During the planning stage one of the principal considerations from the start was the rapid build up of the landing force ashore so that, depending upon the specific situation that prevailed during the execution, control could be gained at the designated evacuation site(s). All planning with regard to cross-decking was based upon a predicted gradual increase in readiness notification up to L-Hour. After notification to execute the operation there would be a minimum of three hours before the first helicopters were required to land in the designated landing zones. The pre L-Hour helicopter flow plan called for the aircraft to be launched or spotted aboard assigned shipping employing basically two techniques:

► Launch helicopters, loaded or unloaded, to hold at an air orbit point or aboard another ship for fuel conservation; if unloaded they could load troops/equipment on that ship or return, on order, to any ship to load troops/equipment and refuel.

► Spot aboard an aircraft carrier or LPH for launch and embark troops/equipment from that carrier or LPH.

The infantry, reconnaissance, and engineer units of BLT 2/4 which would comprise the initial landing force were spread loaded among *Okinawa*, *Vancouver*, and *Peoria*. Collectively they totalled twenty-three CH-53 loads. Twelve of these came from *Okinawa*, six from *Vancouver*, and five from *Peoria*. Since none of these ships had the deck capacity to load simultaneously the respective heliteams, it was necessary to employ the above

#### ***HMH-463 birds inbound to Saigon.***



described techniques in combination. Some of the heliteams were loaded aboard the helicopters two hours before L-Hour. The aircraft then cross-decked to other available helicopter decks for refueling and waiting for the launch time to meet L-Hour. The multi-deck plan required the use of all available ships in the Task Force.

The First Wave was comprised of twelve CH-53s loaded with the BLT Command Groups Alfa and Bravo, and Companies F and H (Reinf.). It had to depart the launch area thirty minutes prior to L-Hour in order to arrive in the evacuation area on schedule. The Second Wave comprised of an additional twelve CH-53s carrying Companies E and G (Reinf.) departed the launch area and arrived in the landing zones fifteen minutes after the first. In order to meet the schedule, twenty of the helicopters had to be launched as early as two hours before L-Hour from their assigned amphibious shipping to other available deck spots in the Task Force. This plan would permit the maximum number of troops to be lifted to the DAO Compound in the shortest amount of time. Waves were formed thus:

First Wave: 12 helicopters from *Okinawa* (HMH-462)

10 heliteams from *Okinawa*  
2 heliteams from *Peoria*

Second Wave: 12 helicopters from *Hancock* (HMH-463)

6 heliteams from *Vancouver*

3 heliteams from *Peoria*

2 heliteams from *Okinawa*

1 back-up aircraft

To describe briefly the mechanics of the First Wave—Initially, *Okinawa* launched two loaded aircraft to *Duluth*, where they remained for refueling. Two more were launched simultaneously for *Peoria*, both empty. One loaded troops and moved to *Mobile* for refueling. The other loaded troops and remained on *Peoria*. (At the last minute, *Peoria* had been assigned as the SAR station ship just to seaward of Point Hope, the helicopter approach lane I. P. Moving *Peoria* from her previously assigned station to the SAR station not only lengthened the duration of the cross-decking involved, but gave rise to a false report that the evacuation had started when the two empty aircraft proceeded shoreward to rendezvous with the ship. Reporting became more confused when the first loaded

CH-53 headed back for the main body of the force to set down on *Mobile*. Another erroneous report was filed, to the effect that the helicopters were "turning-around." The matter was resolved, but not before unnecessary confusion had been added during a critical period.) Then, *Okinawa* launched four more helicopters, all loaded with troops, two to *Denver* and two to *Dubuque*, all for refueling. Finally, to complete the wave, *Okinawa* launched four loaded aircraft at L-Hour minus 30 minutes. It should be mentioned that most of these other ships had their own deck loads of CH-46s and UH-1Es which had to launch to orbit stations to make room for *Okinawa's* aircraft.

The medium, light, and attack helicopters were interwoven as integral parts of the pre L-Hour preparations. In addition to the "heavies" tasked with the insertion at the DAO, other helicopter support was required during both the day and night phases of the operation. This included a quick reaction "Sparrow Hawk" team consisting of two CH-46s, each loaded with fifteen combat troops from Company A, 1/9, stationed along the helicopter routes in the event a helicopter was downed by hostile fire or mechanical difficulties. This team would provide security around the downed aircraft while the Search and Rescue (SAR) package of two additional CH-46s, on station, would pick up the passengers and crew. A medical evacuation (Medevac) package of two CH-46s was airborne over the water for casualty evacuation from any of the landing zones, if required. A separate package of four airborne CH-46s was tasked for the extraction of personnel from the American Embassy, to include the Marine Security Guard. Four AH-1J "Cobra" attack helicopters were used to provide protection over land for the transport helicopters. These escort helicopters also had the capability to function as Tactical Air Coordinators (Airborne) (TACA) and as Forward Air Controllers (Airborne) (FACA) in control of fixed-wing attack aircraft, if required. All these tasks required relief on station, thus doubling aircraft requirements.

Three UH-1Es were provided for command and control: one each for the CG, the CO of RLT-4, and the CO of PROVMAAG-39.

#### **Air control measures**

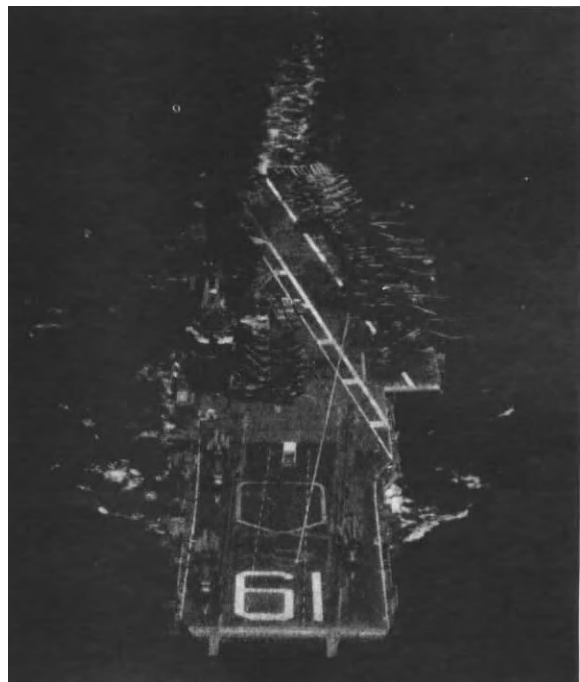
The Commander of Task Force 76 was responsible for air control measures over the water, or "feet wet." Once over land, or

"feet dry," operational control passed to US-SAG/7thAF, with local control being exercised by his Airborne Battlefield Command and Control Center (ABCCC), a specially configured C-130. The CO of PROVMAAG-39, Col F. G. McLendon, exercised control of all his assets through the Tactical Air Coordination Center (TACC) aboard *USS Blue Ridge* (LCC-19). The Helicopter Direction Center (HDC) aboard *Okinawa*, as an agency of CTF-76, had the responsibility for air control feet wet and for directing the helicopters outbound from Saigon to empty decks for the offload of evacuees and for refueling.

Specific visual flight rules (VFR), helicopter routes, and checkpoints were used. Flight altitudes assigned were 6,500 feet inbound to Saigon and 5,500 feet outbound. The trip was approximately eighty nautical miles. The altitudes were prescribed to place the aircraft above the effective range of small arms which, despite the known missile and anti-aircraft artillery (AAA) presence, was considered to be the greatest threat to the transport helicopters.

Weather was a significant factor in the operation. En route to the DAO Compound, the First Wave pilots encountered weather of 2,000 feet with scattered clouds; 20,000 feet overcast; fifteen miles visibility; and isolated rainshowers. The visibility diminished to one mile in haze over Saigon. As the operation

#### **Evacuation aircraft aboard USS Hancock.**





progressed, the weather deteriorated causing it to become of even greater significance.

### **Inserting BLT 2/4**

As mentioned earlier, Col Taylor had provided his estimate of the situation to the Commanding General and had offered his recommendation for the size of the appropriate landing force. On hand at this time to assist Col Taylor, in addition to his own Advance Command Element were Maj Jim Livingston and Maj Moose Lutes, the S-3 of RLT-4 and the executive officer of PROVMAG-39, respectively. These officers had been stranded fortuitously in Saigon the previous evening following what was to have been a one-day liaison visit.

When the evacuation order was received, immediate steps were taken to begin the basic groundwork to implement the plan and support the smooth introduction of 2/4. The Commanding General's decision to insert one battalion into the DAO Compound and to be prepared to insert a command group and one company of 1/9 into the Air America Complex, across the road from the DAO Compound, was based on the four planning options for the DAO/Air America Complex.

Specific points that he had considered in his decision as to force size were: (1) what crowd control problems would occur in the proximity of the DAO; (2) what would be the routes of advance of NVA/VC forces into Saigon; and, (3) what would be the response of the South Vietnamese forces in and around Saigon? Since no positive assessment could be made, it was essential that the size of the force to be introduced be based on the capability to cope with a worst case situation.

Having assured himself that the pre L-Hour transfers were underway and running smoothly, the Commanding General departed by

### ***2/4 Marines awaiting to board 'copters.***



UH-1E from *Blue Ridge* at 1315 and arrived at the DAO Compound at 1350. As his helicopter banked steeply over the airfield in its descent into the DAO Compound, the CG was permitted an uncomfortably close look at the ground fire and the incoming impacting at Tan Son Nhut. Col Gray accompanied the CG in another UH-1E.

To those who were in a position to observe, it was a dramatic panorama as the landing force launched for FREQUENT WIND. At approximately 1420, the First Wave commenced its lift off. Forming up into vics of three over the task force, the helicopters set course for Saigon. Proceeding by way of Point Hope, they headed for the Keyhole at an altitude of 6,500 feet. They came under USSAG's ABCCC control when they went feet dry. As they started their descent into the landing zones, they were passed off to the landing zone controllers in the DAO Compound. As they passed over Keyhole just before starting the descent, the Marines got a good look at the incoming ground fire. The first aircraft touched down at 1506.

Lynn Montross coined the term "cavalry of the sky" as being descriptive of a helicopter-borne landing force. As the Marines from 2/4 charged out of their helicopters to the frantic cheers of the waiting evacuees, Montross' term had a specific poignance. The conditions were suitable for an immediate start of the evacuation. As the Marines in the First Wave were moving to their assigned sectors and establishing the required security, 679 evacuees were loaded on the first twelve CH-53s. The outbound route of these helicopters was via Newport, with lateral as well as a 1,000-foot altitude separation from the inbound Second Wave helicopters. When they went feet wet at Point Mercy they were turned over to HDC controllers and vectored to appropriate ships to discharge their evacuees. The First Wave helicopters were recovered aboard the ships of Task Force 76 by 1540. Meanwhile, the Second Wave had landed at the DAO, off loaded its Marines and was loading more evacuees.

The configuration of the DAO Compound and the desire to use initially as many of the landing zones encompassed therein as possible were compelling factors in the decision to establish two separate, but supporting, security perimeters. LtCol Slade's scheme of security called for his Command Group Alfa and two rifle companies, plus his 81mm mor-

tar platoon to establish a perimeter around the DAO headquarters building, the "Alamo," and its adjacent landing zones. The Bravo Command Group, under the command of the BLT Executive Officer, Maj Luke Youngman, and two rifle companies, plus the 106mm recoilless rifle platoon were responsible for the DAO Annex and its adjoining landing zones. The perimeter around the Alamo was oriented on a north-south axis, with Company E responsible for the northern sector and Company F for the southern. The axis around the Annex was east-west, with Company G responsible for the eastern sector and Company H the western. As the evacuee load diminished, a consolidation around the Alamo was planned. The existing defensive features around the DAO Compound, i.e., a limited number of bunkers and barbed wire entanglements, were incorporated into the sector defenses of 2/4.

### **Marshalling of evacuees**

The evacuation within the DAO Compound proceeded in a smooth fashion under the guidance of the CG, 9th MAB. When a helicopter arrived, evacuees were moved by guides from staging areas to the helicopter ramp where a manifest was handed to the crew chief and the evacuees were boarded. Because aircraft loads were not uniform, due to different helicopter models (CH-53C, CH-53D, HH-53B), different fuel states, and variable engine performance, marshals had to be flexible when assigning evacuees to designated loads. Landing Zone marshals and guides used colored signal paddles to further coordinate maximum loading of additional evacuees when more than fifty were to be extracted. These visual signals between guides at the helicopter ramps and marshals in the staging areas were essential, as the noise generated by the dynamic helicopter components rendered electronic voice transmitting equipment useless.

Landing Zone marshals were in radio contact with their respective landing zone helicopter controller (Alamo for LZs 36, 37, 38, and 39 and Annex for LZ 35).

This radio link permitted the marshals to keep landing zone controllers advised of the evacuee population and it permitted the controllers to advise the marshals of the number of inbound helicopters and their estimated time of arrival. Further, when inbound aircraft were to pick up troops for ad hoc Sparrow Hawk missions, this radio link aided in

keeping the marshals advised of this eventuality. Thus the marshals could brief the expectant evacuees preventing any helicopter landing confusion between embarking Marines and anxious evacuees.

### **Landing zone control**

At approximately 1230, both the Alamo and Annex controllers had established radio communications with the ABCCC. Initial contacts with the ABCCC were to volunteer landing zone weather, hostile activities (From whatever nationality), landing zone status/usability. At 1350, the ABCCC was advised of the arrival of the CG. When he arrived, all message circuits at the DAO were out. The CG requested ABCCC to relay to Commander, USSAG and to CTF-76 that he was ashore and reporting OPCON to USSAG. Additionally, the controllers advised ABCCC of the arrival of 2/4, and provided a continual update on the totals of evacuees extracted and the number remaining. Communications with the ABCCC were generally satisfactory and one of the two nets was always usable.

Direct communications from the DAO with CTF-76 and the brigade rear were sporadic. This necessitated the continual requirement to relay through the ABCCC.

Inbound helicopters were passed off by the ABCCC to the landing zone controllers in the vicinity of the Keyhole. When landing sites were available, flight leaders were directed to proceed in and were given an LZ assignment based upon evacuee availability. When sites were not available, the aircraft were directed to orbit at or near the Keyhole. Holding was very rarely required during daylight operations. Initial radio contacts with inbound CH-53s included wind information, latest small arms advisories, artillery and rocket advisories, and warnings of known/observed hostile

### ***Launching from deck of USS Hancock.***



weapons on or near ingress and egress routes. As the security force consolidated around LZs 35, 36, 37, 38, and 39 darkness was falling. Helicopters holding at the Keyhole became more frequent as the number of usable landing sites was reduced from 12 to six. Few flights were held longer than five minutes.

Existing lighting in and near LZs 36 and 37, supplemented by automobiles and portable equipment, was adequate for LZ illumination. Terminal guidance to the DAO Compound was initially by strobe light. The strobe was of limited effectiveness due to the number of burning structures around the DAO as well as significant amounts of bursting AAA and tracer ammunition. Additionally, the strobe light was unacceptable from a safety standpoint. Maj Dave Cox, the Alamo controller, and his team on the exposed rooftop of the Alamo had been taking sporadic small arms and sniper fire all afternoon. The strobe would have lit them up as more inviting targets. Subsequent terminal guidance was by radio. Flight leaders would flash a short series of landing light identification signals after which Maj Cox would provide periodic vectors to the DAO. No major problems were encountered using this procedure.

All aircraft were cleared by radio to lift off at the pilots' option once loaded, unless specifically directed to hold due to air traffic conflicts. Switchover of outbound helicopters to ABCCC frequencies was directed when the aircraft were clear of the DAO Compound. Passenger totals were passed by the controllers to the CG who in turn passed them on to USSAG via the ABCCC.

Throughout the period from 1100 to 2205, Maj Cox was in an excellent position to observe events throughout the Tan Son Nhut and Saigon areas. During the day and night he observed two aircraft shot down, one aircraft destroyed on the runway, numerous escaping South Vietnamese take off, and on two occasions, he observed aircraft crash in the take off attempt. Artillery and rocket impacts in the Tan Son Nhut and DAO areas were noted as being continuous and well placed. Numerous buildings were set afire as were dozens of aircraft. So large were these fires that they burned for five or six hours and were unquenched by more than an hour of very heavy, cold rain. Ordnance which was identified as 23mm AAA and 50cal. was fired at both fixed-wing aircraft and helicopters. The rooftop controllers did not enjoy the relative



*Landing zone in PX compound.*

luxury of their ground level brethren who could seek cover in the existing bunkers when taking incoming. The team was totally and continuously exposed.

At approximately 2205, having completed the extraction of all available evacuees, the team was instructed to leave the rooftop and proceed to the DAO theater for extraction. Responsibility for LZ operations and extraction of the pre-serialized security forces was passed to BLT 2/4.

#### **The Embassy surfaces**

No sooner had the brigade Marines been inserted at DAO and the evacuation begun than the CG received word by telephone from the Embassy that there were over 2,000 people to be evacuated from there. This came as a surprise, for there had been no indication that the Embassy would be used as a large scale, or for that matter even a small scale, evacuation center. Knowing that the Embassy could handle one CH-53 in the courtyard and one CH-46 on the rooftop landing pad, the CG ordered the immediate adjustment of the helicopter flow to the DAO in order to accommodate the lifts from the Embassy. CH-53s were diverted from each inbound flight and additional CH-46s were launched. Three Sparrow Hawk elements were inserted into the Embassy from the DAO Compound between 1700 and 2100 to assist in security and crowd control.

Additionally, 1stLt J. J. Martinolli, a FAC from BLT 1/9, was ordered to the American Embassy with a complete landing zone control team augmented by helicopter support team personnel from BLT 2/4.

At about 1700 the evacuation of the American Embassy began employing Marine heli-

copters. All available CH-46 assets were diverted to the Embassy rooftop LZ. CH-53s were directed to the small and very confined Embassy parking lot landing zone. During the initial phase of the evacuation, the crowd outside the Embassy grew to enormous proportions, a situation which had prompted the insertion of the Sparrow Hawk teams. With the onset of darkness, the Embassy evacuation slowed, and flight integrity diminished due to the time consuming and difficult approaches to the small landing zones, restricted availability of deck space, poor communications with the LZs, and hostile fire.

#### **Extracting BLT 2/4**

At about 1700, it was decided to withdraw the 3d Platoon, Company C, BLT 1/9. This platoon under 1stLt B. P. Thompson-Bowers, had been inserted on 25 April. It had assisted the Marine Security Guard in providing security and control within the DAO Compound. These were the Marines who had borne the brunt of the heavy attacks by fire which had been directed at the DAO Compound on the 28th and 29th.

At about 1930, with all of the remaining evacuees located inside the Alamo area, the decision was made to begin the withdrawal of the security elements from the Annex. With the concurrence of the Commanding General, the BLT 2/4 elements located at the Annex were withdrawn to the Alamo. The new defensive area encompassed LZ 36 and the Alamo.

The final extraction of evacuees at the DAO occurred at about 2100. Orders were then issued to begin planning for the withdrawal of the security forces. At this time a phased withdrawal of 2/4 was planned to coincide with the withdrawal from the Embassy.

#### ***Landing zone at Air America compound.***



A total of 395 U.S. citizens and 4,475 other refugees had been evacuated in an orderly manner by USAF and Marine helicopters from the DAO. At 2300, the CG ordered the complete withdrawal of all brigade elements from the DAO Compound. At 0010 on 30 April, thermite was ignited in selected buildings and vital areas, and the two remaining CH-53s lifted off when it was assured that all EOD personnel were aboard.

As these last elements from the DAO Compound lifted off for *Okinawa* at 0012, the volume of incoming became more intense. As a result of the activation of the thermite, the fires in the vicinity of the DAO grew in intensity and were visible for some distance as the helicopter departed the Saigon area.

#### **Return to Blue Ridge**

Once the last of the evacuees were lifted out of the DAO Compound and the extraction of the landing force was underway, the Commanding General decided to return to *Blue Ridge* where he could best influence the evacuation of the Embassy. The helicopter flow to the Embassy had slowed considerably and numerous radio transmissions by the CG failed to indicate the reason. Before turning over command of the forces in the DAO to Col Gray, the CG had a conversation with the Ambassador. He was able to determine that if he could get the helicopter flow going, the evacuation could be completed in a relatively short time.

#### **Minimum flying conditions**

As noted above, just after midnight, the evacuation of the DAO Compound was completed. Average aircraft flight times were approaching ten to twelve hours. CTF-76 had become quite concerned about flight safety. In fact, CH-53s had been grounded temporarily by CTF-76 without the knowledge of the Commanding General, who was enroute back to *Blue Ridge*.

The deteriorating weather, darkness, and smoke-haze continued to make approach and takeoff from the small Embassy zones increasingly difficult. It should be noted that the rooftop zone was marked only by a burning barrel of oil and rubbish. This, coupled with poor communications, led to confusing reports that the Embassy was on fire.

Navigation to and from the city became a difficult and dangerous task. Radar coverage was provided by control ships of the amphib-



***South Vietnamese evacuees, carrying their only possessions, hurry to embark.***

ous task force during the feet wet portion of the flight inbound to the city. This coverage inland was reduced by a line of thundershowers between Saigon and the ships. Once feet dry there was no radar capability for providing helicopter separation or routing. Pilots were forced to make non-controlled instrument flight rule (IFR) penetrations, climbing and descending through the overcast or remaining at low altitudes where they were more vulnerable to hostile fire. As described in the previous article, considerable effort had gone into planning for flight operations during reduced visibility. The pilots operated IFR, but without the normal control. Though not originally planned, the Cobra pilots, with the concurrence of the ABCCC, assumed the roles of helicopter coordinators-pathfinder-after dark. This assistance proved to be invaluable to the transport helicopter pilots in locating and leading the transports to their appropriate landing zones.

Once back aboard *Blue Ridge*, the Commanding General determined that there was some consideration being given to discontinuing the evacuation until first light. Aware that the city could have been in NVA hands early in the morning and confident in the ability of his pilots despite the hazardous night flying conditions, the CG asserted that the evacuation should continue until completed and ordered the launch of more CH-53s and CH-46s in support of the Embassy evacuation. By 0215, a flow of one CH-53 and one CH-46 was started into the Embassy every ten minutes. At that time, it was estimated that approximately 19 lifts of mixed CH-53s and CH-46s would be required to extract the remaining evacuees. When these allocated lifts were nearing an end, the Commanding General no-

tified Capt Gerry Berry, the pilot of an HMM-165 CH-46, that his aircraft was dedicated to the extraction of the Ambassador and that he was to remain on the rooftop until the Ambassador was safely aboard. The CH-46 lifted off at 0458 with the Ambassador on board.

As the early morning hours of 30 April passed, it was well established that the reduced visibility was a blessing as well as a hazard to flight operations. Instances of hostile fire increased markedly, with pilots reporting that they were taking fire within five blocks of the Embassy. With increasing frequency SAM firings at inbound and outbound aircraft were reported. No hits were received. AAA fire was reported originating from the Vung Tau Peninsula. An AH-1J confirmed this report to include the use of a search-light in conjunction with that weapon.

Once the Ambassador and the last of the evacuees had been safely extracted, the next major concern was the extraction of the Marine security forces. A major problem in this regard was the small arms fire around the Embassy, not to mention the large crowds which were still encircling the compound. It was necessary for the CG to plan for the insertion of additional troops into an alternate landing zone should the situation have deteriorated further.

This last group of Marines was comprised of a combined force from the 9th MAB and the Embassy Security Guard, under the command of Maj Jim Kean. Maj Kean was instructed by radio to withdraw all his people into the Embassy and to barricade the doors. He then moved up through the building until he occupied only the top floor from which he had access to the rooftop LZ. After dodging small arms fire and finding it necessary to em-

ploy riot control agents against people attempting to storm the roof, he stepped aboard the last helicopter for liftoff at 0753.

The last brigade element returned aboard Task Force 76 shipping at 0825, thus terminating OPERATION FREQUENT WIND. In all, 978 U.S. and 1,120 other persons were lifted out of the Embassy.

### Communications

As a result of prepositioning communicators with the Advance Command Element, the transition from fixed-wing evacuation option communications to helicopter evacuation option communications was accomplished without incident. Problems during the execution phase centered on the difficulties experienced in communicating with 9th MAB (rear), located in *Blue Ridge*, which were described above, and a temporary power failure within the DAO which disabled the Tactical Satellite Terminal. As pertains to the former problem, during both the afloat and ashore phases of the operation, continuous and extreme difficulty was experienced in establishing and maintaining communications on dedicated brigade circuits. Further compounding this problem were instructions from higher headquarters directed to the MAB rear command element to get off the air during the late afternoon of 29 April. The CG was not aware, at the time, of this termination of communications with his rear, a matter which gave rise to considerable concern as the evacuation progressed. Far too often it became necessary to relay message traffic to USSAG and CTF-76 through the ABCCC.

### Summary

The Navy and the Marine Corps were heavily committed to FREQUENT WIND, using almost all of the Fleet assets available in the Western Pacific Theater. The Task Force included four attack carriers (two with their normal complement of aircraft, and two configured for helicopters), the shipping from two amphibious squadrons totaling 15 vessels, plus the associated escort and support ships. The Marine Corps was equally committed both with aviation and ground assets. Helicopters from HMH-462, HMH-463, HMM-165, HML-367, and HMA-369 were involved. There were 34 CH-53s, 27 CH-46s, six UH-1Es, and eight AH-1Js. The Air Force augmented this lift capacity with ten CH/HH-53s which were embarked in *Midway*. To provide the needed flexibility of response, RLT-4,

consisting of three BLTs (1/9, 2/4, and 3/9) was afloat with almost four thousand Marines and sailors. Two alert battalions, 1/4 located at Subic Bay, and 1/3 which was flown from Hawaii to Okinawa, were in position to be able to augment RLT-4. Counted as backup, if needed, were 2/9 and 3/4 on Okinawa. This imposing force was assembled under the command of Vice Admiral G. P. Steele, the Commander of the Seventh Fleet, to ensure that the required assets to cover all options were available when the evacuation commenced.

Helicopter operations were continuous from first light on 29 April until the operation was concluded at 0835 on 30 April. The statistics compiled by PROVMAG-39 were record breaking and indicate the superior effort put forth not only by the air crews, but the ground crews as well. Elapsed flight hours totalled 559.7 hours and signified 682 sorties. The high-time aviator, Capt Gerry Berry, in a CH-46, from LtCol Kizer's HMM-165, logged 18.3 hours, and the average crew operated for 13 hours.

Of the 682 sorties flown during FREQUENT WIND, 360 were flown during hours of darkness. Five hundred and thirty evacuation sorties were flown, 312 by CH-53 and 218 by CH-46. The remaining number of sorties were flown in conjunction with these missions and the insertion/extraction of the ground forces.

The operation did not go unopposed. Helicopters were exposed to small arms, artillery, and rocket fire while in the landing zones, as were the Marines on the ground. Fire from AAA and numerous SAM firings were observed throughout the operation. No aircraft damage was reported as a result of the missile firings.

On the morning of 29 April, the PROVMAG enjoyed an availability of almost all of its aircraft. Only three CH-53s were not in an operational status. As the day wore on, the continuous operations of the helicopters did, however, take its toll. During the evening of 29 April, *Dubuque*, with three CH-46s embarked, was diverted to another mission, thus decreasing the number of helicopters available for the evacuation.

This operation was tremendously tiring for air crews and taxing on the machines. All were pressed to the limit. In situations such as this, men make mistakes and aircraft malfunction, therefore losses can be expected. Unfortunately, two aircraft losses did occur. At approximately 2114 on 29 April, a SAR CH-46, while returning to *Hancock* for landing im-

pacted into the sea on a downwind leg. Both pilot and copilot were lost but the two gunners were saved. The second aircraft, an AH-1J, was lost while returning from a helicopter escort mission. The Cobra experienced fuel starvation and both engines flamed out. Both crew members were rescued in minutes by a whale boat from *USS Kirk*. The Cobra loss is attributable to the fact that the deck of the

ship to which it was heading was fouled by an Air America helicopter which had landed unannounced.

A total of 6,968 persons were evacuated from Saigon. Of this number 1,373 were U.S. citizens. The evacuation of Saigon was truly a massive undertaking, unequalled in the history of helicopter evacuations.

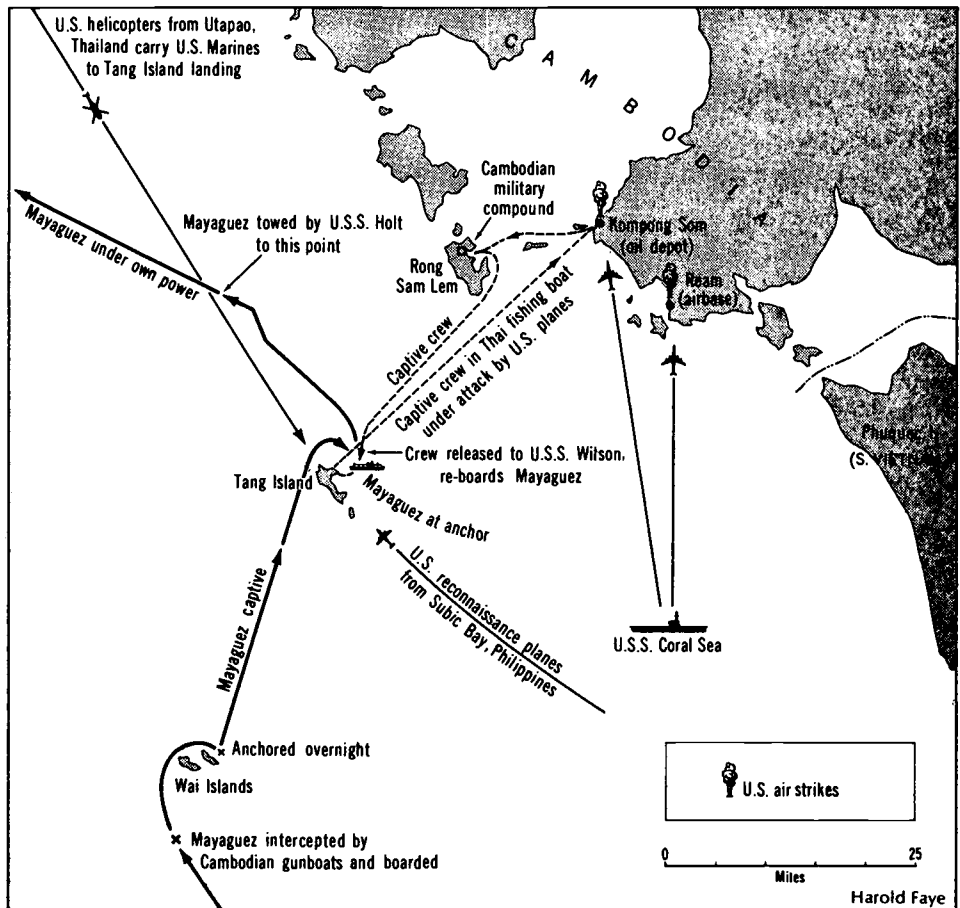
USMC



# “Mayday” for the *Mayaguez*

*In mid-May 1975, the U. S.-flag merchant ship Mayaguez was illegally seized on the high seas in the Gulf of Siam and taken toward a group of islands claimed by the new Revolutionary Government of Cambodia. Like the traditional “Hey Rube!” distress call of circus folk, the “Mayday” of the Mayaguez summoned ships, aircraft, sailors, and Marines to the rescue. And every bluejacket and leatherneck, who came, saw the affair through different eyes. For example, there were:*

- (1) The Patrol Squadron Skipper
- (2) The Destroyer Escort’s Skipper
- (3) The Company Commander
- (4) The Battalion Operations Officer
- (5) The Guided Missile Destroyer’s Skipper



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## The Patrol Squadron Skipper

Commander J. A. Messegee, U. S. Navy

Patrol Squadron Four's (VP-4) first indication that an American ship had been fired upon and seized by Cambodian units came in the form of a phone call from Task Force 72 at approximately 1300Z (2100 H at Cubi, 2000 G on scene; all times referred to from this point will be on-scene times) on Monday, 12 May. The initial information was sketchy. Nevertheless, I immediately placed the squadron on full alert and we started to prepare crew briefings and to organize a flight schedule to cover the next 24 hours.

VP-4, consisting of 360 people and ten P-3B/D aircraft, deployed to NAS Cubi Point on 23 April 1975, and, on 9 May, I relieved the commanding officer of VP-19 as Commander Philippine Air Patrol Group (CTG 72.3).

As Task Group Commander, I received my orders from Commander Patrol and Reconnaissance Forces Seventh Fleet (CTF 72). Rear Admiral W. D. Toole, Jr., was CTF 72 during the *Mayaguez* affair and his operations officer was Commander Hersh Plowman.

Our area of surveillance responsibility included the international waters of the western Philippine Sea, the South China Sea, the Gulf of Siam, and the Indian Ocean. While our primary base for operations was Cubi Point, Republic of the Philippines, we used Diego Garcia as a secondary operational base and the Royal Thai Naval Air Station at Utapao, Thailand, as a logistics base and refueling stop. Due to the extensive area of responsibility assigned to CTG 72.3, VP-4 normally was augmented by three aircraft from VP-17 and one aircraft from VP-46. Personnel from these outfits also were to play important roles in the *Mayaguez* operation.

Before describing the VP flying phase of the *Mayaguez* recovery operation, it is important to understand what we were faced with on the ground. At Cubi, early in the operation, I placed my executive officer, Commander Brant Powell, in charge of the Cubi operational control center (OPCON). The Cubi OPCON had the responsibilities of digesting the numerous incoming directives and translating them into flight crew briefings. In

addition, the OPCON personnel debriefed flight crews, communicated with airborne aircraft, and, most important, drafted reports for submission to higher authority. During the four days of the *Mayaguez* affair, Commander Powell and his assistants drafted and sent over 100 flash or immediate precedence messages. Concurrently, they received, read, and digested several hundred messages.

In addition to the intense message traffic activity associated with the *Mayaguez* seizure, the OPCON officers' jobs were considerably complicated by the surveillance requirements attendant to the fleet of small Vietnamese surface craft escaping the Communist takeover of South Vietnam. A myriad of vessels was still scattered throughout the South China Sea during the period 12 to 16 May. In fact, Task Group 72.3 expended more flight hours related to the evacuation of Vietnam—Operation "Frequent Wind"—than on *Mayaguez* surveillance flights.

Finally, for the entire first day of the affair the only intelligence relative to the fate of the *Mayaguez* was obtained by P-3 aircraft and reported to the OPCON at Cubi Point. Consequently a great deal of attention was focused on the CTG 72.3 OPCON. We received numerous telephone calls from all levels of command up through the National Military Command Center (NMCC). More often than not the caller was of flag rank and desired immediate information. As a result, Commander Powell and I spent many hours on the telephone answering questions.

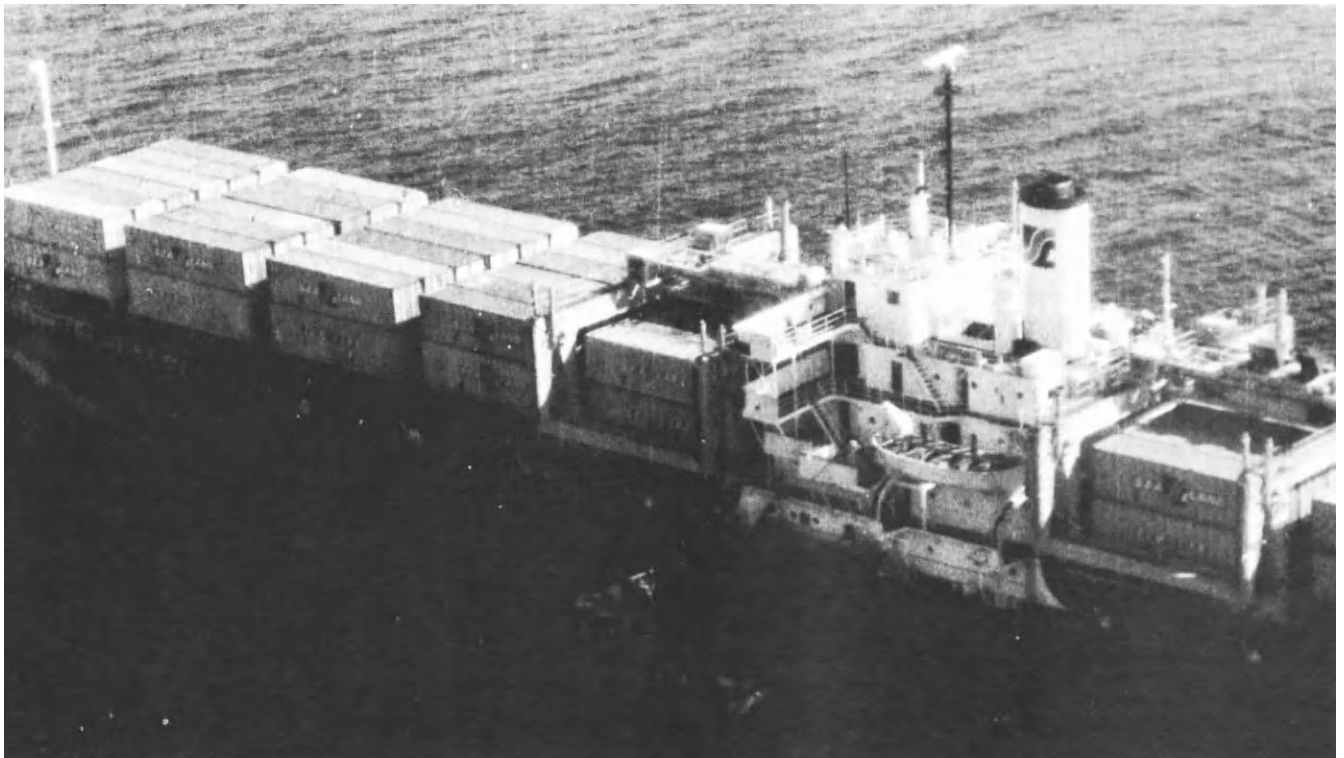
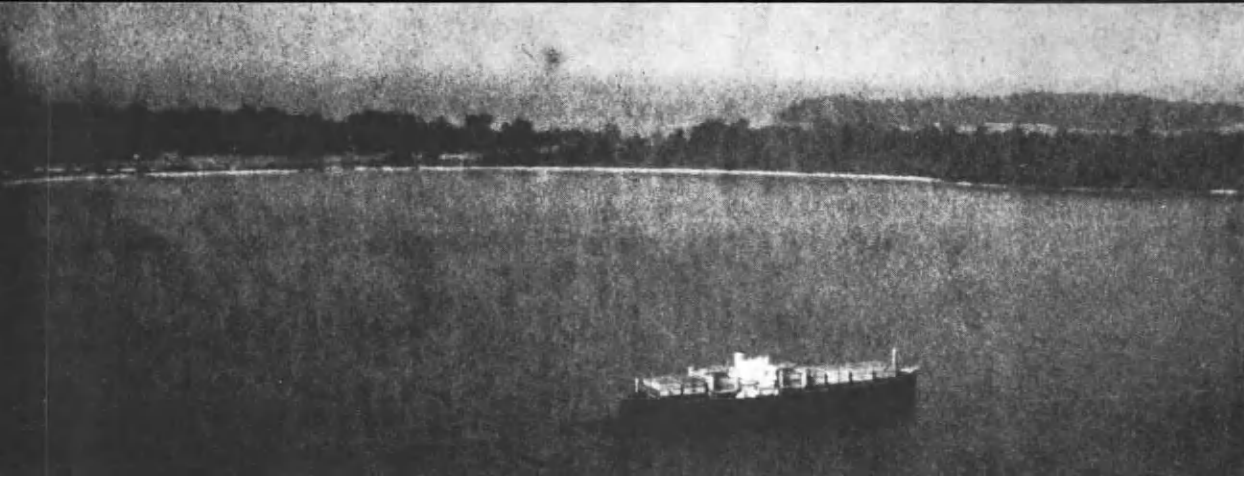
Our initial flight preparations involved having the ready alert crew on the line for a night illumination mission. I also called Lieutenant Commander Le Doux, the officer-in-charge of our detachment at Utapao, and briefed him on the situation. I asked him how soon he could launch an aircraft for night radar and visual surveillance. Knowing he had no ready alert crews or ready alert aircraft and few spare parts, I expected an answer of about four to six hours. I was happily surprised by his response: "Forty minutes after you say go!" Since it takes 20 minutes just to

pump a full load of jet fuel into a bird which contains only a normal ramp load, and since he did not have a crew on alert, I honestly didn't believe his optimistic forecast. At about 2030, Commander Plowman gave us the go. At 2055, the first aircraft was airborne from Utapao, and, at 2115, our ready alert crew was airborne from Cubi Point. The bird from Utapao was on station near Poulo Wai Island at 2128, approximately 90 minutes after our first notification that an incident had occurred in that area.

Poulo Wai is about 60 miles from the mainland of Cambodia and therefore well within the range of fighter aircraft launched from mainland airfields. Our intelligence indicated Cambodia's only tactical aircraft were T-28 Trojans, which the P-3 can easily outperform. At the time, however, we did not know if the Vietnamese were involved in the caper and, if they were, whether they had fighter aircraft in the area. Since we did not have friendly air cover for the early missions, the only advice we could give our plane commanders was "play heads up."

In addition to no air cover, we also were concerned about the antiaircraft (AA) armament on the Cambodian gunboats, inasmuch as we had lost a P-3 to this type of boat during the Vietnam War. Although our best intelligence indicated the boats' heaviest weapons were 20 millimeters, one publication indicated they had 40 millimeters. This discrepancy caused me to set a 6,000-foot minimum altitude restriction on our aircraft when in the vicinity of a possible gunboat and to require a one-mile minimum offset. We were to learn that these restrictions did not hamper our ability to visually monitor gunboat movements, except during periods of low cloudiness. At these minimums, however, we could not discern specific details, such as the lettering on the bow and stern of the *Mayaguez*.

Our first two aircraft arrived on station after dark and discovered several vessels, large and small, within 60 miles of Poulo Wai Island. Systematically each contact was illuminated by parachute



flares and examined visually.

We assumed the *Mayaguez* would be under way toward the Cambodian port of Kompong Som. Two ships in the area met the *Mayaguez*' general description but several others were similar. The most likely candidate was located seven miles off Paulo Wai. She was fully lighted and apparently dead in the water (DIW), but we weren't able to positively identify her.

As the first two aircraft continued to discover numerous vessels and report their descriptions, courses, and speeds, it became apparent that we would have to obtain positive identifying data—i.e., read the name off the ship. Therefore, we directed our third aircraft, which was enroute to the area, to make one pass at 300 feet altitude and 1,000 yards offset from the large vessel DIW off Paulo Wai. It was imperative to obtain visual con-

firmation of the ship's name.

Shortly after sunrise on the 13th of May, a VP-17 P-3 made one high-speed pass down the port side of the 500-foot containership laying-to off Paulo Wai. Numerous photos were obtained of the ship and two gunboats tied up alongside. The P-3 crew read the name *Mayaguez* both on the stern and the bow of the container-laden merchant vessel. While executing the close-in pass, the P-3 crew observed small arms fire from the *Mayaguez* and AA fire from the twin guns on the gunboats. At the same time a crewmember, located near the tail of the aircraft, reported to the pilot that he heard a bullet hit in his area. Consequently, the pilot retired a few miles from the area and inspected his aircraft for low-speed controllability and visually checked it for damage. The plane had been hit by a single .50-caliber projectile

*Dead in the water off Poulo Wai Island, the containership, upper photograph, looked very much like the Mayaguez. A P-3 made a high-speed pass down the vessel's port side and, before the development of the film for the lower photograph, it was immediately obvious that the search was over. The Mayaguez—two gunboats tied up alongside—had been located.*

which caused superficial damage to the vertical stabilizer. The pilot decided it was not significant and elected to remain on station for his scheduled surveillance period.

With the *Mayaguez* located and DIW, the VP mission momentarily focused on keeping tabs on all Cambodian naval units in the area and, secondarily, to

periodically check on the *Mayaguez* and monitor her condition. Shortly after the P-3's close-in pass, the *Mayaguez* got under way and headed straight for Kompong Som on the mainland. At her course and speed we estimated that she would be in port within six hours! We received no authorization, however, to expend ordnance or take any action to stop her from proceeding into the harbor. From our vantage point it appeared as if we were headed for another Pueblo-type incident.

To our astonishment, as the *Mayaguez* passed north of Koh Tang, a small island halfway between Paulo Wai and the mainland, she slowed and made a turn into a cove on the north end of the island. And, then, she anchored about one mile from the island. Near this same time, at approximately 1500, U. S. Air Force tactical air units, F-111s, F-4s, and A-7s, arrived over the *Mayaguez*. Our worries of hostile interceptors engaging the P-3 aircraft were now much allayed.

With the *Mayaguez* anchored, our primary mission again shifted to locating and keeping tabs on all Cambodian naval units. The on-scene P-3 resumed a systematic search of the area within 60 miles of the *Mayaguez* and plotted the positions of several Cambodian gunboats as well as numerous fishing-type vessels.

In the late afternoon of 13 May, during a routine visual check of the containership, the P-3 crew observed a gunboat and a trawler-type vessel tie up to the ship. Many personnel were transferred from the *Mayaguez* to the trawler and were seated on its deck with their heads on their knees. Inasmuch as they appeared to be "Caucasian," we assumed they were the crew members of the *Mayaguez*. Moreover, even though it was impossible to count heads, the pilot's post-mission estimate of 30 to 40 personnel transferred corresponded well with the known size of the crew—40. The trawler, accompanied by the gunboat, departed the *Mayaguez* and went into the beach area on Koh Tang.

Throughout the affair our aircraft reported AA fire whenever they were in the vicinity of a gunboat. Gun positions on Koh Tang also opened fire whenever a plane came within sight of them. Since the maximum altitude of the tracers was about 3,500 feet, we assumed their larg-

est weapons were about .50-caliber.

During the night of 13 May and darkness hours of the morning of 14 May, on-scene P-3 aircraft attempted to keep track of all small boat movements by radar. Additionally, the area around the *Mayaguez* was kept lighted as much as feasible with parachute flares in an attempt to keep this region under visual surveillance. Each time our crew would ignite a new flare it would elicit a Cambodian response consisting of a barrage of poorly directed AA fire. During these night hours, small craft made several trips between the island and the *Mayaguez*. The illumination from the flares, however, did not provide us enough visibility to determine how many people were going aboard or exiting from the ship.

Shortly after dawn on Wednesday, 14 May, a vessel similar to the trawler which we believed had transferred the crew into Koh Tang harbor the previous evening got under way from the island and headed for Kompong Som. Visual surveillance identified Caucasians huddled on the trawler's bow. It appeared our worst fears—that the crew would be transferred to prisons on mainland Cambodia before they could be rescued—were coming to fruition as the little craft plodded northeast toward the harbor. In spite of an impressive firepower demonstration put on by the Air Force Tac birds, which included F-111 bombing runs, an AC-130 pass, the sinking of three patrol boats by F-4 and A-7 fire, and A-7s firing to within ten yards of the boat's bow, the trawler continued on course and disappeared into the haze as it entered Kompong Som harbor. At the Cubi OPCON we assumed the crew of the *Mayaguez* was now in mainland Cambodia.

For the remainder of the day of 14 May, we kept close surveillance on all small craft within about 60 miles of Koh Tang. Near midday we received orders to prevent any gunboats from approaching either Koh Tang or the *Mayaguez*. Our crews coordinated with the Air Force tactical aircraft and vectored several aircraft into positions for kills on the Cambodian gunboat fleet.

During the time our attention was riveted on the small boat transporting the Caucasians to Kompong Som, a ship of Swedish registry, the SS *Hirado*, was

fired upon by a Cambodian gunboat about 50 nautical miles southwest of Koh Tang. By the time this information reached us, many hours had elapsed. Subsequent to the attack, one of our P-3 crews, routinely identifying all surface craft in the area, had flown over the *Hirado*. They photographed her and recorded her position, course, and speed. When we received the news of the attack on the *Hirado* and, concurrently, instructions to investigate the situation, the plane commander, who had observed her "operating normally" several hours after the alleged attack, was debriefing in the Cubi OPCON. Our immediate "mission accomplished" message must have caused some confusion, because we subsequently received a "relocate" requirement for the *Hirado*. I now had a dilemma: the *Hirado* likely would be very near the Bangkok harbor by the time I could get an aircraft to intercept her track. How was I to search the port of Bangkok? Fortunately, Lieutenant Commander Le Doux in Utapao was carefully following the message traffic and was several steps ahead of me. He quickly sent me a message indicating as a reference a telephone call between him and port officials in Bangkok. It essentially said "ref. a indicates SS *Hirado* in port Bangkok; master reports conditions normal."

During the night hours of 14 May, several gunboats were detected closing the *Mayaguez*. With the P-3s providing radar information and flare illumination, the Air Force Tac birds prevented any boats from reaching the ship or the island.

Our crews, as well as we in the OPCON, were cheered considerably during the night of 14 May when the first surface units of the U. S. Seventh Fleet entered the Gulf of Siam. Throughout the night, the on-station P-3s could talk on short-range radio to ComDesRon 23 embarked in the USS *Harold E. Holt*. Close behind the *Holt* was the guided-missile destroyer USS *Henry B. Wilson*, followed by the attack carrier USS *Coral Sea*. While supporting Air Force tactical aircraft the on-scene P-3 passed the surface picture data to ComDesRon 23.

Shortly after dawn on 15 May a coordinated attack to secure Koh Tang and the *Mayaguez* commenced. Concurrently, air strikes began on the mainland

harbor facilities and airport which could be utilized to oppose our landings. U. S. Air Force helos, with the Marine assault troops embarked, took heavy fire as they approached the beach in pairs. During these operations our P-3 crew orbited nearby and watched helplessly.

About two hours after the assault began, the P-3 picked up a small target exiting Kompong Som harbor. The pilot reported the contact to ComDesRon 23 and to us in the OPCON. The

on-scene commander ordered the P-3 to immediately close and visually identify the craft.

I never expected the report that followed: "Thirty Caucasian persons on board waving white flags." Within a few minutes the *Wilson* reported that all 40 crewmembers were on board the trawler and in good condition.

Now that we had both the ship and the crew back under our control, the Marines were ordered to withdraw from

Koh Tang. But, due to the intense fire, even though they were closely supported by the *Wilson* and tactical aircraft, it took the remainder of the day to extract the troops from the island.

For the next two days we kept P-3s in the Gulf of Siam and monitored the sea traffic while remaining well clear of all Cambodian territory. No Cambodian gunboat activity was noted. On 18 May, Task Group 72.3 reverted to its normal patrol pattern.

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## The Destroyer Escort's Skipper

Commander Robert A. Peterson, U. S. Navy

The USS *Harold E. Holt* (DE-1074) was operating in the South China Sea, southwest of Subic Bay, late in the afternoon on 12 May 1975 when word was first received of the *Mayaguez* seizure. Soon after, we were directed to proceed at best speed to the vicinity of the *Mayaguez*. Fortunately, Captain D. P. Roane, ComDesRon 23, and his staff material officer, Lieutenant Bob Lemke, were embarked in the *Harold E. Holt* because their participation in the *Mayaguez* rescue operation was to be at least partially responsible for its success.

As we closed the *Mayaguez*, the volume of message traffic rapidly increased and soon our communications capabilities were being taxed to the limit. We were receiving a constant flow of messages on the location of the *Mayaguez*, where she had been fired upon and boarded, locating data on the crew, and the status of gunboat activity in the area. From the information provided by P-3 aircraft, we knew the *Mayaguez* was anchored near an island named Koh Tang, approximately 25 miles southwest of Sihanoukville, Cambodia. Further aircraft reports revealed that personnel who appeared to be Caucasian had been taken from the ship by boat. Information as to the boat's destination was sketchy. Some reports indicated that the crew had been taken ashore on Koh Tang. Others had the crew proceeding to the mainland.

While the on-scene reports came in we established a direct voice circuit to the CNO switchboard. We also were receiving messages detailing—as much as possible, based on the information

available at the time—our mission. Depending upon existing on-scene conditions, the *Harold E. Holt* was to either have a landing party board the *Mayaguez* and disable her propulsion capability or embark a nucleus crew and take her under tow. Regardless of the eventual option that would be carried out, it was emphasized that we were to utilize only our own resources in formulating a plan of action.

We were able to identify the *Mayaguez*' characteristics from available intelligence publications to assist with the formulation of our plans. Meanwhile, we continued to receive information on the captured ship's location from aircraft flyovers. (Later we were to determine from her engineering bellbook that the *Mayaguez* had been captured and ordered by Cambodian personnel to anchor, and the following day, 13 May, ordered to get under way to yet another anchorage.) Satisfied that the reported location of the *Mayaguez* was valid, we finalized plans on how to approach and board the vessel.

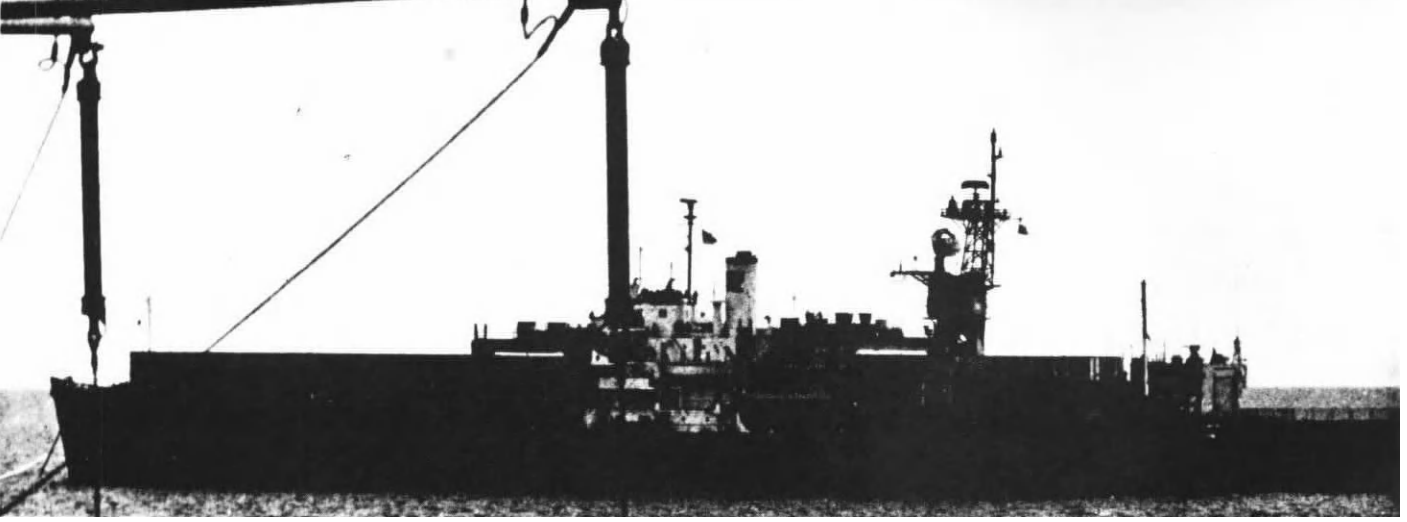
Our initial plan was to embark a boarding party, using our ship's boats. Aircraft patrolling the area reported several hostile gunboats in the vicinity of the *Mayaguez* so we expected to have to fight our way in. Our biggest concerns were: (1) how much resistance would we encounter from on board the *Mayaguez*; and (2) how much hostile fire we would receive from Koh Tang. We would later find that the *Mayaguez* was out of small arms range from Koh Tang, although the Cambodians had weapons

that could have caused us some problems had they used them.

With underway watch condition III set and weapon systems ready, the *Harold E. Holt* arrived on the scene during the late hours of 14 May. We then were informed that a detachment of Marines, some Military Sealift Command (MSC) civilian personnel to man and steam the *Mayaguez*, Navy personnel, and an Air Force EOD team to dispose of any booby traps on board, were to be flown out to us early on 15 May from Thailand. We also were informed that after embarking these additional personnel, we were to seize the *Mayaguez*. Additionally, intelligence information received on the evening of 14 May indicated that the *Mayaguez*' engineering plant might be in operation. If this was the case, it was probable that some of the crew was on board; and if she got under way, we were to blockade and prevent her from reaching the mainland of Cambodia.

At first light on 15 May, three Air Force "jolly greens" arrived and offloaded 59 Marines, a six-man MSC nucleus crew, and EOD personnel. As soon as we had our passengers, we stationed general quarters and started in for the *Mayaguez* which lay at anchor about 15 miles to the east.

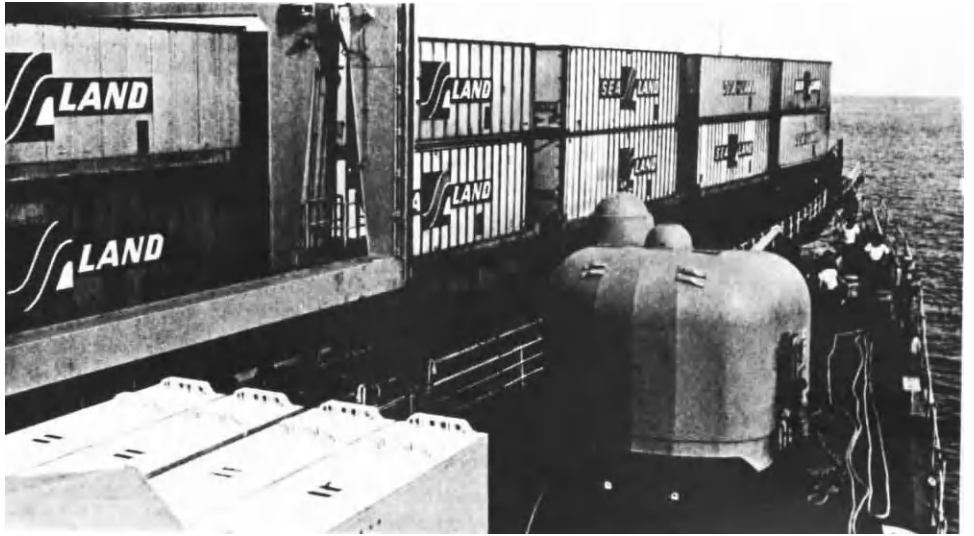
My executive officer, Lieutenant Commander John Todd, and our small arms fire team leader, Coast Guard Officer Lieutenant (junior grade) Jim Richardson, worked swiftly with the embarked Marines in formulating plans for and stationing the contingent of



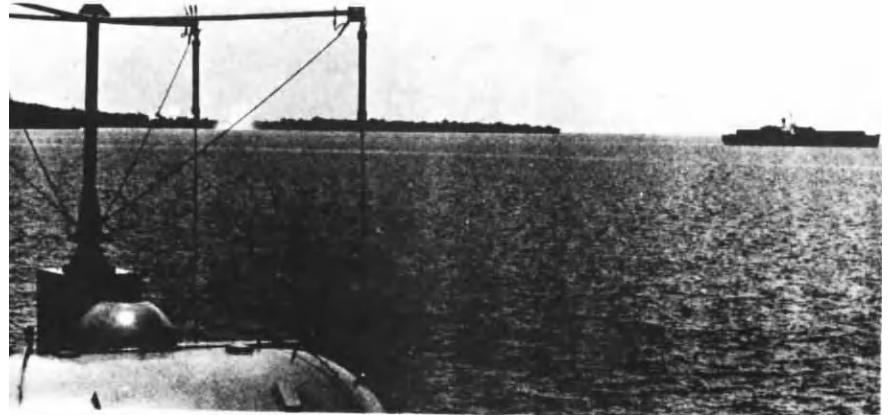
W. K. STEWART



U. S. NAVY



U. S. NAVY



W. K. STEWART

*His ship tied up alongside the Mayaguez, top photograph, the skipper of the Harold E. Holt conferred with one of the Military Sealift Command's civilian personnel who had volunteered for the rescue mission. Then, supported by fire from the Henry B. Wilson, right, from whose deck many of these photographs were taken, the Harold E. Holt got under way with the Mayaguez in tow.*



W. K. STEWART





U. S. AIR FORCE

Marines about our topside areas for fire team support as we approached our objective.

When we learned the previous evening that we would receive the Marine support for the operation, we decided to take the *Harold E. Holt* alongside the *Mayaguez* rather than use small boats. Therefore, all fire-team personnel could be devoted to topside positions on board in support of installed weapon systems—one five-inch gun forward and our basic point defense missile system aft.

Since we assumed that there would be Cambodians on board the *Mayaguez*, plans were made to have Air Force aircraft air-drop riot control agent (tear gas) on the *Mayaguez* ten minutes before boarding operations were to commence, followed five minutes later by aircraft strafing runs. These two elements, together with other unknowns, such as what type and the extent of resistance we would encounter from personnel that might be on board, were all critical areas of concern for all hands on board the *Harold E. Holt*.

One additional element also was critical—that of maneuvering alongside. Admittedly, that is what I had been practicing as a profession for years, and I believed I had achieved a fairly high level of proficiency and confidence. However, normally when mooring alongside another ship or pier, line handlers are available to receive your mooring lines as they are passed over. Also, when mooring alongside another ship, she will not usually be swinging free at anchor or a buoy, but rather will be moored in such a fashion as to preclude a mooring in motion. As the many facets of this entire operation passed through my mind during the next few hours, this particular problem seemed to stay at the front.

I would have to maneuver the *Harold E. Holt* into a position where the Marines could board while alongside and do it the first time. Obviously, we were also concerned about the match-up of the freeboard of both ships. Fortunately, the 01 deck level of the *Harold E. Holt* did align fairly even with that of the main deck on the *Mayaguez*. There would certainly be some additional problems involved if I didn't get alongside on the first approach and had to make a second attempt; but I didn't want to think about it. We planned to have some of the first Marines that boarded the *Mayaguez* handle our lines.

So, with gas masks and a Marine boarding team at the ready, the *Harold E. Holt* started her approach on the *Mayaguez*. The *Mayaguez* was lying at anchor nearly parallel to and approximately 3,000 yards off the northeast shoreline of Koh Tang. Her decks were piled high with containerized cargo fore and aft of her midship superstructure. The wind was blowing across her decks from port to starboard at about 10 knots. I decided to make the approach on the *Mayaguez* with my portside to. Although, with the existing wind conditions this meant we would probably receive residual tear gas, it would put the *Mayaguez* between the *Harold E. Holt* and hostile positions on the island. More important, this would afford the easiest approach for a single-screw ship.

I informed Commodore Roane that I expected to be alongside in approximately ten or 15 minutes and he called for the tear gas drop. In a matter of moments, A-7s made what later proved to be a perfect drop of riot control agent bomblets from stern to stem over the *Mayaguez*. Five minutes later, with adrenalin pumping, heart pounding, and sweat rolling down my face under an

Mk-5 gas mask, I called for the strafing run. At this time I estimated my range at 200 yards astern of the *Mayaguez*. A few moments after I requested the strafing run, I could see that I had been too late with the request and a run now would probably hit us as well as the *Mayaguez*. I called for an immediate cancellation of the run.

With the doors to the pilot house closed, the level of heat and humidity inside defied description. Trying to get voice commands to the helm and even see the helm through a gas mask while maneuvering alongside was an interesting and challenging new experience for this shiphandler. With a lot of the Lord's help, I was able to ease alongside without damage to either ship and placed my bridge nearly adjacent to that of the *Mayaguez*.

Naturally, throughout the approach all eyes searched the *Mayaguez* for any sign of activity. As soon as we were alongside, Lieutenant Commander Todd sounded "Marines over the side" and 59 Marines began a boarding evolution unheard of in modern Navy times. Simultaneously, *Harold E. Holt* sailors moved from below decks to pass mooring lines to the Marines embarking in the *Mayaguez*. A well-organized Marine contingent under the direction of Major R. E. Porter searched out every space of the *Mayaguez* and within an hour reported her secure. The *Harold E. Holt* passed a set of colors to the Marines. As Major Porter raised the Stars and Stripes on the *Mayaguez*, I ordered attention to port.

The *Harold E. Holt's* deck force sailors now set out hurriedly preparing the *Mayaguez* for towing. Her engineering plant was discovered to be in a completely cold state. *Harold E. Holt* machinists, boiler technicians, and electri-



cians assisted the MSC engineer with preparations for plant light-off but not with much success. Without power in the *Mayaguez* it was impossible to walk out anchor chain for towing, so a towing bridle was fabricated using one of her headlines.

Although the cross-deck wind had removed the heaviest concentration of tear gas and masks were no longer required by most topside personnel, personnel in below deck areas, without any benefit of ventilation, still required masks.

Finally, with our towing hawser made fast, we were ready to get under way. Since we were without a scope of anchor chain to provide the desired catenary in the towline, our speed buildup had to be gradual so as not to put excess strain on the towing hawser. To control this operation I stationed my exec on the fantail where the action of the towline could best be observed, with orders that once we were clear of the *Mayaguez*' side he was to direct orders to main engine control. I retained control of the rudder at the pilothouse.

The division of labor proved success-

ful. After our deck seaman stationed on the *Mayaguez* forecastle cut the anchor chain with a portable oxyacetylene emergency cutting outfit, the *Harold E. Holt* was under way with the *Mayaguez* in tow. Without the use of a scope of anchor chain in the towline, our speed was restricted to four or five knots. Except for the few anxious moments when we first got under way and the *Harold E. Holt* presented herself to the enemy on Koh Tang from behind the cover of the *Mayaguez* and her high deck load, this speed restriction was not a problem.

Not long after we were under way with the *Mayaguez* in tow, we learned that the *Henry B. Wilson* had retrieved the captured *Mayaguez* crew. She returned to our vicinity and sent the Master, Charles Miller, and his crew back to their vessel on a small boat. Soon after he was back on board, Captain Miller called me by bridge-to-bridge radio, offered me his thanks and a round of beer for my crew, and said he would soon have steam up and be ready to proceed on his own power. Later in the afternoon, the *Mayaguez* reported she was

able to proceed under her own power and our deck seaman cut the towing bridle on the *Mayaguez* forecastle. We retrieved our towing hawser and accompanied the *Mayaguez* until she was approximately 12 miles from any land.

As we were about to send a small boat to the *Mayaguez* to retrieve our engineers, deck seamen, and the Marine security detachment, we received word that we were to return immediately to the vicinity of Koh Tang to assist the *Henry B. Wilson* with the extraction of Marines from the island.

We returned and took station near the island as directed by the airborne evacuation coordinator. Our mission then became one of trying to assist the airborne spotters in the location of Marines on the island and of providing a landing platform for the helicopters pulling them out. By late evening, when the operation ended, we had received about 35 Marines from helicopter extraction efforts.

The *Harold E. Holt* then departed Koh Tang and proceeded to pick up the Marines and ship's company personnel left on board the *Mayaguez*.

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## The Company Commander

Captain Walter J. Wood, U. S. Marine Corps

My men and I, First Battalion of the Fourth Marine Regiment stationed in the Philippines, first learned of the Cambodian seizure of an American vessel on 12 May. Information concerning the ship's capture was rather sparse and it wasn't until the next morning that things began to pick up. At approximately 0800, a battalion briefing was held where the company commanders and section heads were instructed to prepare their men for immediate embarkation.

By 1100, my troops were ready to move out. Finally, at 1930, my battalion commander, Lieutenant Colonel C. E. Hester, ordered me to organize two platoons and a headquarters element, total force size to be 120 men, and be prepared to move out by 2300. He didn't tell me where we would be going, only that we would be leaving. By 2200, I had 120 Marines standing by in full

battle gear, chow drawn, weapon and communication equipment checked, and rosters prepared.

At 2230, I was called to an operational brief to which I brought my two platoon commanders, 2nd Lieutenants E. R. Whitesides and Joe Flores, who would join me on the mission. At this brief, we were instructed as to the nature of our mission and the tentative plan for the recapture of the SS *Mayaguez*. Additionally, I was informed that a headquarters element was being attached to my unit, comprised of Major R. E. Porter, the battalion XO, and Captain J. P. Feltner, the assistant operations officer. Finally, we were instructed that we'd be briefed in detail concerning the operation at Utapao, Thailand.

Following a last-minute inspection of the troops and their gear, we departed for Cubi Point airstrip by 2330. During the three hours since we'd been alerted,

our battalion S-4 (logistics officer, Captain Bill Harley) worked feverishly and delivered some 5,000 pounds of ammunition to the airstrip; the ammo was a mixed bag—everything from 5.56 for our M-16s to satchel charges and gas grenades. At the airstrip we picked up six MSC and six Navy personnel who volunteered for the mission of getting the *Mayaguez* under way once we had seized her.

By 0110, our gear and ammunition had been loaded onto an Air Force C-141 and we began the four-hour flight to Utapao, Thailand. In flight, Major Porter, Captain Feltner, and I formulated a list of questions concerning the *Mayaguez*, such as what was her cargo, were photos available, etc.

We landed at 0505, on the 14th of May, and were met by Air Force buses and taken to a nearby mess hall. But before my troops ate, an Air Force colo-

nel informed me that 0610 had been established as a possible launch time for us. Back to the airstrip. Major Porter, Captain Feltner, and I were called into a briefing, and we saw pictures of the *Mayaguez*. Additionally, we were instructed and questioned as to the feasibility of a helo assault directly onto the deck of the *Mayaguez* and were given needed information on the logistical and communications aspects of the operation. During the course of the brief, we had attached to our unit two Air Force explosive ordnance types and an Army translator.

Since the *Mayaguez* was a fully-loaded containership, a direct helo assault on her was possible—two landing points were available, one forward and one aft. As to her captors, we were informed that approximately 30 Cambodians were on board the vessel armed with automatic and antitank weapons. This information had been gleaned from photos that were taken by P-3s which were constantly on station above the vessel and Koh Tang. We also received a position report on the vessel—she was anchored approximately 1,100 meters off the north shore of Koh Tang—and infrared photos showed her plant to be "cold." The vessel could not move on her own power for some three hours due to boiler light-off time and the like. The one question that constantly troubled us was the location of the crew. Since the crew still could be on board, fire discipline in the actual assault of the *Mayaguez* was stressed.

As the brief progressed, we were informed that the launch had been postponed until 0910, and then again until 1230, and in our discussions we decided we could not effectively launch to the *Mayaguez* after 1415. The plant on the *Mayaguez* was cold and therefore no artificial light could or would be available to us. We felt that we needed at least three hours in order to seize and thoroughly search the vessel, and naturally we wanted the aid of any and all illumination. The helicopter flight which would have to cover some 270 miles from Utapao to the *Mayaguez* would take approximately two hours. Keeping in mind that evening nautical twilight would occur at approximately 1915, it was understandable why we had to launch by 1415.

For our mission we were assigned six Air Force CH-53s of the Jolly Green Giant variety. These 53s had been constructed as search and rescue helos for operations in hostile environments and were equipped with three 7.62-mm. miniguns capable of firing in one of two modes—either at 1,000 or 2,000 rounds per minute. Additionally, these helos were constructed with some 4,000 pounds of armor plate, which limited their troop-carrying capability. A normal Marine Corps CH-53 can carry 35–45 combat-loaded Marines, but due to their equipment and armor plate, these helos would be able to transport only 20–27 Marines. The one distinct advantage these helos held was that they had an aerial refueling capability, without which the mission could not have been initiated. At the conclusion of the brief, we were instructed to reboard buses and stand by at a nearby gymnasium.

At the gym, Major Porter, Captain Feltner, and I drew up the actual assault plan for the *Mayaguez*. The last actual ship boarding conducted by Marines had taken place in 1826, so none of us had any experience in drawing up ship-boarding procedures. Our final plan could be categorized as being very much akin to a raid; the principal exception was that we did not intend to withdraw from the objective area—the SS *Mayaguez*. But, as in a raid, our plan called for assault elements, search elements, a keen dependence on fire control, surprise, firepower, and violence of action.

Having been on board vessels similar to the *Mayaguez*, we recognized that we had to seize as quickly as possible four critical areas—the bridge, engine room, and main deck fore and aft. Once these areas were seized the ship could then be cautiously and thoroughly searched. Once our plan was formulated we organized our unit into two echelons, the first consisting of four assault teams. The second echelon would contain one helo with reinforcements to be used as needed and the sixth bird would contain the six MSC personnel who would be landed once the ship was secured.

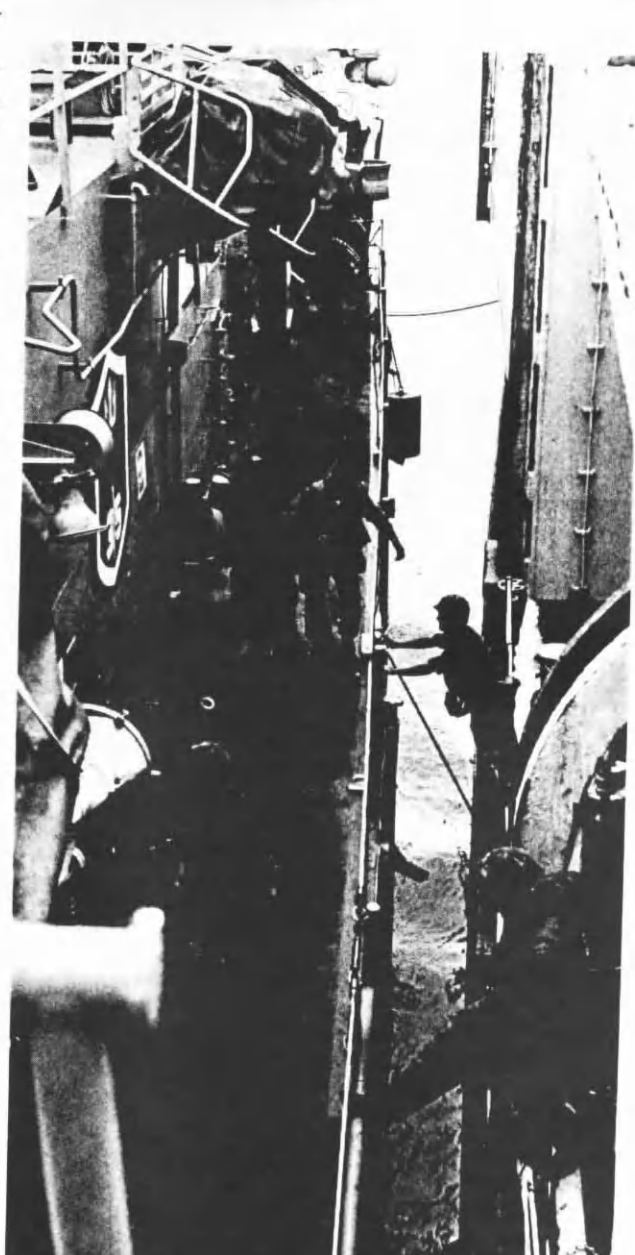
Our planned scenario was as follows: (1) The first helo would land on the forward portion of the vessel and its team, under my command, would clear the tops of the containers and assault across the containers and seize the bridge.

(2) The second team, under the direction of Captain Feltner, would land, proceed into the secured bridge, and enter and clear the superstructure. (3) The third team would land forward, proceed down to the deck, and clear it fore to aft. (4) The fourth team's mission was to land and move into the bridge and proceed directly into the area of the engine room.

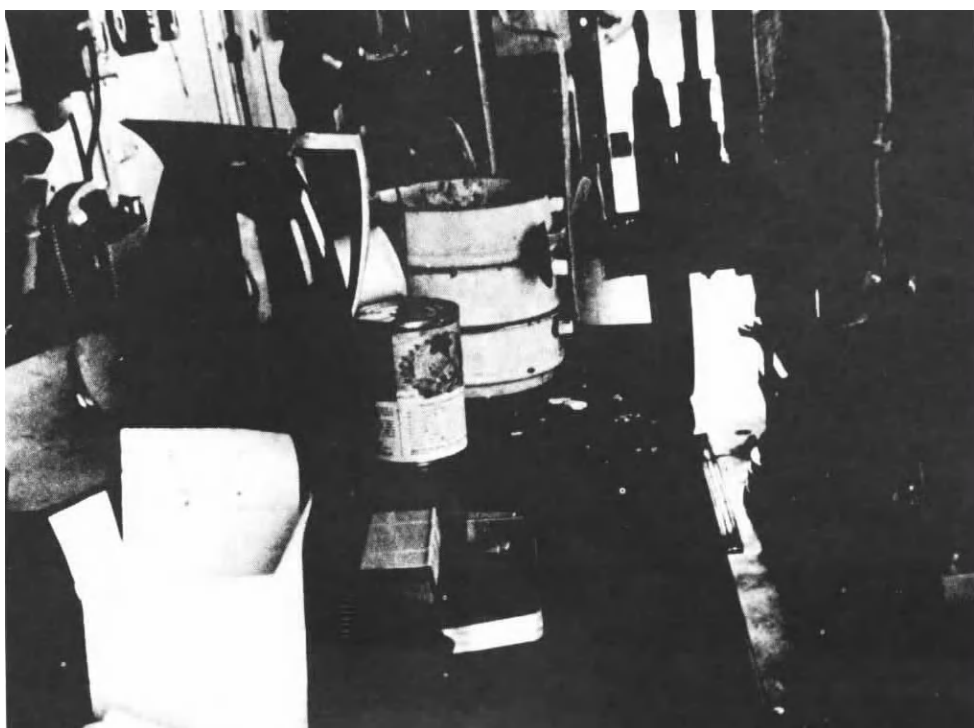
We proceeded to brief our element and squad leaders, rehearsed as best we could, and finally held a detailed brief for our entire unit as to the overall scheme of the operation. The troops were told that the assault, in our best estimate, would undoubtedly be successful, but the price of success would be dear. As I might have expected when asked if they had any questions, only one Marine spoke up: "Sir, when do we eat?" It was obvious my Marines were ready to fight and die if need be, but not on empty stomachs.

At approximately 1215, my men, now with full stomachs, were bused back to the airfield where we staged aboard pre-designated aircraft and once again assumed the all-too-familiar "stand-by status." During this period a pilot brief was conducted as to the plan and sequencing of the assault and various support roles for the helos' miniguns were discussed and plans formulated. The launch order was never received and at 1415 we dismounted our helicopters and made our way back to the gymnasium. After the evening meal, briefs of the mission were once again held and the need for fire discipline and target identification was stressed to all hands.

At 2200, Major Porter was called to another brief at base operations. During this brief the operation plan as executed was formulated and somewhat finalized. Rather than merely an assault against the *Mayaguez*, the operation took form as a joint seizure of the *Mayaguez* and nearby Koh Tang, where the ship's crew was believed to be held. In order to provide the assault unit—2nd Battalion, 9th Marines—with sufficient helo assets for the operation, our assets were cut from six to three helicopters, necessitating a major reduction in our assault force. Additionally, it had been decided that rather than risking a direct helo assault onto the *Mayaguez*, my troops would be flown to the *Harold E. Holt*



*The original plan had called for the Marines to recapture the Mayaguez by direct helicopter assault, but, at the eleventh hour, it was decided to board from the deck of the Harold E. Holt. Following a gas strike by two Air Force A-7s, the Marine boarding began and, instead of the 30 armed Cambodians expected to resist them, the Marines found only cold foodstuffs.*





ALL PHOTOS U. S. NAVY

and would board the *Mayaguez* from her. Liftoff for the operation was set for 0400 on 15 May.

Necessarily, my unit's actual assault plan was modified to accomplish the same goals, securing the vital areas of the ship, but in a different manner and with fewer personnel.

Reveille sounded at 0230, and within a few minutes of 0400 our 53s were taxiing for takeoff.

At 0602, my helo hovered over the incredibly small helo pad on the *Harold E. Holt*. Due to the size of the pad, the helo could only set down one set of its wheels, necessitating our departure through the starboard doorway of the 53. This embarkation-debarkation evolution took 15–20 minutes, and, by 0630, the *Harold E. Holt* began moving toward the *Mayaguez*.

At approximately 0710–0715, as planned, with the *Harold E. Holt* astern of the *Mayaguez*, two Air Force A-7s

delivered an accurate gas strike on the *Mayaguez*. The entire vessel was clouded in gas; the word was passed to don gas masks and prepare for boarding. Hundreds of searching eyes peered at the *Mayaguez*, but there was no sign of enemy activity. While the destroyer escort was still some distance from the *Mayaguez*, one of my men, Corporal C. R. Coker, jumped to the deck of the *Mayaguez*, and I followed.

Lines were thrown from the *Harold E. Holt* to the *Mayaguez*, and Corporal Coker and I rushed to secure them. As we moved forward, I turned to check the positions of my other Marines but, much to my surprise, I discovered that no one else had boarded, for as we had jumped, the two ships had drifted apart, and indeed the two ships were now some 25 feet apart. Motivated partially out of loneliness, Corporal Coker and I worked feverishly at the lines and the two ships were made fast. My Marines

*After the totally deserted ship was searched, the author helped raise the national colors. Thereafter, some Marines returned to the escort, pictured on opposite page and above, while the detachment remaining on the Mayaguez got the opportunity to rest and think about what might have happened.*

then boarded. Teams moved to their predesignated areas, and the vessel was thoroughly searched.

Led by Corporal Coker, a squad of Marines made their way to the bridge where they found foodstuffs that the Cambodians had left behind in their hasty flight. Contrary to many reports, however, the food was not warm. With the aid of flashlights, Sergeant W. J. Owens' squad moved down several

gas-filled decks and conducted a thorough search of the engine room. Simultaneously, the remainder of the force began a fore-to-aft search of the main deck and cargo containers. Containers, opened by Cambodians, were searched, as was the remainder of the superstructure. Except for some superficial gear, the *Mayaguez* was basically undamaged.

As the operation progressed, it became obvious that the vessel had been abandoned by her captors.

Finally, at 0825, with the Marines on Koh Tang still heavily committed, the Colors were raised over the *Mayaguez*.

At approximately 0935, I received word from Major Porter that some of my Marines might be needed ashore, so

I transferred to the *Harold E. Holt* with one platoon to wait for a helicopter that would never come. Within 36 hours all of my Marines would be transferred to the guided-missile destroyer *Henry B. Wilson* for our return to Subic Bay where an unexpected welcoming committee greeted us.

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## The Battalion Operations Officer

Major J. B. Hendricks, U. S. Marine Corps

By 12 May, Phnom Phenh and Saigon were evacuated of all U. S. citizens. Vientiane was perking but quiet. Marine units at Okinawa bases had stood down from their various readiness conditions and naval and Marine forces in the South China Sea were on the way to, or already in, the Philippines and Okinawa. The Second Battalion of the Ninth Marine Regiment (2/9) was beginning the long complicated task of reordering of training and bringing its more administrative-type training up to the standard of combat training already completed. The officers and men of 2/9, either in the field or buried beneath staff paperwork or support tasks, took little notice of the Armed Forces Radio and Television Service news broadcasts. So we missed the first report of the seizure of the Sea-Land Service, Incorporated, containership, the SS *Mayaguez*.

At 1400 on the 13th, I received a call from the 9th Marines operations officer, Major David Quinlan, and was requested to report to his office. When I reported he informed me and the operations officer of 3/9 that we were to prepare to "go somewhere to do something." 2/9 was the first on the step, and 3/9 was to be second. After a quick conference with the battalion commander, Lieutenant Colonel Randall W. Austin, and the battalion's executive officer, Major Lawrence R. Moran, Larry and I were off to prepare for the battalion's deployment. At this time all battalion units were in field training areas throughout central Okinawa. Company commanders were briefed on the alert and had their rear echelons prepare for movement. Scarcely a month old, 2/9 was already an old hand at alerts. We had been alerted

several times for both the Phnom Phenh and Saigon evacuation operations.

At 2030 that night, Lieutenant Colonel Austin received notice that the battalion was to move immediately to Kadena Air Base and be prepared for airlift by dawn. Lieutenant Colonel Austin gave the order and, by 0145 the morning of the 14th, all units had returned from the field, stored their personal effects, saddled up for a long trip (and a long stay if necessary), and were departing our home camp for the trip to Kadena. By 0400, the battalion and attachments were at Kadena, and U. S. Air Force C-141 Starlifters and C-5A Galaxies were arriving. The battalion was reinforced by a heavy mortar battery, engineer, communications, and other attachments, and became Battalion Landing Team (BLT) 2/9.

At 0615, the first aircraft departed Kadena. By late Wednesday afternoon the BLT was encamped at Utapao Air Base in Thailand.

Lieutenant Colonel Austin received his mission from the Marine Task Force Commander (termed Ground Security Force by the Air Force) who was already at Utapao. Our mission was "to seize, occupy and defend, for a period of about 48 hours, the island of Koh Tang in order to: (1) Conduct a search for crew members of the *Mayaguez*, some or all of whom were thought to be on the island. (2) Deny the use of the island as a base of fire from which to interfere with the re-taking of the *Mayaguez*."

That afternoon Lieutenant Colonel Austin, accompanied by me and other battalion officers, took off in a borrowed twin-engine, U. S. Army aircraft for a reconnaissance flight over Koh Tang.

The island is about four to five miles long, heavily foliated except for a small cleared strip through the northern part of the island, with a cove and a beach on both the east and west sides of the island. The *Mayaguez* sat DIW about one mile northeast of the island.

A reinforced company from BLT 1/4 had arrived from the Philippines and was to form the boarding party to actually seize the ship. This force was also under the command of the Marine Task Force Commander.

By 2130, the plan for the assault of the island was completed and orders were issued to BLT units. Company G was to make the initial assault, and Company E was to follow them in the second wave. A command and fire support group would accompany the first wave. Briefings informed us that there were 20-30 Khmer Rouge irregulars on the island, possibly reinforced by whatever naval support personnel that were there associated with the gunboats sighted in the area. Koh Tang was over 200 miles away which meant that the second wave could not arrive until at least four and one-half hours after the first wave had been inserted. As the boarding of the *Mayaguez* was to take place simultaneously with the assault on the island, available Air Force helicopters had to be allocated between the two forces. Three CH-53 heavy helicopters were to transfer the boarding company to the *Harold E. Holt* for alongside boarding. The remaining eight were to make the assault, six in the eastern zone and two into the western zone. Pre-assault airstrikes were prohibited and use of riot control agent was ruled out because both operations could threaten the



safety of the *Mayaguez* crew members.

At 0356, the morning of 15 May, the order to conduct the assault was received. It was a long, cold flight over the Gulf of Siam. Officers and men sat on the floor of the helicopters and Air Force gunners rested at their miniguns.

At 0607, the assault commenced. As the helicopters carrying our command group hove into view of the island, we could see a column of dark smoke rising from the eastern zone. At first we were encouraged because we thought the ban against pre-assault air strikes had been lifted. We soon learned, however, that the assault force had made its down payment on the recovery of the crew of the *Mayaguez*—11 Marines, two Navy corpsmen, and the Air Force copilot lost their lives in that downed aircraft.

Another aircraft also was down in that zone, but we later learned that the crew and the Marine platoon aboard were holed up in the nearby rocks and trees and ably defending themselves. The survivors of the first aircraft were swimming away from the intense small arms and automatic weapons fire that was raking the beach landing zone. As they swam, they towed their wounded, and one of the battalion's forward air controllers, Lieutenant Terry Tonkin, using a survival radio from his vantage point in the water, directed and adjusted air strikes against the beach.

The remaining aircraft were requested to place their troops in the western zone. Sporadic fire was being taken by the aircraft landing there, but entry was still possible. Two aircraft inserted their loads as the volume of fire in the western zone picked up. Another deposited part of its load after repeated aborted approaches, and the two other helos could not even get in because of the now rapidly increasing intensity of small arms and mortar fire into the zone.

Aboard the helicopter carrying the command group, Lieutenant Colonel Austin directed that we find another zone near the western zone, but out of the contended area. An attempt was made to insert one aircraft full of troops and then the command and fire support group. The troop carrier was forced to withdraw, but the command group made it in. All forces going ashore for the next five-and-a-half hours were now on the ground.

The forces on the island were fragmented into three groups. One other small party was swimming out to sea. The first two aircraft into the eastern zone were down and destroyed. Another CH-53 had crashed into the sea after offloading its troops on the western side (with the loss of one crew member). Two aircraft had been shot up so badly that they limped back toward the mainland with their troops still aboard and made emergency landings far from Utapao. Three more returned to Thailand or assumed search and rescue duties after discharging all or part of their troops.

The first order of business on the ground was to reorganize. After a quick appraisal of the situation, Lieutenant Colonel Austin decided to get supporting air strikes going and then establish a linkup of the forces on the western side of the island which were then some 1,200 meters of rugged rock and jungle apart. The battalion air liaison officer, Captain Barry Cassidy, commenced coordinating the air strikes of the Air Force A-7s and the AC-130 gunship. The lack of gridded maps, however, hampered all fire coordination efforts.

The fate of the platoon on the western side was not clear, as the only communications it had was a survival radio. It soon became apparent that the 60-plus Marines in the originally designated western zone could not break through the intense opposition between them and the command and fire support group to the south. The senior officer in the zone, Company G's executive officer, Lieutenant James D. Kieth, had consolidated his force in the area and was controlling air strikes from his area of the beach. His force had already had one man killed and several wounded. The Marines there were engaging the Khmer Rouge defenders at grenade range and the exchange of small arms fire was intense.

The command and fire support group then commenced to move north to effect a linkup with the force holding the western zone. Using a hastily formed fire team as point (the command and fire support group had been intended to land with the strongest force and rely upon it for protection), the southern group moved north along the rocky and

densely foliated shore. Clerks, radiomen, and mortarmen demonstrated their infantry proficiency as they fired and maneuvered to drive the enemy from his prepared positions along the shoreline over the entire distance of the 1,200 meters. The main tactic of the southern group was to advance aggressively to deny the defenders the knowledge that it consisted of only 27 Marines and Navy medical personnel. Captured Khmer Rouge weapons were assimilated into the attacking force and its firepower was greatly increased as it moved along in the attack.

When the two forces were in sight of one another, Lieutenant I. I. McMennamin's 81-mm. mortars went into action. Quickly spotting targets, the mortarmen commenced to pound hostile positions along the coast and into the jungle. An alert observer spotted movement through the leaves of a tree each time a mortar, which was pounding Lieutenant Kieth's positions, fired. A quick fire mission silenced the position and a methodical pounding of the enemy defensive positions began, along with an advance by a now beefed-up point force. Our mortar rounds were impacting scant yards in front of Lieutenant Kieth's Marines. This searching fire was later discovered to have raked the main enemy position, knocking out a 90-mm. recoilless rifle position which would have wreaked havoc on any assault. While the BLT's mortars were pounding Khmer Rouge positions, the second wave of approximately 100 Marines of Companies G and E arrived in the western zone. With the impact of the final rounds from our mortars, the now reinforced troops in the perimeter assaulted through the Khmer Rouge, driving them from their positions. At 1230, the drive immediately linked up with the command group which was engaging the rear of the Khmer Rouge defenses.

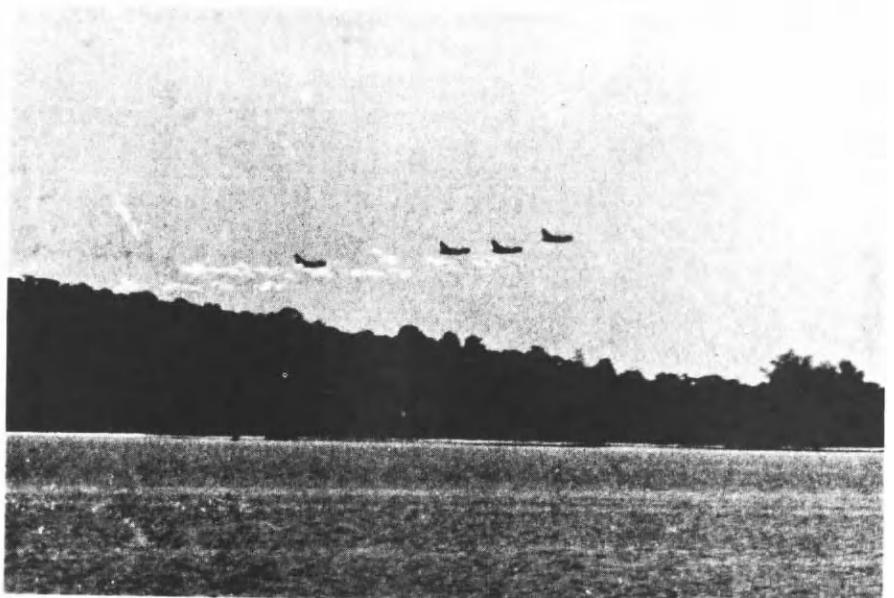
A defense perimeter was immediately established to hold the western zone. Command post and machine gun and mortar firing positions were established; reports were made to the rear; logistical requests were dispatched; and a field aid station was established. Air support was brought in even closer as our troops dug in. An Air Force forward air controller arrived to direct the air strikes. The landing force was then set to either hold



DEPARTMENT OF DEFENSE



J. RICHARDSON



W. K. STEWART

*As the fierce fighting raged between the Marines and the Khmer Rouge on the heavily foliated, northernmost peninsula of Koh Tang, the assault troops could see the pall of black smoke that marked two downed U. S. helicopters. An Air Force controller whose OV-10 Bronco is barely visible, right, directed air strikes by A-7s. In the bottom photograph, two CH-53s bore through a hail of small arms and automatic weapons fire to help evacuate the Marines.*



K. STEWART



W. K. STEWART





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its own or to continue assigned operations.

The second wave had brought in the information that the crew of the *Mayaguez* had been returned. We also knew from earlier contact with the *Henry B. Wilson* that the ship had been recovered. Instructions were requested. The airborne command and control center, however, was not certain if the assets were available to meet Lieutenant Colonel Austin's stated needs to extract the entire force, or any of it. As the afternoon wore on, the Khmer Rouge began to probe and snipe at our perimeter despite the rain of bombs and cannon fire. We could hear what we assumed to be heavy caliber automatic weapons engaging the fixed-wing aircraft as they pulled out of their runs. The forward air controller alternately rolled in on suspected positions and danced his strange ballet of loops, rolls, and climbs seeking out their weapons' positions. Everyone within the perimeter walked around with his shoulders scrunched up against the near spent pieces of searingly hot metal fragments that whisked and fluttered throughout the entire area. As in the morning's grenade and mortar engagements, no one had to be reminded to keep on his helmet and flak jacket.

As the day grew shorter, sniper fire

grew heavier, and we could hear the engagement on the other side of the island as air strikes were intensified as a prelude to extracting the platoon there. Later a C-130 flew over and two pallets on parachutes came popping out. As we watched our resupply drift far away into the hands of the Khmer Rouge there was some understandable grumbling. As it turned out, the resupply went exactly where it was supposed to. It was a 15,000 pound "daisy-cutter" bomb designed to clear landing zones in dense jungle. After we picked ourselves up we were just as happy that the package was delivered next door, so to speak.

As the sun sank into the Gulf of Siam, a small armed craft from one of the destroyers rounded the northern tip of the island. After a brief moment of apprehension on our part, he identified himself and set to work patrolling our northern flank along the beach. The *Harold E. Holt* came in and stood off the western beach. We were dug in for the night and, except for water, were in good condition to hold our position.

There was just enough light to see westward when a lone CH-53 turned and came boring in toward the beach. When asked whether he was to resupply or extract he replied that he was to extract and other aircraft were on the way. As he settled into the shallow water at the

*A Marine and a wetsuit-clad Air Force rescueman race for the Air Force helicopter that would lift them from the island. Among the mechanical casualties of the Koh Tang operation were a sunken Cambodian Swift boat and a disabled HH-53 helicopter, which was given the coup de grace by a Marine marksman so that its important equipment would not fall into enemy hands.*

edge of the beach he was greeted by an almost unbelievable hail of small arms and automatic weapons fire from the ridge to our south and east. Tracers streamed into the perimeter and bounced around like flaming popcorn. The pilot set his aircraft down and took his share of the fire without flinching. The battalion surgeon, Lieutenant John Wilkins, herded his wounded on board, accompanied by the force reserve. As he lifted off, the next aircraft, whose reception by the Khmer Rouge was just as warm, moved into the zone. Again the troops on the perimeter zeroed in on the source of the fire and suppressed most of it. The minigunmen on the helos poured streams of fire over the heads of the Marines and into the ridgeline. The command and fire support group and

all support personnel departed on the second helicopter. As I was in the command group, the last thing I saw of the island was the half circle of the perimeter blazing away at the larger half circle of fire surrounding it. The two company commanders, Captain James H. Davis of Company G and Captain Mykle E. Stahl of Company E, were collapsing their respective halves of the perimeter and readying the next aircraft load in the pocket thus formed. Debriefing these

two officers and others of their companies later, I found that the extraction had gone almost exactly as planned. Enemy pressure remained strong right up until the last helicopter pulled out. Captain Davis and his gunnery sergeant had remained at the last to check the beach and were joined in their task by the crew chief of the last helo. At approximately 2030, this last helo was recovered by the *Coral Sea*.

In the accounting of personnel that

followed, we found that Marines had been delivered to the *Harold E. Holt*, some were on the *Henry B. Wilson*, and the bulk of the force was on the *Coral Sea*. Three Marines were missing—they remain so today, more than a year later.

The entire Marine phase of the operation lasted some 56 hours, but the last 14 were the longest. It had been a very long Thursday. The Marines, Navymen, and Airmen who fought there can be justly proud of their performances.

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## The Guided-Missile Destroyer's Skipper

Commander J. Michael Rodgers, U. S. Navy

On Monday, 12 May 1975, the USS *Henry B. Wilson* (DDG-7) steamed south in the South China Sea from Kaohsiung, Republic of China, bound for Subic Bay, Republic of the Philippines. That evening the ship received her first reports of what would become known as the *Mayaguez* incident.

Soon the radio-teletypes in the ship's message center were printing out more information concerning the seizure by gunboats of the Khmer Rouge navy. Orders were going out to ComDesRon 23, embarked in the USS *Harold E. Holt*, other forces, and maritime patrol aircraft to proceed to the scene. We were at sea and heading the right way; we were hoping for such orders.

Early Tuesday, 13 May 1975, they came. We were to proceed to the vicinity of Koh Tang at best speed, report to ComDesRon 23, and support the recovery of the *Mayaguez* and her crew as well as provide what assistance we could to the U. S. Marine Corps operations in the area. This mission, coupled with our rules of engagement, were the only "rudder orders" we received during the entire operation.

At approximately noon on 13 May, we fueled to 100% of capacity from the USS *Ashtabula* (AO-51), off Subic Bay, and turned southwest toward the Gulf of Siam and Koh Tang, approximately 1,200 nautical miles distant. The chief engineer punched his fuel consumption tables and determined that if we proceeded on all four boilers at 31 knots we could arrive with approximately 25-30% fuel remaining. If we steamed any faster

we would arrive with a dangerously low amount of fuel, or possibly not arrive at all. So 31 knots was our "best speed" and that is what we used for the next 40 hours. This speed had the additional advantage of getting us to Koh Tang close to first light on the 15th when the recovery action was scheduled to commence.

As the ship closed Koh Tang, several meetings were held with the department heads, the "chief of the boat" (BTCM Hazelett), and other key personnel as we made plans for the upcoming operations. The *Henry B. Wilson* was being made an information addressee on the increasing number of messages concerning preparations, tactics, and deployment of forces for the recovery of the *Mayaguez*. Intelligence reports were filling in some of the gaps concerning this little-known area of the world. Our best source of information describing the near real-time events in the vicinity of the *Mayaguez* was the excellent reporting by the U. S. Navy P-3 Orions of VP-4 which were maintaining constant aerial surveillance of the area. We knew where the *Mayaguez* was anchored and had a good appreciation for the disposition and nature of the hostile forces in the area.

It appeared to us that the *Harold E. Holt* with her embarked Marines would approach the anchored *Mayaguez* from the northwest. We decided to make our approach from the southeast of the island in order to force the enemy to look in two directions and split any heavy weapons capability they might possess,

rather than permitting them to concentrate on the recovery operation. All departments reported they were ready in all respects for whatever activity we might encounter the following morning. All weapons and sensors were operating properly.

As early as Operation "Eagle Pull"—the evacuation of U. S. nationals from Cambodia—it had become apparent that we sorely needed a complement of automatic weapons positions. There is a fairly wide area around a destroyer which is inside the minimum depression angle of the main gun battery and the minimum firing range of the missile system. Hostile small craft, lightly armed, can operate within this area and "outgun" a large warship. Theoretically you should not permit the enemy to get this close. In reality, it is often difficult to separate friend from foe—often you're only sure when the shooting (theirs) starts. This situation was demonstrated during "Eagle Pull" when a Cambodian gunboat with uncertain intentions came out to look us over on our station just south of Kompong Som. During "Frequent Wind" we were constantly surrounded by hundreds of small craft, including gunboats, and occasionally were the target of hostile fire from shore and sea. Foreseeing this eventuality, the executive and weapons officers had organized a close-in defense team armed with our four 7.62-mm. M-60 machine guns and a good supply of hand grenades. Positions were chosen which provided some protection to the gunners while ensuring 360° coverage

and interlocking fields of fire. This team was regularly called away and drilled. Command and control was maintained from the bridge via the ship's general announcing system. On several occasions the mere mustering of this team was sufficient to encourage gunboats of doubtful intent to quit our area. During the *Mayaguez* recovery operation the team would fire its weapons.

That night, 14-15 May, as we sped north through a series of small islands to the west of the southwestern tip of South Vietnam, we picked up a few suspicious contacts on our search radars which did not conform to the pattern of activity demonstrated by the hundreds of small craft under way in this area. Coincidentally, we received a "heads-up" alert from Commander U. S. Seventh Fleet that there had been reports of possibly hostile gunboat activity along our track. Our various night observation devices and low-light-level television were especially useful for obtaining positive identification of the myriad of contacts in our vicinity. Most were indigenous fishing boats and the night passed without incident.

The dawn of 15 May broke quickly, without a prolonged period of first-light, which is characteristic in this portion of the world. Koh Tang was approximately 20 miles distant to the north-northwest. We could see the movement of small points of light on the radar scope which indicated the aircraft were marshaling for their strikes and to carry in the Marines. The *Harold E. Holt* was a larger "blip" which appeared to be closing the contact we estimated to be the *Mayaguez*. The weather was warm with a few white clouds floating in a bright blue sky. The sea was nearly calm with only a slight chop on it caused by six to eight knots of wind blowing from the northwest. The current was moving to the east across the northern tip of the island at about one-half knot.

All hands shifted from condition of readiness III to general quarters and manned battle stations. We reported in to the airborne command post coordinating operations in the area and to ComDesRon 23. Forty minutes later, at 0700, we arrived at Koh Tang and slowed to 5 knots as we examined the situation. Koh Tang is a low, heavily

forested island with one commanding hill in the northern half of the island. It is somewhat triangular shaped, with the longest tip pointing south. All activity was concentrated on the northern and northwestern portions of the island.

The *Harold E. Holt* was alongside the *Mayaguez* and her Marines were securing the ship. Plumes of oily black smoke were rising from two U. S. Air Force CH-53 helicopters which had been shot down in a cove which ran along the northern end of the island. U. S. Air Force attack and fighter aircraft were strafing and bombing enemy positions in support of the Marines. The USS *Coral Sea* (CVA-43), which was racing toward the scene of action, sent us a combat air patrol to support our operations. The rattle of automatic weapons and machine guns came crackling over the water. As we closed the northeastern tip of the island to 1,000 yards, one of the lookouts shouted down to the bridge that he saw people in the water. Soon we had located three groups of men in the sea. The ship's gig, under the command of Lieutenant (junior grade) Fred H. Naeve, was quickly launched and, armed with machine gunners to suppress hostile fire from shore, raced to pick up two of the groups while the *Henry B. Wilson* was conned into position to rescue the third group. In all, 13 men were pulled from the currents which were sweeping them away from land. Several were kept afloat by ship's force personnel who unhesitatingly leaped into the sea from the forecabin. They were U. S. Air Force and Marine Corps survivors from one of the helicopters which had been shot down. The ship's chief hospital corpsman treated their burns and wounds in the ship's engineering berthing area which had been converted into a hospital. The gig crisscrossed the area until we were sure there were no more personnel in the water.

Just as we were passing the *Mayaguez* close aboard to starboard, a patrol aircraft reported what appeared to be an enemy gunboat heading toward Koh Tang from the mainland, approximately 20 nautical miles to the east. ComDesRon 23 ordered us to intercept it and prevent it from approaching the scene of action. We moved toward the distant contact, zigzagging left and

right, enough to permit all guns and missiles to bear on the target. As we closed the distance, the man on the low-light-level television, operating in high-power mode and with the sensor situated high in the ship, reported that the contact appeared to be a fishing boat rather than a gunboat. The pilot of a patrol aircraft confirmed this and also reported he thought there were a number of Americans on board. Could these men be a portion of the *Mayaguez* crew which had not been located in their containership or on the island?

When they were within hailing distance I called over our topside loud speakers:

"Are you the crew of the *Mayaguez*?"

"Yes, Yes" came back a chorus of shouts.

"Are you all there?"

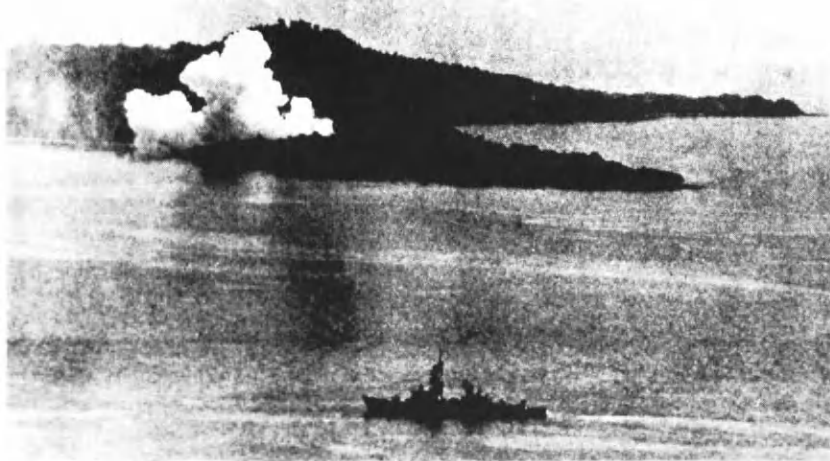
Again a chorus of "Yes, yes."

Then—"Lay alongside, you are safe now!"

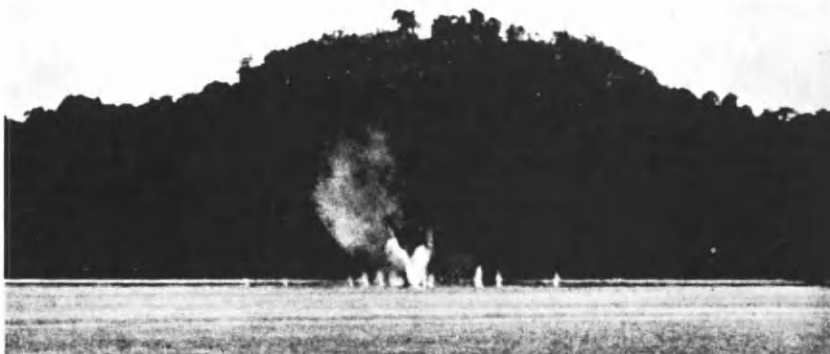
The *Henry B. Wilson*'s crewmen had the fishing boat secured to our port quarter quickly and assisted the *Mayaguez* crew members aboard. The hospitalmen swiftly examined them. I welcomed the Master of the *Mayaguez*, Captain Charles T. Miller, on board, and, with the ship's intelligence officer, we debriefed him and fired off the appropriate reports. He confirmed that we had recovered the entire 40-man *Mayaguez* crew.

The fishing boat and its five-man crew were Thai and had been held captive by the Cambodians for several months. The *Mayaguez* crew had been held prisoner on board this boat. Captain Miller stated he was sure that if U. S. forces hadn't reacted when they did, he and his crew would probably have been prisoners deep in the heart of Cambodia. The Thais requested they be reprovisioned and allowed to proceed home, a request we swiftly honored.

The executive officer insured that the *Mayaguez* crew's wants were all supplied and brought me the pleasant news that all 40 crewmen were in good health. We turned back toward Koh Tang and headed for the *Mayaguez* which was now under the tow of the *Harold E. Holt*. Captain Miller indicated he wished to get his crew on board the *Mayaguez* as soon as possible in order to get the



U. S. AIR FORCE



W. K. STEWART



W. K. STEWART



W. K. STEWART



W. K. STEWART

*Among other chores in the author's "long day in May" were, directly above, the rescue of Air Force and Marine survivors of a downed helicopter, the transfer of all 40 crewmen, including the master, Captain Miller (showing the author a gas burn on his arm, facing page), from a Thai fishing boat, a series of suppressive fire barrages on Koh Tang in support of the embattled Marines, and the destruction of a Cambodian gunboat by the Henry B. Wilson's five-inch guns.*

reefers going and save as much of his refrigerated cargo as possible. We closed the *Mayaguez* to a few hundred feet and ferried the *Mayaguez* crewmen back to their freed ship with our gig.

The transfer completed, the *Henry B. Wilson* returned to Koh Tang to carry out the remainder of her mission: supporting the Marines ashore.

U. S. Air Force aircraft were maintaining a continuous rain of bullets, bombs, and missiles on the enemy positions as the Marines fiercely defended their positions. As we rounded the northwestern tip of the island, an enemy machine gun opened up on us. It was quickly silenced by our counter-battery fire. The airborne command post, as well as the other aircraft pilots, com-

menced designating targets to us.

We held no common charts of the area, and what appeared of Koh Tang on a chart was very small and not too accurate. Therefore we could not use conventional grid-chart methods of designating targets or spotting fire. The foliage was too thick for us to visually see our targets, except on those occasions when the enemy revealed himself by firing at us. We were not sure of the locations of the Marine front lines. As a result, we quickly devised a crude but effective method of controlling our gunfire ashore. The pilots could see the target locations by looking down through the trees, particularly when the enemy machine guns opened up on the Marine positions. The pilot would give



W. K. STEWART

us a reference point, such as a large rock on the beach. We would put the first round in the water just seaward of that point. Then, spotting from each hit, he would walk the rounds around the friendly positions and onto the target. Our plotting teams would then mark the position on our charts for possible future reference. We soon had a routine established which resulted in a short period of time between the initial marking round, "commence rapid continuous fire," and "target destroyed."

During this gunfire support portion of the day, we cruised a track we established along the six-fathom line located off the northern and northwestern sides of Koh Tang where the action was concentrated. This took us within 1,000–3,000 yards of the beach. This was a bit close for uncharted waters and we presented a tempting target to the foe. After an initial slow pass at 3 knots, however, our careful bottom survey indicated there were no nasty surprises under the surface. When enemy gun emplacements opened up on us we found them to be not particularly accurate and they ceased fire immediately when we returned fire. The close-in track appeared desirable for several reasons:

- ▶ We had already pulled 13 men from the sea and there might be more in the water close to shore.
- ▶ We wanted to be ready to support and rescue any U. S. personnel on the island who might chance a dash to the water.
- ▶ Due to the heavy foliage we wanted to maintain as accurate a visual picture of the situation ashore as possible.
- ▶ It was essential that we locate accurately the Marine positions as quickly as possible.
- ▶ We thought that our close-in presence might intimidate the enemy and lend a psychological lift to our forces.

Coincident with our gunfire support, Air Force helicopters made a series of attempts to land in the vicinity of the Marines but were driven off by extremely heavy gunfire. On one occasion an enemy gunboat (a former U. S. Navy PCF Swift boat) opened fire from the northern cove with her three .50 caliber machine guns on one of our helicopters attempting to land. A few five-inch rounds later, it had been destroyed and sunk by our gunnery team.

Dusk was rapidly approaching and it was determined that a massive effort would be made to recover our forces from the island as soon as it became dark. After dark it would be very difficult for us to accurately direct the fire from our two five-inch guns. The friendly and enemy lines were exceptionally close to each other. We decided to arm our gig and send it in close to the beach where it could:

- ▶ Draw hostile fire away from the recovery helicopters.
- ▶ Suppress hostile fire and destroy enemy gun positions.
- ▶ Act as a rescue boat for any helicopters which might be shot down.
- ▶ Stand ready to pick up anyone who made a dash for the water.

This was a very dangerous mission and volunteers were called for. A large number of good men immediately responded. Eight were picked for their familiarity with weapons and past "brown water navy" experience in South Vietnam. These men deserve special mention for their very heroic actions—Lieutenant Larry W. Hall (Skipper), BM1 Jessie M. Hoffman (Coxwain), EM2 Gregory B. Elam (Engineer), RM2 Eddie J. Oswalt (Radio Operator), GMT1 Alvin K. Ellis (Machine Gunner), OS1 Thomas K. Noble (Machine Gunner), GMT2 Donald W. Moore (Machine Gunner),

### "Mayday" for the *Mayaguez*

and OS3 Michael D. Williams (Machine Gunner)—and each received the Bronze Star, except for Lieutenant Hall who was awarded the Silver Star.

The "specially manned and equipped" gig headed into the north cove at dusk. The Air Force laid down a barrage of fire and then the first evacuation helicopter approached the sandy beach area near one of the Marine positions. As the helicopter hovered over the landing zone an enemy gun emplacement opened up on the helicopter with a hail of fire. Our gig charged toward the tracers and took the position under fire. A fire-fight ensued between the shore and the gig crew as the helo settled down, picked up a group of Marines, and safely departed the island. This action was repeated again and again in the northern and northwestern coves until all the Marines were off Koh Tang. Every man on the *Henry B. Wilson*, who could be spared from his battle station, lined the topside and watched the operation. Through the night observation devices we could see the darkened gig racing back and forth, in and out, as it avoided enemy fire. The happiest moment of my life was when the gig finally returned to our side after two hours of heavy action with those eight American sailors safe and sound.

Our mission accomplished, we departed Koh Tang and rendezvoused with the *Coral Sea* around midnight to take a long drink of fuel. This was not a moment too soon as we had been reduced to burning the diesel fuel for our emergency diesels in the boilers.

The next morning we returned to Koh Tang at first light to determine if there was any possibility that there were any Americans left on the island. Only smoke, a few fires, and the detritus of battle remained. A few Cambodians were seen on the beach, but they quickly disappeared into the trees as we closed the island.

Later, on 16 May, we rendezvoused with the *Harold E. Holt* and took on board 101 Marines. It was a crowded but happy destroyer which arrived in Subic Bay five days later. The friendships between our crew and those tough Marines, forged in battle and annealed in a shared experience of heroic proportions, have lasted long beyond the events of the *Mayaguez* affair, a long day in May that seemed to go by in a few minutes.

## Weapon Systems: Martel

By Mark Hewish

Martel is an Anglo-French air-to-surface missile built in two versions—the television-guided AJ168, for which Hawker Siddeley Dynamics is responsible, and the Engins Matra-led AS.37 passive radiation-homing variant; the name is derived from Missile Anti-Radar and TELEvision. The project is one of the earliest examples of Anglo-French weapon collaboration, resulting from the January 1963 British Naval and Air Staff Requirement 1168 and a similar French specification. An inter-governmental agreement to develop Martel was signed in September 1964.

The missile's trunk is common in both variants, and so is the composite solid-propellant "Basile" boost motor. The integral booster, which burns for 2.4 seconds, is ignited at the moment of missile release to allow launches to be made from very low levels. The British requirement specified a 50–7,000-foot firing envelope altitude for AJ168, but the French AS.37 can be launched at up to altitudes of 45,000 feet.

The anti-radiation variant has a larger sustainer motor—the "Cassandre," which burns for 22.2 seconds and gives the missile a range of at least 15 nautical miles for a low-level launch from an aircraft flying at Mach 1. The AS.37 can be fired at up to Mach 2, but AJ168 is normally launched at Mach 0.75–0.80. Different guidance computers are used in the two types, and the fusing practice also varies; the 330-lb. blast warhead of the anti-radiation model is detonated by a Thomson-CSF proximity fuse to cause maximum damage to radar aerials, while the TV variant carries an impact fuse which is set before launch for instantaneous or delayed detonation.

AJ168 is used to arm Hawker Siddeley Buccaneer attack aircraft of the Royal Air Force and Royal Navy. On a typical antiship mission against a Soviet Navy surface group comprising a cruiser and escorting vessels, the missile is launched as low as possible and then climbs to about 1,200 feet, as measured by an on-board barometric altimeter. Once the Martel is within some 11,000 yards of its target the Buccaneer rear-seat operator takes over control from the missile's autopilot. He watches his television dis-



BOTH PHOTOS COURTESY M. HEWISH

play and uses a joystick to pan the weapon's nose-mounted camera (it is locked centrally during launch) and place a graticule over the enemy vessel. The missile is steered all the way to its target, and the desired impact point can be selected by the operator—an experienced controller can achieve an average miss distance of only eight feet on a centrally positioned target.

Video signals are transmitted to a rearward-facing antenna in a pylon-mounted pod on the aircraft; the missile can thus be controlled from a Buccaneer escaping from the target area. The Marconi data link also carries commands from the operator back to the missile.

The AS.37 version is also carried by Buccaneers and is the only variant used by the French armed forces, equipping Aéronavale Atlantics as well as Mirage IIIs and Jaguars of the Armée de l'Air. The use of a larger sustainer motor increases the missile's length from 11 feet ten inches to 12 feet six inches, although AS.37, at 1,165 pounds, is 45 pounds lighter than the British model.

If the frequency of the radar to be attacked is known, the appropriate aerial and high-frequency modules are fitted to the weapon before the mission begins. When switched on in flight, the Electronique Marcel Dassault AD37 seeker sweeps in azimuth until it locates the transmitter; it locks on to the radar and the missile can then be fired. Martel will home on to the emissions even if the frequency changes, as long as it remains within the preselected band. If the approximate position of the radar is known, but not its frequency, the seeker will search within a preset band and



*The Martel AJ168, pictured being carried by an RAF Buccaneer (also fitted with a video/command-link pod) and above, has a nose-mounted camera, whereas the AS37 has a pointed nose.*

sweep through up to 90° to lock on to the transmitter.

A submarine-launched version of the system, Sub-Martel, was proposed as a collaborative Anglo-French venture before Harpoon was selected for the Royal Navy last year. Since then Hawker Siddeley Dynamics has been working on active-radar Martel—a basic AJ168 with the Marconi Space and Defence Systems active radar seeker which would have been used in Sub-Martel, plus a radar altimeter and a new motor to increase range. The company has also proposed an interim variant using a low-light television system, allowing missions to be flown at dawn and dusk.







# **Marine Aviation in Vietnam, 1962-1970**

By Lieutenant General Keith B. McCutcheon, U. S. Marine Corps



*On the preceding pages, a Marine F-4B Phantom drops a 500-pound bomb on Viet Cong trenches concealed in a tree line south of Da Nang. Close air support missions, which Marine Corps pilots were performing before and during World War II; "vertical envelopment," which Marine Corps helicopter pilots perfected during the Korean Conflict; and the SATS—short airfield for tactical support—concept, which the Corps pioneered after Korea, were three of the major contributions to the defense of I Corps made by Marine aviation during its service in Vietnam. To get the most out of the Da Nang area rain chart on the opposite page, it is helpful to know that Washington, D.C. averages three or four inches of rain a month.*

## *The Beginning*

Marine Corps aviation involvement in Vietnam began on Palm Sunday 1962, when a squadron of UH-34 helicopters landed at Soc Trang in the Delta. The squadron was Marine Medium Helicopter Squadron 362 (HMM-362), commanded by Lieutenant Colonel Archie J. Clapp.

Three U. S. Army helicopter companies were already in Vietnam, and the Secretary of Defense had approved deployment of one more unit to Vietnam. The Marine Corps seized this opportunity to fly toward the sound of the drums and offered to send a squadron. They recommended Da Nang as the area of operations, since it was that area to which Marines were committed in various contingency plans. The Commander, United States Military Assistance Command, Vietnam (ComUSMACV), decreed, however, that the need at the moment was in the Delta since that Vietnamese Army corps area was the only one of the four corps areas in Vietnam that did not have any helicopter support.

Colonel John F. Carey was the commanding officer of the Marine task unit of which HMM-362 was a part. He arrived at Soc Trang on 9 April, and over the ensuing five days an element of Marine Air Base Squadron 16 (MABS-16) arrived aboard Marine KC-130 aircraft from the Marine Corps Air Facility at Futema, Okinawa. Squadron HMM-362, augmented by three O-1 observation aircraft, embarked in the *USS Princeton* (LPH-5) at Okinawa and arrived off the Mekong Delta at dawn on Palm Sunday, 15 April. The squadron's helicopters completed unloading the unit's equipment and were ashore by late afternoon. The Marine task unit which was to be known as "Shufly" was established ashore.

The mission of this unit was to provide helicopter

troop and cargo lift for Vietnamese Army units and its first operation was one week later, on Easter Sunday. The squadron continued to operate until August when it was relieved by HMM-163, commanded by Lieutenant Colonel Robert L. Rathbun.

In September 1962, the Marines were ordered by ComUSMACV to move to Da Nang, the high threat area, an area with which Marine planners had become well acquainted in contingency plans, war games, and advanced base problems. Some had been there before. In April 1954, Lieutenant Colonel Julius W. Ireland had landed at Da Nang airfield with Marine Attack Squadron 324 (VMA-324) and turned over twenty-five A-1 propeller driven dive bombers to the hard-pressed French. Now he was back as a colonel. He had replaced Colonel Carey as the commander of "Shufly."

The Marines initially occupied two areas on the air base. The helicopter maintenance and parking area was southeast of the runway. The billeting area was across the base on the western side, about two miles away. In those days there was not much traffic at Da Nang, so the Marines got into the habit of driving across the runway as the shortest route to commute back and forth. Four years later, this would be one of the two or three busiest airfields in the world.

In late 1964, the runway was extended to 10,000 feet, and a perimeter road, half surfaced and half dirt, was built around the base.

### *The Land and the Weather*

Da Nang is the second largest city in Vietnam and the largest in the Vietnamese Army's I Corps Tactical Zone, commonly called I Corps and abbreviated as ICTZ. By 1970 Da Nang would have a population of approximately 400,000. An exact count is impossible because of the influx of war victims and refugees. ICTZ<sup>1</sup> consists of the northernmost five provinces of Vietnam: Quang Tri, Thua Thien, Quang Nam, Quang Tin, and Quang Ngai. The length of ICTZ is about 225 miles, and its width varies from 40 to 75 miles. Da Nang is approximately in the center of the north-south dimension and is on the coast. Hue, the next largest city, with a population of about 200,000, is roughly halfway between the Demilitarized Zone (DMZ) and Da Nang. Hue, the old capital of Annam, is inland a few miles on the Perfume River. About halfway between Da Nang and the southern boundary of I Corps is a sandy area on the littoral of the South China Sea that came to be known as Chu Lai.

Called Tourane by the French, Da Nang sits on a fairly large bay which provides a roomy, if not particu-

<sup>1</sup>The Corps Tactical zones were redesignated as Military Regions in July 1970. ICTZ became MR1.

larly safe, deep water harbor and anchorage, although in 1965 it had few facilities to unload ships in any numbers. To the north of the bay are the Hai Van Mountains, called "Col des Nuages" by the French, which stretch eastward from the Annamite Mountain chain to the sea. These mountains are an important factor in I Corps weather and, in fact, form a barrier which can cause one side to be under instrument flight rule conditions and the other side under visual flight rule conditions.

East of Da Nang, across the Song Han River, is the Tien Sha Peninsula that juts past the city to provide a large breakwater for the bay. At the end of the peninsula is a massive 2,000-foot hill known as Monkey Mountain.

The terrain in I Corps rises as you move inland from the Coast. In general, there are three broad regions: the coastal lowlands where rice paddies abound, and there 85 per cent of the three million people live; the piedmont area of slightly higher ground which permits cultivation of other crops, and which is home for most of the remainder of the people; and the hill country, or Annamite chain. These mountains go up to 5,000 feet and higher, some rather precipitously. For the most part they are heavily forested and in places there is a triple canopy which makes observation of the ground impossible.

Running generally from west to east, from the high ground to the sea, is a series of rivers and streams which follow the valleys and natural drainage routes. They are generally unnavigable except for small, oar-propelled, shallow draft boats, but they do offer routes from Laos to the provinces.

The northeast monsoon begins in October and ends in March. September and April are more or less transition months. Rainfall increases in September and Octo-

ber, and by November the northeast monsoon is well established over ICTZ. Weak cold fronts periodically move southward and usually there is an increase in the intensity of low level winds (rising sometimes 20 to 50 knots). This is called a "surge." The "surge" causes ceilings of 1,000 to 1,500 feet with rain, drizzle, and fog restricting visibility to one or two miles. Occasionally the ceiling drops to 200 feet and the visibility to half a mile. After the initial "surge" has passed, the winds begin to decrease and the weather will stabilize with ceilings of 1,500 to 2,000 feet prevailing. Visibility will fluctuate from seven miles or more to three miles or less owing to intermittent periods of fog or precipitation. Cloud tops are seldom above 10,000 feet.

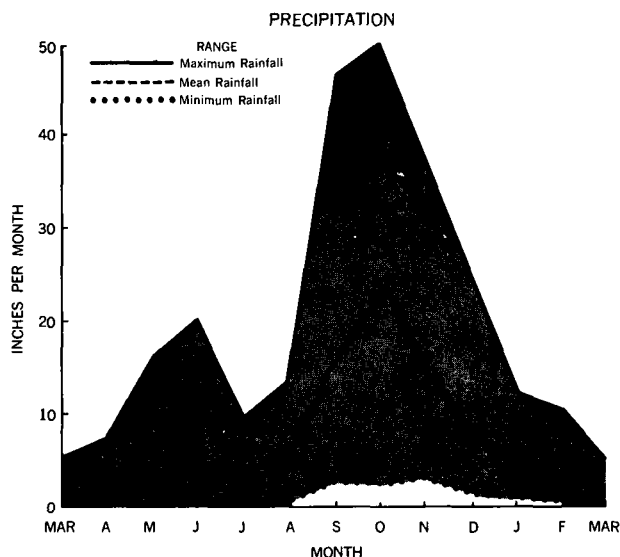
The kind of weather just described was called "crachin" by the French. It can prevail for a few days at a time early in the monsoon season or for several weeks during the high intensity months. As winds decrease, the weather generally improves. When the lower level winds decrease to less than ten knots, or if the wind shifts from the northeast to a northwest or a southerly direction, a break in the weather is usually experienced. Such a break will result in scattered to broken clouds with bases at 2,000 to 3,000 feet and unrestricted visibility and may persist for a week before another "surge" develops.

During December, the monsoon strengthens, and in January, when the Siberian high pressure cell reaches its maximum intensity, the northeast monsoon also develops to its greatest extent. Little change can be expected over ICTZ in February, although "surges" are generally weaker and more shallow than in January. By mid-March the flow pattern is poorly defined and the monsoon becomes weak. During April, traces of the southwest monsoon begin to appear and there is a noticeable decrease in cloudiness over the area. From then through August, the weather in ICTZ is hot and humid, with little rainfall.

The northeast monsoon had a direct impact on all military operations in ICTZ and especially on air operations. Because they can operate with lower ceilings and visibility minimums than fixed-wing aircraft, the helicopters would often perform their missions when the fixed-wing could not, at least along the flat coastal region. Inland, however, the hills and mountains made even helicopter flying hazardous at best. The pilots all developed a healthy respect for the northeast monsoon.

#### Early Days at Da Nang

HMM-163 was relieved by HMM-162 in January 1963. Over the next two years other HMMs followed: 261, 361, 364, 162 for a second time, 365, and, finally, 163 for its second tour. Half the Corps' UH-34 squadrons had received invaluable combat experience before the



commitment of the Marine Corps air-ground team of division-wing size.

In April 1963, an infantry platoon from the 3d Marine Division (3dMarDiv) was airlifted from Okinawa to join "Shufly." Its mission was to provide increased security for the base. In a modest way, the air-ground team was in being in Vietnam.

Brigadier General Raymond G. Davis, Commanding General of the 9th Marine Expeditionary Brigade (9thMEB), flew to Da Nang in August 1964, shortly after the Tonkin Gulf affair, and completed plans to reinforce the Marines based there in the event of an emergency. He then joined his command afloat with the Amphibious Ready Group of the Seventh Fleet. This Group was to be on and off various alert conditions for some months to come.

Early in December 1964, "Shufly" received a new title

by direction of Lieutenant General Victor H. Krulak, Commanding General of the Fleet Marine Force, Pacific (FMFPac). It was now called Marine Unit Vietnam, or MUV for short.

Another aviation unit began arriving at Da Nang on 8 February 1965. This was the 1st Light Anti-Aircraft Missile (LAAM) Battalion, commanded by Lieutenant Colonel Bertram E. Cook, Jr. The battalion was equipped with Hawk surface-to-air missiles. Battery "A," commanded by Captain Leon E. Obenhaus, arrived by air and was established on the base just to the west of the runway. Within twenty-four hours it was ready for operation. The remainder of the battalion came by ship from Okinawa, arriving at Da Nang later in the month. This battalion had been sent to Okinawa in December 1964, from its base in California, as a result of ComUSMACV's request for missiles for air defense. The decision was made to retain the unit on Okinawa instead of sending it to Vietnam, but when the Viet Cong attacked Pleiku on 7 February, the United States retaliated with an air strike in North Vietnam. An order to deploy the Hawks to Da Nang was made at the same time. As in the case of Cuba in 1962, when a crisis situation developed, Marine missile units were among the first to be deployed.

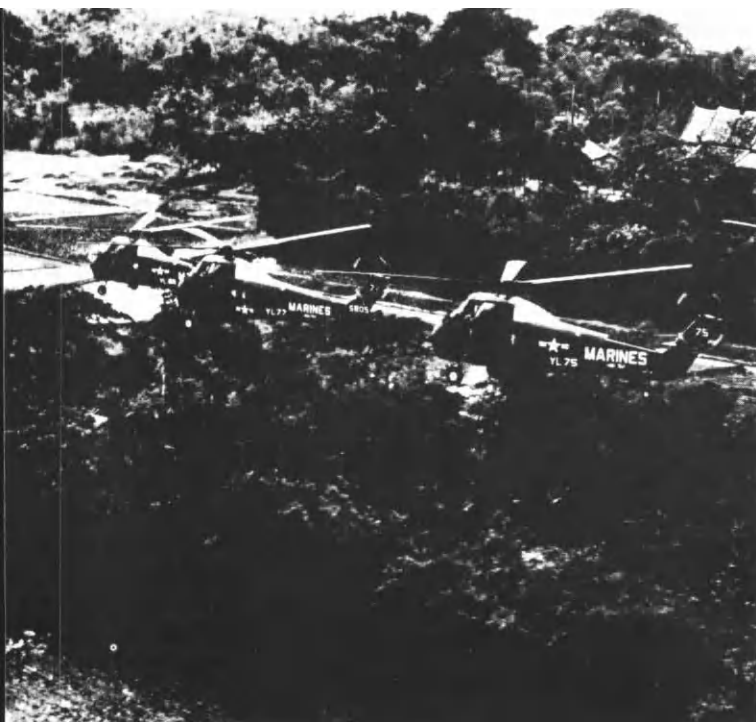
By this time MUV was pretty well established on the west side of the Da Nang air base in an old French army compound. Colonel John H. King, Jr., was in command. The helicopters were moved from their first maintenance and parking area, and were now located on the southwest corner of the field. A rather large sheet metal lean-to had been made available by the Vietnamese Air Force (VNAF) to serve as a hangar. The parking apron was blacktop and was adequate for about two squadrons of UH-34s.

### *Buildup*

Late in February 1965, President Johnson made a decision to commit a Marine brigade to protect the air base at Da Nang from Communist attack. On 8 March the 9thMEB, including the 3d Battalion, 9th Marines, was ordered to land. They had been afloat and ready for such an operation for several months. Brigadier General Frederick C. Karch was then the commander of the brigade.

The 1st Battalion, 3d Marines, meanwhile had been alerted on Okinawa for a possible airlift. It, too, was ordered to Da Nang on 8 March. Because of the congestion which developed on the airfield, ComUSMACV ordered a temporary cessation to the lift. It was resumed on the 11th and the battalion arrived in Da Nang on the 12th.

Squadron HMM-365, commanded by Lieutenant Colonel Joseph Koler, Jr., was embarked in the *Prince-*



*A division of H-34D helicopters of HMM-362, the first Marine Corps helicopter squadron assigned to Vietnam, transported Vietnamese troops on a strike mission against Viet Cong positions in the Mekong Delta in May 1962. Unlike the aircraft of the three Army helicopter companies then in Vietnam, HMM-362 helicopters lacked installed machine guns; their only weapons were the "greasegun" submachine guns carried by the copilot and crew chief.*

ton. Koler's UH-34s were flown to the airfield at Da Nang, but the crews reembarked in the *Princeton* for the voyage to Okinawa. Aircrews and squadron personnel of Lieutenant Colonel Oliver W. Curtis' HMM-162 were airlifted by KC-130 from Okinawa to Da Nang to take over the UH-34s left by HMM-365.

Brigadier General Karch took operational control of all Marine aviation units that were already ashore. He also established an MEB command post in the same old French compound where Colonel King was set up. Colonel King had had the foresight to contact General Thi, who commanded I Corps and the ICTZ, to get permission to use some additional buildings.

The air component of the 9thMEB now included two HMMs and one LAAM battalion. Colonel King remained in command of the air units. He also received some service support elements from Marine Aircraft Group 16 (MAG-16) based at Futema, Okinawa, and since his command was now integrated into the MEB, the MUV was deactivated and MAG-16(-)<sup>2</sup> took its place. A rear echelon of MAG-16 remained at Futema, Okinawa.

Requests for additional military forces were submitted by ComUSMACV. One 15-plane Marine Fighter/Attack Squadron (VMFA) was authorized to deploy to Da Nang. VMFA-531 based at Atsugi, Japan, and commanded by Lieutenant Colonel William C. McGraw, Jr., received the order on 10 April. By dusk on the 11th, the aircraft and most of the men were in Da Nang, having flown there directly, refueling in the air from Marine KC-130 tankers as they went. On 13 April, McGraw led twelve of his F-4Bs on their first combat mission in South Vietnam, in support of U. S. Marine ground troops. The F-4 was an aircraft that would perform either air-to-air missions against hostile aircraft or air-to-ground strikes in support of friendly troops.

As the tempo of retaliatory strikes against North Vietnam by the Navy and Air Force increased, the enemy air defense began to include greater numbers of radar-controlled weapon systems. The sole source of tactical electronic warfare aircraft readily available to counter the new enemy defense was Marine Composite Reconnaissance Squadron One (VMCJ-1) at Iwakuni, Japan. On 10 April 1965, the Commander-in-Chief, Pacific (CinCPac), ordered the deployment of an EF-10B detachment to Vietnam. The detachment, led by Lieutenant Colonel Otis W. Corman, arrived in Da Nang the same day. The electronic warfare aircraft (EF-10Bs and later EA-6As) began to provide support to Marine, Navy, and Air Force strike aircraft. The photo-reconnaissance aircraft (RF-8s and RF-4s) arrived later and

performed primarily in support of Marine units, but they also supported Army units in I Corps and flew bomb damage assessment missions north of the DMZ.

Southeast Asia was an area familiar to the pilots of VMCJ-1. Detachments of RF-8As, the photographic aircraft of the squadron, had been aboard various carriers in the Gulf of Tonkin continually since May 1964, when CinCPac initiated the Yankee Team operations to conduct photo reconnaissance over Laos. Detachment pilots were also on hand to participate in the Navy's first air strikes against North Vietnam, and they continued photographic reconnaissance activities as part of carrier air wings until the detachment rejoined the parent unit at Da Nang in December 1965.

Colonel King now had an air group that contained elements of two jet squadrons, two helicopter squadrons, a Hawk missile battalion, and air control facilities so he could operate a Direct Air Support Center (DASC) and an Air Support Radar Team (ASRT). He also had the support of a detachment of KC-130 transports that were based in Japan.

The month of May was one of further growth and change. Several additional infantry battalions arrived and elements of MAG-12 landed at Chu Lai to the south of Da Nang. Major General William R. Collins, Commanding General, 3dMarDiv, arrived on 3 May from Okinawa. He set up an advance division command post, and on 6 May he established the Third Marine Expeditionary Force (III MEF); the 9thMEB was deactivated. Within a few days the title of III MEF was changed to Third Marine Amphibious Force (III MAF). The term "expeditionary" seemed to conjure up unhappy memories of the earlier ill-fated French expeditionary corps. And some believed "amphibious" was more appropriate for a Marine command in any event.

On 11 May, Major General Paul J. Fontana opened an advance command post of the 1st Marine Aircraft Wing (1stMAW) in the same compound. On 24 May, Brigadier General Keith B. McCutcheon, assistant wing commander, arrived to relieve General Fontana in the advance command post, and on 5 June he relieved him as Commanding General of the 1stMAW. The day before, Major General Lewis W. Walt relieved Collins as Commanding General, 3dMarDiv and III MAF. McCutcheon became Deputy Commander, III MAF, and Tactical Air Commander.

The Marine Air-Ground Team was in place. The 1stMAW now had elements of a headquarters group and two aircraft groups in Vietnam. Additional units were waiting to deploy and still others were requested. It was but the beginning of a steady Marine buildup in I Corps. It was summer and the weather was hot and dry. The heavy rains were not due to start until September.

<sup>2</sup>Marine terminology often describes units as plus or minus to make clear that a unit is missing a capability normally included in the composition of the unit, or it has been given an additional capability not normally part of the given unit.

## Resources

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### Bases

The major constraint to receiving any more air units was the lack of adequate bases.

Da Nang Air Base was one of only three jet-capable airfields in all of Vietnam, and the only one in I Corps; the others were Bien Hoa and Tan Son Nhut, both near Saigon. In 1965, Da Nang had one 10,000-foot paved runway with a parallel taxiway. Less than half the length of the runway on the eastern side of the field had associated ramp space for parking aircraft. On the western side there was a blacktop parking apron that could accommodate about two squadrons of helicopters.

A military construction board was formed in III MAF and a list of requirements was prepared and submitted to higher authority. A second runway and taxiway had already been approved at the end of March for Da Nang as well as adequate hardstand and maintenance areas on the western side of the field. This would eventually accommodate one Marine Aircraft Group, a Support Group, and a Navy unit (Fleet Air Support Unit, Da Nang) which arrived in April 1968, in order to carry out various functions for the Seventh Fleet. The eastern side of the field would then be released to the U. S. Air Force and the Vietnamese Air Force. Before this construction could be undertaken, however, a base had to be made available for the helicopters then at Da Nang. And still another base was required for a second jet group.

There were several restrictions confronting III MAF as far as construction was concerned. First, was the problem of obtaining real estate. This was a laborious and time consuming administrative process. Second, was the need to relocate the Vietnamese families living on the desired site. Equally important to the Vietnamese was the relocation of their ancestral grave sites. Third, there was inadequate engineering help available in Vietnam to build everything required, so priorities had to be established. And finally, security forces had to be provided, and any unit assigned to this task meant fewer troops for other tactical operations.

### SATS and Chu Lai

A second jet base was essential. Through the foresight of Lieutenant General Krulak, a likely site had been picked out about fifty miles south of Da Nang for a Short Airfield for Tactical Support (SATS). General Krulak had recommended it almost a year before to Admiral Sharp, who was CinCPac. Admiral Sharp and General Westmoreland had been discussing the need for another jet base somewhere in South Vietnam. General Krulak's main concern was to have a jet airfield in I Corps, where his Marines were to be committed if the

contingency plans were implemented. Finally, on 30 March 1965, Secretary McNamara approved installation of a SATS at Chu Lai. Chu Lai was not a recognized name on Vietnamese maps at that time and the rumor is that Krulak gave it that name when he chose the place. Chu Lai reportedly is part of his name in Chinese.

By virtue of their experience in Naval Aviation, Marine aviators had long recognized the advantage of being able to approximate a carrier deck sort of operation on the beach. They realized that many areas of the world did not have adequate airfields, and that normal construction methods took too long. Something that approached an "instant airfield" was required.

In the mid-fifties, the Marine Corps Development Center at Quantico, Virginia, intensified development of both the concept and the hardware to realize this project. They visualized a 2,000-foot airstrip that could handle a Marine Aircraft Group of two or three aircraft squadrons. The essential components of such a base would include a suitable surface for the runway, taxiways, and hardstands; a means of arresting the aircraft on landing similar to that on a carrier deck; a catapult or other means to assist in launching the aircraft; provisions for refueling, rearming, and maintenance; air control facilities; and, of course, all the necessities for housekeeping. The installation time was to be from 72 to 96 hours.

Various projects were already underway that could provide solutions to some of these problems. Others had to be started. Furthermore, the entire concept had to be pulled together into a single system. Naturally, a name for the system was required and a name was found—SATS—Short Airfield for Tactical Support.

The kind of surface material to use was one of the harder problems to solve. Fabrics, plastics, soil stabilizers, and many other ideas were tried, but none was able to cope with the impact and static loads of aircraft operations and the temperature of jet exhaust. Finally, attention was directed to metals, and eventually a solid aluminum plank was developed which promised to do the job. It was known as AM-2. A single piece of this mat measures two feet by 12 feet and weighs 140 pounds. The individual pieces are capable of being interconnected and locked in place, thus providing a smooth, flat surface that is both strong and durable.

The arrested landing problem was already in hand with the use of modified shipboard arresting gear. Development of improved equipment was initiated, nevertheless, and the M-21 was the result. This is a dry friction, energy-absorbing device using a tape drive with a wire pendant stretching across the runway. This arresting gear is now standard in the Corps.

Launching in a short space was a bigger problem. JATO (Jet Assisted Take-Off) bottles were available, but

these could be a logistical burden over a long period of time. A catapult was desired. Development and testing were not complete in early 1965, but progress was promising.

The refueling problem was solved by adapting the Amphibious Assault Bulk Fuel Handling System (AABFHS) to the airfield environment. The result was the Tactical Airfield Fuel Dispensing System, or TAFDS. This system used the same 10,000-gallon collapsible tanks, hoses, pumps, and water separators as the AABFHS, but it added special nozzles for refueling aircraft: they were single-point refueling nozzles for jets, and filling-station gooseneck types for helos and light aircraft.

In a similar manner, all of the other requirements were analyzed and action was taken to find a solution. By May 1965, all were available except the catapult, but JATO was on hand, and Marine A-4s were modified to use it.

The concept of SATS visualized seizing an old World War II airstrip or some similar and reasonably flat surface that required a minimum amount of earth moving, and installing a 2,000-foot SATS thereon in about 72 to 96 hours. This would permit flight operations to commence, while improvements and expansion could be conducted simultaneously.

Chu Lai did not meet all the requirements visualized by SATS planners. It was not a World War II abandoned airfield. The soil wasn't even dirt. It was sand. And there was lots of it.<sup>3</sup>

But Chu Lai was on the sea, it had a semi-protected body of water behind a peninsula that could be developed into an LST port, it could be defended, and there were few hamlets in the area that would have to be relocated. All things considered, Chu Lai was the most likely site on which to build a new air base.

On 7 May 1965, Naval Mobile Construction Battalion 10 (NMCB-10), under Commander J. M. Bannister, crossed the deep sandy beach at Chu Lai along with the 4th Marine Regiment and elements of MAG-12. The Seabees went to work on 9 May, constructing the first SATS ever installed in a combat environment.

The landing force commander at Chu Lai was Brigadier General Marion E. Carl, one of the Corps' most

famous aviators. He had brought his 1st Marine Brigade from Hawaii to the Western Pacific in March and although that Brigade was disbanded, Carl had become Commanding General of the 3dMEB. As there were no stakes to mark the previously chosen site, he had a hand in picking the exact spot where the runway should go.

The sand proved to be a formidable enemy. Unloading from the ships was hampered, as driving vehicles through the sand was most difficult. Tracked vehicles were essential to move the rubber-tired ones. It required a superhuman effort to get the job done.

The general construction scheme was to excavate some locally available soil, called laterite, and use it as a sub-base between the sand and aluminum matting. Before that could be done, a road had to be built from the site of the airfield to the laterite deposit. This was done, but the combination of temperatures around the hundred mark and the effect of sand on automotive and engineering equipment slowed the progress of construction. Both men and mechanical equipment grew tired quickly in this hostile environment. Needless to say, no one expected to finish in four days. Even thirty looked totally unrealistic, but that was the goal. In spite of the problems and obstacles, Lieutenant General Krulak bet Major General Richard G. Stilwell, Chief of Staff of MACV, that a squadron would be operating there within 30 days.

By Memorial Day, approximately four thousand feet of mat and several hundred feet of taxiway were in place. Chu Lai was ready to receive aircraft, but tropical storms prevented the planes from flying from the Philippines to Vietnam until 1 June. Shortly after 0800 on that date, Colonel John D. Noble, Commanding Officer of MAG-12, landed an A-4 into the mobile arresting gear on the aluminum runway. He was followed by three others, and, later in the day, four more arrived. About 1300, the first combat mission was launched using JATO with Lieutenant Colonel Robert W. Baker, Commanding Officer of VMA-225, leading.

General Krulak paid off his bet of a case of Scotch to Stilwell on the basis that a full squadron was not operating there in the forecast time, only half of one.

But construction continued and, as additional taxiway was built, more planes came in. Meanwhile operations continued on a daily basis.

The laterite, however, simply wasn't doing the job, so when 8,000 feet of runway was installed, it was decided to operate from the southern 4,000 feet and to re-lay the northern 4,000 feet, which were the first to go down. As it turned out, after the northern half was redone, the other half had to have the same treatment, and then the cycle was repeated still another time when, at last, the right sub-base combination was found. Various techniques were tried, including watering and

<sup>3</sup>The sand and dust were problems, but the biggest problem in the early days was a lack of facilities in which to conduct maintenance. Maintenance was performed on the line under strictly expeditionary conditions. As time went by, facilities were built. Structures that could accommodate two A-4s were erected as line hangars, shops were constructed, and electric power was installed. The problems were different at Da Nang. Da Nang at least had some hangar space, even if it was old and in poor repair. Eventually, some of the facilities built at both Da Nang and Chu Lai were probably better than those we have at air stations in the United States. But the Marine Corps does not expect to find these conditions at the outset of any operation. That is why the Corps has placed so much emphasis on the expeditionary aspects of its operations.



packing the sand down without any other material, shooting the sand with a light layer of asphalt, and finally a combination of the latter and using a thin plastic membrane under the matting to keep rain from settling into the soil and undermining the runway surface.

Drainage was essential, of course, as any standing water under the mat set up a pumping action as aircraft rolled over the mat, which was particularly noticeable when a transport like a KC-130 landed and rolled out.

During these periods of 4,000-foot operations, JATO was used when high temperatures and heavy bomb loads required it. In addition, a Marine KC-130 tanker was kept available to top off A-4s after take-off, by inflight refueling.

A catapult was installed in April 1966, so all SATS components were then in place. The catapult was tested and evaluated under combat conditions but was not actually required on that date because of the length of the runway. It was used, but not on a sustained basis.

The SATS concept was proven under combat conditions at Chu Lai. The AM-2 mat became a hot item, and production of it was increased markedly in the United States, as all Services sought it. It was used for non-SATS airfields and helicopter pads, and became as commonplace in Southeast Asia as was the pierced steel plank (PSP) in the Southwest Pacific in World War II. Likewise, TAFDS components became a common sight, and their flexible fuel lines could be seen almost anywhere.

The original "tin foil strip," as it came to be called, was still in operation late in 1970, more than five years after it was laid down. Not even the planners back in Quantico in 1955 ever envisioned that someone would install a short airfield for tactical support on sand and leave it there for five years. But this is exactly what was done at Chu Lai.

### *Ky Ha and Marble Mountain*

The small civilian airfield at Phu Bai, South of Hue, could accommodate one helicopter squadron, which was required in that area to support an infantry battalion that was assigned to secure the region in 1965. But in addition, two major helo bases were required in relatively short order: first, to take care of MAG-36, which had been alerted to deploy from Santa Ana, California; and second, to free Da Nang of its rotary wing aircraft, so that construction of the parallel runway there could be started.

The peninsula to the northeast of Chu Lai provided a likely site for a helo group as well as an air control squadron. The Seabees began preparation of a flat area and laid down several kinds of metal matting, but they

had no time to do anything else in the way of preparing for MAG-36's arrival. The group departed from the West Coast in August 1965, and arrived off Chu Lai early in September. They unloaded, moved ashore, and set about building their own camp. At night they also established their own perimeter defense as there was no infantry to do it for them. And, almost as soon as they landed, the rains began. Whereas at Chu Lai it was sand, at Ky Ha it was pure, unadulterated mud. The base was named Ky Ha after the village nearest the site.

For MAG-16, a site had been chosen east of Da Nang just north of Marble Mountain. There was a beautiful stretch of sandy beach along the South China Sea and just inland was a fine expanse of land covered with coniferous trees ten to twenty feet high. Unfortunately, as soon as word got out that Marines were going to construct an air base there, the local Vietnamese came onto the land in droves and removed all the trees including the roots, instead of the few that had to be removed to build the runway and parking areas. Thus, the troops and other inhabitants lost the protection these trees would have afforded against sun, wind, and erosion.

The civilian construction combine in Vietnam, Raymond, Morrison, Knudson-Brown, Root, and Jones (RMK-BRJ), received the job of building the helicopter facility at Marble Mountain. It was sufficiently advanced by late August 1965 to allow MAG-16 to move from Da Nang and operate at the new facility.

All during the summer, the question of whether or not another SATS type airfield should be constructed in ICTZ was under serious consideration. There were four likely sites: from north to south, Phu Bai, Marble Mountain Air Facility, Tam Ky, and Quang Ngai. After much study and many messages, the idea was abandoned when it became clear that Da Nang plus Chu Lai would be adequate.

On the night of 27 October 1965, the enemy executed a coordinated sapper attack against Da Nang, Marble Mountain, and Chu Lai. The attack on Da Nang was thwarted by artillery fire against one column to the west, and by an alert ambush against a second force to the south.

At midnight, three sapper teams hit Marble Mountain Air Facility. The team from the north was met by aviation specialists standing guard duty and every attacker was killed. The southern team was driven off. But the one from the west managed to get on to the parking area and several of the enemy raced from helo to helo throwing charges into each. In short order, the place was a mass of burning aircraft. Over twenty were damaged beyond repair, and an equal number required varying degrees of repair.

At Chu Lai only a handful of sappers made it to

the flight line, and half of them were killed. A few A-4s were damaged, two beyond repair.

Air bases were to become prime targets. They required close-in defense in depth to make sapper infiltration unprofitable, and they required an outer mobile defense by infantry to ward off rockets and mortars. The ground units did a superb job in keeping the enemy off balance, so that only a few rockets and mortars found profitable targets. Further, aviation and ground personnel tightened their perimeter defense, so never again was there an infiltration which equalled the success of the October attack.

### *Da Nang*

Once MAG-16 had vacated the west side of Da Nang, construction could begin on the parallel runway and taxiway. Plans were made to construct the northern and southern concrete touchdown pads and connecting taxiways to the east runway first, the MAG operating and maintenance area on the northwest corner of the base second, the remainder of the runway third, and the parallel taxiway last. The two touchdown pads were required first because there was an urgent requirement to move VMCJ-1 from the parking apron on the east side of the field. Furthermore, an F-8 squadron was authorized for Da Nang, but there was no ramp space. The northern touchdown pad would provide ramp space for these two jet squadrons. The southern pad would provide a place to operate the KC-130s and C-117s.

The 1stMAW did not desire to have the entire runway completed before the MAG operating area was, because if it had been, it would have been used as a runway and not for ramp space. This priority was given to the completion of jobs because the engineer work-force was not adequate to undertake them all simultaneously. Although another runway was sorely needed, parking space was the more urgent requirement. Why wasn't a SATS built so a runway would be available at the same time parking space was? Because what was needed was a long runway for the long haul that would accommodate Marine, Navy, Air Force, commercial, and miscellaneous aircraft of all sizes.

MAG-11 moved into Da Nang from its base at Atsugi, Japan, in July 1965, and took command of the jet squadrons which up to that time had been under control of MAG-16. Colonel Robert F. Conley commanded MAG-11. The F-8 squadron, Marine All-Weather Fighter Squadron 312 (VMF(AW)-312), commanded by Lieutenant Colonel Richard B. Newport, arrived at Da Nang in December 1965 and occupied the completed northern touchdown pad along with VMCJ-1, which had moved over from the east side of the base.

The MAG operating area for MAG-11 and the west runway were completed late in 1966, and the last Ma-

rine flight operations were then moved from the east side of the base to the west side.

### *Chu Lai West*

A 10,000-foot conventional concrete runway and associated taxiways, high speed turnoffs, and ramp space for two MAGs was begun at Chu Lai, to the west of the SATS strip, early in 1966 and completed that October. Marine Air Group 13 arrived from Iwakuni, Japan, and occupied the new base. This Air Group had been stationed at Kaneohe, Hawaii, as part of the 1st Marine Brigade. It deployed to the Western Pacific with the Brigade and Brigadier General Carl in March, but bided its time in Okinawa and later in Japan, until a base was available for it in Vietnam. Beginning in the fall of 1967, both MAGs 12 and 13 operated from the concrete runway, and the SATS strip was made available to the Army for helos and light aircraft.

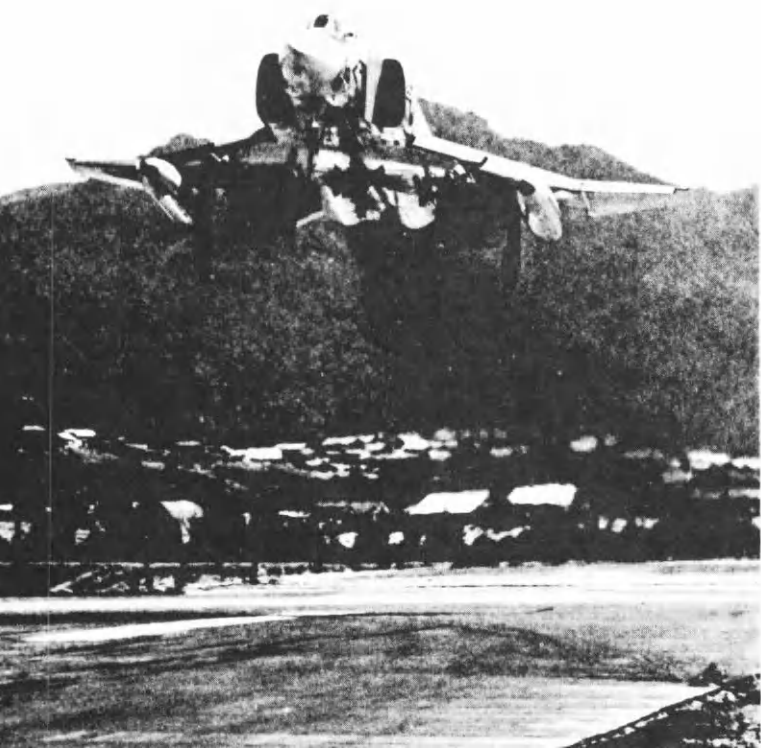
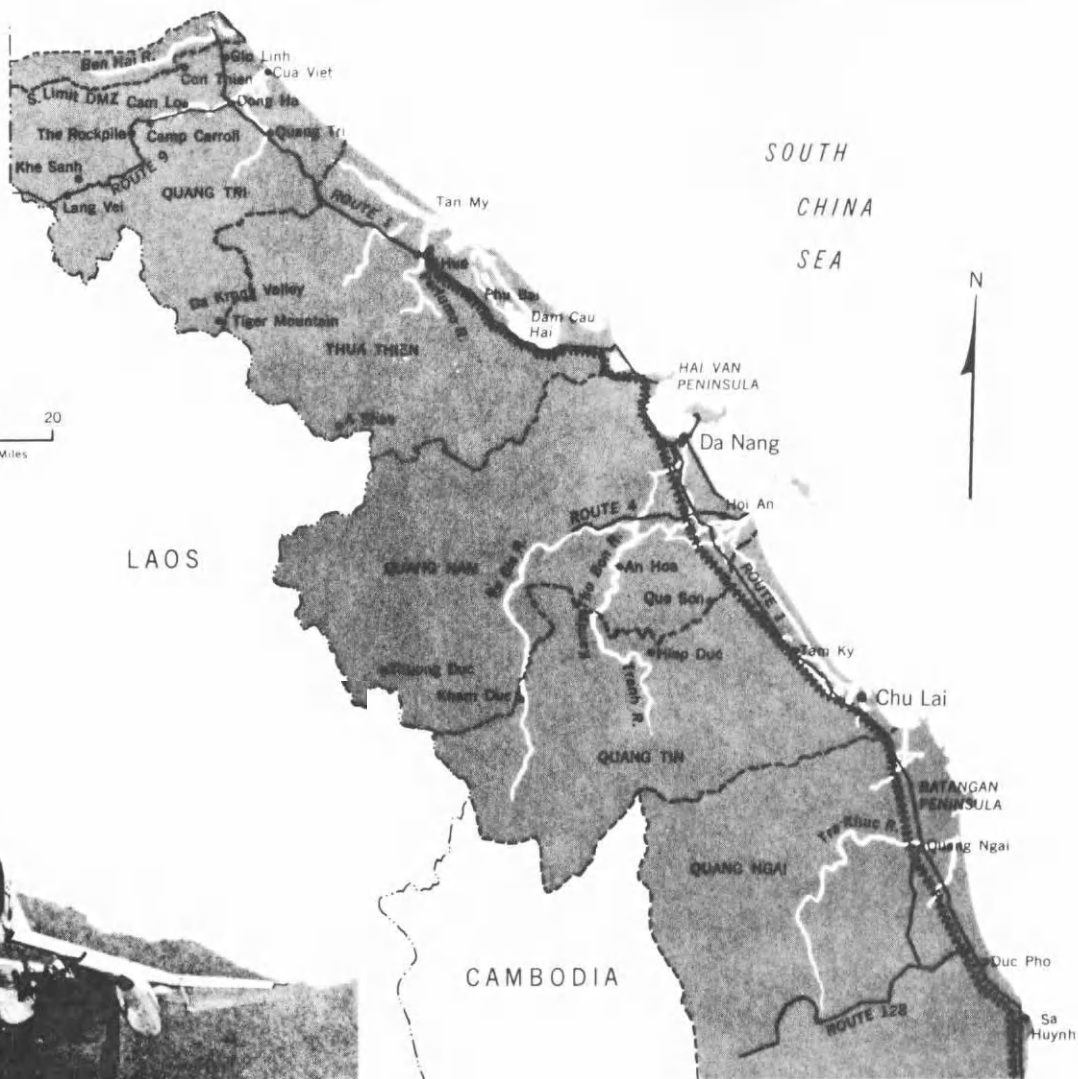
An AM-2 runway, complete with catapult and arresting gear, was constructed to connect the northern ends of the concrete and "tinfoil" runways. This provided for a cross-wind runway, about 4,800 feet in length, as well as an interconnection of the two fields for aircraft movement on the ground.

### *Helicopter Bases in Northern ICTZ*

As the center of gravity of Marine operations moved north, the helos followed. Late in 1967, Phu Bai was expanded to accommodate a full helicopter group, and MAG-36 moved there from Ky Ha, which was taken over by the Americal Division. Later a base was established at Dong Ha to support the 3dMarDiv's operations below the DMZ. This proved to be a particularly hot area, as it came under fire with some regularity from enemy artillery north of the DMZ. In October 1967, the Quang Tri helicopter base, nine nautical miles south of Dong Ha and beyond the range of enemy artillery firing from the DMZ, was completed in a record 24 days. The helicopters were sent there from Dong Ha and operations were begun immediately. In April 1968, a provisional air group, MAG-39, was established out of 1stMAW resources in order to provide better command and control over the helicopter squadrons based at Quan Tri to better support the 3dMarDiv.

### *Monkey Mountain*

Another formidable construction project was the emplacement of a Hawk missile battery on Monkey Mountain just east of Da Nang. The site selected was over two thousand feet above sea level and about one mile east of the Air Force radar site known as Panama. Naval Mobile Construction Battalion 9, led by Commander Richard Anderson, was given this task. A road had to be built first of all, and then the mountain peak



*Chu Lai was not a recognized name on Vietnamese maps when, in March 1965, it was chosen to become the second (after Da Nang) jet base in I Corps; yet, in five years, the SATS concept was proven under combat conditions here. Among the techniques tested at Chu Lai was the modified shipboard arresting gear which can stop a jet—such as this F-4B coming into the cross-wind runway with its arresting hook down—in 600 feet.*

had to be leveled in order to provide a sufficiently flat area to emplace the battery. On 1 September 1965, the site was sufficiently cleared to receive the equipment, and Captain Charles R. Keith's "B" Battery, 1st LAAM Battalion, was emplaced. As in the case of airfields, development of the site continued concurrently with operations. Late in 1966, a similar but less extensive construction effort was undertaken just to the east of Hai Van Pass, so that the LAAM Battery which was still on Da Nang Air Base could be moved to a better tactical location.

#### *Other Operating Areas*

In addition to these permanent bases, many outlying fields and expeditionary operating areas were established as the military requirement dictated. Airfields suitable for KC-130s and helos were built or improved at Khe Sanh, An Hoa, Landing Zone Baldy, Tam Ky, and Quang Ngai; and the 1stMAW at one time or another had detachments stationed at these installations to provide for air traffic control, refueling, rearming, and other essential tasks. ("Suitable for KC-130s" means about 3,000 feet of runway with some sort of hard surface.) The 1stMAW had the capability to move where the action was. Its expeditionary character was well suited to this kind of campaign.

*Men, Units, and Aircraft*

From the time it established its command post (CP) at Da Nang in June 1965 until April 1966, the 1stMAW maintained a rear echelon under its command at Iwakuni, Japan. During this period the 1stMAW had cognizance over all Marine Corps aviation units deployed to the Western Pacific. It rotated jet units between Japan and Vietnam and helo squadrons between Okinawa, the Special Landing Force (SLF) afloat in the Seventh Fleet, and Vietnam. It also reassigned men.

In Vietnam the wing had a Headquarters Group and four aircraft MAGs: MAG-11 and MAG-12, with jets at Da Nang and Chu Lai respectively; MAG-16 at Marble Mountain and Phu Bai with helos; and MAG-36 at Ky Ha with helos. A Service Group, stationed in Japan as part of the rear echelon, did not arrive in Vietnam until 1966, when facilities became available. The Headquarters Group and the Service Group were both reorganized in 1967 by Headquarters Marine Corps into three groups instead of two: a Headquarters Group, an Air Control Group, and a Support Group. This reflected a realignment of functions to provide better management of resources, based on experience gained in the recent move of the 1stMAW from Japan and Okinawa to Vietnam.

The first aircraft squadrons to arrive in Vietnam were from 1stMAW units in Japan and Okinawa. These were "rotational" squadrons. Each had been trained in the United States and deployed as a team to serve a 13-month tour together in WestPac. At the expiration of that tour, another squadron was scheduled to arrive to replace the old squadron on station.

Because all members of the squadron arrived at the same time, it meant they all had to be sent back to the United States at the same time. Likewise, all the men in squadrons that arrived in Vietnam from Hawaii and the United States, whether their units were rotational squadrons or not, would also have to be replaced at the same time.

The Corps could no longer support unit rotation on that scale, so it was forced to go to a system of replacement by individuals rather than by units, except in special cases. This problem arose because the Stateside training establishment became saturated with training individuals as individuals and had no time to devote to team or unit training, except for those units which were reforming with new aircraft. In the latter case, unit rotation was necessary. In order to preclude all of a unit being replaced in one month, the 1stMAW went through a reassignment program in late 1965 in an effort to smooth out the rotation dates of men's tours. All like squadrons, for example all HMMS, had their men interchanged to take advantage of different squadron arrival times in WestPac so that their losses through rotation

would be spread over several months rather than one. Short touring a few men helped further to spread the losses. This program was called "Operation Mixmaster." It was a difficult one to administer but it accomplished its objective.

In April 1966, the aviation units in Japan and Okinawa were removed from the 1stMAW and established as a separate command reporting directly to FMFPac. The rotation of aircraft, men, and units in and out of Vietnam then became the direct responsibility of FMFPac in lieu of the 1stMAW. The principal reasons for this were that the 1stMAW was increasing in size to the point that the staff could not manage men and equipment spread all over the Western Pacific, and the units in Japan and Okinawa were under the operational control of the Seventh Fleet rather than under General Westmoreland in Vietnam, who did have the operational control of 1stMAW. So this realignment logically transferred administrative control to FMFPac.

When the war began in 1965, the Marine Corps was authorized 54 deployable aircraft squadrons in the Fleet Marine Forces: 30 jet, 3 propeller transport, 18 helicopter transport, and 3 observation.

After initial deployments to Vietnam in 1965, action was initiated on a priority basis to expand the Corps. Another Marine division, the 5th; one deployable helicopter group consisting of two medium helicopter squadrons; and two observation squadrons were authorized for the duration of the Southeast Asia conflict. The 5thMarDiv was organized, trained, and equipped, and elements of it were deployed to Vietnam. The helicopter group never did become fully organized or equipped. Only one of its helo squadrons was formed. Additionally, two fixed wing and two helicopter training groups, all non-deployable, were authorized for the permanent force structure, but they were not fully equipped until 1970.

The reasons that these aviation units were not completely organized and equipped were primarily time and money. All of the essential resources were long-lead-time items: pilots, technical men, and aircraft. All of them are expensive.

The Reserves could have provided trained personnel, but they were not called up in the case of the Marine Corps. The Reserve 4th Marine Aircraft Wing was not equipped with modern aircraft equivalent to the three regular wings, and it did not have anywhere near its allowance of helicopters, so even if the men had been left behind, it would not have been much help as far as aircraft were concerned.

Two years later the Department of Defense authorized the Marine Corps to reorganize its three permanent and two temporary observation squadrons into three observation and three light transport helicopter squad-

rons. The net result of these authorization was that the Marine Corps added one medium and three light transport helicopter squadrons, giving a total of 58 deployable squadrons.<sup>4</sup>

*The Arrival of New Aircraft*

Aviation is a dynamic profession. The rate of obsolescence of equipment is high and new aircraft have to be placed in the inventory periodically in order to stay abreast of the requirements of modern war. In 1965, the Corps was entering a period that would see the majority of its aircraft replaced within four years.

The A-6A all-weather attack aircraft was coming into the FMF to replace six of twelve A-4 squadrons. (The Marine Corps could neither afford nor did it need to acquire a 100 per cent all-weather capability.) The squadrons retaining A-4s would get a newer and more capable series of A-4. Two-seat TA-4Fs would also become available to replace the old F-9 series used by airborne tactical air coordinators.

The F-4B was well along in replacing the F-8 in the 15 fighter squadrons, and in two years, it was to be replaced in part with an even more capable F-4J.

The RF-4 photo reconnaissance aircraft was programmed to replace the RF-8.

The EA-6A electronic warfare aircraft was procured to replace the EF-10B, which was a Korean War vintage airframe.

The O-1 was scheduled to give way to the OV-10A.

The UH-34 medium transport helicopter and the CH-37 heavy transport were to be replaced by the CH-46 and the CH-53, respectively, in the 18 transport helicopter squadrons.

The UH-1E was just coming into inventory to replace the H-43. In a few years, the AH-1G Cobra would fill a complete void. It would provide the Corps with its first gunship designed for the mission. It did not replace, but rather augmented the UH-1E. (The Marine Corps

had no AC-47s, AC-117s, AC-119s, or AC-130s. Every C-47, 117, 119, and 130 the Corps had was required for its primary purpose and none was available for modification to a gunship role.)

Only the KC-130 tanker-transport did not have a programmed replacement.

New models were accepted all through the war. As each was received, a training base had to be built, not only for aircrews but also for technicians. In order to introduce a new model into the 1stMAW, a full squadron had to be trained and equipped or, in the case of reconnaissance aircraft, a detachment equivalent to one-third or one-half a squadron. As a new unit arrived in Vietnam, a similar unit with older aircraft would return to the United States to undergo reforming with new aircraft. After several like squadrons had arrived in Vietnam, they would undergo a "mixmaster" process in order to spread the rotation tour dates of the men for the same reason as the first squadrons that entered the country.

In June 1965, nine of the fixed wing and five helicopter/observation squadrons were deployed to WestPac. By the following June, 12 fixed wing and 11 helo/observation squadrons were in WestPac. A year later the total was 14 and 13, respectively, and by June 1968 it had risen to 14 and 14, essentially half of the Marine Corps' deployable squadrons. Except for one or two jet squadrons that would be located in Japan, at any one time all of these squadrons were stationed either in Vietnam or with the Special Landing Force of the Seventh Fleet operating off the coast of Vietnam.

More squadrons could not be deployed because all of the remaining squadrons in the United States were required to train replacements, either for the individual replacement program or for the limited unit rotation program to deploy new aircraft. Other commitments were drastically curtailed or eliminated. For example, no helicopters accompanied the infantry battalions to the Mediterranean. The capabilities of FMFPac and FMFLant to engage in other operations were substantially reduced.

<sup>4</sup>The following table lists the normal planning figures for each kind of aviation unit. Due to operational factors, not all squadrons were equipped with normal complements. Main deviations were VMO, VMCJ, and HML.

Type Squadron	No. Aircraft	Model Aircraft
VMA	20	A-4
VMA(AW)	12	A-6
VMFA	15	F-4
VMCJ	9	EA-6A
	9	RF-4
VMGR	12	KC-130
VMO	18	OV-10A
	12	AH-1
HML	24	UH-1
HMM	21	CH-46
HMH	18	CH-53

*Command, Control, and Coordination*

*1965-1968*

The Marine Corps is proud of the fact that it is a force of combined arms, and it jealously guards the integrity of its air-ground team. Retention of operational control of its air arm is important to the Corps' air-ground team, as air constitutes a significant part of its offensive fire power. Ever since the Korean War, when the 1stMarDiv was under operational control of the Eighth Army and the 1stMAW was under the Fifth

Air Force, the Corps has been especially alert to avoid such a split again. It is even more important now because of the increased reliance on helicopters and close air support.

Long before a Marine MEB landed in Vietnam, CinCPac was also concerned about how tactical air operations would be coordinated in the event of a war. Admiral H. D. Felt, who was CinCPac in the early sixties, had studied the lessons of the Korean War and concluded that we needed to do better. And since there was no doctrine upon which all the Services were agreed on that score, he decided to form a board to look into the matter.

Brigadier General McCutcheon was then the assistant chief of staff for operations at CinCPac, and Admiral Felt appointed him to head a twelve-man board with representatives from the CinCPac staff and the three Service component commands. All four Services concerned were represented. The board convened in September 1963 and deliberated for three months. It looked at the full spectrum of tactical air support, which includes five principal functions:

a. Control. The allocation and management of resources (aircraft and missiles) to achieve maximum effectiveness.

b. Antiair warfare. The destruction of the enemy's air capability in the air and on the ground.

c. Offensive air support. The use of air-to-ground ordnance and other weapon systems in direct and close support of ground troops and in the interdiction of the enemy's rear areas.

d. Reconnaissance. The use of visual, photographic, electronic, and other airborne sensors to acquire information about the enemy and the battlefield environment.

e. Transport. The transportation of men, equipment, and supplies to and from and within the battle area.

The written report of the board contained a number of conclusions. One was that all Services possessed aircraft and that all Services required them in order to carry out their tactical missions. Another was that a joint force commander should appoint one of his Service component commanders to be the coordinating authority for tactical air operations within the area of operations of the joint command.<sup>5</sup>

<sup>5</sup>"Coordinating Authority" is defined in the *Dictionary of United States Military Terms for Joint Usage* as a commander or individual assigned responsibility for coordinating specific functions or activities involving forces of two or more services, or two or more forces of the same Service. He has the authority to require consultation between the agencies involved, but does not have the authority to compel agreement. In the event he is unable to obtain essential agreement, he shall refer the matter to the appointing authority.

Admiral Felt neither approved nor disapproved of the board report in its entirety. Nor did his successor, Admiral U. S. Grant Sharp, who relieved him on 1 July 1964. But various recommendations of the report were put into effect by CinCPac in his exercise of overall operational command and management of tactical air resources within the Pacific Command. For example, when photo reconnaissance missions were initiated over Laos in 1964, CinCPac used the coordinating authority technique to coordinate Navy and Air Force reconnaissance efforts. Later on, CinCPac used coordinating authority when air activity was undertaken in Laos and in North Vietnam.

When plans were being made early in 1965 to land Marines at Da Nang, CinCPac informed ComUSMACV that:

a. The Commanding General (CG) of the MEB would report to ComUSMACV as Naval Component Commander.<sup>6</sup>

b. ComUSMACV would exercise operational control of the MEB through the CG of the MEB.

c. Commander, 2d Air Division, in his capacity as Air Force Component Commander of MACV would act as coordinating authority for matters pertaining to tactical air support and air traffic control in MACV's area of responsibility.

ComUSMACV replied to CinCPac that the Marine jet squadron of the MEB would come under the operational control of his Air Force Component Commander and that such control would be exercised through the tactical air control system. Of course, he added, if the MEB became engaged, it was understood that Marine aircraft would be available for close air support.

The following day CinCPac reiterated his previous guidance to ComUSMACV, namely, that operational control of the squadron would be exercised through the MEB and not the 2d Air Division.

In April 1965, CinCPac promulgated a directive on conduct and control of close air support for the entire Pacific Command, but with emphasis on Vietnam. CinCPac clearly stated that the priority mission in Vietnam was close air support, and the first priority was in support of forces actually engaged with the enemy. The directive went on to say that close air support aircraft would be subject to direct call by the supported ground unit through the medium of the related close

<sup>6</sup>CG III MAF also became Naval Component Commander, until 1 April 1966 when a new billet was created and designated Commander, U. S. Naval Forces, Vietnam. This officer then took charge of all U. S. naval activities in Vietnam including the Naval Advisory Group, the naval construction battalions, the naval support activities, the coastal patrol task force, the mobile riverine force, and the river patrol task force. Thereafter, III MAF consisted of one service reporting directly to ComUSMACV until U. S. Army units were assigned to ICTZ and placed under the operational control of III MAF.

air support agency. Among other things, the directive also said that nothing therein vitiated the prior CinCPac position that ComUSMACV's Air Force Component Commander should act as coordinating authority in matters pertaining to tactical air support and air traffic control.

In June 1965, ComUSMACV initiated a revision of his air support directive, and he drew heavily from the CinCPac Tactical Air Support Board report. The directive was published later that year and revised slightly in 1966, but the pertinent provisions were unchanged.

The MACV directive designated Commander, Seventh Air Force (formerly 2d Air Division), in his capacity as Air Force Component Commander, to act as the coordinating authority for all U. S. and Free World Military Air Force air operations and Vietnamese Air Force activities in the MACV area of operation. Commander, Seventh Air Force, was further given responsibility to establish, in conjunction with U. S. and Vietnamese agencies, an air traffic control system to provide normal processing and flight following.<sup>7</sup> He was also charged to prepare joint instructions, in conjunction with Commanding General, III MAF, and appropriate Army and Navy commanders, to insure integrated and coordinated air operations.

In the same directive, the Commanding General of III MAF was directed to exercise operational control over all Marine Corps aviation resources except in the event of a major emergency or disaster when ComUSMACV might direct Commander, Seventh Air Force, to assume operational control. Commanding General, III MAF, was further enjoined to conduct offensive and defensive tactical air operations to include close air support, interdiction, reconnaissance, maintenance of air superiority, air transport, search and rescue, and other supplemental air support as required. He was also directed to identify to Commander, Seventh Air Force, those resources in excess of current requirements so that such resources could be allocated to support other forces or missions. Finally, he was charged to prepare in conjunction with Commander, Seventh Air Force, joint operating instructions to insure a coordinated and integrated effort.

Concurrently with the revising of the MACV directive, the Commander, Seventh Air Force, Lieutenant General Joseph H. Moore, and the Deputy Commander of III MAF for Air, Brigadier General McCutcheon, were engaged in discussions relative to the degree of control that the Seventh Air Force should have over Marine air assets, particularly with regard to air defense operations. The Air Force desired to have operational control,

but the Marines pointed out that the F-4 aircraft was a dual purpose aircraft<sup>8</sup> and that the Marine tactical air control system was used to control all Marine aviation functions, not just air defense. To relinquish operational control would deprive the MAF commander of authoritative direction over one of his major supporting arms.

Nevertheless, the Marines recognized the necessity of having one commander directly responsible for air defense so, after several joint meetings, it was decided to prepare a Memorandum of Agreement which would disseminate basic policies, procedures, and responsibilities. The Air Force was to have overall air defense responsibility and designate an air defense commander. The Commanding General, 1stMAW, was to designate those forces under his command that would participate in air defense, and he agreed that the Air Force would exercise certain authority over those designated resources to include scramble of alert aircraft, designation of targets, declaration of Hawk missile control status, and firing orders. This agreement was signed by the two commanders in August 1965. Overall operational control of Marine air resources was retained under III MAF, but requisite authority for purposes of air defense was passed to the Air Force.

These two documents provided the basic policy for command, control, and coordination of Marine aviation in Vietnam until early 1968, and they were entirely adequate as far as III MAF was concerned.

#### *Single Management (1968-1970)*

Late in 1967, the buildup began for the Battle of Khe Sanh. General Westmoreland had directed massive air support for the garrison there, and both the 1stMAW and Seventh Air Force responded in full. Both General Westmoreland and General William W. Momyer, Commander, Seventh Air Force, believed more effective use could be made of MACV's total air resources if they were managed by a single commander and staff. Early in 1968, a directive was prepared to implement the concept.

The proposed directive required the Commanding General, III MAF, to make available to the Deputy ComUSMACV for Air (who was also Commander, Seventh Air Force) for mission direction all of his strike and reconnaissance aircraft and his tactical air control system as required. The term "mission direction" was not defined. Deputy ComUSMACV for Air was to be responsible for fragging and operational direction of these resources. "Operational direction" was not defined either. "Fragging" is a common aviation term which

<sup>7</sup>Flight following is a service performed on request by a radar installation for an aircraft. It is usually used when flying conditions prohibit the pilot from maintaining a visual outlook. The radar site will follow his flight and advise him of any traffic that may interfere or create a potential hazard.

<sup>8</sup>The Marines had no F-8s in Vietnam at the time these discussions took place. The first F-8s arrived in December 1965 and they too had a dual capability.



means to issue a fragmentary order to cover details of a single mission, that is, what is required, where, and when.

The Marines, both in Vietnam and in Washington, objected to the proposed directive on two counts: first, the system as proposed would increase the response time for air support; and second, they reasoned it wasn't necessary.

With regard to the first point, MACV modified the proposed system to improve the response time so that for Marines it wouldn't be any longer than it had been formerly, and for the Army units it would be better. On the second count, MACV remained convinced that it was necessary.

The directive was approved by CinCPac and went into effect in March 1968. The system required the 1stMAW to identify its total sortie capability to Seventh Air Force daily on the basis of a 1.0 sortie rate, that is, one sortie per day for each jet aircraft possessed. Previously the 1stMAW had fraggged its aircraft against air support requests received from the Marine ground units, and then identified daily to Seventh Air Force the excess sorties that would be available. These were then fraggged by Seventh Air Force on either out-of-country missions or in-country in support of forces other than Marine units. The majority of air support could be forecast and planned in advance except the requirements that might be generated by troops in contact with the enemy. These requirements could be met by extra sorties, scrambles from the hot pad, or by diverting aircraft in the air.

As time went on the participants in the single management system made changes in order to improve efficiency and effectiveness. One such change was the fraggging of a portion of the air support on a weekly basis rather than daily. This permitted the more or less standard recurring flights to be handled with less paperwork, while the nonroutine requests could still be fraggged on a daily basis. Seventh Air Force also fraggged back to 1stMAW a set number of sorties to take care of unique Marine requirements such as helicopter escort and landing zone preparation which were tied closely to helo operations.

When single management was inaugurated, two new DASCs were added to I Corps. One was established at the III MAF Command Post at Camp Horn, in East Da Nang, and one at the XXIV Corps Command Post at Phu Bai. The one at III MAF was the senior DASC in I Corps and was given authority to scramble strike aircraft without further reference to the Tactical Air Command Center (TACC) in Saigon. This scramble authority was not delegated to similar DASCs in other Corps areas. I Corps was unique in that it was the only corps area that had both Marine and Air Force tactical air squadrons and both Marine and Army divisions.

Since the 1stMAW generally exceeded the 1.0 sortie rate, all sorties generated in excess of 1.0 could be scrambled by Horn DASC. These excess sorties, plus those fraggged back to meet unique Marine requirements, amounted to a sizeable percentage of the 1stMAW's effort, and so, for all practical purposes, the system worked around to just about where it was in the pre-single management days as far as identification or fraggging of Marine sorties was concerned.

There is no doubt about whether single management was an overall improvement as far as MACV as a whole was concerned. It was. And there is no denying the fact that, when three Army divisions were assigned to I Corps and interspersed between the two Marine divisions, a higher order of coordination and cooperation was required than previously.

The system worked. Both the Air Force and the Marines saw to that. But the way it was made to work evolved over a period of time, and a lot of it was due to gentlemen's agreements between the on-the-scene commanders. A detailed order explaining the procedures was never published subsequent to the initial directive. The basic MACV directive on air support, however, was revised in 1970 to take into account the advent of single management.

The revised MACV directive defined the term "mission direction" or "operational direction" which had been used in the basic single management directive but not defined. "Mission direction" was stated to be the authority delegated to one commander (i.e., Deputy ComUSMACV for Air) to assign specific air tasks to another commander (i.e., CG III MAF) on a periodic basis as implementation of a basic mission previously assigned by a superior commander (ComUSMACV). In other words, ComUSMACV assigned CG III MAF a basic mission to conduct offensive air support, and ComUSMACV delegated to his Deputy for Air the authority to task CG III MAF for specific missions on a daily and weekly basis in frag orders in order that III MAF assets could support the force as a whole.

Although single management never took operational control of his air resources away from CG III MAF, the Marines were worried that that might be the next step. If so it would be a threat to the air-ground team, and it would recreate the Korean War situation all over again. The new MACV directive allayed their fears on this score. Not only did the definition of "mission direction" spell out the extent of control to be exercised, but the directive clearly stated that CG III MAF would exercise operational control over all his air resources, and that he would conduct offensive and defensive air support missions to include the full spectrum of tactical air support.

In short, the Marines did not relinquish operational

control of their resources, MACV as a whole received more effective air support, and III MAF continued to receive responsive air support from its own units. Within the system, III MAF had first claim on its own assets, so most Marine air missions were in support of Marine ground units and the majority of air support received by Marine ground units was provided by Marine air.

### *Control*

Marine Corps doctrine prescribes that the commander of an air-ground team will have operational control of all his weapons systems and employ them in concert as a force of combined arms to accomplish his mission. The Marine commander exercises this operational control through his normal staff planning process and by means of the Marine Air Command and Control System.

The senior agency in this system is the Tactical Air Command Center (TACC). Because the Seventh Air Force had a TACC in Saigon, the 1stMAW center was called a TADC (Tactical Air Direction Center) as provided for in doctrine. This center was established in June 1965 in the wing compound at Da Nang and it functioned there throughout the war. Continuous improvements were made in its physical appearance, but the tasks performed remained essentially the same. The TADC monitored the employment of all Marine aircraft and allocated the resources to specific missions.

There were two principal agencies subordinate to the TADC. These were the Tactical Air Operations Center (TAOC) and Direct Air Support Centers (DASCs).

The TAOC is the hub of activity for air surveillance and air defense. It is provided for by a Marine Air Control Squadron (MACS).

On a Saturday night in May 1965, Marine Air Control Squadron 9 (MACS-9), based at Atsugi, Japan, and commanded by Lieutenant Colonel Charles T. Westcott, received a telephoned order to have an early warning radar and team ready to deploy by air to Vietnam the next day. Three KC-130s from VMGR-152 were loaded on Sunday and flown to Phu Bai where the team set up and began operating as a northern radar site for the Air Force radar station Panama on Monkey Mountain.

The remainder of the squadron deployed to Chu Lai in the summer and established a manual TAOC. The information from the various radars was plotted by hand on vertical display boards just as had been done during World War II and the Korean War. MACS-7 relieved MACS-9 in place in September 1965.

In June 1967, MACS-4 arrived in Vietnam and replaced the manual system with a modern semi-automated, computer-oriented TAOC which had been developed as part of the Marine Tactical Data System, or MTDS. This system had been under development since the late fifties

and was compatible with two similar developments by the Navy: the Navy Tactical Data System (NTDS) for surface operations and the Navy Airborne Tactical Data System (ATDS) for airborne control centers.

In order to make most effective use of this equipment it was decided to emplace it on Monkey Mountain where one of the Hawk missile batteries was located. This required more construction effort to enlarge the site to accommodate both MACS-4 and the Hawks. A considerable area was required for the radars and their antennae and for the sixteen helicopter-transportable huts that comprised the TAOC and the four huts that made up the Tactical Data Communications Central (TDCC).

The TAOC gave the 1stMAW a capability to handle 250 aircraft tracks, friendly and hostile, at one time. In addition, from an air defense point of view, the controllers could handle more than 25 air intercepts simultaneously and the TAOC had a built-in missile data link capability.

A team from the Joint Chiefs of Staff visited Southeast Asia and recommended that steps be taken to link the various Services' air control systems together in that theater. A joint task group was established to work out the technical details.

The TAOC was already operating with the NTDS and ATDS units of the Seventh Fleet in the Gulf of Tonkin. The interface between MTDS and these two systems was the Marine TDCC on Monkey Mountain. The TDCC was the logical candidate, therefore, to become the interface with the Air Force system. One more shelter was required. This provided a special data terminal, or "modem," to convert from computer mode to communications mode. In addition, a new program had to be written for the Marine computer. In layman's terms, the result produced a TDCC which was the equivalent of a language translator in three languages.<sup>9</sup> It could receive either Navy, Marine, or Air Force messages and translate the one received into the other two and pass the translation to the respective centers where they could be displayed. The net result was that air defense and air control data could be passed from Thailand to Da Nang to naval ships in the Tonkin Gulf and vice versa. This interface became fully operational in August 1969 and marked a significant step forward in joint operations.

<sup>9</sup>This was necessary because the three Services used different data rates and message formats within their own systems. For example, suppose the NTDS plotted an aircraft track in the Gulf of Tonkin. The NTDS would send the essential data via radio to the TDCC on Monkey Mountain. The TDCC would translate this data or change it into two additional forms. One would then enter the MTDS and subsequently the track would be displayed on Marine operators' scopes. Another would enter the Air Force system and the track would appear on Air Force operators' scopes. The reverse process was also applicable.

Whereas the TAOC is the main control center for anti-air warfare and air traffic control, the DASC is the main center for direct support of the ground troops. Each Marine division initially had a DASC located together with its organic Fire Support Coordination Center (FSCC). As the 3dMarDiv assumed responsibility for the very sizeable Northern I Corps area, it was necessary to establish a DASC at Phu Bai with the Division Headquarters and one at Dong Ha with Division (Forward). Requests for air support, both fixed and rotary wing, were requested and controlled through these agencies. During certain peak periods a Helicopter Direction Center (HDC) was established with the Regimental Headquarters at Camp Evans, midway between Hue and Quang Tri, and a mini-DASC at Khe Sanh. Information was provided by these facilities to aircraft, on request, relative to artillery fires in progress and major air strikes to enable planes to navigate safely between areas. This information was particularly helpful to helicopters. The wing also had the capability to install an HDC on short notice in a KC-130 to provide an airborne DASC if required. This was done on several operations. An airborne DASC was used whenever a ground operation was launched at such a distance from Da Nang that ordinary ground to air communication would be unreliable. The need for airborne DASCs decreased as bases were built throughout I Corps.

The Marine Air Support Squadron (MASS), which is the parent squadron for the DASC, also contains three mobile Air Support Radar Teams (ASRTs). Each team is equipped with the TPQ-10 radar course directing central which provides the capability to control aircraft in direct air support under conditions of low visibility. MASS-2 arrived in Vietnam in April 1965 from Okinawa, and MASS-3 arrived in October from California. The TPQs were up and operating early in the war.

During the summer of 1965, one TPQ-10 was set up for about six weeks near Pleiku in II Corps to provide air support for Army units operating in that area. Both Marine and Air Force aircraft were directed by it. Within I Corps the TPQs were moved as required to provide optimum coverage, and eventually they were deployed from near the DMZ to Chu Lai.

Lieutenant General Moore of the Seventh Air Force visited 1stMAW and was especially interested in this gear since the Air Force had nothing comparable. Subsequently, the Air Force took some radar bomb scoring equipment and developed it into a ground controlled radar bombing device. It became known as Skyspot. Compared to TPQ-10, it had longer range but less mobility.

The A-4, A-6, and F-4 were all equipped with beacons, and the TPQ radar could track them to almost fifty miles under the best conditions. Knowing the radar-aircraft

and the radar-target sides of the triangle, the computer could solve the aircraft-target problem for the particular ordnance to be delivered and the operator could instruct the pilot when to drop. The A-4 was also equipped with a link to the auto pilot which could permit automatic control and drop by the TPQ with the pilot flying hands off. Aircraft without a beacon could be tracked by radar to a distance of about thirty-five miles.

The TPQ-10 was a development based on the MPQ-14 used by the Marines in Korea. Replacement for the TPQ-10, making use of recent technology, is currently under development in a joint venture with the Air Force.

Although not part of the tactical air control system, the Marine Air Traffic Control Units (MATCUs) played a vital role in the control of air traffic. Their mission was terminal traffic control around an air base. They provided approach control, ground controlled approach, and tower facilities. The Corps is authorized one MATCU per jet group and, because of their dispersed operations, two per helo group. In Vietnam, the wing operated MATCUs at Chu Lai and Marble Mountain throughout the war and at Phu Bai, Quang Tri, Dong Ha, Khe Sanh, An Hoa, and Baldy as long as Marine units were operating at those bases. Without those units, air operations during the monsoon season would have been next to impossible.

The TAOC and MATCUs were linked together with communications so that enroute traffic handled by the former could be handed off to the latter for approach and landing clearance.

All of this command and control equipment—TACC/TADC, TAOC, DASC, ASRT, MATCU—is completely mobile and expeditionary by design. It can all be withdrawn from Vietnam (or wherever) and used elsewhere.

#### *Air-Ground Coordination*

The CG of the 1stMAW was designated as Deputy CG III MAG (Air) and as such he was the Tactical Air Commander for III MAF.

In Vietnam, from March 1966 when the 1stMarDiv entered the country, until November 1969 when the 3dMarDiv redeployed to Okinawa, there were two Marine divisions in III MAF. The Marine Corps could not deploy another wing for reasons pointed out earlier, but the 1stMAW was reinforced to the limit of the Corps' resources so it could support two reinforced divisions. Two LAAM battalions and two helicopter MAGs were deployed plus one air support squadron for each division.

The wing was short two or three transport helicopter squadrons, but no additional squadrons were available. The available squadrons were managed centrally by the wing in order to get the most out of them.

Although an air support squadron was placed with each division, it became evident that more authority was required at the DASC. This point was made abundantly clear when the two Marine divisions became geographically separated with one or two Army divisions employed between them. When the 3dMarDiv was operating in Northern ICTZ, it was well removed from the 1stMAW Command Post and TADC at Da Nang. The communications were not fast enough to permit command decisions to be made about aviation problems. The 1stMAW solved this problem by assigning an Assistant Wing Commander and a few staff officers to the DASC at the 3dMarDiv Command Post and empowering him to make decisions in the name of the Wing Commander regarding air support. Later, when it wasn't always feasible to have a brigadier general present, a colonel was assigned to each of the division DASCs and they had the same command authority. This arrangement worked well and provided a one-for-one relationship, air-to-ground, particularly in the vital area of helicopter support. Coordination was vastly improved.

### *Employment*

#### *Anti-Air Warfare Operations*

Vietnam, at least as far as the war in the south was concerned, was not a fighter pilot's war. There were no air-to-air engagements for Marine squadrons. No aces.

But there was a possible threat. So there had to be an air defense system and capability, and it was exercised under the terms of the agreement signed by Generals Moore and McCutcheon. The Marines provided two battalions of Hawk surface-to-air missiles for close-in defense at Da Nang and Chu Lai, F-4 Phantoms on hot pad alert, and an early warning and control capability through its air control squadron.

The Marine LAAM battalion is part of the overall anti-air warfare function. Its principal role is in close-in air defense. The battalion is normally a subordinate unit of the Marine Air Control Group, because in actual operations it is linked to the TAOC which provides information on friendly and enemy air traffic. The TAOC also normally gives "commence" and "cease" fire orders to the missiles.

One LAAM battery arrived in Vietnam in February 1965 and took position on the airfield at Da Nang. Subsequently it moved to Hill 327 west of the field. The two other firing batteries of the battalion eventually were placed on Monkey Mountain east of Da Nang, and in the Hai Van Pass to the north. Part of one of the batteries, known as an assault fire unit, was emplaced on Hill 55 eight miles south of the Da Nang vital

area. The best defense of the installations at Da Nang would call for five battery sites, but adequate real estate did not become available until months later.

The 2d LAAM Battalion landed at Chu Lai in September 1965, and set up its firing batteries north and south of the SATS airfield. There were no elevated positions, but this posed a problem for any potential attacker as well.

Although neither battalion fired in anger, they did conduct live practice firings annually in order to keep their state of training high. In addition to firing at radio controlled drones, they fired at targets towed by manned fighter planes.

#### *Offensive Air Support Operations*

The main employment of Marine jets was in the delivery of air-to-ground ordnance in direct and close support of ground troops.

In this connection there were some local rules of engagement which had developed over the years, influencing the tactics and techniques to be employed. With very few exceptions, all air strikes had to be controlled by an airborne controller, and most had to have a political as well as a tactical clearance. There was good reason for this. The population was spread out over a considerable area along the coastal region and the U. S. and Vietnamese ground units were operating mainly in the same area. This led to the employment of Forward Air Controllers (Airborne) (FAC[A]). Thus, in a departure from prewar practice, the role of the FAC on the ground was minimized as far as control of air strikes was concerned. However, he had other useful employment.

The O-1 aircraft was used initially for this purpose. The Marine O-1s that were brought into Vietnam were rapidly approaching the end of their service lives, however, and on 1 September 1965, the Marine Corps stopped using them. The OV-10A, which was scheduled to replace them, did not become available until July 1968. To partially alleviate this situation, Headquarters Marine Corps and the Naval Air Systems Command managed to locate about a dozen old O-1s and had them overhauled and airlifted to Vietnam. These were too few, however, so the Marines had to rely on Army observation aircraft and Air Force FAC(A)s for those tactical air control missions demanding an airborne controller. The Air Force used the O-1 initially and later the OV-10A and the Cessna O-2. The latter is a small twin-engine, light aircraft with the engines in line. The one in front drives a tractor propeller and the one in the rear a pusher prop.

In addition to FAC(A)s, the Marine Corps employed Tactical Air Coordinators (Airborne) or TAC(A)s. Whereas FAC(A)s flew low performance aircraft and



*The Marine Corps' "air-ground team" displayed its standard, but still virtually unstoppable, power sweep when Marine infantrymen who had just landed by helicopter came under fire in a January 1966 operation. Winging past a bomb explosion from another Crusader, an F-8 from VMFAW-312 went after Viet Cong mortar positions which were firing on the landing zone.*

operated over friendly terrain and within range of artillery support, the TAC(A)s flew high performance jets and operated over territory controlled by the enemy. Their mission was to coordinate various strike aircraft and to ensure they hit the correct targets. In this role the Marines first used the two-seat F-9, but beginning in late 1967 they employed the two-seat TA-4F. These aircraft provided two sets of "eyeballs" rather than one and gave the TAC(A) an increased visual observation capability. The jet performance added a higher degree of survivability to the mission.

The Corps removed one of the two FACs it had in each infantry battalion because of the few opportunities offered them to control strikes and because their aeronautical talent could better be used elsewhere. The one remaining FAC plus the Air Liaison Officer, both aviation officers, continued to carry out their other responsibilities, which included advising their battalion commander on the employment of air support, requesting such support, and controlling helo operations and helo landing zones. This became big business in Vietnam. When the opportunity presented itself, the FAC did control air strikes from the ground.

The arrival of the A-6 aircraft in Vietnam introduced an advanced avionics weapon system. This system was further improved, as far as close air support is concerned, when the Marines deployed small radar beacons for use with their ground FACs. With this beacon, known as RABFAC, a FAC's precise position on the ground could be displayed on the radar scope in an A-6. The FAC could provide the bearing and distance of the target from the beacon, plus the elevation difference between the two, and the bombardier-navigator in the A-6 could enter this data into the weapon system computer, and bomb the target in bad weather or at night with accuracies approaching that of A-4s in clear, daylight deliveries.

The A-6 aircraft displayed great versatility and lived up to the expectations of those who pushed its development after the Korean War. It is the only operational aircraft that has a self-contained all-weather bombing

capability including a moving target indicator mode. In this role it was used rather extensively in the monsoon season, not only in South Vietnam but also in Laos and over the heavily defended area of North Vietnam. The usual bomb load was 14,000 pounds.

Both the A-4 and F-4 were used in offensive air support with great success. The average bomb load for the A-4 was about 3,000 pounds, and for the F-4 about 5,000 pounds. These aircraft were generally frugged against planned missions, but they could also be scrambled from the alert pad, or they could be diverted in flight to higher priority targets.

The F-8 was also used during the period December 1965 through May 1968. It was in the process of being replaced in the Marine inventory by the F-4, but while it was in Vietnam it did a fine job in air-to-ground missions.

The F-8 was also the only Marine strike aircraft to be based on board a carrier of the Seventh Fleet during the Vietnam War. Marine All-Weather Fighter Squadron 212 (VMF[AW]-212), commanded by Lieutenant Colonel Charles H. Ludden, was embarked in the attack carrier USS *Oriskany* (CVA-34) in 1965 when she was operating off Vietnam. The squadron pilots were trained as fighter pilots but, when the carrier arrived in the Gulf of Tonkin, the urgent need was for attack aircraft which could deliver bombs. The primary mission of VMF (AW)-212 became the attack of ground targets, and the squadron flew strikes in North and South Vietnam. Both the Navy and Marine Corps would have liked to have had more Marine squadrons afloat, but if they had been afloat, they wouldn't have been ashore and the Corps couldn't do both. Now that we have cut force levels in Vietnam, the Marine Corps has once again deployed aviation units aboard carriers.

During 1965, and into the early part of 1966, there was a shortage of aviation ordnance. Time was required to set up production lines in the United States and get the pipeline filled all the way to Vietnam. In the meantime, the 1stMAW used what was available in contin-

gency stocks, and this included a great number of old high drag "fat" bombs. The old bombs had a much larger cross section than the new ones, hence they added drag to the aircraft and reduced its speed and radius of action. Again because of their cross section, fewer of the old bombs could be loaded on multiple bomb racks. The wing never lost a sortie because of ordnance, but it did have to substitute items on occasion because the preferred store was not available. In order to husband its resources, the wing commander issued a message directing that if ordnance could not be dropped on a worthwhile target, it would be brought back to base, not jettisoned.

By late 1966, a wide range of ordnance was available, including 250, 500, 1,000, and 2,000-pound bombs; 2.75 inch and five-inch rockets; napalm; 20mm. cannon; smoke; and certain other stores for special targets. There is still a requirement, however, for better aviation weapons. We need to get better first pass accuracy to reduce the number of passes over the target. One promising way to improve effectiveness appears to be offered by lasers.

Up to April 1966, ComUSMACV was not involved in the air war in North Vietnam. That war was conducted by the Commander-in-Chief, Pacific Fleet (CinCPacFlt), and Commander-in-Chief, Pacific Air Force (CinCPacAF). 1stMAW electronic EF-10Bs flew missions in the north before this, but they did so in support of the Seventh Fleet or the Seventh Air Force as subordinates of PacFlt and PacAF. On 1 April 1966, ComUSMACV was authorized by CinCPac to conduct air strikes in, and to the north of, the DMZ in what was known as Route Package One. By summer, Marine aircraft were assigned to strike there against artillery and rocket sites as well as other military targets.

With the addition of the A-6A to its inventory, the 1stMAW had the finest all-weather bombing aircraft in the world. Late in 1966, A-6s began striking targets as far north as Hanoi and Haiphong and carried on until the bombing halt in 1968, striking mostly at night. North Vietnam was, of course, heavily defended with antiaircraft artillery and surface-to-air missiles. EA-6As provided electronic jamming in support of the strike birds, and Marine F-4Bs flew cover for them to keep MIGs off their backs. Additionally, the two Marine A-6 squadrons flew strikes in other route packages as directed.

#### *Reconnaissance Operations*

As noted earlier, VMCJ-1 was one of the first fixed-wing squadrons to deploy to Vietnam. In more than five years of continuous operations from Da Nang, the squadron made major contributions in the field of electronic warfare and imagery reconnaissance.

During the opening phases of the air war against North Vietnam, the EF-10Bs of VMCJ-1 were the only jet tactical electronic warfare aircraft available to provide support for U. S. Air Force and Navy strikes. To meet the requirements levied on the squadron, active electronic countermeasures were emphasized. Electronic reconnaissance was conducted enroute to and from the target. In the target area, jamming occupied most of the electronic countermeasure operators' attention. In July 1965, U. S. Air Force aircraft conducted the first strikes in history against surface-to-air missile (SAM) sites. Six EF-10Bs from VMCJ-1 supported the strike. There was no loss of aircraft to radar controlled weapons. The Navy also had an electronic warfare capability, but its EKA-3 was a combination tanker-electronic warfare aircraft and was limited to standoff jamming as opposed to close-in jamming in company with the strike aircraft. The Navy also had some EA-1s, but these were propeller-driven aircraft and were not able to keep up with the jets, hence, they too were used in a standoff role. The Air Force effort in electronic warfare was devoted almost exclusively to larger aircraft and in a "strategic," rather than a tactical, role. After the war in Vietnam got underway, they did modify some B-66 aircraft to the electronic mission.

In November 1966, the EA-6A made its debut in the theater. The quantum increase in electronic warfare capability represented by the EA-6A came in the nick of time. The cancerous spread of SAMs throughout North Vietnam made an eventual confrontation between Marine attack aircraft and SAMs inevitable. In April 1967, a Marine A-4 was shot down by a SAM from a site located in the DMZ. In response to the new threat, EF-10Bs began a continual patrol along the DMZ during hours of darkness when the SAMs were prone to fire. The more sophisticated EA-6As provided electronic warfare support for missions against targets located in the high threat areas of the north. Because of the need for electronic warfare aircraft, it was not until 1969 that the old EF-10Bs were at last able to leave Vietnam. As of this writing the EA-6A is the only tactical electronic warfare aircraft in any Service that can accompany strike aircraft to the target and maneuver with them.

In the relatively new art of electronic warfare, aircraft from VMCJ-1 performed in every role: escort for B-52s, support for tactical air strikes, and as intelligence collectors. Lessons learned were documented, tactics became more sophisticated, and hardware was evolved to increase the effectiveness of the electronic warfare capability.

The other side of the VMCJ-1 house, imagery reconnaissance, was equally engaged. Collection of imagery intelligence in the fight against the hard-to-locate enemy of the south varied to a great degree from flights over

relatively well defined targets in the north. In the south, the usual imagery reconnaissance mission produced evidence of enemy activity, but the enemy was seldom pinpointed. To determine enemy intentions, reconnaissance flights over the same areas were conducted periodically. Interpreters then looked for telltale indications of change or deviations from the norm that had been established by previous flights. With the RF-8A, the imagery coverage of large areas required by this type of intelligence determination was confined to periods of daylight hours and relatively good weather. Replacement of the RF-8A with multi-sensor RF-4B aircraft, beginning in October 1966, provided VMCF-1 with an around-the-clock collection capacity. As experience was gained with the new systems, night infrared reconnaissance played an ever increasing role in the overall intelligence collection effort.

TA-4Fs flew hundreds of missions in the Route Package One area of North Vietnam, performing in the visual reconnaissance as well as in the TAC(A) role. They located SAM sites, truck parks, supply dumps, and other targets, and then controlled other strike aircraft against them. They also spotted and controlled naval gunfire for the USS *New Jersey* (BB-62) and other ships that participated in bombarding the north.

Visual reconnaissance by low performance aircraft is still an absolute necessity. Maneuverable, fixed-wing aircraft still have a place in this role, and the OV-10A performed better than expected. However, there is a requirement for a quieter aircraft that can overfly targets without being detected. Had such an aircraft been available, it could have been used very profitably to patrol the rocket belt around the vital area of Da Nang. There is a prototype aircraft designated the YO-3 that gives promise of this capability, but the Marine Corps does not have any.

#### *Fixed-Wing Transport Operations*

Marine transports and helos were not included under single management. The Marines had two models of fixed-wing transports in Vietnam, the venerable C-117 and the work-horse KC-130. The former was assigned only in small numbers, one per group, and was used for organic logistic support. It became apparent in 1965, however, that there were some voids in the Marine capability as far as aircraft were concerned, so the C-117s were rapidly drafted to fill some of these. Examples were flare drops, radio relay, and use as an airborne control center. Later on, US-2Bs and C-1As were assigned to the wing, and sometimes they were also used for some of these tasks.

Marine Refueler Transport Squadron 152 (VMGR-152) was based in Japan when the war began, but it moved to Okinawa late in 1965. It kept a four (or more) plane

detachment at Da Nang. This little detachment did everything imaginable as far as air transport was concerned. It hauled men and equipment between major bases in Vietnam and to outposts such as Khe Sanh that had suitable airstrips, and it air-dropped to those that did not. It provided aerial refueler service for Marine jets, particularly those that operated up north. In 1965, whenever the strip at Chu Lai was less than eight thousand feet and A-4s were required to take off with reduced fuel loads, there was a KC-130 tanker in orbit to tank them after climb-out. These Hercules also served as airborne direct air support centers and as floreships. They were a reliable and versatile transport.

The KC-130 is getting on in years, however, and in spite of the fact that it was retrofitted with larger engines, the aircraft is only marginally capable of refueling a loaded A-6 or F-4 in flight.<sup>10</sup> Furthermore, a considerable number of them are required to provide refueling service for a fighter squadron ferrying across the Pacific. Because they can't get to the same altitude as the jets, the jets have to descend to receive fuel. This requires blocking off a lot of airspace and frequently this is a constraint on a long trans-oceanic ferrying operation since it interferes with commercial flights.

What the Corps needs is a transport like the C-141, modified to be similar in capability to the KC-130.

The Corps also needs a replacement for the obsolete C-117s and those C-54s still on hand. It is willing to accept a smaller number of more modern aircraft to carry out the missions that are not applicable for the KC-130 or 141. A combination of T-39s and something like the Fairchild-Hiller F-227 would give the Corps a modern high-speed passenger and cargo hauling capability.

#### *Helicopter Operations*

Vietnam was certainly a helicopter war for U. S. forces. It is difficult to envisage how we would have fought there without them.

After years of study and development, the Marine Corps pioneered the use of helicopters in ground warfare in Korea. In the following years it planned to build up its force, and simultaneously it pursued the development of more capable aircraft. The Corps' basic requirement was for adequate helicopter lift to execute the ship-to-shore movement in an amphibious operation. To do this two basic transport helicopters were decided on, one for medium lift and one for heavy lift.

Although the Corps was authorized eighteen perma-

<sup>10</sup>A jet heavily laden with bombs or other external stores has to use power or fly faster to maintain a given altitude than one not so loaded. A KC-130 is much slower than a jet and cannot climb to normal jet operating altitude, so fueling is at less than the best altitudes and speeds for the jets, and the jet pilot can have a difficult time making his plug-in and holding formation.





*A KC-130 Hercules transport air-drops supplies to the beleaguered Khe Sanh Marine combat base in January 1968. To safeguard helicopter landing of supplies to the garrison, gunships and jets worked the area over with napalm, rockets, 20-mm., and smoke, and as the supplies were delivered, the jets climbed up to waiting KC-130 tankers, were refueled in the air, and returned to their bases.*

ment transport helicopter squadrons and two temporary ones for Southeast Asia, it only deployed ten to the Western Pacific. The remaining nine (one temporary one was never formed because of lack of resources) were required to remain in the United States to train replacement pilots for the overseas pipeline. Additional squadrons could not be deployed because they could not be supported. The deployment of even one more would have upset the delicate balance of replacement training versus overseas requirements.

As part of the planning, programming, and budgeting cycle that takes place annually in Washington in

each of the Services and in the Office of the Secretary of Defense, the Marine Corps accepted a change in its transport helicopter mix, from fifteen medium and three heavy to twelve medium and six heavy.<sup>11</sup> With the one temporary squadron added, this gave thirteen and six. Eventually seven of the mediums and three of the heavies were stationed overseas.

The transition from the UH-34 and CH-37 to the CH-46 and CH-53, respectively, represented a major increase in capability, but, at the same time, there were problems involving acceptance of the new models, shaking them down, training pilots and maintenance personnel, developing techniques and procedures, and establishing an adequate supply posture.

Squadrons equipped with the twelve year-old UH-34 bore the brunt of helo operations in 1965 and for well over a year thereafter. CH-46s began to arrive in Vietnam in March 1966, when Lieutenant Colonel Warren C. Watson's HMM-164 flew to Marble Mountain from the USS *Valley Forge* (LPH-8). It was not until 1969 that all UH-34s were withdrawn. On 18 August, the blades of the last UH-34 were folded, thus marking the end of an era for Marine Corps helicopters in Vietnam. The UH-34 had performed for over seven years there in an outstanding manner.

A detachment of obsolescent CH-37s arrived from Santa Ana, California, in the summer of 1965 and did yeoman service pending arrival of the CH-53 in January 1967, when Major William R. Beeler brought in a four-plane detachment from HMH-463. By the end of the year there were two full squadrons of CH-53s in Vietnam.

In Vietnam there were several technical problems that had an impact on helicopter employment. First of all, the tropical environment reduced payload because of characteristically high temperatures and humidity. Second, the sandy and dusty landing zones created extensive maintenance problems, particularly for engines. Filters had to be developed for all helos to reduce the amount of foreign particles that were being ingested into the air inlets. These filters increased aircraft weight and lowered engine thrust by a few per cent. Third, there was a requirement to install additional armor in all helos to protect their vital parts against the ever increasing enemy antiaircraft fire. Finally, the addition

of armament and gunners naturally reduced proportionately what could be carried.

As a matter of necessity the transports were armed with door guns. The H-34s could only take the 7.62-mm. machine gun, and two of these with a gunner (the crew chief manned one gun) reduced the troop carrying capacity by two men. The CH-46 and -53 helos were able to carry .50 caliber machine guns, one on each side, and although their loads were reduced too, the reduction, particularly in the case of the CH-53, was not so noticeable.

During the period October 1966 through October 1967, the CH-46 experienced a series of catastrophic accidents which caused the Corps and the Naval Air Systems Command to take a hard look at the design of the aircraft. These accidents occurred in the United States as well as Vietnam and in most cases involved failure of the aircraft's rear pylon. A program was initiated to strengthen that section of the airframe, and it was accomplished in two phases. The first improvement was incorporated in Okinawa for Vietnam-based aircraft. The second phase was performed later at overhaul. The modification program had an impact on helo operations in Vietnam because fewer were available for combat operations. To partially offset this shortage, some UH-34s were airlifted to Da Nang from Cherry Point, North Carolina, in Military Airlift Command transports. Following the modification program, the CH-46 performed in an outstanding manner.

The Marine Corps experimented with armed helicopters as early as 1950, but it did not pursue an active program for several reasons. The transport helicopters in the inventory before the war began in Vietnam were limited in payload to begin with, and the Corps chose to devote their full load capacity to carrying men and equipment, while relying on attack aircraft to escort the helicopters. At the same time, it sought to procure a light helicopter which could perform a myriad of tasks, including the role of a gunship. This program was a long time in materializing, but it finally resulted in the UH-1E. The Army, on the other hand, with no fixed-wing attack aircraft, depended heavily on "gun birds."

One gunship version of the Marine UH-1E was armed with a nose turret which could be elevated, depressed, and swung left and right. In addition, weight permitting, it could mount left and right fixed, forward-firing machine guns, or 2.75 inch rocket pods. A .30 caliber machine gun could also be installed in each of the two side doors.

The helo gunship proved to be indispensable. It was more immediately available than jets, more maneuverable, and it could work close-in with transport helicopters.

The UH-1E has been used by the Marines since 1965

<sup>11</sup>The Corps did not request a change in helo mix. It had just completed a study that essentially reaffirmed the 5 to 1 mix of medium to heavy helos but it also recommended an increase in total numbers to meet the Marine Corps' total operational requirement. The Office of the Secretary of Defense directed the change in mix from 5 to 1 to 2 to 1. One probable reason was that an increase in the percentage of heavies would increase the total lift capability of the fleet so that additional squadrons would not have to be approved. The Marine Corps did not appeal the mix decision. At the time it was made, the CH-46 tail problem was under serious study and it appeared desirable to have a greater percentage of CH-53s on that score alone.

*The left-hand CH-46 is diving toward the ground just before levelling off and landing troops of the Ninth Marines in rugged territory near the western end of the DMZ in September 1968. On the opposite page another CH-46 carries an external load of ammunition to a fire support base in the same general area in 1969.*



to perform many tasks. They include serving as gunships; as command and control craft for MAF, division, wing, regimental, and occasionally battalion commanders; for liaison, courier, and administrative runs; for visual reconnaissance and observation; as aerial searchlights when special equipment was installed; as platforms for various kinds of sensors; as transportation for VIPs (and this was no small order); for medical evacuation of casualties; and for miscellaneous roles.

In 1965, the Corps was authorized 12 light helos per wing, and these were included in each of the three VMO squadrons. Two additional VMOs were authorized for the war in Southeast Asia and in 1968 the Department of Defense authorized the Marine Corps to convert them to three light helicopter transport squadrons (HML), giving the Corps three VMOs and three HMLs. The VMOs were to have 18 OV-10As and 12 light helos each, and the HMLs were to have 24 light helos. Two of each kind of squadron were on hand in the 1stMAW by the latter part of 1968. This provided 72 light helos (including gunships) to support two reinforced divisions, but it still was not enough to meet all of the requirements. If there is any lesson that has been learned in Vietnam, it is that the Corps needs more light helicopters. The statistics accumulated over the past several years indicate that on the basis of hours of use there is a requirement for these aircraft nearly equal to the combined total of medium and heavy helicopters.

The AH-1G Cobra was not available for Marine use until April 1969. The gunship was accepted with enthusiasm by the pilots, performed well in a fire suppression role, and was maintained at a rather high rate of availability. Organizationally, they might be in a VMO or an HML. Ideally, 24 of them would form an HMA, one in each wing.

The Corps has under procurement twin-engine versions of both the UH-1 and the AH-1, and these should be major improvements over the current single-engine configurations. The benefits will be increased payload capability under a wider range of temperatures and altitudes, and the added reliability provided by having a second power plant. The twin Cobra was due to enter

the force in 1970, and the twin UH-1 in 1971.

The first UH-34 squadrons were employed in much the same way as they had been during the "Shufly" years. They lifted troops and cargo on either tactical or administrative missions and performed the usual spectrum of miscellaneous tasks. They conducted the first night assault in Vietnam in August 1965. The 2d battalion, 3d Marines, was lifted into Elephant Valley, northwest of Da Nang.

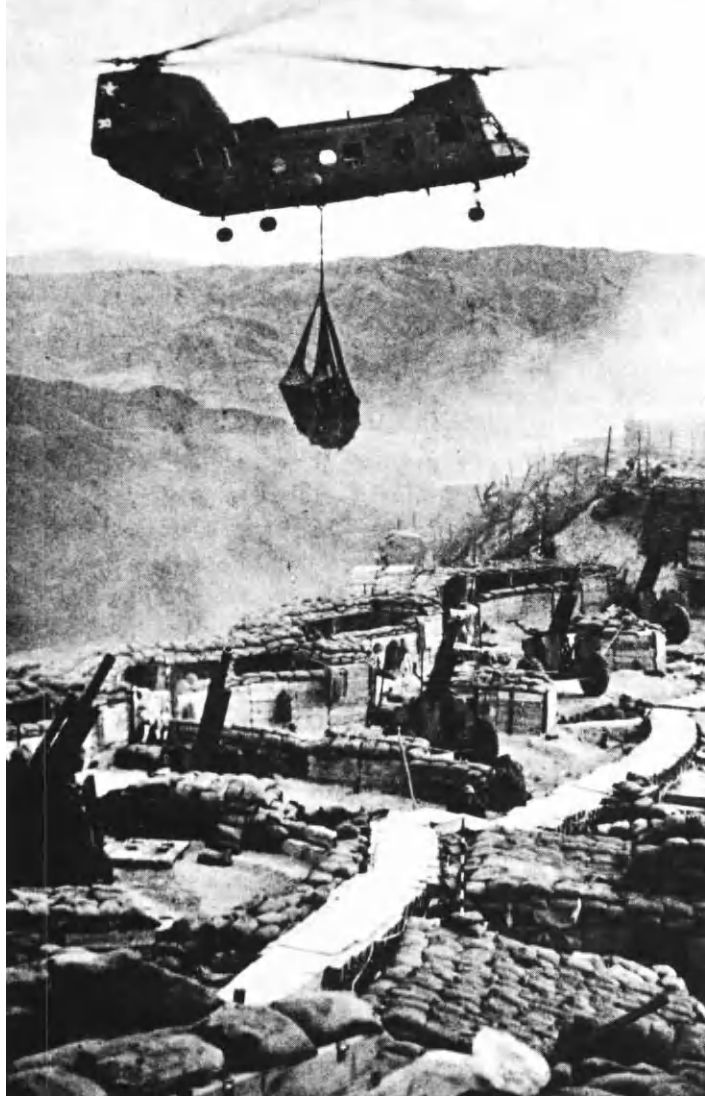
By the end of 1965, Marine transport helos were lifting an average of 40,000 passengers and over 2,000 tons of cargo a month while operating from their main bases at Ky Ha and Marble Mountain.

In 1968, the helicopters carried an average of over 50,000 men and over 6,000 tons of cargo a month. This increase in capacity was due mainly to the substitution of CH-46 helos for UH-34s between 1966 and 1968. The increase in the requirement came mainly because of heavy assault operations against North Vietnamese Army divisions which had invaded the I Corps Tactical Zone. And in the first half of 1970, even after redeployment had commenced, they were lifting more than 70,000 passengers and 5,000 tons of cargo in a month. Part of this increase can be attributed to the increased use of the CH-53 in troop lifts.

Even back in "Shufly" days, Marine helicopter pilots learned to expect all sorts of strange cargo on the manifest. They often had to move Vietnamese units, and this included dependents and possessions, cows and pigs included.

As larger transports entered service, larger loads were carried. And this of course included larger animals. HMH-463 with its CH-53s was tasked to move a remotely located Vietnamese camp. Included in the lift requirement were two elephants. Not big ones, but nevertheless elephants. These pachyderms were tranquilized and carried externally with no problem. The crews named them "Ev" and "Charlie," which proves that they had found some time to read the newspapers sent out from home.

With the CH-53, the 1stMAW could retrieve battle damaged UH-1s, UH-34s, and CH-46s that might otherwise



have been destroyed. The CH-53 could not lift another 53, however, under operating conditions in Vietnam. There is a need for a small number of heavy lift helicopters that can retrieve all helicopters and all tactical fixed-wing aircraft except transports. Such a heavy lift helicopter would also be useful in lifting heavy engineering equipment and other loads beyond the capability of the CH-53. The Army's CH-54 Skycrane's lifting capability is not sufficiently greater to make it a really attractive choice. A payload of at least 18 tons is required. Furthermore, the helicopter should be compatible with shipboard operations, and it should be capable of being disassembled and transported in C-5A or C-141 cargo planes.

One of the most hazardous helicopter missions was the evacuation of casualties at night or in poor weather. The problem was twofold: finding the correct zone, and getting in and out without getting shot up. Since most medevacs were called in by troops in contact with the enemy, the available landing zones had no landing aides to help the pilot, and so he had to rely on an accurate designation and visual identification or confirmation. At night a flare aircraft was often required to orbit the area and illuminate the zone so it could be positively identi-

fied. Gunships or jets would provide fire suppression, if required, and the evacuation helo would make a fast approach and retirement, making maximum use of whatever natural concealment might be available.

There is no doubt about it, the helicopter saved countless lives in Vietnam. If the casualty could be evacuated to a medical facility in short order, his chances of survival were very good.<sup>12</sup>

Although a small number of helos were fragged each day specifically for medical evacuation, any helicopter in the air was available for such a mission, if required, and many evacs were made by on-the-scene aircraft. These helicopters of course did not carry hospital corpsmen as did those specifically fragged for the mission, but they offered the advantage of being closer, and thus quicker to respond.

The number of medevac missions flown by Marine helicopters is large indeed—in the peak year of 1968, nearly 67,000 people were evacuated in just short of 42,000 sorties—and a great many of the helos sustained hits and casualties themselves in the process of flying these missions. As a group, helicopter crews were awarded a very high percentage of Purple Hearts for wounds received in combat. They were and are very courageous men.

#### *Multi-Function Operations*

The majority of operations conducted by III MAF required some degree of air support, and in most cases the support involved two or more tactical air functions. A complete recounting of all these operations is beyond the scope of this article. However, some representative examples are in order so that the reader may appreciate the role of Marine air in MAF operations.<sup>13</sup>

As the MAF units began to undertake offensive operations, helicopters were essential for troop transport and logistic resupply, and jets were equally important for close air support. Operation Double Eagle in late January and early February 1966 illustrates several techniques and tactics that were used quite frequently in later operations. This was a multi-battalion force commanded by the Assistant Division Commander of the 3dMarDiv, Brigadier General Jonas M. Platt. The operational area was southern I Corps. Coordination was required with Vietnamese Army units in I Corps and with U. S. Army units in II Corps, specifically the 1st Air Cavalry Division. One Marine battalion and helo squadron belonged to the SLF and were embarked in the USS *Valley Forge*

<sup>12</sup>See *Doctors and Dentists, Nurses and Corpsmen in Vietnam* by Commander F. O. McClendon, Jr., MSC, in *Naval Review* 1970. The patient's chances were about 99 per cent once admitted to a Navy field hospital or hospital ship.

<sup>13</sup>For more details on Marine operations in Vietnam, see Brigadier General Simmons' excellent essays in recent *Naval Reviews*.

and other ships of the Amphibious Ready Group. MAG-36 was placed in direct support of Platt's Task Force Delta. Colonel William G. Johnson, Commanding Officer of MAG-36, located his command post adjacent to Platt's. He also established a helicopter operating area with limited maintenance support. This became known as "Johnson City." Logistic support was added: fuel, ammunition, supplies, and a medical aid station. This was in effect a Logistic Support Area (LSA), and it was essential to establish one in order to support mobile ground operations such as those in which General Platt was engaged. As the war progressed, these LSAs would become strategically located throughout the Corps area and close to main roads so that the bulk of supplies could be brought in by truck convoys. If an airfield were near, fixed-wing transport could be used. MAG-36 and Task Force Delta had a mini-DASC located at "Johnson City" through which they could control aircraft assigned to them. Helicopters were immediately available through Colonel Johnson. Jets had to be requested, but the route was direct to the TADC which could scramble A-4s from Chu Lai or F-4s from Da Nang.

Major General McCutcheon was relieved as CG 1stMAW by Major General Louis B. Robertshaw on 15 May 1966. The Struggle Movement within South Vietnam which led to the establishment of the Ky government in Saigon was still unresolved at this point, and an upsurge of political activity forced the cancellation of the planned change-of-command ceremonies. A small impromptu one was held outside III MAF Headquarters.

During General Robertshaw's tenure, the center of action tended to shift north, both on the ground and in the air. In July and August 1966, Operation Hastings produced the highest number of enemy killed to date. The Prairie series of operations, which began shortly thereafter, took place in the same locale, just south of the DMZ. Names like Dong Ha, the "Rockpile," and Con Thien came into prominence. But there was another name which was destined to become even more prominent, Khe Sanh. Late in April 1967, a Marine company made solid contact with North Vietnamese regulars northwest of Khe Sanh. On the 25th, the 3d Battalion of the 3d Marines was helo-lifted into Khe Sanh, and the next day the SLF battalion (2d Battalion, 3d Marines) was heloed into Phu Bai and thence lifted by KC-130 to Khe Sanh.<sup>14</sup> Both battalions took the offensive and attacked the enemy on Hills 881 South and North. In two weeks of bitter fighting, the 1stMAW flew over one thousand sorties in around-the-clock close and direct air support of Marine infantry in the area. Here was an example of the integrated employment of

<sup>14</sup> Before the Seabees improved the strip with AM-2 matting, in the summer of 1966, there was a short strip at Khe Sanh made of pierced steel planking. When the base was closed in 1968, the AM-2 was recovered.

fixed- and rotary-wing transports, close air support, and air control.

Major General Norman J. Anderson relieved Robertshaw on 2 June 1967. His tour was marked with a further buildup of North Vietnamese forces in Northern I Corps and the introduction of single management. The enemy's Tet offensive of 1968, the battle of Hue, and the campaign of Khe Sanh all occurred on his watch. During the Khe Sanh campaign, the entire spectrum of tactical air support was called into play—not only Marine, but also Air Force, Navy, and Vietnamese Air Force. And SAC's B-52s dropped their heavy loads upon the enemy in the surrounding hills.

One example of how all Marine tactical air functions could be coordinated into a single operational mission was the "Super Gaggle." This was a technique developed by the 1stMAW to resupply the hill outposts in the vicinity of Khe Sanh. These hills were surrounded with heavy concentrations of enemy anti-aircraft weapons, and every flight by a helo into one of the outposts was an extremely hazardous mission. Additionally, the weather in February was typically monsoon, and flying was often done on instruments. The "Super Gaggle" was a flight of transport helos escorted by A-4 jets and UH-1E gunships, all under the control of a TAC(A) in a TA-4F. The key was to take advantage of any break in the weather and to have all aircraft rendezvous over the designated point at the same time.

The operation was usually scrambled at the request of the mini-DASC at Khe Sanh on the basis that a break in the weather was expected shortly. The TAC(A) and KC-130 tankers took off from Da Nang, the A-4s from Chu Lai, UH-1E gunships from Quang Tri and CH-46s from Dong Ha. All aircraft rendezvoused over Khe Sanh within a 30 minute period under control of the TAC(A). Instrument climb-outs were often required due to weather. Even the CH-46s with external loads would climb out on a tacan bearing until they were on top. Under direction of the TAC(A), and taking advantage of the break in the clouds if it did develop, the area was worked over with napalm, rockets, 20-mm., and smoke. The CH-46s let down in a spiral column and deposited their loads on Khe Sanh and the hill outposts in less than five minutes and then spiralled back on top and returned to their bases. The jets also climbed back on top, plugged in to the KC-130 tankers for refueling, and headed back to Da Nang and Chu Lai.<sup>15</sup>

The fourth commander of the 1stMAW was Major General Charles J. Quilter. He relieved Anderson on

<sup>15</sup> Distance to Khe Sanh from  
 a. Dong Ha is 23 nautical miles  
 b. Quang Tri is 27 nautical miles  
 c. Da Nang is 94 nautical miles  
 d. Chu Lai is 136 nautical miles.

19 June 1968. His tour saw a reversal of the trend that started in General Robertshaw's era. The enemy withdrew after taking severe beatings at Khe Sanh, Hue, and elsewhere in ICTZ. The enemy gave up conventional large scale operations and reverted to the strategy of small unit actions and harassment.

III MAF forces underwent an operational change too. Once the 3dMarDiv was relieved of the requirement for a static defense along the strong-point barrier, they were free to undertake a mobile offensive in Northern ICTZ and strike at the enemy in the western reaches. One of the finest examples of air-ground teamwork took place during the period of January through March 1969.

the overall ground commander for landing zone and fire support; base selection and preparation; and coordination of the helicopter assault.

Early on D-Day the initial landing zones (LZ) were prepared by fixed wing air strikes (made suitable for helo landings by bombing and strafing to reduce threat of opposition to a minimum), and elements of the 2d Battalion, 9th Marines, landed at 0800. In the rapid buildup that followed, CH-46s, under the control of the division DASC and under the protective umbrella of gunships and observation aircraft, brought 1,544 Marines and 46 tons of cargo into two LZs. By the evening of 24 January, a battery of 105-mm. howitzers from the

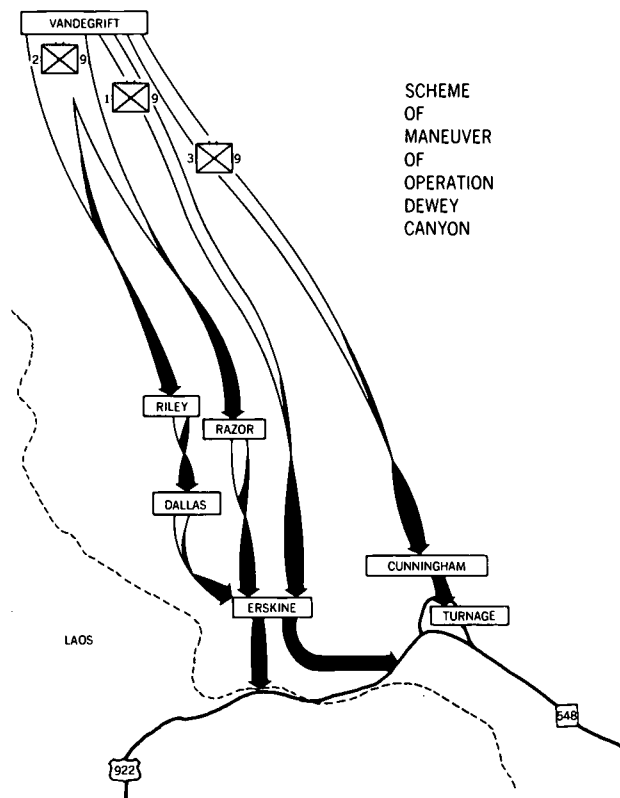


The code name of the operation was Dewey Canyon. The locale was the upper A Shau Valley and southern Da Krong Valley. This was a multi-battalion operation involving the 9th Marine Regiment, commanded by Colonel Robert H. Barrow, and two battalions of the 1st Vietnamese Army Division.

During the last week of the pre-Dewey Canyon period, Marine attack and fighter-attack aircraft from MAGs 11, 12, and 13 flew 266 sorties over the objective area, dropping over 730 tons of ordnance.

On 21 January, D-1, a "Zippo" team, was formed of representatives of the 1stMAW and 3dMarDiv. Infantry, engineer, helicopter, and observation aircraft specialists were included. This team was responsible to

*Since 1965, the UH-1E has served as a gunship, a command and control craft, a liaison, courier, and administrative support craft, a visual reconnaissance and observation craft, a platform for aerial searchlights and sensors, and a means of transportation for VIPs. But, perhaps its finest hours were served as, almost without regard to weather, it helped to evacuate casualties such as this Marine (center) wounded near Dong Ha in December 1967.*



2d Battalion, 12th Marines, and the Command Post of the 9th Marines were in place on one of these landing zones, which became known as RAZOR.

The following day, three companies of the 3d Battalion were helo-lifted on to a ridgeline further forward, known as Co Ka Va. It would soon be developed into Fire Support Base (FSB) Cunningham, named for the first Marine aviator. In a few more days, elements of the 2d Battalion from FSB Riley pushed down the ridgeline to establish another FSB, Dallas, to guard the western approach to the area from Laos. To the east, the two Vietnamese battalions were lifted into two other bases. They would secure the left flank and cut off the enemy escape route to the east.

About the 1st of February, the "Crachin" season really began to make itself felt. This is a period when low clouds and drizzle cover the mountain tops in Northern I Corps and obscure visibility in the valleys.

*Operation Dewey Canyon Air Operations Statistics*

22 January-14 March 1969

*Helicopter Support*

14,893 Sorties  
 5,050 Flight Hours  
 3,515 Tons of Cargo  
 21,841 Troops Lifted  
 611 Medevacs

*Fixed Wing*

1,617 Sorties  
 1,973 Flight Hours  
 3,679 Tons of Cargo  
 390 TPQ Missions

On 4 February, a company of the 3d Battalion moved into and occupied what was to become the last FSB for the coming infantry advance. Erskine was to be its name.

Marine helicopters continually worked out of FSB Vandegrift carrying essential supplies of ammunition, rations, and water to the various bases.<sup>16</sup> On the return trips they carried wounded back to aid stations. Often the weather precluded access to the area except by flying on instruments. Under such conditions, over 40 pallets of critically needed supplies were dropped by KC-130s and CH-46s under control of the TPQ-10 at Vandegrift.

When artillery was in place on both Cunningham and Erskine, the 9th Marines began moving on foot from their bases into the Da Krong Valley with battalions on line. Their objective was Tiger Mountain and the ridgeline that ran west from it. As they advanced, landing zones were carved out of the jungle with 2,000-pound bombs or, as a minimum, sufficient space was created so that a medevac could be performed by helo hoist, or an external load could be dropped to the troops on the ground.

On 17 February, Marine helicopter resupply during instrument conditions received its biggest boost. Instrument departure and return corridors were established to permit loaded helos to operate out of Quang Tri in support of the operation. The technique was the same as that employed during Khe Sanh operations. During the next month of corridor operation, over 2,000 Marine aircraft were funneled in and out of this highway in the sky to keep Dewey Canyon alive.

Other elements of the air component continued to seek out the enemy and to attack him. O-1, RF-4, EA-6, A-4, F-4, and A-6 aircraft all participated. And when emergency missions arose during darkness, OV-10A, C-117, or KC-130 aircraft were called in to provide illumination by dropping flares.

The 22nd of February saw the lead element of the 3d Battalion gain the crest of Tiger Mountain. In a few days it became FSB Turnage.

The 24th found the 1st Battalion in possession of the enemy's headquarters at Tam Boi. The 2d Battalion took control of the ridgeline overlooking Route 922, where it crosses from Vietnam into Laos.

The 27th marked the first time a TPQ-10 had ever been emplaced and operated from an FSB. One was placed on Cunningham and remained there for 17 days,

<sup>16</sup>Distances between Vandegrift and

Dong Ha	15 nautical miles
Riley	16 nautical miles
Razor	18 nautical miles
Dallas	19 nautical miles
Cunningham	20 nautical miles
Erskine	23 nautical miles
Tiger Mountain	26 nautical miles



*Operation Dewey Canyon Results*

<i>Enemy Personnel Losses</i>	<i>Ammunition Captured</i>	<i>Vehicles Captured</i>
1,617 KIA	7,287 122-mm. Arty Rounds	66 Trucks
4 POW	779 122-mm. Rockets	6 Truck Prime Movers
14 Detainees	187 140-mm. Rockets	14 Bulldozers
<i>Weapons Captured</i>	4,983 120-mm. Mortar Rounds	3 APCs
1,212 Individual Weapons	210 85-mm. Arty Rounds	1 Front Loader
215 Crew Served Weapons	23,171 82-mm. Mortar Rounds	1 Air Compressor
12 122-mm. Guns	994 75-mm. RR Rounds	108 Bicycles
4 85-mm. Guns	33,509 60-mm. Mortar Rounds	
13 82-mm. Mortars	2,004 57-mm. RR Rounds	<i>Rations Captured</i>
12 60-mm. Mortars	13,521 B 40 Rockets	110 Tons of Rice
24 57-mm. Recoilless Rifles	23,730 37 mm. AA Rounds	2 Tons of Salt
4 37/40-mm. AA Guns	4,500 23 mm. AA Rounds	<i>Installations Seized</i>
4 23-mm. AA Guns	98,526 12.7 mm. AA Rounds	2 Major Headquarters
39 12.7-mm. AA Guns	50,193 Grenades	1 Base Hospital
20 7.62-mm. AA Guns	9,576 Rifle Grenades	2 Major Vehicle Maintenance Repair Shops
	1,621 AT Mines	1 Major Communication Center
	855 AP Mines	
	444 Claymore Mines	
	553,000 Small Arms Rounds	

controlling 72 air strikes, ten A-6 beacon drops, and three emergency paradrops.

The days that followed turned up masses of enemy equipment and stores, and the quantity accumulated and sent back to our bases was easily the largest amount yet discovered during the war.

The 18th of March marked the final day of operation of Dewey Canyon. On this day virtually the entire resources of the 1stMAW were committed. Over 350 tons of cargo and 1,400 Marines were helo-lifted out of Turnage and Tam Boi without a casualty. These were the last two bases to be vacated. Gunships and jets flew close cover and close air support.

Perhaps the most notable accomplishment of the operation was that only one helicopter was lost in spite of the adverse weather and terrain and the efforts of a stubborn, well-trained, and professional enemy to counter the operation. Lieutenant General Richard G. Stilwell, U. S. Army, commander of all U. S. ground forces in Northern I Corps under CG III MAF, summed it up in a few words when he said, "Dewey Canyon deserves some space in American military history by sole reason of audacity, guts, and team play. I cannot applaud too highly the airmen of the 1stMAW in a variety of roles."

General Quilter was relieved by Major General William G. Thrash on 7 July 1969. Thrash took command when the wing was at its maximum strength and operating a peak number of facilities. The wing was supporting two Army divisions, two ARVN divisions (splitting the helo load with Army helicopters), and the Korean Marine Brigade, in addition to the two

Marine divisions.<sup>17</sup> It also flew out-of-country missions. Air-ground team performance reached a new high.

Several techniques that had been in use for several years were further improved during General Thrash's period of command. One of the most interesting was the insertion and extraction of reconnaissance teams. By their very nature, these teams operated well in advance of friendly lines and in enemy controlled territory. Most of the terrain there was high and forested, and there were few landing zones that permitted helos to land. Teams frequently used long ropes and rappelled in.

Getting out was something else. If it was an emergency situation due to enemy contact, it was not feasible to use a one-man hoist. So flexible ladders were employed. These were as long as 120 feet, and 6-feet wide. They were dropped from the rear ramp of a CH-46, and the pilot would hover at a height so that 20 or 30 feet would lie on the ground. The recon team would hook-on individually to the ladder and the pilot would then execute a vertical climb-out. The team would ride back to base hanging on the end of the ladder, 80 to 100 feet below the chopper and 1,500 to 2,000 feet or more above the ground.

During the extraction, a TAC(A) in an OV-10A would coordinate the air effort. Helo gunships would be directed to provide close in fires to protect the reconnaissance team on the ground. A-4s and F-4s were avail-

<sup>17</sup>The VNAF had two helicopter squadrons, but these were not enough for the ARVN's needs. The Army and ARVN received jet support from Marine, Air Force, Navy, and VNAF aircraft. The same general system of air support was used by all Services. The language barrier was overcome by the fact that many Vietnamese and Koreans understood English.



able with larger ordnance if more authoritative action was required.

As soon as the CH-46 pilot cleared the pick-up zone, he would turn away from a planned artillery-landing zone line and call in artillery fire to the zone he had just left. This technique became well known to the enemy, so they did not always come too close. If they did not close, the Cobra gunships would work them over while the actual extraction was in process.

Another operation that was continually improved upon as the war progressed was the Sparrow Hawk or Kingfisher, or, as it later became known, the Pacifier. In any case, the basic idea was the same: find the enemy and preempt his move. A package of aircraft was married up to a rifle platoon: CH-46s to provide troop lift, gunships for close-in support, an OV-10A for visual reconnaissance, and a UH-1E for observation and command and control. The OV-10A and gunships would scout out the target area and attempt to find the enemy, and then the CH-46s would insert the reaction force to cordon off the area and fix the enemy. If heavier air support was needed, the command and control helo could request a scramble. This technique proved to be very profitable, and it was often used to seek out the enemy in areas which fired at Marine aircraft, particularly helicopters. Prompt retaliatory action was one of the best measures to reduce this enemy harassment.

### *Phase Down*

The first Marine aviation unit to come into Vietnam after "Shuffly" was a LAAM Battalion. The first aviation unit to redeploy without replacement was also a LAAM Battalion. The 2d LAAM Battalion departed in October 1968 for Twentynine Palms, California. The 1st LAAM Battalion followed in August 1969. Even though they had never fired a missile at an enemy aircraft, they had served their purpose.

On 8 June 1969, the President announced his intention to withdraw 25,000 U. S. Servicemen from Vietnam. This increment became known as Keystone Eagle. One HMM departed from the 1stMAW for Futema, Okinawa, and one VMEA departed for Iwakuni, Japan. The 1st LAAM Battalion was part of this increment.

*You're a "Recon" Marine and you and your team have made your reconnaissance in enemy-controlled territory. It's time to go home and a hovering Sea Knight has dropped its 120-foot sky-hook, and you and your buddies climb on and hang on for the ride back to the base. You don't have a worry in the world; you don't know who the pilot of the helicopter is, and you couldn't care less. He's a Marine and getting you back safely is now his problem.*

Three months later, on 17 September, another incremental withdrawal was announced, this time 40,500 men from all of the Services—nickname, Keystone Cardinal. The 3dMarDiv was the major unit to leave Vietnam in this increment, and it went to Okinawa. This division plus the 1stMAW (Rear) with headquarters at Iwakuni constituted I MAF. It is to be noted that the 1stMAW (Rear) was not associated organizationally in any way with the 1st MAW in Vietnam. It was simply a temporary title conferred on those aviation units outside of Vietnam that were deployed in WestPac as a component of the Seventh Fleet.

MAG-36 was the largest aviation unit to accompany the division. It deployed to Futema and became the parent group for all Marine helicopter squadrons in 1st MAW (Rear). One HMH, one HMM, and one VMO went to Futema as part of MAG-36. Another HMM returned to Santa Ana, California, to become part of the 3d MAW. One VMA(AW) with 12 A-6 aircraft deployed to Iwakuni and was attached to MAG-15 located there. These moves were all completed by Christmas 1969.

The President announced, on 16 December 1969, his intention to withdraw another 50,000 men. This increment was called Keystone Bluejay. MAG-12 from Chu Lai was the major Marine air unit to leave in this increment. It went to Iwakuni and joined the 1st MAW (Rear). One VMA accompanied it. Another VMA and one VMFA redeployed to El Toro, California, home station of the 3dMAW. One HMH also went to the 3d MAW. It was then stationed at Santa Ana. Keystone Bluejay ended on 15 April.

Before completing Keystone Bluejay, III MAF underwent a change in organization. Lieutenant General Herman Nickerson, Jr., turned over command, on 9 March 1970, to Lieutenant General Keith B. McCutcheon. At the same time General Nickerson was relieved as the senior U. S. Commander in ICTZ by Lieutenant General Melvin Zais, U. S. Army, Commanding General of XXIV Corps. After nearly five years, III MAF relinquished its position as the senior U. S. command in the area. The XXIV Corps headquarters took possession of Camp Horn, on Tien Sha Peninsula across from the city of Da Nang, and III MAF established a new command post at Camp Haskins on Red Beach, very close to where the 3d Battalion, 9th Marines, had come ashore on 8 March five years earlier. Camp Haskins was a Seabee cantonment, where the 32nd Naval Construction Regiment was headquartered.

On 20 April 1970, the President announced the largest withdrawal yet, with 150,000 to leave by 1 May 1971. On 3 June it was announced that 50,000 of these would be out by 15 October 1970. Keystone Robin was the nickname for this undertaking.

Another MAG was included in this increment. MAG-

*Marine Corps Deployable Squadrons*

Type of Marine Squadron	Abbrev	Number of Sqdns End FY		Model Acft in Sqdn End FY	
		1965	1970	1965	1970
All-Weather Fighter	VMF (AW)	8	—	F-8	—
Fighter Attack	VMFA	7	13*	F-4B	F-4B F-4J
Light Attack	VMA	10	7*	A-4C/E	A-4E/F
All-Weather Attack	VMA (AW)	2	6	A-6A	A-6A
Composite Reconnaissance	VMCJ	3	3	RF-8A EF-10B	RF-4B EA-6A
Refueler Transport	VMGR	3	3	KC-130	KC-130
Observation	VMO	3	3	O-1 UH-1E	OV-10A AH-1G
Light Helo Transport	HML	0	3		UH-1E
Medium Helo Transport	HMM	15	12	13 UH-34 2 CH-46	CH-46
Heavy Helo Transport	HMH	2	6	CH-37	CH-53
Total		53	56		

\* One Squadron given up in order to retain three HMLs in Force Structure. VMFA-513 redesignated VMA-513 and placed in cadre status 30 Jun 1970; will become a Harrier squadron in last half FY71.

13, along with one VMFA and one VMA(AW), deployed to El Toro. Another VMFA deployed to MCAS Kaneohe, Hawaii, and joined MAG-24 stationed there. These three jet squadrons flew across the Pacific refueling from KC-130s and following the general route, Cubi Point in the Philippines, Guam, Wake, Midway, Kaneohe, and finally El Toro. Jet squadrons in previous increments had followed the same route.

The departure of MAG-13 marked the end of an era at Chu Lai. The last Marine jet flew off the concrete west runway on 11 September and headed east. The air base at Chu Lai was taken over by the U. S. Army's Americal Division.

VMCJ-1 also departed Vietnam and returned to Iwakuni, where it had been stationed prior to its arrival in Vietnam in 1965.

The other major aviation units included in this package were one HMM, which departed for Santa Ana, and Marine Wing Support Group 17, which was relocated at Iwakuni.

The deployments of units in these four increments reduced the 1stMAW from a wing of six aircraft groups and three supporting groups<sup>18</sup> to a wing of two aircraft groups and two supporting groups.<sup>19</sup> The number of aircraft squadrons was now 10, compared to a peak of 26 in 1968 and 1969.

<sup>18</sup>MAGs 11, 12, 13, 16, 36, ProvMAG-39; Marine Wing Headquarters Group 1; Marine Wing Service Group 17, Marine Air Control Group 18.

<sup>19</sup>MAGs 11 and 16; Marine Wing Headquarters Group 1 and Marine Air Control Group 18.

Shortly after the initiation of Keystone Robin, on 1 July 1970, Major General Thrash stepped down as CG of 1stMAW, and Major General Alan J. Armstrong took command. It was to be his lot to continue the reduction of Marine aviation units in Vietnam and probably take the 1stMAW headquarters out of that country.

*Retrospect*

Marine Corps aviation was in Vietnam in strength for over five years. It was ready when the order was issued to go. The years since Korea had been used to good advantage. New techniques and new equipments were operational. The overall performance from 1965 to 1970 was outstanding.

It was a dynamic period. The Marines deployed to Vietnam in 1965 with UH-34, UH-1, and CH-37 helicopters; A-4, F-8, F-4B, RF-8, and EF-10B jets; and O-1, C-117, and KC-130 propeller aircraft. They added the CH-46, CH-53, AH-1G, A-6, F-9, TA-4F, F-4J, RF-4B, EA-6A, OV-10A, US-2B, and C-1A. From 1966 on they stopped using the UH-34, CH-47, F-8, F-9, RF-8, EF-10B, and O-1. Only the UH-1, A-4, F-4B, C-117, and KC-130 participated in operations from beginning to end.

Dynamism is one characteristic of a strong and viable air arm. Technical advances continually present the planners with decision points. Marine and Navy planners had done well in the fifties, and that is one reason

why so many new aircraft were under development in time to enter the Vietnam War. It is also interesting to note that A-1, A-4, A-7, F-4, F-8, and OV-10A aircraft in use by other Services, U. S. and foreign, were the products of the naval aeronautical organization, as were such air weapons as Sidewinder, Sparrow, Shrike, Snakeye, Bullpup, and Walleye.

The Marine Corps takes pride in the fact that it has always put a great deal of emphasis on planning and looking ahead. Before World War II, it pioneered the fundamentals of close air support, and during that war it perfected the techniques that are still basic. After that war it entered into the evaluation and application of helicopters to ground combat. When the Korean War began, it was ready to test the concept in a combat environment. Following Korea, it accelerated the development of its concept of a short airfield for tactical support. All three of these major contributions to the state-of-the-art in tactical air warfare were used in Vietnam, not just by the Marines, but by the other Services too. There were other Marine Corps contributions which included the MTDS, TPQ-10, RABFAC beacon, and tactical electronic warfare.

Even while the war in Vietnam was being fought, the Marines were still looking ahead to the future. As was discussed, earlier, the lack of suitable air bases in Vietnam was one major constraint on the buildup of tactical airpower. There are still only two airfields capable of handling jets in ICTZ, and there is still not one south of Saigon. But there are airfields capable of taking light aircraft, KC-130, and Caribou transports and helicopters. And many of these fields could take the Harrier.

The Harrier is a jet vertical take-off and landing strike aircraft developed in England with the help of U. S. dollars, and it is operational now in the Royal Air Force. The Marine Corps saw in the Harrier an aircraft of great potential and initiated procurement action in the FY69 budget for twelve of them. It gave up some F-4 aircraft to get them, and they are coming aboard now. By the end of FY71, the Marines will have their first squadron.

The Harrier will not only permit operations from more sites; it will improve response time in close air support by reducing the time taken to request support (there will be fewer centers and echelons of command to go through), and it can be staged closer to the action, thus cutting flight time. The fact that it can operate from more sites should reduce its vulnerability on the ground, and because it can land vertically there should be a reduction in its accident rate (more landing areas available in an emergency).

The year 1965 was one of buildup. Bases had to be obtained and developed, supply pipelines filled, and initial operating difficulties overcome. The sortie rate

for jet aircraft gradually climbed to over 1.0, which was the magic figure used by planners to compute sorties. That means one sortie per day per aircraft assigned. In 1966, the rate went well beyond that, and for the entire period the Marines averaged more than 1.0. When the occasion demanded it, they surged to 1.3, 1.4, or even 1.5 for days at a time. The 1st Wing was a consumer-oriented tactical air support command. If the customer had the demand, the wing would supply the sorties.

Twelve of the Corps' total of 27 fighter-attack squadrons were deployed most of the time and 10 or 11 of these were in Vietnam. Fourteen of its 25 helicopter squadrons were deployed—well over fifty per cent. The same airpower was diminished by the following losses in aircraft in all of Southeast Asia in the period starting 25 August 1962 and ending 10 October 1970.

*USMC Aircraft Losses in Southeast Asia*

Helicopter combat losses	252
Fixed wing combat losses	173
Helicopter operational losses	172
Fixed wing operational losses	81

Marine Corps aviation surged for over five years in order to sustain the maximum possible strength overseas. The units overseas in turn exceeded all planning factors in terms of output and productivity, under less than ideal conditions.

Marine Corps aviation will leave Vietnam with a sense of accomplishment. It performed its mission for nearly six years and carried out every function in the tactical air book. The innovations and developments it had worked on over the years were proven in combat. The new environment created new challenges for men in Marine aviation, and these were met head-on and solved. The war was the longest, and in many ways the most difficult, one in which Marines have had to participate. The restraints and constraints placed upon the use of air power, and the demanding management reports of all aspects of aviation required by higher authority, imposed additional requirements on staffs with no increase in resources, in most cases, to perform the tasks. In spite of these difficulties, Marine aviation performed in an outstanding manner. An analysis of sorties flown compared to assets on hand will prove that no one outflew the United States Marines.

*Keith B. McCutcheon*

# AMPHIBIOUS DOCTRINE in VIETNAM

## *What Marines Should Talk to Each Other About*

By LtCol P. L. Hilgartner



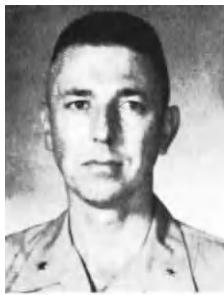
IT'S not hard to provoke a discussion of the pros and cons of our conduct of the war in Vietnam. Most professional Marines have strong feelings on the subject. However, since the bulk of our manpower (i.e. two divisions and one air wing) are committed to a land campaign just south of the DMZ, professional discussions related to the amphibious side of the war are less frequent. Many Marine officers of the 1960s appear totally unfamiliar not only with the doctrine, but also with the execution of amphibious operations. On the other hand, there are those who are familiar with our amphibious operations in Vietnam, but because of their deep concern with the land campaign, have expressed some exasperation over the conduct of these amphibious operations.

Some of this criticism, I believe, stems from a lack of understanding of our amphibious doctrine coupled with impatience over the prosecution of the war.

In any event, amphibious warfare is a matter which I believe Marines should talk to each other about.

Most Marines know that a basic rulebook for the conduct of amphibious warfare is a publication known as the *Doctrine for Amphibious Operations*. This publication has been agreed to by all of the services, including the Air Force in recent months. Marines know this publication as LFM-01; the Navy calls it NWP-22B. Since many discussions on amphibious operations involve Navy officers, Marines should be conversant with the Navy usage. This article refers to the Navy title.

NWP-22B contains the doctrine covering the planning for and conduct of all Navy/Marine Corps, joint, and combined amphibious operations. When first published it contained doctrine which was particularly well suited for conducting



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amphibious operations in a *hostile* enemy environment, such as existed during the island campaigns conducted by the Marine Corps in WWII. The war in Korea did not highlight any unique situations which challenged amphibious doctrine. The major amphibious operations conducted there were executed against conventional enemy forces in control of the land mass in the area of such operations.

There is a significant parallel to be drawn here. With respect to South Vietnam, the situation which confronted our amphibious forces in the spring of 1965 was not exactly the same. In fact it was unique. The enemy was not in full control of the country, but did have control over some land areas. It could be said then, that while not fully hostile with respect to amphibious forces, South Vietnam was certainly a "semi-hostile" place.

Another unique factor related to our amphibious effort in South Vietnam is that prior to the commencement of amphibious operations in 1965, a U.S. ground forces commander, COMUSMACV, was established ashore in South Vietnam. He soon made clear his interest in the **conduct** of naval amphibious operations in South Vietnam.

This latter development was a matter of great concern to Navy and Marine Pacific Fleet and Force commanders, and after much discussion back and forth, an agreement by the Commander in Chief, U.S. Pacific Fleet (CINCPACFLT) with COMUSMACV was reached in November of 1966. This document was officially entitled, *Agreement for U.S. Naval Support Operations in RVN* and will be addressed in part herein.

The "Agreement" has had a significant impact on the amphibious doctrine contained in NWP-22B. The matter has been of such concern to Pacific Fleet commanders that several study groups have been convened on the subject. The latest study relating to the matter of the conduct of amphibious operations in Vietnam was completed by CINCPACFLT in February 1968. This study examined methods of employment of amphibious forces in Vietnam, as well as command relationships and control procedures. A detailed exposé is not feasible for security reasons.

Since March 1965, more than 50 amphibious operations have been conducted in South Vietnam. Most of these have been conducted by a Seventh Fleet amphibious force known as the Amphibious Ready Group/Special Landing Force (ARG/SLF). The ARG/SLF was created in 1960 as a balanced, versatile contingency force to meet requirements throughout the Pacific Command area of responsibility. While the mission stands today, the predominant effort has been directed towards the current contingency in South Vietnam.

When planning for amphibious operations in Vietnam was first initiated, it was not wholly obvious to the planners that the amphibious forces must consider the desires of a friendly government and the military commander ashore. No one supposed that the absolute authority of the Amphibious Task Force commander within the boundary of the amphibious objective area (AOA) would be questioned.

However, this authority *was* questioned, and it was pointed out that the land space within the defined AOA was occupied to a large extent by innocent civilians loyal to the government of Vietnam and there were certain rules to ensure their safety. Additionally, the authority of the amphibious task force commander within the airspace of the amphibious objective area was questioned. It was pointed out that a friendly U.S. commander ashore was conducting air operations, the Vietnamese air force was conducting air operations, and certain civilian air transportation agencies were continuing commercial air operations along the coast line of South Vietnam.

This situation became even more complex to the planners when the question of security was posed. Who should be told that an amphibious operation in a selected area of South Vietnam was forthcoming? As a point it was observed that security leaks could occur if civilian aircraft agencies were directed to deviate from their commercial route for a period of time. Soon it would become obvious to the enemy that when such a restriction was imposed, an amphibious operation would be forthcoming in the area where the commercial air route was established. Other related security problems can be visualized.

Additionally, there was the matter of naval support for the conduct of amphibious operations. The Commander in Chief U.S. Pacific Fleet (CINCPACFLT) provides naval support (including amphibious support) as requested by the in-country unified commander, COMUSMACV. This is done in accordance with JCS Pub 2 and as directed by the overall Pacific unified commander, CINCPAC. As a result of the CINCPACFLT/COMUSMACV Agreement and over three years of experience, many of the steps in planning and conducting amphibious operations in South Vietnam have become routine and



## AMPHIBIOUS DOCTRINE

mechanical. However, the planning sequence contained in NWP-22B is followed.

The feasibility of conducting amphibious operations in South Vietnam in support of COMUSMACV has been established. The Fleet Commander has delegated the responsibility for the amphibious operation to the Commander, U.S. Seventh Fleet, (COMSEVENTHFLT). The "initiating directive" utilized today is in many respects a "canned" one, but it still provides for the establishment of the amphibious task force.

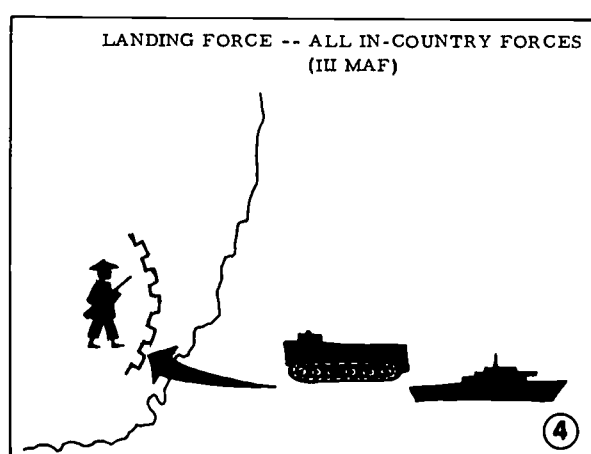
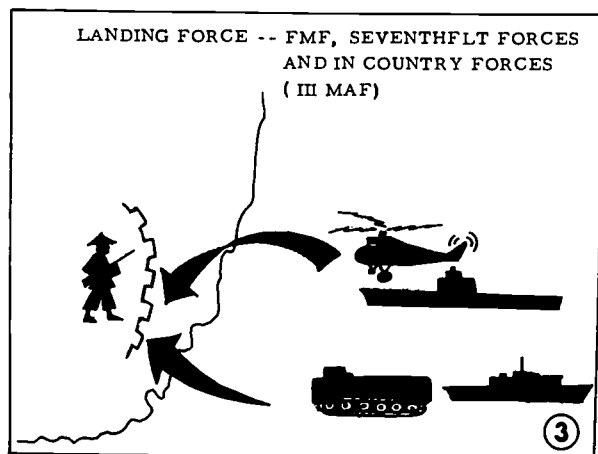
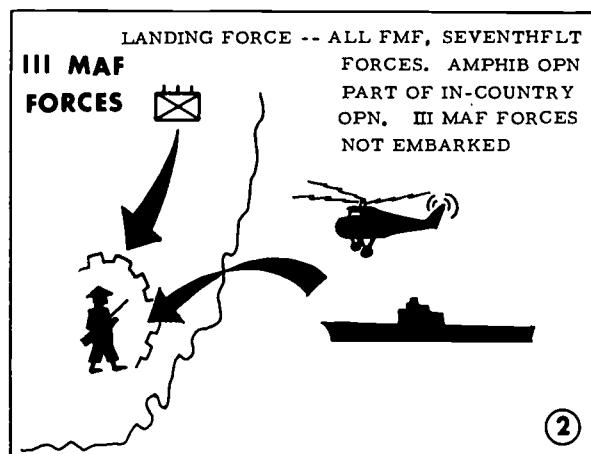
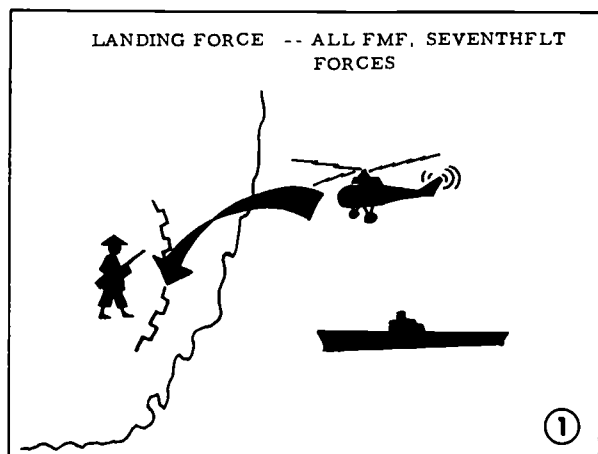
The initiating directive, among other things, still assigns the necessary forces to accomplish the mission specified by COMUSMACV, defines the amphibious objective area in terms of sea, land, and air space, and prescribes the command authority within the amphibious objective area. The CINCPACFLT/COMUSMACV Agreement solves most of the command relationships and coordination questions. However, those remaining which relate to the size of friendly forces and nature of their activities and their direct or indirect participation in the amphibious operation, are resolved through established coordinating procedures.

From the standpoint of landing forces, four

types of amphibious operations have evolved from the amphibious experience thus far in Vietnam.

1. An amphibious operation in which the landing force is composed of all FMF, SEVENTHFLT forces. A principal example of the SEVENTHFLT Marine units has been the Special Landing Force (SLF), which is part of the Ninth Marine Amphibious Brigade (9th MAB) based in Okinawa (see figure 1). Operation DECKHOUSE ONE conducted in June 1966, is an example of this type. BEAU CHARGER, conducted in May 1967 is another.

2. An amphibious operation which is a part of an in-country operation (see figure 2). In some operations conducted by the III MAF, forces were not embarked, and the entire amphibious operation was executed by designated FMF, SEVENTHFLT Marine forces. In these situations, it is not unusual for the amphibious operation to be terminated and for operational control of the landing force to be chopped to the in-country commander until the operation is over. Upon conclusion of these in-country operations, it is normal for the amphibious operation to be resumed for the purpose of withdrawing the landing force. As an example, the SLF reported to OPCON of CG, III MAF under these conditions during Operation BEAVER TRACK in July 1967,



and returned to OPCON of the Commander Amphibious Task Force (CATF) when the support requirement ceased. This type is probably the most common.

3. An amphibious operation in which both in-country forces (i.e., III MAF) and FMF, SEVENTHFLT forces are embarked in amphibious task force shipping (see figure 3). Normally, the landing forces come from a single Marine command and are organized from a command standpoint to execute amphibious operations. Again the situation in the Western Pacific is unique, because there are FMF, SEVENTHFLT Marine forces and III Marine Amphibious Forces, who upon occasion have been combined to form the landing force. One example occurred in Operation DOUBLE EAGLE in January-February 1966.

4. An amphibious operation in which the landing force is composed entirely of in-country (i.e., III MAF) forces (see figure 4). Operation BLUE MARLIN, which took place in November 1965, is an example of this type of operation. With the creation of a second ARG/SLF in April 1967 the requirement for this type operation has been materially reduced.

That there are four types of amphibious operations which can be conducted in a semi-hostile environment such as South Vietnam may be considered academic to some, but knowledge of same is important to an appreciation of the impact this war and the CINCPACFLT/COMUSMACV Agreement have had on naval amphibious doctrine. In conducting these amphibious operations some exceptions or deviations are applied to the amphibious doctrine contained in NWP-22B. For the most part the deviations have been related to the command and control authority of the CATF within the objective area.

Amphibious objective areas in conventional WWII type amphibious operations tended to be described in terms of a geometric cylinder giving wide latitude in terms of land, sea, and airspace. However, as has been stated, South Vietnam has presented a different situation. Friendly forces and civilians are almost always in the vicinity of the planned assault objective(s). Notification to civilian aircraft agencies that a specified airspace along their normal flight route will be restricted to aircraft on certain days might jeopardize the security of the operation. The AOA can be scribed so that nearby friendly ground forces are excluded. A tunnel through the air space of sufficient cube to permit uninterrupted flight by other friendly aircraft is often included.

In our amphibious exercises at Camp Pendleton it has been necessary to do much the same thing of providing airspace for unrestricted travel by commercial aircraft. The difference is this:

At Camp Pendleton this procedure has been "written out" of the problem as an exercise limi-

tation. In South Vietnam, it is one of the CATF's command and control problems. In my opinion it constitutes an inroad upon the amphibious doctrine in NWP-22B and the authority of the CATF in the AOA.

Another illustration of the impact of the unique situation the war in Vietnam has had on naval amphibious doctrine is this:

The doctrine stipulates that the amphibious task force commander "will exercise control, as prescribed in the initiating directive, over forces not a part of the amphibious task force when such forces are operating within the amphibious objective area. . . ." However, insofar as the situation in South Vietnam pertains, it has been recognized that the CATF does not have control over South Vietnamese forces who might happen to be inside the amphibious objective area. Therefore, close coordination between free world military forces and Pacific Fleet naval forces has become paramount.

The doctrine provides for a Commander Landing Force (CLF), and for his authority and responsibility in the amphibious operation. In addressing the matter of who commands the landing force, it has been determined that the commander having the *preponderance of landing force troops* will embark and be designated the CLF. If, for example, this officer happens to be the commander of the III MAF troops, then operational control of the III MAF unit participating in the amphibious operation will pass to the CATF. This operational control will be retained by the CATF until the landing force is firmly established ashore and the amphibious operation is terminated.

With all these facts before us, it is apparent that the events which have transpired in South Vietnam during the past three years have had an impact on the amphibious doctrine contained in NWP-22B/LFM-01.

There are restrictions on the extent of the CATF's command and control of the close air and naval gunfire support which he provides the Commander Landing Force (CLF) within the amphibious objective area.

COMUSMACV has been accorded extensive control and has been allowed to prescribe virtually every important aspect of the employment of amphibious forces, from specifying the mission to delineating the characteristics of the amphibious objective area.

But even in the face of all of this, the doctrine for amphibious operations as contained in NWP-22B/LFM-01 has proven adequate. But the situation in South Vietnam has produced some new facets affecting the doctrine which are important to Marines. The "old grey mare may not be what she used to be"; professional Marines need to stay on top of matters relating to our "bread and butter."

US MC

# **A View From FMF Pac of Logistics in the Western Pacific, 1965–1971**

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*How much? How much would the artillerymen on the preceding pages need as they and other gunners of the Twelfth Marines provided fire support for the First Marines near Con Thien in 1967? How much chow would it take to sustain them? How much water would they need? How much of everything? These are the questions logistic planners must anticipate and answer, and, to the most difficult question—How much is enough?—their answer has to be "Enough to get the job done; not a drop more and not a pound less."*

The Marines' traditional gripe about being "lonely, tired, and far from home" comes close to describing the U. S. serviceman's predicament in and resulting from South Vietnam. American military men, at all echelons, know the loneliness of fighting an "unplanned, unwanted, undeclared, and unpopular" war.<sup>1</sup> They are bone-tired from the unparalleled effort of making war while, at the same time, building and providing for other nations in the Western Pacific. They stand flat-footed in frustration as they defend themselves not only against an enemy they were prohibited from defeating but also the hostile element of their own society. To add further to their frustration, the U. S. involvement in South Vietnam has been a defensive war characterized by its logistic, rather than operational nature. There have been tactical innovations, to be sure, but the grand scope of dramatic operations and splendid victories has been missing. So much so in fact that perhaps the previously unmatched logistic support provided to our forces and allies will be the war's only significant military accomplishment. And all this—massive construction projects, vast amounts of materials and subsistence being provided, sporadic fire-fights, and hundreds of thousands of officers and men being moved about on a time-table—has been taking place half a world away from the continental United States, the source of the means and the troops.

At the very moment of our deepest involvement, in 1968 and 1969, when large numbers of U. S. and Free World forces were involved and the largest number of casualties were being inflicted on both sides, America commenced the planning and later the execution of

<sup>1</sup>C. J. Merdinger, "Civil Engineers, Seabees, and Bases in Vietnam," U. S. Naval Institute *Proceedings*, May 1970, pp. 254–275.

a withdrawal without diminishing the support of those still in combat. Ships and planes passed in opposite directions, those loaded with equipment for South Vietnam and those returning other equipment to the United States. Service and unified command planners devised systems of review, screening, and "want-lists" to prevent the return of items still needed in South Vietnam or the Western Pacific, and to cancel, delay, or divert those previously requisitioned items which were no longer needed or were needed only in lesser amounts. Thus, while supporting a war in one direction, we were withdrawing, re-establishing, refurbishing, inactivating, and returning material and equipment to stores in another. This was especially true of the Marine Corps in the early redeployments. While other Services generally withdrew personnel spaces and transferred equipment within South Vietnam or to stock elsewhere, the Marine Corps withdrew units, with their own organic equipment, and used its operating stocks for reconstitution of "mount-out" and "mount-out augmentation" for the withdrawn units in an unparalleled manner and by a sophisticated computer system designed to avoid interference with the units still in combat.

The logistic planning and guidance developed and the procedures necessary to avoid redundancy, while supporting both those forces in the field and those being sent either to other Western Pacific bases or back to the United States, form the theme of this discussion. It is not intended to be a technical recitation of facts but rather a view of what was hoped for and what really happened in an operation that, though still underway for others, is over for the Marine Corps.

#### *Background, Before Entry (1960–1965)*

The logistic support organization and systems outlined in the plans drawn up by the Pacific Command (PaCom) for the possible support of U. S. forces in Southeast Asia reflected, for the most part, the existing organizations and systems of the individual Services and components. Since Commander-in-Chief, Pacific (CinCPac), at this time was essentially an operational command, most early CinCPac plans either ignored or provided inadequately for logistic support. This was especially true in regard to the expected duration of combat operations, which had great impact upon both the planning for base development and the amount of logistic support anticipated in the objective area. Nor did they, or individual Service plans, identify needs for essential major items of equipment (or the time required to obtain such equipment) with any accuracy. They did not recognize the deficiencies in South Vietnam's ports or appreciate the magnitude of the construction effort that would be necessary either in the



ports or in the country at large. In fact, the contingency plans, which called for the rapid deployment of U. S. forces, with emphasis on control of key areas by combat forces, stipulated a delay in the introduction of the logistic elements. Thus, the concept precluded both the early development of logistic bases and the early entry of support elements. Certainly the planning did not anticipate a war of attrition lasting more than seven years, nor a withdrawal in the middle of hostilities.

Logistic support for the Marine Corps forces scheduled for potential employment in Southeast Asia was to be furnished by logistic elements organic to the III Marine Expeditionary Force (later renamed Marine Amphibious Force in deference to the government of South Vietnam). Logistical plans for the Marines were designed for the support of amphibious assault operations with only limited landing force involvement ashore. No provision, therefore, was made for sustained follow-on support from off-shore bases once the forces had been deployed from their assigned Western Pacific locations.

#### *Background After Entry (1965-1969)*

During most of 1965, logistic support for the Marines in Vietnam who, by year's end numbered 38,000, mainly in the 3d Marine Division and 1st Marine Air Wing, was furnished by a Force Logistic Support Group in Da Nang, which operated as a subordinate of the 3d Force Service Regiment on Okinawa. In March 1966, with the arrival of the 1st Marine Division and additional 1st Marine Air Wing units, this logistic organization required expansion and realignment. Thus, on 15 March 1966, a Force Logistic Command was established at Da Nang as a provisional organization under the command of the Commanding General, Fleet Marine Force, Pacific (CG FMFPac), and under the operational control of the Commanding General, III Marine Amphibious Force (CG III MAF). Not only was the organization new to the Marines (although a Service command at expeditionary corps level had been in the planning documents for years), but no other Service had anything quite like it, either.

The Commanding General, Force Logistic Command (CG FLC), provided Force Logistic Support Groups (FLSGs) to the 1st and 3d Marine Divisions and Force Logistic Support Units (FLSUs) to Marine air and ground elements as required. Both Groups and Units were task-organized to provide the supply and maintenance essential to the supported activity. This unique and flexible development later became one of the key elements in the Marine Corps' ability simultaneously to support a war and plan and execute a massive redeployment. The value of CG FMFPac's close proximity to the Commander-in-Chief, Pacific Fleet (CinCPacFlt),

combined with his direct access to CG FLC and CG III MAF on logistic matters, cannot be over-emphasized. The Commanding General, Force Logistic Command, not only tied in directly with his operational commander but also fully conversant with logistic planning being done at FMFPac, held the key to a successful redeployment.<sup>2</sup>

The foregoing does not mean, however, that logistic planning and operations for the support of the forces in South Vietnam and later the planning for redeployment by CinCPac and Commander, U. S. Military Assistance Command, Vietnam (ComUSMACV), were not pertinent. The Joint Logistic Council and Joint Transportation Board of CinCPac and the J-4 of ComUSMACV were deeply and effectively involved. In fact, the redeployment movements of all Services were directed by CinCPac regardless of unit or carrier, in accordance with a detailed joint movement plan prepared by CinCPac based upon information provided by each PaCom component and coordinated with each Service and the Joint Chiefs of Staff (JCS). The Commandant of the Marine Corps provided support and guidance, not only via the Service channel, but also as a participant and a member of the Joint Chiefs of Staff.

#### *Logistic Operations in Vietnam (1965-1970)*

Essentially, both during and before redeployment, there were three areas of logistic support for Marines that daily involved the greater part of the logistic consideration and effort. These were transportation, maintenance, and supply, including munitions.

#### *Transportation*

Transportation was and is the dominant factor, either in support of forces in-country or in redeployment planning. Lack of sound transportation planning can ruin the best overall plan; and conversely, good transportation planning can usually bail out the worst plan. During most of the war, both surface and air transport for the Marines in South Vietnam was controlled by a joint agency within III MAF Headquarters under the staff cognizance of the G-4. This changed on 1 March 1970 when the operational control of I Corps area was passed to the U. S. Army's XXIV Corps following the redeployment of the preponderance of the Marines from the I Corps area.

<sup>2</sup>While these events were taking place in the Marine Corps, similar events were occurring within the Navy. An ad hoc organization to operate the port of Da Nang was formalized as Naval Support Activity, Da Nang. This organization, of a type new to the Navy, grew to considerable size. Not only did NSA Da Nang operate the port, but it created many lesser ports up and down the I Corps coast, and up the I Corps rivers, for the purpose of supplying Marine needs. Its scores of landing craft, as well as the many LSTs under its direction, were essential to the success of Marine Corps operations in I Corps Tactical Zone.

During the period 1965–1969, despite the great advances of air transportation and its maximum utilization, ocean surface transportation (mainly old LSTs and large landing craft), under the control of Naval Support Activity, Da Nang,<sup>3</sup> between Da Nang and the Northern I Corps area, as well as between Da Nang and Chu Lai to the south, was dominant. This extensive employment of landing craft and ships as coastal freighters, with the attendant development of supporting terminals at Cua Viet, Tan My, Hue, and Chu Lai in order to prosecute the war, later proved invaluable during re-deployment of the 3d Marine Division because many of the heavy combat support elements of that organization could be directly embarked aboard amphibious assault ships by helicopters or landing craft along the northern coast of South Vietnam without further taxing

<sup>3</sup>F. C. Collins, Jr., "Maritime Support of the Campaign in I Corps," U. S. Naval Institute *Proceedings*, May 1971, pp. 156–179. Also, K. P. Huff, "Building the Advanced Base at Da Nang," *Naval Review* 1968, pp. 88–113.

the few piers and LST ramps in Da Nang. This fact also highlights the versatility of the assault ships compared to the freighters of the Military Sealift Command (MSC, formerly Military Sea Transport Service, or MSTs) or chartered merchant ships, neither of which possess organic landing craft, and neither of which can handle large movements of helicopter-borne personnel and equipment.

Road and rail transportation within South Vietnam, and especially in I Corps during the period 1965–1969, was hazardous. During the greater part of this period, the rail line between Da Nang and Hue was virtually inoperative due to enemy activity. When it was returned to a reasonably secure means of movement in mid-1969, it was employed primarily by the government of South Vietnam and was little used by III MAF logistic activities. In fact, the great efforts by the South Vietnamese to restore and maintain the rail line was motivated more by morale and prestige considerations than



*With the rail line between Da Nang and Hue inoperative due to enemy activity, the opening, maintaining, and protecting of some roads in I Corps became imperative. Three Ontos, such as the one in the foreground, were assigned to protect the 33-truck "rough Rider" convoy that moved from Da Nang to Hue in 1966.*

by a realistic need for transportation support. Road transportation, on the other hand, was vital in order to provide an alternative to air and ocean movement during the long periods of bad weather and to use effectively the many trucks and other vehicles of III MAF. Accordingly, extensive energy was expended to open, protect, and maintain the roads. Finally, about six months before the redeployment of the 3d Marine Division from the northern provinces of I Corps, the roads were virtually free from interference and convoys



rolled day and night. However, it was not until 1970, with the 3d Marine Division redeployed and the northern terminals at Cua Viet and Tan My being reduced or closed, that the tonnage moved by roads in I Corps finally approached the tonnage transported by landing craft.

Air, of course, provided the means to sustain many of the isolated fire support bases and countless limited operations, especially inland. The value and flexibility of the helicopter from both an operational and logistical viewpoint brought new possibilities to warfare. However, the less dramatic fixed-wing aircraft, the C-123s, C-130s, C-141s, and others, belonging to the Marines, the Air Force's Military Airlift Command (MAC), and the commercial charter carriers lifted vastly more cargo and many more men than the "choppers," not only in I Corps but also in all of Vietnam. To the logistic planner, the single most important aspect of this combined fixed-wing and helicopter air lift capability was its surge capacity. By using either the airplanes already in-country or those offshore in the Philippines, Okinawa, or Japan—or a mixture of both—the system could respond rapidly to crises and unprogrammed movements. This, too, was a great advantage at the time of redeployment.

Both ships and aircraft from outside Vietnam were provided to III MAF by CG FMFPac. This included the MAC-chartered aircraft to carry the men flowing from the West Coast of the United States to Okinawa and into South Vietnam and return, as well as the MST-chartered ships to move cargo from Okinawa to Vietnam. The Commanding General, Fleet Marine Force, Pacific, directed this vast transportation network from Hawaii. The close, on-the-scene control was accomplished by Deputy Commanding General, Fleet Marine Force, Pacific (Forward) (Dep CG FMFPac [Fwd]) at Okinawa and CG III MAF or CG FLC at Da Nang. Airlift personnel and cargo requirements were forwarded to Dep CG FMFPac (Fwd) on Okinawa (after 1969, Commanding General, Marine Corps Base, Camp Butler), who consolidated these requirements with additional needs from Okinawa and Japan. The combined requirements were then met from assets within the Pacific Command or, as in the case of the personnel rotation plan, were provided by CG FMFPac who obtained chartered commercial aircraft from Headquarters, United States Marine Corps, Washington, D.C., (HQMC) and the MAC. Ocean cargo was booked by the Force Logistic Command with the Naval Support Activity in Da Nang which in turn obtained the required shipping.

Amphibious assault ships completing their tour and returning to the United States were also used to the maximum extent possible, and this saved a large amount of money that would have otherwise been spent

on costly commercial shipping. Once the Marine Corps redeployment began in 1969, the use of such ships raised the savings into many millions of dollars, and offered additionally the advantages of timely and flexible loading and unloading at other than crowded ports. The use of Tan My, South Vietnam; White Beach, Okinawa; and Del Mar, California, reduced the congestion at Da Nang, Naha, and San Diego. It also made unnecessary the long movement of some personnel and equipment by rail or highway to and from other ports of embarkation and debarkation.

Altogether, about 30% of all Marines and 90% of their equipment (by tonnage), were redeployed from Vietnam in amphibious ships. Nearly all the rest of the Marines were moved in commercial aircraft. Most aviation units, however, went in the amphibious ships, with the remainder going by flight ferry. Very little cargo went by air; that which didn't go in amphibious ships went in commercial ships.

#### *Maintenance*

The basic maintenance objective of the Marine Corps is to provide and maintain equipment in an operationally ready condition and to do so at the least possible cost in time and money. But the drain of maintenance upon the Marine Corps to support its operations in South Vietnam, i.e., the energy expended in devising, improving, discarding systems, took all the talent and ingenuity the Corps could muster. Starting from a far-too-limited base, involved in a war different in kind from that expected, and lacking equipment which, though requested, had not been authorized, it took only a short while in South Vietnam for the Marine Corps to realize that maintenance would be its biggest problem. By 1966, its maintenance back was already to the wall of capability.

Certainly the Marine Corps' experiences in South Vietnam and the examples of accomplishments and of changes that were made provided the bases for determining the Corps' strengths and weaknesses, and for making clear the lessons to be learned. In studying these lessons, however, there is the danger of assuming that what was done to support the Vietnamese conflict will be applicable to all future planning and should, therefore, be adopted as SOP. The buildup of forces and the tempo of action in South Vietnam were stringently controlled responses by the United States in a fundamentally defensive atmosphere. Nowhere was this more true than in the northernmost area of I Corps in which, although it fronted on North Vietnam, the paucity of our forces, compared to the enemy's forces and his ability to reinforce himself, precluded anything except general defensive operations. Fortunately, since the Free World forces dominated both the air and sea, there

*Tank crews' operating in the Da Nang area could drive over to Force Logistic Command Maintenance Battalion's ordnance maintenance company and, as this 26th Marine tanker is seen doing to his medium tank, give their vehicle a steam bath.*



was no interruption of inter-theater lines of communications. Some attacks were made by demolition sappers (who came by water) against Navy and Marine logistic facilities at Tan My, Hue, and on the Cua Viet River, but these were infrequent. Attacks by fire on such facilities happened more often. But the total result of such attacks was not important. The overland lines of communication in South Vietnam, although not under complete control of the United States and its allies, were made usable at our discretion. Because of this situation, support for combat units was built up at a reasonable and orderly rate compared to that which would have been required had the enemy controlled the situation or had the forces in I Corps been attacking North Vietnam. It is in this context—this limited defensive situation—that maintenance support strengths, weaknesses, and lessons to be learned should be viewed. In other words—it could have been a lot worse.

Just as with transportation, the Marine Corps maintenance system for South Vietnam reflected the high degree of logistic control exercised by CG FMFPac. Based upon field requirements, and tempered by overall Marine Corps circumstances, maintenance forces were deployed and maintenance systems and facilities were coordinated by FMFPac. This control, as in the case of transportation, proved to be invaluable at the time of redeployment planning because no unusual or special organizations or procedures were required to assure that proper priorities were observed and that maintenance efforts complemented the redeployment planning.

From the outset, the Marine Corps concept of logistic support provided centralized control of supplies and services. This was essential in order to maintain the flexibility required if we were to retain our amphibious assault capability. The initial maintenance concept for the ground units provided for first-through-third echelon maintenance in-country, fourth echelon at 3d Force Service Regiment on Okinawa, and all depot or fifth

echelon rebuilding in the continental United States. However, because of the unexpected deterioration of equipment resulting from the climatic conditions of South Vietnam and the effect of years of underprocurement, by 1966, the demand forced FMFPac to initiate fourth echelon repair in-country and to establish a fifth echelon capability offshore. The plan involved an expansion of the program used by Marine Corps aviation for rebuilding ground support equipment, especially generators, at the Public Works Center in Yokosuka, Japan.

The 3d Force Service Regiment in Okinawa, with funds and guidance from FMFPac, would accomplish all the fifth echelon repair and rebuilding within its capability, and then contract with other facilities for the remainder. Although Headquarters Marine Corps rather grudgingly granted this authority to rebuild equipment in the Western Pacific to CG FMFPac, it proved to be one of the great logistic decisions. Despite HQMC's reluctance to give this authority to a field commander, it was CG FMFPac itself who voluntarily recommended that this authority be terminated in 1970, when it was no longer required to support the reduced and redeployed forces. During the period 1966–1970, however, the FMFPac Western Pacific Rebuild Program was absolutely vital. The forces in-country and in support simply could not afford the lengthy delays inherent in having all fifth echelon rebuilding performed in the United States. Furthermore, the cost of such rebuilding in the Western Pacific and the attendant transportation expenses, were much less than if the same items had been returned to the United States. If the troops were to be supplied and equipped properly, the only alternative would have been large overbuys. The FMFPac Western Pacific Rebuild Program led to work being done not only at 3d FSR, Okinawa, but also at 2d Army Logistical Command, Okinawa; Public Works Center, Yokosuka; Public Works Center, San Diego; Marine Corps Air Station, El Toro; and Construction Battalion Center, Port

Hueneme. The program in Fiscal Year 1970 involved 910 items as compared to only 29 in Fiscal Year 1966. Again, the organizational structure within FMFPac, which assumed the movement of such equipment in the normal course of events, proved to be an asset during the redeployment planning and in the preparation of the logistic guidance which provided for the "capture" and redistribution of the equipment within the system at the opportune points in time to avoid redundancy or unnecessary transportation.

The fact that the logistics system of FMFPac was in tune with the tempo of change and redeployment could not have been more evident than in CG FMFPac's initiative to end fifth echelon rebuilding at 3d FSR and return it to the United States. Fourth echelon repair work was again concentrated at Okinawa in order to hasten return of the 3d Marine Division on that island and 1st Marine Air Wing (Rear) in Japan to the highest level of readiness, and to cancel 3d FSR's responsibility as an administrative control agency for the rebuilding program. Thus, all administration of the Fiscal Year 1971 program was returned to FMFPac, which was in the best position to judge priorities.

Marine Corps aviation maintenance followed a similar set of procedures, albeit complicated by the Navy's aviation support systems which basically are aircraft-carrier-oriented. To the greatest extent possible, periodic maintenance and modifications beyond the capabilities of the forces in South Vietnam were accomplished in the Western Pacific, using naval aviation or contract facilities in the Philippines, Okinawa, or Japan.<sup>4</sup> As an example, and despite the expressed reservations of both Commander, Naval Air Systems Command, and HQMC in Washington, FMFPac established a bold program at Atsugi, Japan, which entailed the modification of every CH-46 in the Western Pacific in order to correct a serious problem with tail rotors. By mid-1970, this program was nearing completion on schedule and without incurring any diminished support to forces in South Vietnam. The money saved by accomplishing this modification in Japan rather than at North Island was significant, but it was secondary in comparison to the time saved. Transportation costs were kept low by using transport aircraft and amphibious ships returning to Japan from Vietnam. And, of course, these procedures permitted FMFPac planners to use the fast-moving exchange of equipment within the maintenance system to their advantage in their redeployment guidance.<sup>5</sup>

Complementary to the FMFPac maintenance program

<sup>4</sup>K. B. McCutcheon, "Marine Aviation in Vietnam," U. S. Naval Institute *Proceedings*, May 1971, pp. 122-155.

<sup>5</sup>Factory employees were brought to Okinawa in 1969 to work on CH-46 helicopters brought in from Vietnam for maintenance.

was the new equipment replacement and evacuation program. Administered by HQMC, this program involved the scheduled return of Marine Corps equipment from field units in the Pacific to the depots at Barstow, California, and Albany, Georgia, in exchange for new or reconditioned equipment. CG FMFPac determined the distribution of assets and accounted for the return and receipt of items. This positive control at the FMFPac level reduced the opportunity in either the maintenance or the replacement and evacuation program for someone to make some gross miscalculation based upon lack of knowledge and, in addition, allowed FMFPac to make timely recommendations in regard to phasing down both programs as redeployment planning and execution progressed. Thus, the redeployment of the Marine units, the retrograde of their equipment, and the redistribution of both permitted scaling down of the maintenance effort supporting III MAF so that, by the end of 1970, FLC was providing field maintenance support in established shops in South Vietnam or by technical team assistance in the field, while depot maintenance was being performed in the continental United States. The 3d FSR on Okinawa provided backup field maintenance for items irreparable at FLC within 90 days and direct fourth echelon support for units that were based in Okinawa or Japan.

In summary, the Marine Corps maintenance system, manned at all echelons by military personnel and operating essentially the same in war as it had in peace, permitted not only the transition from peace to war and then back, but also permitted better support for the previously neglected forces which had not been in Vietnam. Of particular importance was the fact that previously neglected elements regained much of the amphibious assault readiness status which, as a result of Vietnam, they had lost.

The major maintenance difficulties encountered by the FMF engaged in South Vietnam were directly related to deficiencies in the timely supply of repair parts and to the almost complete failure of the HQMC-sponsored Secondary Depot Repair Program, which never even remotely reached its predicted accomplishments. This program, which was supposed to permit a user to exchange on the spot a component assembly, such as a carburetor, for a new one, was both poorly managed and underfunded. In fact, no such parts were available for exchange.

Much of the success attributed to the FMFPac maintenance system was due to the American talent in Okinawa and the local talent in Japan which helped to overcome the industrial apathy in the United States. An acute example was engineer equipment. On numerous occasions, Japanese industry proved that it could fabricate parts and components, repair the item, and

return it to the field unit before a replacement part could even be shipped to a forwarding activity by suppliers in the United States.

### *Supply*

Except for repair parts, Marines deployed to South Vietnam and to supporting roles elsewhere generally were exceptionally well supplied. The pre-positioning of war reserve stocks at or near the points of planned use or issue to the users was responsible for the initial success. Later, the high level of stocks maintained in South Vietnam or offshore continued an unprecedented high level of supply support for combat operations. When critical shortages did occur, the problems were solved by special programs monitored daily by CG FMFPac. The ready solution to all such problems lay in the extremely responsive transportation system. Unfortunately, the speed of its response often led commanders to rely upon it rather than on their own careful planning. As a result, there were occasions in 1967 when expedited items passed over identical items being provided by normal means, creating a redundancy within the supply system. When alerted to this late that year, CG FMFPac began to cancel all special expediting programs and where once there had been six such programs, by August 1968, the Marine Corps Automated Readiness Evaluation System was the only means for monitoring and, if necessary, taking direct action on items requiring expeditious action.

Initially, in 1965, the normal mount-out and mount-out augmentation (MO/MOA) supplies, maintained by the Fleet Marine Forces in the Pacific for redeployments and contingencies, were transferred from Okinawa and Japan to South Vietnam, for use as operating stocks. This provided the early support, but it also hindered the amphibious assault reaction capability of the Fleet Marine Forces. The reconstitution of this critical mount-out capability from excess items in South Vietnam was made mandatory in 1969 by the logistic requirements for the subsequent redeployment of forces from South Vietnam. This redistribution was not done in isolation from other PaCom forces, however.

*Boxes of rations for a Marine infantry outpost south of Da Nang were unloaded from a Sea Stallion helicopter of Marine Heavy Helicopter Squadron 463 in September 1967.*

The Department of Defense established the PaCom Utilization and Redistribution Agency (PURA) in 1967 to maximize local consumption of excess material within the Pacific Command, with a view to saving costs and time that otherwise would be spent in shipping new items from the continental United States. Participants include the Armed Services, military aid programs, Agency for International Development, General Services Administration, and other Federal agencies. After Marine Corps needs in the Pacific are satisfied, all excess items in Marine Corps hands except such categories as petroleum, single-service items, and those under special control are reported to PURA, wherein they are screened by program subscribers and, if required, are requisitioned. Although this program operated in fits and starts during its early years, on 1 October 1970, because of new procedures which permitted the screening within 75 days, the program achieved full participation and effectiveness. It must be noted that only following PURA screening are remaining excesses applied to other Marine Corps-wide needs. As a measure of the Marine Corps' participation in this unified approach, during 1970, III MAF material valued at over 2.7 million, out of 43 million dollars worth offered, was redistributed to other PaCom activities.



*Redeployment Planning, 1969*

Although broad concepts concerning redeployment had been exchanged previously between civilians in the highest levels of government and a few military commanders in a very closely held fashion, the first significant formal action occurred in mid-March 1969 when a MAC-chartered Braniff 707 roared out of Honolulu airport bound for Clark Field in the Philippines. Aboard were members of the CinCPac Joint Logistic Council (JLC) and Joint Transportation Board (JTB), representing the unified commander and each component Service. Also on board from Washington were representatives from the Joint Staff, the Army, the Air Force, and the Army's Military Transportation Movement and Terminal Service (MTMTS). The Navy and Marine Corps provided no representatives other than those on the JLC and JTB. The mission of the group was to evaluate the outloading facilities in South Vietnam and Thailand, recommend improvements to CinCPac, and report back to CinCPac the status of planning for redeployment of each Service component and command visited in South Vietnam and Thailand. Each member was an expert in logistics and transportation.

The difficulty, of course, was to conduct a thorough review, visit all the facilities, evaluate the potential, and discuss logistic and transportation planning without revealing the real reason they were there. It was billed as an "orientation visit;" however, the depth of questioning must have mystified those who were given that explanation. The report provided to CinCPac by this group upon their return was especially well received by Admiral McCain and it became the Bible for the planning that was about to commence in earnest.

Among other things, the report clearly indicated that the Marines of III MAF, because of their expeditionary nature and procedures, the embarkation facilities at Da Nang and, when supported by the Navy's amphibious assault force, their capability to outload either over the beach or at the primitive facilities at Cua Viet and Tan My, were in a posture that would permit them to redeploy men, equipment, and supplies much more rapidly than any other U. S. forces in South Vietnam. The pattern of redeployment that followed confirmed this report. From the outset, the Marine Corps redeployed their men, equipment, and supplies simultaneously. With the exception of the Navy's Construction Battalions, the other Services generally moved their men or reduced personnel allowances in a normal manner, but they either turned over their equipment and supplies to other U. S. elements still in Southeast Asia or put them in storage, pending reissue or transfer to South Vietnamese or other Free World forces. Each method had its merits for the Service concerned. The

Army postponed transportation costs, prevented saturation of bases at home with equipment for which there would not be sufficient maintenance personnel, and permitted gradual attrition or redistribution equipment and supplies, primarily within South Vietnam. The Air Force had relied so heavily on massive concrete facilities that little, except that portion of a unit's organizational equipment, which could be transported by organic Air Force assets, was involved. In addition, a considerable amount of Air Force material was destined for the South Vietnamese Air Force. Except for support of the Marines, the Navy had kept only a small amount of material ashore, and thus its program consisted mainly of the redistribution of equipment and facilities to the South Vietnamese Navy and the other Services, or attrition of those items not needed by the other Services, the South Vietnamese, or the Fleet. As for the Marine Corps, its plans and programs followed its traditional responsibilities and fundamental austerity.

Paramount throughout all Marine Corps planning and execution was the requirement to return from South Vietnam well equipped and organizationally balanced Marine units for early reconstitution of the Pacific Command's force-in-readiness. This expeditionary readiness wisely overshadowed all other considerations. As a result, the Marines were redeployed as task-organized forces. Even though many units were far below strength on arrival at their destinations, the units continued to exist and quickly were returned to strength and combat readiness. Operational stocks of supplies and floats of equipment (extra allowances to allow quick replacement of losses) that would now be beyond Marine needs in Vietnam were not to be used up or disposed of as surplus. They had been paid for and they were used to help in the reconstitution of forces. Further, the mood of the American people and Congress dimmed any confidence concerning new procurement. It was on this fundamental basis that plans at FMFPac, with HQMC approval, were formulated.

Long before the first units were designated for redeployment, logistic planners at FMFPac were pondering the effect that withdrawal would have on the means and ability to wage war. Certainly the redeployment of the Marines from South Vietnam would reduce the pressure on the supply and maintenance pipeline that had been built up. Large quantities of supplies and equipment, some in use, some still in the pipeline, had to be diverted; equipment under repair or being rebuilt in South Vietnam, Okinawa, Japan, or the United States had to be, upon completion of work, shipped to new destinations; requirements for the forces remaining in South Vietnam had to be divested from redeploying units; material necessary for the equipping of the Vietnamese Marine Corps had to be identified and shipped;



*A portion of the 355,000 pounds of cargo that were parachuted into Khe Sanh during the last week of August 1967 is off-loaded from a mobile landing ramp into a Marine Corps KC-130 cargo plane by men of the 1st Air Delivery Platoon. The whimsical sign, "Would you believe EGGs?" was attached to a pallet containing 18,000 fresh eggs that was delivered to Khe Sanh.*

facilities had to be closed; and, because CG FMFPac was still responsible for both ends of the Pacific, the reception of units, Marines, and equipment at the other end (Okinawa, Japan, Hawaii, or California) had to be properly routed in order to achieve early readiness for those organizations that would remain in the active or reserve structures.

The Marine Corps has two classes of war reserve stocks of supplies: project stocks and general mobilization reserve stocks. The project stocks are divided into three groups: one for the Atlantic Fleet Marine Force, one for the Reserve Division/Wing Team (4th MAF), and one for the Pacific Fleet Marine Force. Each of the project stock groups is further broken down into 30-day increments of combat support blocks. The mount-out block is computed, brought out of stock, and held by the unit (normally at battalion level). This block goes wherever and whenever the unit goes. The mount-out augmentation block is a second 30-day increment that is maintained by the service support unit responsible for support of the combat unit for which the block is tailored. The third increment is the automatic resupply block which is time phased and retained in a protected status within the Marine Corps supply depot system for the supported unit, and is forwarded as required without unit requisition.

Upon the commitment of Marines from Okinawa and Japan into South Vietnam, they, of course, carried their mount-out and mount-out augmentation blocks with them. As the Marines remained in extended land-mass operations, the mount-out and mount-out augmentation blocks were ordered used, partly to avoid deterioration and partly to make up for early shortages of key supply items. In effect, then, they became absorbed as daily operational stocks. As the units remained in combat, they had neither the time nor the facilities to reconstitute their mount-out and mount-out augmentation blocks. It was reasoned by the FMFPac planners that, when redeployment was effected, the reduced operational stock requirements could serve to reconstitute the mount-out and mount-out augmentation blocks for the redeployed units at their new locations. This appears simple; however, as the units would remain in contact with the enemy until the moment of standdown followed by almost immediate embarkation, the normal system of having the basic unit compute, obtain, store, and ship its blocks would have to be replaced by a means that would satisfy the commanders concerned. Fortunately, every level of command down to the Marine battalion has specific and direct responsibility for, and contact with, mount-out and mount-out augmentation (MO/MAO) blocks. This goes a long way toward ensuring command interest and control.

To accomplish the MO/MAO requirement described above, a sophisticated series of computer produced tapes were developed, based upon the detailed historical supply requirements of each type of unit concerned, adding new equipment factors, deleting obsolete items and spaces, and adjusting for the differences between amphibious assault needs and the needs of extended land operations. The basic development was done by FMFPac in continuous liaison with HQMC, the Marine Corps Supply Activity in Philadelphia, and the supply depots. The tapes initially produced required extensive review and this was done by the 3d FSR on Okinawa and the FLC in South Vietnam, which would ultimately use them to identify the stocks that could meet the mount-out requirements. When purged, the tapes were ready to identify the essential MO/MAO requirements from excess stocks and thus permit them to be reconstituted without the need to buy many new supplies or much new equipment.

However, the screening for the mount-out blocks was only part of the screening that was necessary in order to support redeployment. Additional screening was required to identify and redistribute material necessary for a unit's mission and specified in its table of equipment. This meant that units to be redeployed would turn over any excess T/E items to those units remaining. Therefore, redeploying units would

return with their basic requirements—but no extras—while those remaining, without cost or requisition, would obtain equipment which they needed. Of course, if identical material was actually en route to the unit remaining in-country, it was to be intercepted at the appropriate point, i.e., Barstow, before shipment, or 3d FSR or FLC after shipment, and subsequently redistributed or returned to stock.

Certainly the screening and redistribution effort of the Marine Corps was not conducted in isolation from the overall requirements of the Pacific Command. The system was devised to avoid unnecessary shipping and procurement costs while still meeting the readiness requirements of both those units remaining in South Vietnam and those redeploying. Holding down costs, of course, was a motivating factor; maintaining the highest level of readiness of Marine units in South Vietnam and the remainder of the Marines and other forces in the Pacific was another, and more important, factor. Accordingly, FLC's operating stock excesses, which comprised the largest block requiring redistribution or retrograde, were subjected to a variety of screening programs. Priorities to meet were established to fill: (a) MO/MAO requirements for Fleet Marine Force Western Pacific, Mid-Pacific, and Eastern Pacific commands; (b) operating stock or T/E deficiencies of these same FMFPac commands; (c) needs of other Services within the Pacific Command, and in-country inter-Service wants; (d) Marine Corps and other Defense and Federal agency requirements outside the Pacific Command.

Some items, such as trucks and weapons, were screened for South Vietnamese Marine Corps needs, South Korean Marine Corps wants, overall South Vietnamese Armed Forces requirements, and the needs of other U. S. Services in South Vietnam; and finally, any remaining items were distributed to other FMFPac commands, other Marine Corps units, or to the Marine Corps stores distribution system.

By the end of 1970, more than 3.5 million dollars worth of MO/MAO stocks had been identified, shipped, accounted for, and stored by FMFPac units redeployed to Okinawa and Japan, and 2.7 million dollars worth had been redistributed to other Pacific Command activities. By the same system, FMFPac acquired material valued at 2.0 million dollars from other Services—all needed to fill operating stock or MO/MAO shortages from Okinawa to California; and throughout 1970 alone, 8,576 items valued at 2.5 million dollars were transferred to the South Vietnamese Armed Forces.

#### *Redeployment-Movement 1969-1971*

The unclassified designator for the redeployment of U. S. forces from South Vietnam was "Keystone." As



of July 1971, when the last Marine combat element redeployed, seven redeployment increments, involving over 80,000 Marines, had been completed. They were Keystone Eagle, Cardinal, Blue Jay, Robin Alpha, Robin Bravo, Robin Charlie, and Oriole. Within each increment the redeploying forces were divided into embarkation units, each consisting of those elements designated for simultaneous embarkation and the same destination. This procedure provided excellent control during standdown, staging, and loading and was in accordance with standard amphibious doctrine. Marine Corps forces and equipment were involved in each increment except Robin Bravo.

Except for a few Marines who were essential to the completion of supply, packing, preservation, and distribution tasks, the embassy guards in Saigon, and a small number of advisors, Keystone Oriole completed the redeployment of the Marines from South Vietnam. Separate personnel actions caused reductions in addition to those in the Keystone series, so that after Keystone Robin Charlie, only about 12,800 Marines, designated as the 3d Marine Amphibious Brigade, remained to be redeployed as part of Keystone Oriole. Significantly, III MAF Headquarters, the 1st and 3d Marine Divisions, the 1st Marine Air Wing, the major portion of FLC, and the augmenting units provided from the 5th Marine Division, had all departed.

#### *Keystone Eagle—1969*

Keystone Eagle, involving the movement of units to Okinawa, Japan, and the United States, began in July 1969, and was completed by the end of August. It was the first large transfer of Americans from Vietnam. From the Marines, it included a regimental landing team, the 9th Regiment plus selected combat and combat service support units, and a medium helicopter squadron, all of whom went to Okinawa. Other aviation units were sent to Japan and the United States. Approximately 8,400 Marines and attached naval personnel were moved, accompanied by their organic equipment, plus some of the equipment and supplies not needed in South Vietnam. Careful planning permitted maximum use of amphibious assault ships while still maintaining an adequate landing force. This employment of the amphibious assault ships for Keystone Eagle saved the Navy Department well over a million dollars and again demonstrated the versatility of the assault ships, which provide the dual capability of assault entry or administrative lift. The planning for Keystone Eagle was so closely held that the units designated to move were notified only days prior to departure. This led to some mistakes in execution; however, this initial effort would provide a number of lessons which would permit a constant improvement

in the stand-down, embarkation, and movement of forces from Vietnam.

#### *Keystone Cardinal—1969*

The second increment included approximately 18,500 Marines and attached naval personnel. It began in October 1969 and was completed by 30 November. Nearly 8,700 of them went to Okinawa, including those 3d Marine Division elements not redeployed during Keystone Eagle, combat support and combat service support elements, the headquarters of Marine Air Group-36, and some helicopter units. But the largest part of this increment, over 8,900, returned to the West Coast of the United States, while nearly 900—1st Marine Air Wing (Rear) and some fixed-wing units—moved to Japan. As before, amphibious assault ships provided the primary means of transportation for equipment and for many Marines, with a savings in excess of \$3.7 million above common service transportation costs. Keystone Cardinal permitted the 5th Marine Division, which was essentially a training organization in California with most of its units deployed to South Vietnam, to be deactivated, and a viable organization, the 5th Marine Amphibious Brigade, with veteran personnel and adequate equipment, to be activated in its place. Thus, when taken in conjunction with the re-establishment of the 3d Marine Division on Okinawa and air elements on Okinawa and Japan, a big step had been made towards reconstitution of forces in readiness.

#### *Keystone Blue Jay—1970*

By the beginning of 1970, the combat service support and logistic functions for the Marines in South Vietnam had changed drastically. The northernmost force logistic support group of the Force Logistic Command, which had been organized to support the 3d Marine Division, was deactivated after the redeployment of that division. Further, as units of the 1st Marine Division, generally located south of Da Nang, prepared for redeployment during Keystone Blue Jay, it became necessary to shift logistic activities northward and consolidate them in the Da Nang area. Despite its major involvement in redeployment activities such as standdown of units, staging, marshalling, embarkation, and the redistribution of excesses, III MAF continued to provide an orderly flow of supply, maintenance, and transportation support to Marines in the field. The key to this two-way action was the ability of FLC to change its organization to meet constantly changing requirements. The command relationships inherent within the FMFPac-III MAF-FLC flow provided an essential and stable means of accomplishment.

Keystone Blue Jay commenced 1 February 1970 and was completed on 7 April. During its course, numerous



*There was extensive employment of landing craft and ships as coastal freighters in support of the troops in I Corps Tactical Zone during the period 1965-1969. Among the naval vessels so employed were the YFU-7, seen steaming up the Perfume River toward Hue, and the LCU 1484, seen unloading supplies at Dong Ha.*

aviation units, including nearly 1,100 members of the 1st Marine Air Wing, were moved to the 1st Marine Air Wing (Rear) in Japan. A very small unit, only 24 in number, went to Okinawa, while approximately 11,400 Marines were transported to California and nearly 400 went to Hawaii. In this movement, 12,900 men, their organic equipment, supplies, and some excess equipment, left South Vietnam. The major units re-deploying to California were the 26th Regimental Landing Team and three aviation squadrons. The elements which moved to Hawaii provided valuable and long-absent support units to the 1st Marine Brigade.

Nearly four million dollars were saved in Keystone Blue Jay by using amphibious assault ships for the movement of Marines.

#### *Keystone Robin Alpha—1970*

Commencing 10 July 1970, Keystone Robin Alpha shifted some 17,000 III MAF personnel and associated unit equipment to the United States, Japan, and Okinawa. Marine Aircraft Group-13 was relocated at El Toro, California, while the major ground unit, the 7th Marine Regiment, returned to Camp Pendleton, California, with other combat support and combat service support elements, to join the 5th Marine Amphibious Brigade. Small units redeployed to Japan and Okinawa, while a fighter/attack squadron redeployed to Hawaii, partly in amphibious ships and partly by flight ferry. In addition, a number of units totalling over 4,500 officers and men were deactivated in South Vietnam and their residual equipment was returned to the stores system after in-country screening. Savings from the use of amphibious assault ships during this redeployment increment totalled nearly \$3.5 million.

At the start of 1970, there had been a logistic support group, three logistic support units, and one sub-unit, in addition to the FLC/1st FSR headquarters. By the end of Keystone Robin Alpha, FLC had shrunk from over 5,500 Marines at the beginning of 1970 to just over 3,800. The logistic complex had diminished to the FLC and 1st FSR headquarters at Da Nang and only two outlying logistic support units. The Naval Support Activity, Da Nang, had also been reduced drastically and finally closed during 1970, and many Navy and Marine Corps facilities and functions had been transferred to other Services or to Free World forces. In all, 30,592 Marines and attached naval officers and men, 709,886 square feet of vehicles, and 57,031 tons of cargo were taken from Vietnam during 1970 alone.

#### *Keystone Robin Charlie—1971*

The Marine Corps did not participate in Keystone Robin Bravo, but they did take part in Keystone Robin Charlie. This sixth increment, which redeployed be-

tween 1 January and 30 April 1971, included a headquarters element of 67 men sent to Okinawa. Some 1,300 men in numerous aviation units were moved to Japan, a separate support unit of nearly 240 was transferred to Hawaii, while over 8,900 men—the majority of the 1st Marine Division, less one regiment, plus significant aviation units—were returned to California. In addition, 856 men, who had been assigned to units which were deactivated in Vietnam, were returned. On 30 April, the President of the United States participated in ceremonies noting the official return of the 1st Marine Division (—). Increment six redeployed 11,358 men and large amounts of equipment.

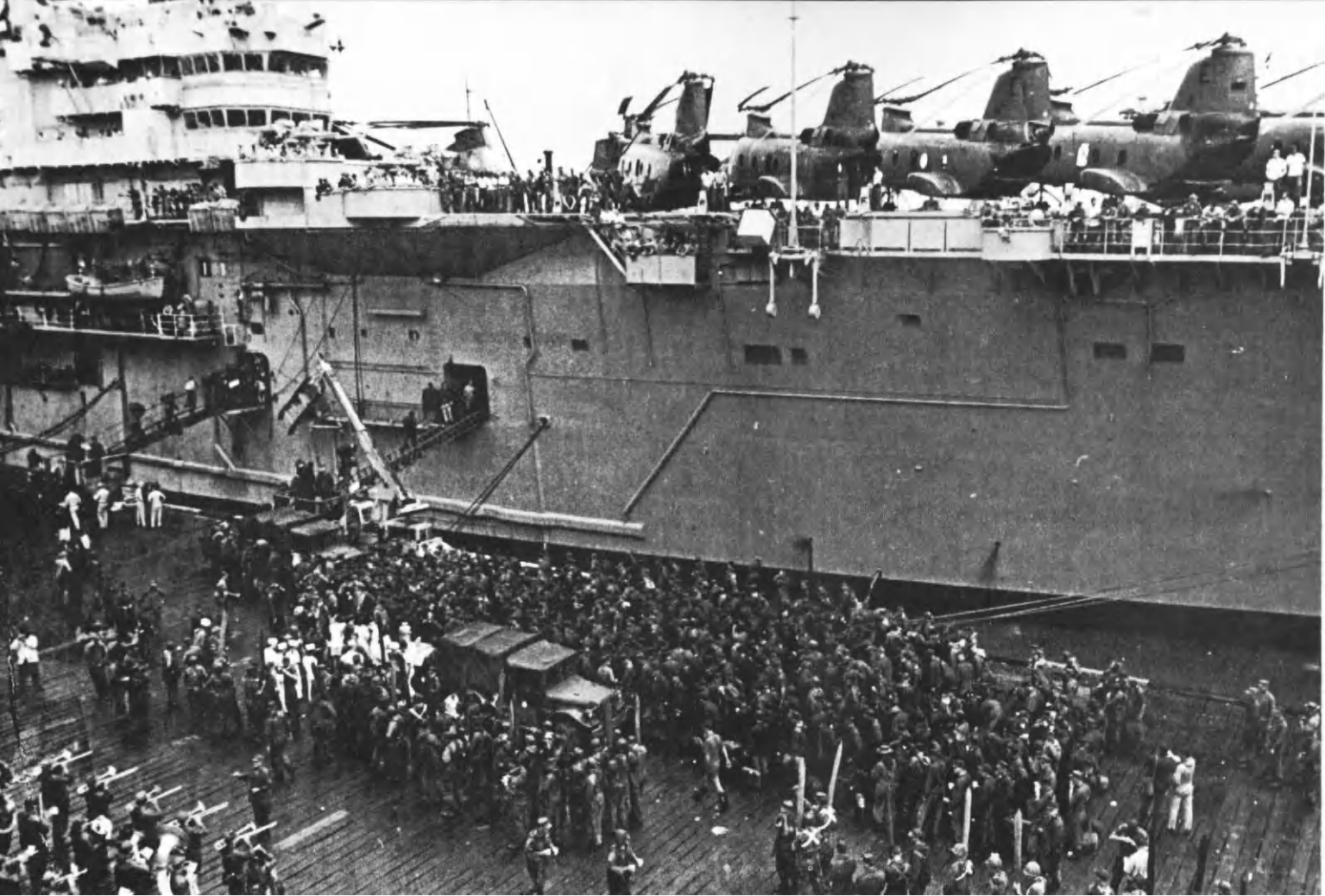
Because of the 20-knot speed of virtually all the amphibious assault ships now in the Pacific Fleet and especially the new fast LKAs, assault ships during the long time-frame of Keystone Robin Charlie made several voyages in the Western Pacific before their big lift back to Hawaii and California. All the time they maintained one fully ready Amphibious Ready Group for assault operations.

#### *Keystone Oriole—1971*

The final redeployment increment for the Marines was completed in July 1971. It consisted of 14 embarkation units and again featured the fast new amphibious assault ships. Some 12,800 Marines and their equipment were involved, again with substantial savings accruing.

#### *Use of Opportune Amphibious Assault Ship*

During the long redeployment, available amphibious assault ship space was employed constantly. Such space often became available as a result of inter- and intra-theater transit of amphibious squadrons and scheduled movements of ships to overhaul, or when units embarked for Keystone redeployments did not require all the space assigned. Once confirmed, extra space was quickly filled with retrograde cargo or aircraft and vehicles being returned to Okinawa, Japan, or the United States for maintenance. In Hawaii, FMFPac constantly scanned—and still does—the overall Pacific Fleet schedules and notification of availability was rapidly transmitted to the Western Pacific, Mid-Pacific, or Eastern Pacific commands, as appropriate. At Da Nang, FLC in turn maintained an immediate readiness to respond to last-minute assault ship space availability opportunities. When such opportunities arrived, FLC units were diverted from less time-sensitive tasks to load ships around the clock and thus not delay sailing schedules. In one day, as many as four ships have been loaded under such circumstances. Back in California, outbound material, especially new vehicles and aircraft required for Western Pacific forces, also is sent in opportune



amphibious assault ships whenever this is possible.

These efforts have paid great dividends, especially since 1967. Up until then, the Navy's Amphibious Assault Force was loath to be employed in an opportune administrative lift role, despite the obvious opportunities to transport needed Marine Corps equipment at a greatly reduced cost and by so doing provide the crews of the ships with training and experience in handling the same equipment they would be embarking or debarking during assault operations. In 1967, however, owing to a newly kindled interest by both ComPhibPac and CG FMFPac, the use of opportune assault ships, when available, was greatly accented. This new spirit of cooperation resulted in savings to the Navy Department (stemming from reduced commercial transportation charges and totally separated from the Keystone redeployment savings) as follows: 1967—\$592,643; 1968—\$1,299,966; 1969—\$1,605,922; and, 1970—\$834,386. The reduction in 1970 was due to reduced forces and redeployment. As an added example, during the 4th quarter of Fiscal Year 1970, in the midst of redeployment, 32,297 measurement tons of cargo and equipment were shipped between South Vietnam, Okinawa, Japan, Hawaii, and the continental United States on board opportune amphibious assault ships. The use of those ships during that quarter alone resulted in a savings to the Navy Department of \$883,351. Such use of amphibious assault ships in an

*As part of Keystone Eagle, the Marines' first deployment from Vietnam, troops of the Third Marine Division board the USS Iwo Jima (LPH-2) at Da Nang in September 1969, bound for Okinawa. The use of amphibious assault ships for this purpose not only saved millions of dollars in transportation costs, but also provided training to the ships' companies in the handling of Marine Corps equipment.*

administrative lift role is, and must be, a secondary consideration. Obviously, a degradation in readiness occurs whenever highly specialized ships are so employed. It does provide training, however, and when carefully scheduled, can generate significant savings which, if applied to that purpose, could partially fund the construction of additional and badly needed new amphibious assault ships.

In addition to those logistic areas cited previously, there are many others, of which the construction and engineer aspects were most significant. They have been well covered in other issues of both the *Naval Review* and the *Proceedings*.

The medical facilities and evacuation chain were also monumental in scope. Of special interest to the Marines

were the hospital ships whose facilities were clean, offshore, and isolated from both the environment and the enemy. Unfortunately, it took the Office of the Secretary of Defense (OSD) a little too long to recognize the value of this type of medical support; and, at times, some Marine commanders failed to take full advantage of the hospital ships. The original OSD apathy simply reflects the basic Air Force/Army orientation that prevails within OSD. The reluctance of some commanders to use the hospital ships fully reflects their desire to retain their manpower close by, i.e., in the division hospital. All logic, however, would point to the maximum use of the clean, isolated hospital ships for appropriate cases and use of the division or Navy hospital ashore, if available, for surge requirements. This was the policy enunciated by CG FMFPac and reiterated on several occasions when the policy was not being properly implemented.

#### *Will We Still Be Able to Enter Forcibly?*

One other area of both operational and logistic concern to the Marine Corps is the amphibious assault force. Despite the work of the amphibious assault ships from the day of the initial landing in March 1965 to the final redeployment (in both their primary purpose—amphibious assault—and their secondary task of providing opportune administrative lift), the amphibious assault ship force has suffered a severe decline in order to maintain other naval forces. This situation, while not having a direct bearing on the Vietnam involvement, has great bearing upon the Navy's current ability to project power ashore by forcible entry as a national policy option and to provide opportune life capability.

To pursue this point, amphibious assault force reductions affect directly the readiness, training, and operational capabilities of both the Navy and the Marine Corps. A readiness to enter forcibly cannot be maintained without active, highly trained, closely integrated Navy and Marine Corps forces.<sup>6</sup> The continued reductions of amphibious assault ships to the level currently being predicted will both curtail essential forward sea-based deployments and limit training severely. The modern amphibious assault ships, which can steam at 20 knots and which have the newest habitability and engineering features, cannot serve the nation to their fullest capacity if too few of them are in commission. An examination of the various public announcements concerning ship inactivations by type since 1968 shows a reduction of over 60% in amphibious assault ships, compared to an overall ship reduction of about 37% in the rest of the active Navy during the same time

frame. Such a loss of vital support to the Marine Corps and the nation appears unduly precipitous. Also, such losses in ship numbers have impact in other ways; for example, the loss of well deck space means a loss in heavy landing craft availability—and it was the heavy landing craft that provided the main logistic artery from Da Nang to the northern parts of I Corps for many years during the South Vietnam involvement.

If the forecast decommissionings occur, it is doubtful that the art of amphibious warfare, and the only forcible entry capability available to the United States, will remain viable.

#### *Summary*

In looking back over the story of Marine Corps logistic plans, policy, and support in the Pacific, and especially in South Vietnam, since 1965, it is possible to dredge up many pluses and minuses. For example, in the early 1960s, Marine Corps aviation was so interested in airframe types, and flying them, that little concern was given to maintenance, especially maintenance planning and procurement of ground support equipment. As a result, Marine Corps aviation's greatest logistic problem in South Vietnam was the maintenance of under-procured ground support equipment.

Further, Marine Corps engineer equipment and spare parts procurement requirements were continuously underestimated at the Washington level. The reluctance by the engineer authorities to participate in the HQMC Replacement and Evacuation Program until late in the Vietnam involvement is indicative of a failure to accept reality. In 1965, there just was not enough engineer equipment for the task ahead. Procurement of spare parts and new equipment never equalled requirements, and the idea that joining the cyclic Replacement and Evacuation Program along with other essential commodities was unnecessary, despite repeated CG FMFPac urging, was naive to say the least. As a result, numerous special engineer "get well" programs were developed, the assets of IV Marine Division/Wing Reserve were taken, and on-site technical assistance teams were almost always needed.

The development of methods for the orderly booking of cargo shipments and the close cooperation between the Army's 2d Logistic Command and 3d FSR on Okinawa, with Commander, MSTs, Far East (COMSTSFE) in Japan was one of the real pluses.<sup>7</sup> Equally impressive were the MAC-sponsored chartered aircraft and personnel airlift procedures.

The FMFPac Rebuild Program, despite its long distance disclaimers, was not only a necessity, but also

<sup>6</sup>J. B. Soper, "A Marine's View of Amphibious Assault Forces," *Naval Review* 1966, pp. 24-41.

<sup>7</sup>Lane C. Kendall, "Capable of Serving as a Naval and Military Auxiliary . . .," *Naval Institute Proceedings*, May 1971, pp. 210-227.

a notable success. The same was also true of the FLC and its responsive subordinate task organizations that were developed. A case could be made that FLC should have remained on Okinawa to preclude the criticism leveled by the General Accounting Office that a depot-type support organization, rather than an expeditionary force element (3d FSR), should have been left on Okinawa. However, what was done, did work with great success, and, in the final analysis, CG FMFPac controlled both organizations anyway.

The logistic situation in the Western Pacific, both from a Marine Corps and a Defense Department-wide point of view, was not improved by the efforts of the civilian analysts in the Systems Analysis Section of the Comptroller, Office of the Secretary of Defense, in the early and mid-1960s. These men, armed not with military experience of any sort, but only with their textbooks, their preconceptions, and an anti-military attitude, sometimes damaged the efforts of men far away by their procurement and distribution plans which failed to provide the support necessary for the field commander. The programmed under-procurement of repair parts for the CH-53 helicopter and delay in procurement of modernized motor transport assets are examples. In short, the very real logistic success in the Western Pacific during 1966-1967 was achieved despite their efforts, rather than with their help.

How much is enough? This is not academic to the commander. "Enough" is what it takes to win—not too much—simply the right support at the right time. No commander wants to be burdened with too much equipment or material; however, he knows, intuitively, what is essential and in a practical sense "what breaks down," regardless of the predictions developed by some remote authority. This is what the systems analysts, perhaps because of their backgrounds, did not understand. They provided too few items when they were badly needed, and an over-abundance of many items when it was too late. Their judgments (which they were not supposed to make) were based on theory—but wars do not work in algebraic formulas. Above all, the analysts had no responsibility for their decisions or recommendations and this, more than any other thing, created a chasm between the analysts and the military planners. The latter had to introduce military judgments and then take the staff responsibility when their recommendations went to their commanders, and, perhaps soon afterward, the actual execution responsibility in the field.

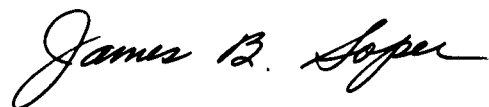
Perhaps the greatest failure in redeployment was communication. Not radios or telephones or radar, but the spoken word. National news reporting of the progressive withdrawal and redeployment activities was, and is, a disgrace, as it has virtually ignored the facts

in regard to the withdrawal of units and equipment. Today, very few Americans are even aware of such withdrawals, since the media has concentrated almost exclusively on "personnel returning," thereby adding to the illusion that withdrawal from Vietnam only involves putting "Johnnie" on an airplane and sending him home. The fact that the Marine Corps has totally reconstituted its forces in Okinawa and Japan and virtually paved the beaches at Del Mar, California, with returning equipment remains unknown to the public. Accordingly, the American people are unprepared to understand the time required for the withdrawal. Certainly no responsible military official has suggested that any man should remain in Vietnam longer than necessary for the sole purpose of evacuating or redistributing material; however, the handling of material is a vital task unless the American taxpayer would prefer to buy the same equipment twice.

Of course, the logistic and operational support provided to Marine forces by the Naval Support Activity, Da Nang, the Construction Brigade, the great naval guns, MSTs, MAC, and the "Amphibs" was outstanding. It was a team effort in every sense—going in—staying in—and coming out.

The South Vietnam involvement now represents to the Marines, as General Chapman, the former Commandant of the Marine Corps stated, ". . . an event of another place, another time." He added, ". . . I don't know what the historians will call what has been accomplished in Vietnam . . . but, of the Navy men and Marines—who fought and bled in this war to carry out their mission—they did accomplish their mission."<sup>8</sup>

At the beginning, it was the operational and logistic status of FMFPac that permitted the early employment of its units. In the end, it was the same capabilities that permitted FMFPac to be redeployed at the earliest and to re-establish itself as the country's force in readiness.



<sup>8</sup>General L. F. Chapman, Commandant of the Marine Corps, "Address to the Navy League National Convention, San Diego, California," 12 May 1971.



# USMC Civil Affairs in Vietnam

A PHILOSOPHICAL HISTORY

By LtCol D. L. Evans, Jr.





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*This is a story about the 'Other War'—the campaign to deny the enemy the vital support of the people.*

**M**ARCH of this year marks the third anniversary of the landing of the first major combat elements of Marines in South Vietnam. They came in response to an invitation by the government of that country. The armed forces of the Republic of Vietnam (RVN), and now the U. S. Marines, became committed to a war that seemed to defy solution. The enemy main force units posed no new problems; however this could not be said for the Viet Cong (VC) guerrillas and the VC infrastructure, both of which had long been entrenched in most rural hamlets. These enemy elements derived the major portion of their support from the local populace. This support was sometimes freely given, but more often was exacted by fear, extortion, and terrorism. While the enemy main force units demanded the constant attention of the Government of Vietnam (GVN) Armed Forces, the VC guerrillas and infrastructure continued their efforts to alienate the people from their legally constituted government, with only infrequent interruptions. Continued successful application of this stratagem over a sufficient period of time would undoubtedly cause the people to lose confidence in the GVN and thereby pave the way for a VC victory. The ultimate goal was the willing or

unwilling support of the people. The type of war being waged was obvious; an effective means by which to counter these thrusts was not so obvious. This was the situation in March, 1965.

Established ashore, the USMC capability for offensive action was severely curtailed because of the primary mission of airfield defense. Thus the majority of Marine units found themselves in a static defensive role, physically located in the densely populated area which surrounds the airfield complex at Danang. Also, they daily found themselves face to face with an environment that included the VC guerrillas and infrastructure. They were constantly reminded of this unseen VC presence by the mines, booby traps, snipers and terror incidents which occurred nearby. Lacking sufficient forces to both guard the airfields and to search for enemy main force units, they concentrated their efforts against the local guerrillas. They realized that counteraction against those few guerrillas who disclosed themselves was not the total answer. The solution, if one could be found, was to win the support of the people, and thereby deny that support to the VC. They also realized that the main thrust of the people's support should be for their own legal government, and secondarily for the USMC. A

## CIVIL AFFAIRS IN VIETNAM

modest civic action program was initiated in an effort to gain that necessary support of the people. All too often civic action projects were of necessity conducted unilaterally because of the lack of available GVN support, however, the guerrilla was of immediate concern and so was the need for civic action.

### Civic Action Commodities

Limited initially to use of USMC organic resources, civic action projects were oriented toward medical assistance, repair of existing roads and facilities, and minor new construction projects. The doctors soon discovered that many of the superficial ills of the people, such as rashes and sores, could be cured by simply keeping the infected areas clean. The result was a loud plea for soap soon heard throughout the United States. The response from the ever generous American public was not long in materializing. Notification of successful soap collection drives poured into Marine Corps offices throughout the country. Transporting the soap and other commodities to Vietnam immediately posed a serious problem to the existing pipeline, already overloaded with military supplies. The problem was solved by shipping civic action commodities on a space available basis, via whatever transport means available. Project HANDCLASP coordinators were designated at Norfolk and San Diego, where commodities were collected, stored in warehouses, and offered for shipment. This system, now expanded to eight warehouse locations, continues to provide the major portion of civic action commodities being used in I Corps today.

### U.S. Civilian Agencies

The presence of a number of U. S. civilian agencies in I Corps was known to the Marines from the outset, though interrelationships had not been developed at that time. The mutual need for coordination and cooperation immediately became apparent when the civic action program began. The civilian agencies possessed commodities, but lacked the manpower to provide an effective system of distribution and control. The Marines were in daily contact with the civil populace located in and adjacent to the areas which they controlled militarily, but they needed commodities for use in the civic action program. A natural alliance for mutual support soon developed, which continues to grow in effectiveness today. The largest civilian organizations in I Corps in regard to available commodities were the U. S. Agency for International Development (USAID), the Cooperative for American Relief Everywhere (CARE) and Catholic Relief Services (CRS). USAID representation in I Corps consisted of a

Regional Office located in Danang, and a provincial office located in the capital city of each of the five provinces. CARE and CRS each had one representative for the entire corps area, both located in Danang.

The need for a means to insure continuous coordination and cooperation, between the various agencies and organizations which shared an interest in winning the willing support of the people for the GVN, resulted in formation of the I Corps Joint Coordinating Council (JCC) in August, 1965. This Council's membership includes senior representatives of all major U. S. and GVN organizations and agencies, both military and civilian, located in I Corps. The Council, as such, has no directive authority or funds, but through its senior membership has access to the sum total of the available authority and resources. The mission of this Council is to monitor progress of the GVN Revolutionary Development (RD) Program, and to provide a ready forum for frequent discussion of attendant problems. This group meets weekly and conducts one meeting each month in one of the province capital cities for a more detailed look at RD progress within the province. The Council has eight permanent committees which monitor the interest areas of public health, education, psychological operations, roads, refugees, commodities distribution, agriculture and police. In the fall of 1966, the Council encouraged and assisted with the formation of province-level joint coordinating councils. These JCCs are independent of the corps-level council, but have parallel organizations and missions. The steady increase of GVN participation in Council activities and Council sponsored programs is significant in assessing the value of the JCC.

By the end of the summer of 1965, the Third Marine Amphibious Force had developed the framework of the organization which was to conduct its civic action program. A 5th general staff section was created which was called the G-5 Section. This section was assigned the staff responsibility for the conduct of civil affairs which included civic action. The Third Marine Division followed suit and established a G-5 Section. Regiments and battalions appointed Civil Affairs officers, however, since additional Marines were not initially available, one staff officer in each of the units was assigned this task as an additional duty. This organization facilitated the development of effective techniques for distribution of civic action commodities, for dissemination of civic action information, and for collection of data for use in evaluating the effectiveness of the program.

A need for a system to control the distribution and end-use of commodities, and a system for preventing overlap of projects soon developed. III MAF responded by assigning specific areas for civic

action coordination to each of the major subordinate units, along with instructions for these commands to further sub-divide the areas for assignment to their sub-units. This system accomplished two things. It provided for one civic action officer to continually coordinate with the same local GVN officials located within his area, and it required coordination with other civic action officers to conduct civic action in another unit's assigned area. Civic Action area boundaries were drawn along political boundaries to the extent allowed by the military situation, to further facilitate coordination between local GVN officials and civic action officers. Consideration was given to the principle of assigning larger segments of rear areas to supporting units, thereby limiting the size of the areas assigned to the combat units located on the periphery of the tactical area of responsibility (TAOR). Other U. S. military units, located in I Corps but not under the operational control of III MAF, participate in the III MAF Civic Action Program by mutual agreement. The considerable capabilities of the Naval Support Activity (NSA), the Naval Construction Bns (Sea Bees), the U. S. Army and U. S. Air Force units and the Korean Marine Brigade are in this way added to the total resources for civic action. III MAF civic action commodities are provided for use by these units.

#### USMCR-CARE Civic Action Fund

As the civic action program matured other needs and problem areas became evident. Requests for commodity support often could not be filled due to the lack of certain needed items and due to the uncertain arrival time of materials being shipped on a space available basis. This situation often resulted in embarrassing delays, and it tended to erode the overall effect of the program. As

though in answer to this problem, the Marine Corps Reserve concluded an agreement with CARE whereby the USMCR would solicit money for support of the III MAF civic action program, and CARE would act as the custodian of the fund. This program immediately proved successful, and III MAF was provided with one of the most flexible and useful civic action tools in its inventory.

The Medical Civic Action Program (MEDCAP) was one of the first programs to be implemented. It was immediately successful since it provided an excellent opportunity for rapidly establishing good rapport with the people. The intentions of this program could hardly be misunderstood, and the effect upon the people was one of personal benefit. All too often, this program was conducted unilaterally because of the very limited number of GVN medical personnel, and also because of the scarcity of trained rural health workers. Those who were available were invited and encouraged to participate. On-the-job training was given to volunteers who offered to assist the MEDCAP Teams, and in this way the local people were encouraged to contribute to the welfare of their own community.

As good health is prerequisite to the general well being of the people, so is education prerequisite to their economic, political and social development. The MEDCAP efforts produced rapid, tangible and personal results. An education program offered none of these advantages, however, the vital need could not be ignored. In the Spring of 1966, III MAF developed an effective school-building program, easily the most complicated civic action program developed to that time. Some units had already constructed classrooms as a part of their civic action programs with varying degrees of success. Lessons learned were consid-



*Trusting mother permits MedCap corpsman to examine sick child.*

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## CIVIL AFFAIRS IN VIETNAM

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ered in the development of the III MAF program, and other proven techniques were carefully incorporated. Detailed guidance was issued to subordinate units in order to minimize problems inherent in any undertaking of this magnitude. Certain requirements had to be met by each hamlet which desired to participate in the program:

- an adequate site must be provided
- the people must agree to provide self-help labor for construction
- a teacher must be provided and a salary for the teacher guaranteed.

III MAF agreed to provide in return, construction materials, technical advice, and equipment for clearing and grading the site. Before applications were approved, each location was coordinated with appropriate GVN officials and with USAID to insure compatibility with other school building programs. Blueprints used for classroom construction by the GVN were reproduced and distributed to insure uniformity of construction and to enhance the concept that a Vietnamese classroom had been built by Vietnamese. The USMCR-CARE Civic Action Fund proved to be invaluable in support of this program by providing a ready means for acquiring special hardware items not available through other sources.

Several bonus effects were realized as a direct result of this program. The participating Vietnamese gained a sense of pride and accomplishment, acquired a knowledge of the trade skills involved, and gained a feeling of community spirit. Civic Action officers learned the value of detailed planning in connection with major civic action projects. During the planning stage of the classroom construction program, an earth-block factory was established which employed a number of refugees who lived nearby. An engineer unit sponsored this project. A large number of these blocks were formed and stockpiled, and subsequently used for classroom construction in areas where suitable soil was not available for block making.

In June of 1966, the U. S. Army 29th Civil Affairs Company arrived in Danang, and was attached to III MAF. This company was activated, organized and trained specifically for the purpose of augmenting the III MAF civic action program. The company consisted of a headquarters element, six civil affairs platoons, and a number of functional teams. The civil affairs platoons are capable of supporting regimental or division sized units, and the functional teams are capable of providing technical advice at the corps level concerning their particular civil affairs specialties, including public health, agriculture, refugees, education, public safety, legal and others.

The platoons were initially attached to the infantry regiments and immediately began the necessary task of developing civil affairs studies

for their assigned areas. The finished studies provided necessary statistics, identified problem areas, and included recommendations for corrective action. The functional teams were retained at III MAF, and initially assigned the task of developing corps-wide civil affairs studies relating to their functional specialties. Concurrently all elements of the company established liaison with their logical counterparts, both U. S. and GVN. They became an active and effective addition to the existing civic action program. Addition of this company to the III MAF organization for the conduct of civic action greatly increased the capability for both planning and conducting this program.

### Operations Related to Civic Action

Many types of combat operations support the GVN Revolutionary Development Program and the III MAF Civic Action Program, however, three of these warrant special attention due to the close relationship which has been developed.

► The Combined Action Unit Program was first implemented in the Fall of 1965. A USMC unit was integrated with a GVN Popular Force (PF) unit. This Combined Action Platoon (CAP) moved into a hamlet, provided protection for the people and thereby denied this hamlet to the VC. Members of this combined unit shared rations and quarters, trained and fought side by side. Eventually they gained the confidence of the people who furnished the intelligence which enabled the unit to kill and capture a number of local guerrillas. This program has been developed and refined, and is now standardized in organization and technique of employment. Today the organization consists of one Marine rifle squad—augmented with one hospital corpsman which is combined with one GVN PF platoon. This unit is assigned the mission of providing protection for a particular hamlet. These men, like the original CAP, share rations and quarters and train and fight side by side. Each CAP is assigned to a nearby USMC infantry battalion for operational control which provides fire support as required. The VC has never regained control of a hamlet which is protected by one of these units. Plans have been made to increase the number of CAPs due to the success thus far achieved.

► The County Fair concept was first employed late in 1965. The purpose of this operation is to isolate a hamlet, evacuate the people, and to thoroughly search the area for VC and VC supplies and equipment. When this mission is accomplished, the forces withdraw. The name County Fair stems from the techniques developed for processing and occupying the people who have been assembled in an area adjacent to but outside the hamlet proper. Today, this operation employs a combined force of USMC and GVN units. The USMC elements surround and isolate a selected

hamlet during the night. At first light, the GVN elements evacuate the people to a pre-selected assembly area located inside the USMC protective encirclement. The GVN combat forces then thoroughly search the hamlet, and capture or destroy all VC, their supplies and equipment, and their hiding places such as caves and tunnels. Concurrently, GVN specialist forces, assisted by U. S. forces, conduct that portion of the operation for which the name County Fair is given. Here, shelter from the elements is provided, as well as food and drink. A medical sick-call is conducted. The entire population is screened by the national police and counter-intelligence officials in an effort to discover any VC guerrilla or member of the VC infrastructure who has chosen to mingle with the people. Psychological operations are conducted which normally include explanations of the purpose of the operation and the U. S. presence in the area, entertainment in the form of movies and performances by cultural drama teams, and a proportionate amount of propaganda. This operation normally lasts for one to three days.

► **GOLDEN FLEECE** operations are conducted during the harvest seasons to provide security for the local farmers and their harvested crops. Both GVN and U.S. forces conduct these operations to deny this source of support to the VC, and to demonstrate to the farmers that their government can and will support them.

### **GVN Revolutionary Development Program**

Early in 1966, the GVN implemented a plan designed to provide hamlet security and community development. The newly created Ministry of Revolutionary Development was given the responsibility for the conduct of this Revolutionary Development (RD) Program. Lessons learned during conduct of previous similar programs were considered in development of the current plan and the new ministry was created in an effort to provide close supervision and required support. Reviews of the plan by U. S. agencies produced favorable comments. Some problems and deficiencies only became apparent after the program was launched within the provinces.

Sufficient numbers of trained cadre in the specialist fields such as public health and refugee administration were not available to properly support the program. Military security forces, assigned to protect the selected hamlets were often withdrawn without advance notice, to perform some other needed military function. The budget for support of the RD Program was published as a consolidated document, however funds for support of specialist functions such as public health, education and others remained under the direct control of those particular ministries. As a further complication, the entire country was subjected to several waves of political unrest during the first half of

1966, which resulted in very few decisions being made by high ranking government officials during this period. The RD Program achieved some of its goals in 1966, but the results were nowhere near that which had been hoped for. The Ministry for RD closely monitored the program throughout the year and gave assistance to the provinces when and where it could. During the year a program was initiated by the Ministry for RD to form and train RD Teams which would conduct the RD Program within the hamlets. In the fall a revised RD plan was issued which corrected some of the earlier deficiencies.

The current plan eliminates many of the pitfalls discovered during conduct of the RD programs for 1966 and 1967. The basic element of the RD Program is the team. This team, if properly trained, can accomplish its mission within the hamlet to which it has been assigned. The GVN has assigned the mission of providing continuous security for the hamlets, within which the RD teams are employed, to the regular army forces.

Considering these improvements, it appears that the chances for successful conduct of the RD program this year are better than ever.

In January of last year, all U. S. Government civilian organizations and agencies in Vietnam became an integral part of the newly formed Office of Civil Operations (OCO), formed for the purpose of insuring continuous coordination of the several U. S. Government civilian programs being conducted in support of the GVN RD program.

As a further step toward improving support for the GVN Revolutionary Development Program, all U. S. civilian and military resources which directly support the RD Program were integrated and the Office of Civil Operations and Revolutionary Development Support (CORDS) was established in May, 1967. This single manager concept, under the direct control of the Commander, U. S. Military Assistance Command Vietnam, insures close coordination of the RD support activities of all U. S. civilian (OCO) efforts, as well as the military efforts of the Military Assistance Advisory Group and the military field forces. Regional, provincial and district CORDS organizations are patterned after the national-level organization.

Gaining the support of the people for their legally constituted government has become a major objective in this war—perhaps *the* major objective. Tactics and techniques for achieving this goal are still being developed. The military threat cannot be ignored, but neither can we ignore the more subtle threat of the VC guerrilla and the VC infrastructure. The civic action programs conducted by the Free World Military Assistance Forces and Revolutionary Development Program conducted by the GVN are proving their merit in the war for the support of the people. **USMC**

# Maritime Support of the Campaign in I Corps

By Commander Frank C. Collins, Jr., U. S. Navy









*In the I Corps area, the Marine Corps continued to depend on its natural element—their legendary Captain Jimmie Bones said it best: “. . . water settles everything, and that's what our name means”—as, with road and railroads blocked, logistic support had to come by sea. In the picture on the preceding pages, the old YFU-61 begins the return voyage down the Perfume River from Hue to Tan My and back to Da Nang as several other YFUs and LCUs off-load at the ramp on the far side of the river.*

The opinion, “From a logistics standpoint, this is by far the *best* and *most* managed war in which we have ever been involved,” voiced by one of our leading flag officers involved in logistics, may not be shared by everyone. But it is not likely to be disputed by any of the some one thousand officers and forty thousand bluejackets who have served in the largest Navy overseas shore command, the Naval Support Activity, Da Nang.

The establishment and functioning of the Naval Support Activity, Da Nang, is a unique chapter in the U. S. Navy's proud history. The origin of NavSuppAct (or NSA), Da Nang, is well treated in Captain K. P. Huff's article, published in the 1968 issue of the *Naval Review*.<sup>1</sup> I shall not attempt to improve on that portion of NSA's history; rather, this article will attempt to highlight the accomplishments and events which make this logistic effort worth remembering. NSA Da Nang could well serve as a model for navy logisticians in future wars fought in terrain where shallow waterways are the preeminent lines of communication.

### *Administrative Relationships*

During its five-year history, NSA Da Nang was commanded by one captain and five flag officers. The command relationship under which these officers operated was complex, dictated by the rather intricate command structure under which the war in Vietnam was prosecuted. Since Commander Naval Forces Vietnam was the naval component commander in Vietnam,

<sup>1</sup>“Building the Advanced Base at Da Nang” by Captain K. P. Huff, U. S. Naval Reserve, in *Naval Review* 1968.

ComNavSuppAct, Da Nang, reported to him as an operational subordinate. ComNavForV was also ComNavSuppAct, Da Nang's, link in the chain of command with the Commander, U. S. Military Advisory Command, Vietnam.

In turn, the Da Nang support activity commander served as the NavForV representative for real estate matters in I Corps. Because ComNavSuppAct, Da Nang, was created to support the Third Marine Amphibious Force (III MAF), there was perforce a close relationship with the Commanding General, III MAF.

A good working relationship with the Vietnamese Joint General Staff in I Corps was also maintained though, except in real estate matters, the Admiral normally worked through III MAF headquarters when dealing with the Vietnamese I Corps commander. During 1969 with the implementation of the Accelerated Turn-over To Vietnam (ACTOV) program, and as Vietnamization of the war began in earnest, this command relationship grew even more important.

A contemporary twist on the Golden Rule stipulates that “He who has the gold, *rules*.” This brings into focus the final link in the rather extensive command relationship: the Commander of the Service Force, U. S. Pacific Fleet. As the Commander-in-Chief, U. S. Pacific Fleet's principal logistic agent, ComServPac controlled NSA Da Nang's purse strings. Considering the size of Da Nang's budget, it is easy to understand that the relationship with ServPac was an important one.

### *Internal Organization*

If NavSuppAct's external command relationships appear complex, its infrastructure was no simpler. Beginning with an amphibious command, Captain Huff's Landing Ship Flotilla One staff (Task Group 76.4) was augmented as necessary and given the job of managing logistic support for the Marines at Da Nang. This forerunner of NavSuppAct, Da Nang, was basically developed along the standard naval staff organization. However, rather than having the normal five or six divisions, plus special assistants, Rear Admiral Thomas Weschler, the first flag officer to command Da Nang, found it necessary to expand this to eleven divisions and special assistants. These department heads included public works, administration, operations and plans, medical, dental, communications, supply and fiscal, industrial relations (a civilian), enlisted personnel (commanding officer, Camp Tien Sha), first lieutenant (under whom came physical security and the fire marshal), and repair.

Special assistants included the legal officer, chaplain, public affairs officer, and civic action officer. In 1966, when Chu Lai was established, an additional link was added to the already broad scope of management con-

trol. The Officer-in-Charge Naval Support Activity Department (or NSAD) Chu Lai, was not a department head per se as he reported directly to the assistant chief-of-staff for operations and plans. But essentially he acted with the same powers since he had direct access to the Chief of Staff. Reporting to Admiral Weschler, when the Admiral was acting as Naval Forces Vietnam Representative (NavForVRep), was the base development officer, a senior captain of the Civil Engineer Corps. Since little organizational precedent existed for this particular mission, staff organization was an ad hoc affair in the beginning.

By 1968, tasks had sorted themselves out well enough to enable the Commander to create a more conventional Navy shore staff organization. Department heads were redesignated assistant chiefs of staff. The staff consisted of ACOS for administration, security and intelligence, operations, supply and fiscal, communications, public works, and plans. Special assistants included the repair officer, industrial relations officer, senior medical officer, dental officer, commanding officer enlisted personnel, base development officer, staff judge advocate, and the officers in charge of Chu Lai, Phu Bai-Hue, Tan My, Dong Ha-Cua Viet, and Sa Huynh.

### *Dynamic Growth*

From its modest beginning on 24 April 1965, until Rear Admiral R. E. (Rojo) Adamson hauled down his flag on 30 June 1970, the Naval Support Activity, Da Nang, was a continuing example of dynamic growth and accomplishment. Established by the Navy of necessity rather than by choice, after the U. S. Army Pacific (USARPAC) confirmed it lacked the resources needed to operate in Da Nang, in addition to all the other ports and beaches in South Vietnam, NavSuppAct Da Nang began with a Marine landing over Red Beach in Da Nang harbor in 1965. It developed into a highly complex port with cargo clearance and storage facilities in Da Nang, and thriving cargo operations in Chu Lai, Hue-Tan My, Cua Viet-Dong Ha, Sa Huynh, and Quang Tri; additionally, it gave limited assistance in a logistics over the shore (LOTS) operation at Duc Pho. It grew from the handful of officers and men who began the original effort under Captain Huff's able command, to approximately 450 officers and 10,000 bluejackets under Rear Admiral E. P. Bonner in 1969. Add to these figures a civilian work force of 69 U. S. and 5,888 local nationals, and then consider the civilian contractors, employees who, in November 1969, amounted to 725 local nationals and 513 third country nationals (mostly Korean) in the Korean Express cargo handling contract, and 1,251 local and 2,905 third country nationals plus 123 U. S. civilians in the Philco-Ford maintenance con-

tract, and you get some idea of the scope of this mammoth Navy industrial complex.

The number of Support Activity people grew with support requirements. From its modest beginning at Red Beach in Da Nang, support facilities grew to what was then an unimagined extent. Da Nang's early seaside facilities have been comprehensively described in Captain Huff's article, so only the "outports" which substantially came into their own after he left will be considered here.

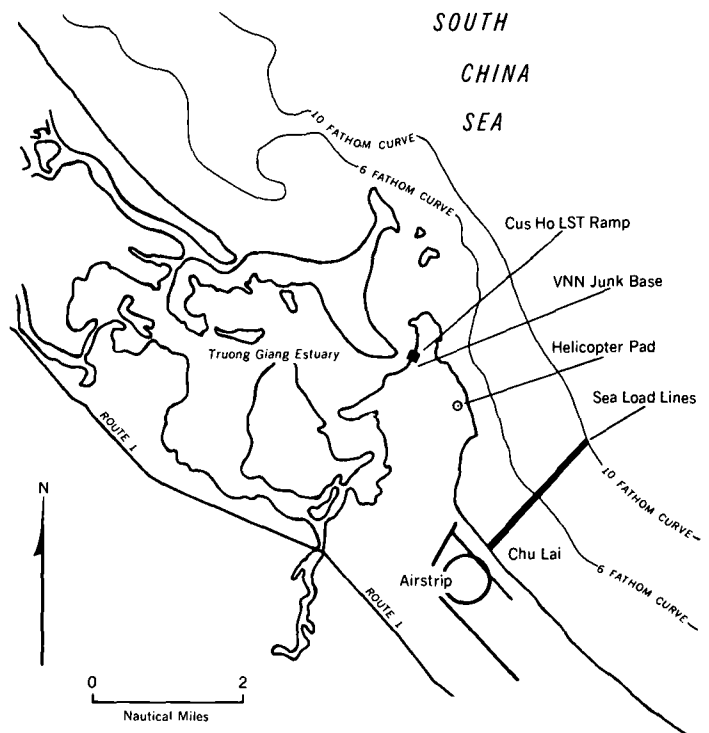
Sixty miles to the south, the Naval Support Activity Detachment at Chu Lai became a microcosm of the Da Nang operation. While never able to accommodate deep draft vessels, Chu Lai's LST ramps became well developed and were expanded to accommodate six of the 542 or 1156 classes of LST. Navigational aids in the form of buoys and ranges were considerably improved, as was the depth of the channel which initially afforded only marginal conditions to LST skippers. The hard-topped ramps made it easier for vehicles to unload cargo and the all-weather road complex allowed rapid port clearance. With the major portion of Marine Air Wing One stationed at Chu Lai, fuel was a most important consideration. Compared with the initial "assault bulk stowage" in 10,000-gallon neoprene bladders, by early 1967 Chu Lai boasted a modern and commodious rigid-wall storage tank farm which was umbilically connected to its sea-borne source by bottom-laid sea load lines. While these lines were inoperative a significant portion of the time during the monsoon season, NSA Da Nang managed to keep up with fuel requirements, though at times it was touch and go, and required innovations such as sending a partially loaded T-2 tanker or one of Da Nang's YOGs into Cus Ho Ramp to pump cargo directly into Marine refuellers for shuttle to the flight line.

### *Hue-Tan My Facilities*

The NSAD at Hue-Tan My, 30 miles north of Da Nang, began with an LCU ramp near the University of Hue in the downtown area and a bladder fuel farm at the coastal Vietnamese recreation area of Tan My, near the Col Co causeway, in late spring 1966. Initially all cargo had to be cleared as soon as discharged at Hue, since there were no facilities for staging or security. Fuel was delivered to the assault stowage containers by way of a four-inch amphibious assault hose, but this regularly parted or became tangled in its marker buoy moorings. All these shortcomings were overcome by the building of the LST facility (four LST ramps) at Tan My, the installation of the overland six-inch pipeline from Tan My to Phu Bai and Quang Tri, and completion of rigid stowage tank facilities with a combined capacity of 5.7 million gallons.



*The air base at Chu Lai, which came to house the major portion of Marine Air Wing One, was operating before there was a harbor. And, because the harbor has never been able to accommodate deep draft vessels, the base is supported by LCUs and LSTs; some of the latter are manned by Navy crews and some by Japanese and Korean civilian seamen.*



### *Dong Ha Facility Created*

Operations Hastings and Prairie in the summer of 1966 marked the beginning of major operations by the U. S. Marines in Northern I Corps Tactical Zone (ICTZ). From battalion to regimental to divisional size, tactical activity in this area adjacent to the Demilitarized Zone (DMZ) grew steadily, requiring complementary growth in support from Da Nang. At first, tactical headquarters for this new offensive was centered in Dong Ha, where the Marine combat base was established. Dong Ha differed from Da Nang in that it was located inland. It differed from Chu Lai because of its lack of a sufficiently large waterway to accommodate an LST, and from Tan My because of its significant distance from Da Nang. It was about 90 miles by open sea from Da Nang to the mouth of the Cua Viet River,<sup>2</sup> which was destined to become the lifeline for the Dong Ha combat bases. Discovering that an LCU could penetrate the twisting, silt-filled waterway, NSA committed itself to relieve the overworked C-130s which skillful Marine pilots had flown in endless succession to keep Operation Hastings supported.

Occasionally LCM-8s were pressed into service on the open sea convoy leg of this supply run, though they were inadequate to cope with the seas when the monsoon season set in. The ramp at Dong Ha, adjacent to the concrete bridge which continues the Vietnamese Route One north across the Cua Viet River, was about three-fourths of a mile from the sprawling base and air field, from which the Third Marine Division operated. Originally graded to serve as a climb-out ramp for LARCs, which were used to unload anchored LCUs or YFUs,<sup>3</sup> the ramp was eventually widened to accommodate up to six LCUs and boasted a sizeable hard surfaced area which was illuminated at night.

### *Cua Viet LST Ramp Conceived*

During the fall of 1966, it became apparent that the LCU chain from Da Nang was going to be inadequate to keep the Marines at Dong Ha supplied. The transit, which took the older boats from 10 to 12 hours in good weather in convoy, lengthened to 24 or even 36 hours when the northeast monsoon created 10-16 foot swells. There just weren't enough LCUs in Da Nang to do the job. Pressed by Lieutenant General L. E. Walt, Commanding General of III MAF, Rear Admiral

<sup>2</sup>In Vietnam the Cua Viet River is called the Hieu Giang, while the American version derives its use from the name of the river mouth (Cua Viet), literally South Mouth.

<sup>3</sup>An LCU and a YFU are basically the same craft with two different designations for two uses. The former stands for Landing Craft Utility, the latter stands for Harbor Utility Craft. In general, LCUs, when old, become YFUs. LARC is the Army acronym for Amphibious Resupply Cargo Lighter, which comes in 5- and 15-ton sizes. The Army owns most of the LARCs in the U. S. inventory.

Weschler decided that if ammo by the LCU load was not enough to feed the Marines' guns, the Navy would have to move it in LSTs. LSTs could not navigate the Song Thach Han and Song Hieu Giang (collectively referred to as the Cua Viet), but it appeared feasible to dredge the bar at the mouth of the Cua Viet to permit the entry of LSTs. The latter then could discharge their cargo for transshipment up the final seven miles to the Dong Ha ramp by LCU or LCM-8. The U. S. Army Corps of Engineers civilian-manned hopper dredge *Hyde* was brought up from the Delta to finish the 15-foot deep channel<sup>4</sup> which was started by the small Canadian suction dredge *Helbar* and her predecessor, a drag line run from a DeLong pier. Between them, the *Helbar* and the drag line succeeded in scratching out a channel through the bar to permit entry of the hopper dredge. Opened 15 March 1967, NSAD Cua Viet grew to a sizeable organization which, when the occasion demanded, worked around the clock unloading the beached LSTs. River operations, because of hostile fire and lack of navigational aids, ceased at dusk. Air cover was effective during the day so that vessels could sail up to Dong Ha in comparative safety. A four-inch assault line was replaced by a six-inch sea load line, and eventually, when this line became inoperative because of weather,<sup>5</sup> the AOGs which furnished the fuel flow would steam into the Cua Viet estuary, where there was some protection from the weather, and pump directly to the beach bladder.

As action in northern ICTZ became more intensive, the Song Thach Han was reconnoitered by Commander Hal Barker, plans officer for Rear Admiral Paul Lacy who had succeeded Admiral Weschler. The establishment of a supply line to Quang Tri appeared feasible, and in 1968 it became a reality.

### *Sa Huynh Established*

Late in 1966, U. S. MACV became concerned by the relative sanctuary which the Viet Cong and North Vietnamese forces enjoyed in the southern portion of ICTZ. The First and Third Marine divisions were stretched as thin as they could be and still permit them to accomplish their mission to the north, so it was decided to bring in a provisional Army division from one of the southern Corps areas. Duc Pho, in Quang Ngai Province approximately 100 miles south of Da Nang, was chosen as the center of this new area of operations. Logistic requirements to the north initially precluded NSA from supporting this operation other than by providing facilities to land cargo over the beach. A pontoon causeway, reefer barge, and assault

<sup>4</sup>Now 18- to 20-foot deep.

<sup>5</sup>These fuel lines frequently broke during the Northeast Monsoon. Wave and surf action tangled hoses with buoy moorings and ripped them apart.

pipeline were installed to assist the Army to become established. Later, in 1967-68, as the Army presence in southern I Corps became more extensive, NSA Da Nang established Naval Support Activity Detachment, Sa Huynh. Since Sa Huynh was at the southern boundary of ICTZ, about 65 miles south of Chu Lai, the Navy could now boast detachments from border to border of I Corps.

A lesser known, but nevertheless important, operation by NSA was the operation of the Liberty Road Ferry. This consisted of an LCM-8; which operated as a ferry across the Song Thu Bon to the south of Da Nang keeping the important Da Nang to An Hoa overland Line of Communication (LOC) open. Getting the LCM-8-860 up the shallow Song Thu Bon from the South China Sea in mid-1966 was a hazardous and exciting transit protected by the Marines in the area. In February 1967 the Seabees completed a bridge and the ferry was no longer needed.

### *I Corps Military Expansion*

From the small force of Marines which landed in the spring of 1965, the U. S. military population grew to more than 205 thousand men in August 1968. These troops depended on the Naval Support Activity for everything from ordnance to soft drinks and beer, from concertina wire and sand bags to skivvies and boot daubing.

In measuring the NSA's achievements throughout its five-year history, there would probably be as many different views of the priority of accomplishment as there were people making the evaluation. Nevertheless, few would deny that the movement of cargo comes at the top of the list. Following close behind would be the development of ports and of land lines of communication; the construction and maintenance of facilities; and the development of a fuel network sufficient to provide fuel for jet aircraft, for trucks and equipment, and for the hundreds of propeller aircraft which supported the forces in ICTZ. Finally, the building of medical facilities, the salvage of ships and craft, and the conducting of civic action programs rank as important activities.

Facilities in Da Nang continued to expand and improve as the stateside pipeline began to respond to requirements. The deep draft Thong Nhat piers (sometimes called the Allied piers) resembled a busy stateside port, as staging areas were enlarged and additional port clearance equipment became available. Increased LST tonnage was handled at the Tien Sha, Bridge, Museum, and Ferry ramp cargo facilities. Ashore, in addition to the accomplishments so well described in Captain

Charles J. Merdinger's<sup>6</sup> comprehensive article on the Seabees' phenomenal work, the scope of NSA logistics widened to include a milk plant operated by Foremost Dairy Products, which in addition to milk, provided all U. S. servicemen in I Corps with cottage cheese and ice cream. Common User Land Transportation (CULT) plus vehicle and machinery maintenance, utility provision, construction, and road building functions kept the Navy and contractors well occupied. Bulk storage, covered storage, and refrigerated storage were expanded from a few thousand square feet to acres.

Perhaps a better feeling for the magnitude of the expansion can be achieved when one considers that in Da Nang the supply depot space increased from approximately 33 thousand square feet of covered storage in 1965 to over 900 thousand square feet in 1969, from none to over 500 thousand cubic feet of refrigerated storage, and from very little to over two million, seven hundred thousand square feet of open storage. Package and bulk fuel storage expanded from about 40 thousand gallons to accommodate more than 50 million gallons of JP-4, aviation, diesel, and motor vehicle fuel.

Another clue to the scope of industrial activity is the size of the budget, which grew from approximately 41 million dollars in FY 1967 to 102 million dollars in FY 1969. Over half of this operating and maintenance budget was used in the mammoth public works program sponsored by NSA Da Nang.

Never did a single Navy industrial complex operate as many boats and craft as did NSA Da Nang. Starting in December of 1965, with 12 LCUs or YFUs, 16 LCM-8s, 10 LCM-6s, 2 LCM-3s, and 8 YCs, all of which, save the YCs, were amphibious force assets, the Da Nang navy grew to number over two hundred and fifty craft, which included not only the types mentioned above, but floating cranes, self-propelled water barges, reefer barges, YTLs, YTMs (pulled out of the mothball fleet in mid-1966), YTBs, AFDLs, YRs, LARCs (acquired from the Army), LCPLs, and finally, the new Skilaks (Eskimo for "strange craft"), a commercial coastal cargo vessel designed for the Alaska trade. The Skilaks represented a significant improvement over the LCUs.

By December of 1968, the self-propelled lighterage inventory alone had increased from that enumerated above to 11 Skilaks (each estimated as being worth two and a half LCUs or YFUs), 42 LCUs or YFUs, 46 LCM-8s, and 36 LCM-6s and LCM-3s. It is easy to understand why the Support Activity required the highest density of qualified boat masters of any activity in the Navy during this period. The allotment of cargo hauling and handling machinery also kept pace with the

<sup>6</sup>"Civil Engineers, Seabees, and Bases in Vietnam" by Captain Charles J. Merdinger, Civil Engineer Corps, U.S. Navy, in *Naval Review* 1970.

increased transfer of goods. Material handling equipment and especially the rough-terrain forklifts which Captain Huff spoke of as being difficult to keep in operation owing to an inadequate supply of spare parts, finally achieved an acceptable maintenance level.

### *Moving Cargo*

Captain Huff's group, during the period prior to NSA Da Nang's formal establishment in October of 1965, moved cargo in an amount sufficient to keep the 3rd Marine Expeditionary Force (as it was originally identified) supported. The 35 thousand measurement tons handled at Da Nang in July of 1965 seems modest indeed when compared to nearly 471 thousand measurement tons handled in September of 1969. During the same September, Dong Ha reported over 47 thousand MT, Chu Lai had 86,195 MT, Hue and Tan My received 54,423 MT, and Sa Huynh reported 3,088 MT. The progressive growth of Da Nang's cargo handling capacity can be observed in the following average monthly figures: 135,500 short tons in 1966, 198,300 ST in 1967, 333,300 ST in 1968, followed by a decline in 1969, as the withdrawal began, to 320,400 ST.<sup>7</sup>

The very early calculation of the contemporary need to move a ton of cargo per man per day (if considered in the context of freight terminal men) was significantly exceeded during the last six months of Rear Admiral Adamson's tour in 1970, at which time the average amount of cargo moved per man per day was 3.25 ST.

Initially, all-Navy cargo handling teams were used, because of the scarcity of Vietnamese stevedores. Commander NSA Da Nang had a tight rope to walk in forestalling any accusation of pirating from the inadequate local labor pool. Yet he had to acquire the stevedores to cope with the ever-expanding flow of cargo through the military port of Da Nang. The shortage of labor was met by the twelve-hour workday which each American sailor worked for seven days a week. Two round-the-clock shifts kept cargo moving ashore prior to the formal dedication of the Thong Nhat piers on 15 October 1966 (which was, coincidentally, the first anniversary of NSA Da Nang).

Working ships at the pier, which reduced the double handling that lighterage demanded, was an inestimable boost in cargo handling. Soon many Vietnamese who were not employed by the local commercial port were hired, and their training was accomplished in record time. While the Vietnamese were unable to work the same long day as their American counterparts, their ten-hour day helped the Navy effort at a time when

increasing pressure was being brought to bear to reduce, where possible, the manpower drain which NSA Da Nang made on Fleet resources.

To add more manpower, in mid-1966 the Commander of the Naval Support Activity, Da Nang, entered into a contract with the Korean Express Stevedoring Company (KEKN). On 19 August 1966, Korean Express unloaded its first ship. The realization of the terms of their contract, which called for them to unload a minimum of 70 thousand MT monthly took some time, while the hard working Koreans were getting sufficiently organized. During Rear Admiral Lacy's tour (February 1967 to February 1968), 25 fifteen-man Vietnamese hatch crews had been engaged to augment the handling of the increased tonnage.

### *Developing the Port of Da Nang*

Before the navy was assigned to give logistic support in I Corps, Da Nang (or Tourane as it was called by the French) had had little to offer in the way of port facilities. The small commercial port which Da Nang boasted was limited in both size and depth of channel. Storage and modern material handling equipment were also very limited. When the build up in I CTZ began, it was obvious that port facilities would have to expand rapidly.

Many who lived through the first monsoon season, after the Thong Nhat piers were put into commission, cursed the location. As operations officer in the year 1966-67, I was among the cursers. The harbor is a very large natural roadstead, but unfortunately its entrance from the South China Sea is to the northeast, and of course Da Nang's location, above the bend of Vietnam, causes it to be most susceptible to the northeast monsoon. As the winds began to blow, normally in October, the piers stood completely exposed to the rigors of the high swells which came in at heights which belied belief. Ships lying at their berths would be picked up and banged against the piers, doing damage to both ship and pier. The vertical movement of the ship caused by the swells during these storms normally prevented the hatch teams from working the ships. It was then necessary to get a pilot aboard quickly, and shift the ship to an anchorage before damage occurred.

Nevertheless, those who made the decision on the location of these piers had very little choice. From the standpoint of port clearance, Thong Nhat was the most suitable spot for it was accessible by road and had adequate room for staging and expansion. Two 600-foot steel-framed and steel-jacketed piers, as well as one DeLong pier, furnished sufficient space to accommodate the deep draft ships. Ironically, the DeLong pier, which had been towed in from Thailand to accelerate deep draft pier availability for Da Nang cargo operations,

<sup>7</sup> *Measurement tons.* 1 MT = 40 cubic feet. This volumetric measurement is best used for low density cargo such as vehicles and boats.

*Short tons.* 1 ST = 2,000 pounds. This measurement is best used for high density cargoes such as cement, ammunition, and construction steel.

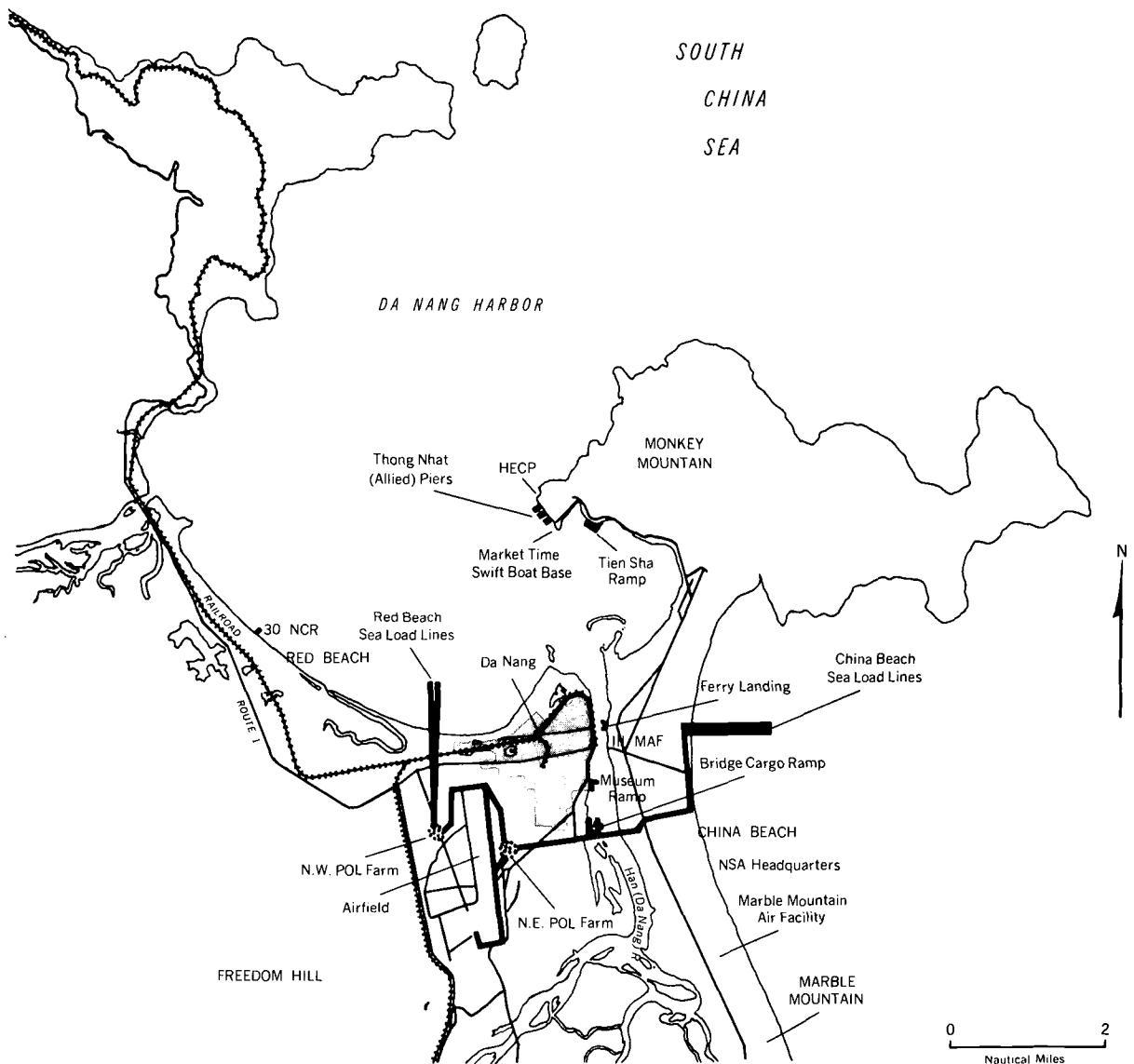
was not ready for cargo handling until several months after the conventional piers were being worked. The contractor was delayed in finishing the pier because the materials needed were slow in arriving.

Roads between NSA's covered storage and that of the Marine's Force Logistic Command (FLC), were widened and hard surfaced to accommodate the heavy trucks and "semis" with which NSA's freight terminal division accomplished port clearance.

Since heavy reliance for moving goods in-country was placed on small ships and boats, LST ramps were established at these points in Da Nang: the Ferry Landing across from the Da Nang Hotel, the Museum Ramp, adjacent to the Cham Museum on the same side of the river as the NSA headquarters building (the White Elephant), and at the Bridge-Cargo complex, which could accommodate LSTs, as well as LCUs or YFUs and barges. In addition, there were ramps for LSTs, LCUs, or YFUs on the Tien Sha Peninsula, just southeast of

the deep water piers. The last named were the best located with relation to NSA's vast covered storage complex because trucks were not obliged to pass through the heavy traffic in the city.

*Harbor Improvements.* The channel in the Da Nang River (Song Han) from the harbor to the Bridge-Cargo complex was dredged to about 18 feet to permit the passage of 1156 class LSTs at any tidal stage. A channel was also dredged eastward from the northernmost end of the main breakwater to Tien Sha cove to permit passage of YOs, YWs, YTBs, and even LSTs to the Small Craft Repair Facility (SCRF). This facility was established in 1967 to take care of the many ship and craft repairs associated with Da Nang's large fleet. Navigational buoys were installed to replace the makeshift oil-drum buoys for which the Vietnamese had such a penchant. Lighted ranges on the river made it possible for LSTs to sail at night.







*At Da Nang's Seabee-constructed bridge-cargo ramp, cargoes that were brought by the seagoing ships are transferred to such smaller vessels as the two civilian-manned LSTs in the foreground, the nearby LCU, or the barge converted from an LST hull. Da Nang's small floating dry dock (AFDL), seen cradling YFU-54, accomplishes major repairs which otherwise would have to be performed in Japan or the Philippines.*



By 1967, Red Beach, where the 3rd Marine Expeditionary Force (III MEF) had landed in 1965, boasted a ten-section causeway with a special, seven-can-wide "T" shaped turn around section on the seaward end. Since this causeway provided a convenient transfer point for bulky and odd-sized construction material, such as pipe, pilings, and lumber, destined for either the 30th Naval Construction Regiment Yard or the Marine FLC dump, in good weather LSTs were normally assigned the Red Beach Causeway for loading. The "T" shaped turn-around sections on the end of the causeway permitted trucks to drive out on the causeway instead of backing out, and then turn-around to back into the LSTs for their loads. This saved much time and anxiety, particularly with green drivers. Unfortunately, the causeway could not be used during the northeast monsoon season.

*Sea Load Lines.* Ten and twelve-inch sea load fuel lines were extended both in Da Nang Harbor and seaward off China Beach. Since there were no tanker piers in any of the I Corps ports, these bottom-lay lines made the difference in being able to supply the needed fuel which, in December 1968, amounted to 1,700 thousand gallons per day.

*Land Communication.* A look at the means of land transportation in I Corps explains why sea lines of communication played such a very important part in the logistic effort. With the exception of South Vietnam's main north-south artery, Route I, Bernard Fall's "Street Without Joy," roads adequate for logistic support of a military operation of the scope of the Marine effort in I Corps do not exist. Why was the railroad, which so closely parallels Route One, not used? Partly because it was only a narrow-gauge railroad. More importantly, it was hard to keep open. One has but to look at the terrain to appreciate the vulnerability of both the highway and the railroad. Together, Route One and the railroad probably include more trestles and bridges per road mile than any other roadbed in the world. Keeping either in commission continuously taxed both the Seabees and the Marine Corps Engineer companies. Nonetheless, the railroad, which had been essentially abandoned to the Viet Cong since the French threw in the towel in Vietnam, was a project which early in its existence NSA planned to press back into service. Japanese manufactured freight, flat, and gondola cars arrived in country in the spring of 1967, but the railroad was not opened even for limited use until Rear Admiral E. P. Bonner's tour (December 1968-December 1969), when it was opened between Da Nang, Phu Bai and Hue, with the first logistically significant load being a cargo of drummed fuel delivered to Phu Bai.

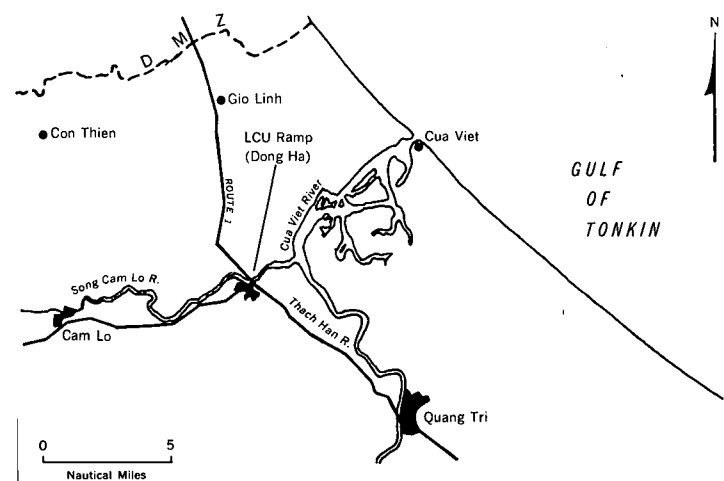
By this time the railroad had little military significance, however, since the water lines of communication had been well established. It never offered much assistance in cargo movement. Its primary employment was to carry civilian passengers and goods.

#### *The Development of the "Outports"*

Chu Lai, the second most important port in I Corps by virtue of population and the lack of an alternative supply route, also went through a massive growth program. By the spring of 1967, the Chu Lai channel was dredged to the extent that YOGs and even coastal freighters could get into the harbor, although until the quaywall was completed later that year, they could do nothing more than anchor in the tiny Truong Giang estuary. Tides and currents were very strong at Chu Lai, so that, except in an emergency, ships entered and exited only with the favorable tides.

Port and industrial activity at Chu Lai resembled a mini-Da Nang, and the small expeditionary force which opened the operation in the spring of 1966 grew to over 1,000 naval officers and men. The buoyant four-inch assault hose, which first supplied fuel for all the machinery, was replaced with eight- and twelve-inch sea load lines. Because they were exposed to the northeast monsoon, the pipelines were often inoperative during the stormy season. Most commonly, the flex hoses, which made the hook-up to the tanker, were torn up by bad weather. If the line stopped functioning, YOGs would come right into the Truong Giang estuary at Chu Lai during the period 1966-67 and pump directly to marine refuelers.

*NSAD Cua Viet Established.* In the spring of 1967, after the long and eventful dredging experiences at Cua Viet (which included two explosions in the small Canadian dredge *Helbar* and the loss of the chartered tug *Saun Maru*, which was used to shift the DeLong pier dredging platforms around) the river entrance basin was opened to LSTs. The first two to enter, on 15 March 1967, were the USS *Caroline County* (LST-525) and the USS *Snohomish County* (LST-1126). The ramp could accommodate two of the large amphibious vessels, though for security reasons two were not normally scheduled on the ramp at any one time. Within range of North Vietnamese artillery and rockets, it was not good business to place that many eggs in one basket. The ramp area at Cua Viet, first covered by Marston matting, was given a soil cement hardpan in mid-1967. A steel pile bulkhead was driven adjacent to the LST ramp to accommodate the rock barges which made frequent trips from Da Nang. Cua Viet was transformed from a beautiful, white, unoccupied, sandy beach into an ugly, but thriving cantonment of plywood huts and mess



*Some of the variety of small craft that supported the Marines along the DMZ are seen in this trio of photographs taken at Cua Viet. The left-hand LCM, converted to a floating drydock, is flooded (upper photograph), to repair a PBR. A 1600-class LCU (center photograph) passes the LST ramp near the river's mouth on her way out to sea. In the bottom photograph, an LCU, a YFU,—notice the open bow ramps—and smaller craft, pass one another near the mouth of the Cua Viet.*

halls, a small boat repair facility, and a sizeable bladder fuel farm. The last was at first supplied by a four-inch bottom-lay line from a buoy offshore and later by a rigid six-inch sea load line.

For two years, boats transferring goods to Dong Ha or Quang Tri from Cua Viet, were able to use that river practically unmolested. But after NSAD Cua Viet was finished, "Charlie" and the North Vietnamese Army came to life and began to harass our riverine logistic forces. The enemy made navigation of the river at night impossible, and in 1968 and 1969 he attacked the supply vessels in daylight.

Sufficient staging areas to accommodate an LST's load of cargo were available at the Cua Viet Ramp. Since this was a transshipping point only, cargo stayed in the staging area only long enough to be loaded into a smaller craft for the seven mile trip up river to Dong Ha. Normally forklifts moved cargo directly from LSTs to river lighters when the latter were available.

Fuel was transported up the river to Dong Ha in bladder boats (LCM-8s equipped with 10 thousand gallon bladders) and then when adequate numbers of Ammi pontoons became available, in those infinitely safer containers. The half-submerged sections were propelled by warping tug power units.

Fuel delivered to Dong Ha ramp was pumped overland for the remaining mile to the local Combat Base tank farm through four-inch hoses. At first the Marine Shore Party handled the unloading at the Dong Ha ramp, working from dawn to dusk. As Dong Ha and Cua Viet were expanded, and an increased Navy personnel allowance was approved, NSA Da Nang relieved the Marines of port clearance and began round-the-clock operations when they were required to remove any backlog remaining at the end of the day.

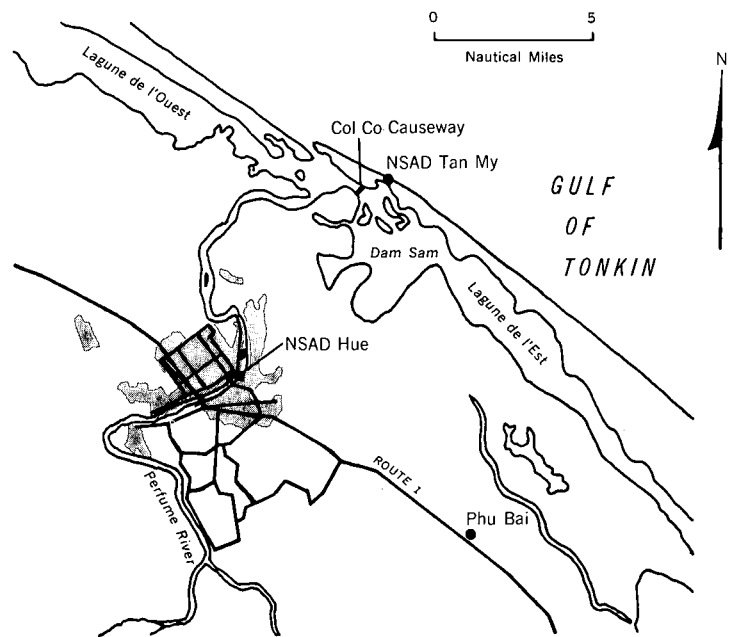
*Tan My.* Tan My was the potential site of a super-logistic complex which never quite materialized. It served as NSA's control point for river traffic dispatched to Hue or Phu Bai and consisted of a bladder fuel farm manned by Marines, a security unit, and the small NSA detachment cadre which ran the communications van providing liaison between NSA Da Nang and the Hue city ramp. By mid-1967 the detachment had two separate ports groups, one an augmented unit at Tan My which took over all logistic support for the Marine security and fuel farm personnel, and the other a stevedoring group at the new Hue city ramp. The latter were berthed with the Seabee detachment at Phu Bai. Fuel, which heretofore had come to Phu Bai via Hue by tank truck over the narrow and tenuously controlled road from Col Co causeway at Tan My, was eventually delivered by six-inch pipeline laid above ground from Tan My to Phu Bai.

Because dredges were scarce in Vietnam, dredging on the LST port at Tan My could not be started until completion of the Cua Viet channel to the north. But by 1968 it was a reality. Dredging at Tan My consisted of cutting a channel which ran parallel to the surf line inside an offshore sandbar, then digging out a turning basin inside the natural lagoon which served as a runoff area for the Huong, or Perfume, River. The obviously undesirable orientation of the channel was dictated by the lagoon's opening to the sea.

*Dam Sam Plan Abandoned.* Early in 1967 plans for a large logistic complex on the Dam Sam were made. This included a deep water port and a combined tactical and logistic airfield with complete warehousing facilities and access roads, which would perforce be carved through rice paddies and swamp. Mui San, which represents the apex of the land extending into Dam Sam, was to be the depot site. A new deep water channel was to be cut through the narrow strip of land southeast of the NSAD, Tan My, cantonment. The high cost estimate for this undertaking caused its abandonment and the alternate Col Co development plan was implemented.

*Duc Pho.* In the spring of 1967, when the Army proposed plans to insert troops in the Duc Pho district of Quang Ngai Province, approximately 60 miles south of Chu Lai, the Naval Support Activity at Da Nang made known to the Army many misgivings about the logistic feasibility of such a move. The operation could not be supported overland from Da Nang because of the very poor roads. Sea support in a straight Logistics over the Shore (LOTS) operation was feasible during the non-monsoon season; however, it appeared out of the question once the October-March monsoon storms began because the beach was completely unsheltered.

NSA operations personnel, which included UDT men, reconnoitered candidate coves up and down the coast between Chu Lai and Sa Huynh. The only site that appeared suitable for development into a port was Sa Huynh, almost on the southern border of 1 CTZ. A natural lagoon with the odiferous name of Dam Nuoc Man (Nuoc Man is the name of a strongly scented condiment made of fermented fish juice) had an opening to the south. While the lagoon was shallow and surveys indicated that LCUs would have a narrow channel to thread to get into the lagoon from the South China Sea, it appeared that a little dredging would make it suitable as an "outport." The shallow water in the lagoon created tidal flats, which made this a natural salt farm, and the VC had long before staked their claim to it. Nonetheless, it appeared that the small island of Sa Huynh could be developed sufficiently to support



the southern I Corps operation.

Tight dredge resources, and the deceptive ease with which the Army was able to support itself logistically directly over the beach with MSTs-manned LSTs, during summer when weather was not a factor, combined to defer establishing Sa Huynh during 1967. However, the monsoon season in 1967 removed all doubt that only with development of a port at Sa Huynh would the Quang Ngai Province operation be successful on a year-round basis. And so, Sa Huynh was established as NSA Da Nang's southernmost activity. It had LCU ramps and roads from the sea terminus to the Army area of operations. A four-inch sea load line was installed at Duc Pho and an assault fuel farm was built to store the fuel. As can be readily imagined, the sea in Duc Pho's open roadstead played havoc with this line during the monsoon.

### *Storing and Delivering Fuel*

Fuel in I Corps was delivered ashore by pipes from the sea. The development phase in such a system normally was carried out by men from an amphibious construction battalion who would float ashore a buoyant four-inch system. These lines, temporary installations at best, take both skill and effort to install. Their main drawback is that they are easily damaged by boats and by surf; their advantage is that they can be streamed

*Before the installation of the overland six-inch pipeline from Tan My to Phu Bai, fuel was carried up the Perfume River in LCMs. Here an LCM-8, guarded by a PBR, pumps fuel into a Marine Corps tanker truck. Two 1600-class LCUs arrive at Hue's ramp (left). The University of Hue in the background is visible in the photograph on the opening pages of this essay.*

from LCMs and so installed very quickly.

The buoyant lines were replaced as rapidly as possible by rigid steel pipe lines on the sea bottom which were pulled out from the beach by an LCU equipped with an "A" frame, designated an LCU(F). The seaward end would be anchored with substantial concrete clumps; a flexible "pigtail" completed the rig. A mooring buoy was anchored at the end of it to serve, both as a marker for the seaward end of the line, and to provide the AOG, which was used to fuel all the outports except Chu Lai,<sup>8</sup> a place to moor and thus avoid inadvertent anchoring on, and consequent pulling up of, the pipe when getting underway. These rigs worked well during the calm seas of the summer months, but failed from time to time after the start of the monsoon season. The ten- and twelve-inch lines installed at Chu Lai and Da Nang withstood the storms somewhat better than the eight-inch lines first used, though their sea ends also fell victim to the high winds and sea, which prevailed from October through March.

At Phu Bai, which supported the intensive campaign north of Da Nang and was the headquarters of the 3rd Marine Division, the fuel situation became critical enough to warrant the installation of a "Swivel-Top" or Mono Buoy. This was an extremely large buoy measuring 30 feet in diameter and 13 feet in depth. Securely moored off Tan My by eight 12,000 pound "Stato anchors,"<sup>9</sup> it had the sea ends of two eight-inch sea load lines coming up through the buoy and terminating in a swiveling goose neck connection on top. Two eight-inch flexible hoses were attached to the goose neck to complete the hook up rig for an oiler to pump its product ashore. The hoses were equipped with flotation rings which kept them afloat when not in use to prevent their tangling in the mooring chains. Unfortunately, this flotation gear was not monsoon-proof and the answer to keeping them afloat was eventually found in the use of buoyant hoses. The cost, (\$300 thousand each) precluded initial installation of these buoys in Da Nang and Chu Lai, but when the Marine action shifted north of Da Nang, the buoy's value was reconsidered. In September 1969, one was installed at Tan My. In retrospect, considering the men and equipment which were tied up in repair of the line after a monsoon storm, the buoy would doubtlessly have been an excellent investment at Chu Lai also. And, of course, one must add to these costs the Commander's anxiety over the possibility of being unable to support the fuel requirements for the Chu Lai area. Never during the length of his tour, Rear Admiral Lacy asserted, did he feel completely comfortable about the future fuel supply in I Corps.

<sup>8</sup>Where the larger T-2 tanker was used.

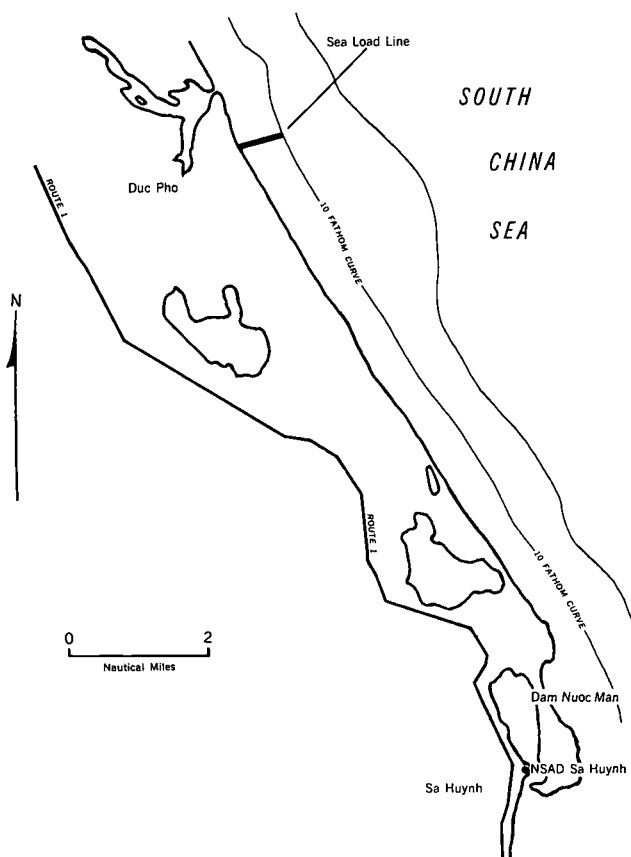
<sup>9</sup>Modified Danforth anchors.

### Ship Salvage

Monsoon storms exacted their toll from the Navy support effort not only in fuel lines but also in ships. Probably one of the least publicized aspects of NSA's work was that done in the salvage of vessels. NSA had no salvage tugs or salvage divers in its organization. Harbor Clearance Unit One, which assisted in clearing a hulk near Museum ramp and in the attempted salvage and ultimate clearance of the USS *Mabnomen County* (LST-912) at Chu Lai, belonged to ComNavForV. But the weather did not pay attention to our organization and each year it demanded, and got, a considerable salvage effort from us. Christmas week of 1966 was an example.

On Christmas Eve morning, Da Nang received the word from the detachment at Dong Ha that its warping tug, which had been sent up to salvage the four-inch bottom lay line, had gone aground just north of the channel leading into the Cua Viet. Thus far local salvage efforts had failed. The Luzon Stevedoring Company's diesel tug *Tiburón*, under charter to NSA, was ordered to proceed to Cua Viet to salvage the warping tug. The Filipino skipper and crew, with the placid resignation which mariners develop about such things, headed north from Da Nang. The following morning, Captain Jim Linville, Assistant Chief of Staff, Operations and Plans, for NSA Da Nang, flew up to Dong Ha to see how our bluejackets were faring during their first Christmas under the shadow of the DMZ. As he flew north from Tan My, he noted what appeared to be a vessel in distress. He directed the pilot of NSA's "gooney bird" to make a sweep over the vessel. Sure enough, it was the *Tiburón*, in trouble. En route north, the *Tiburón* had grounded in the coastal shallows and the wind and sea had done the rest. Continuing his flight to Dong Ha, the Captain relayed the news of the tug's trouble to Da Nang. The word was passed to the Coast Guard, which sent an 82-foot WPB from Market Time Operations nearby. An LCU was also dispatched to the scene. A line was passed to the stricken vessel. Unfortunately, a monsoon storm developed at the same time. Lines parted and waves became too high for the two small rescue vessels to continue their work. Under the merciless pounding of the waves the *Tiburón* was driven into the beach and finally rolled over on her side. Grabbing the ship's log and any personal belongings they could stuff into their clothing, the captain and crew abandoned their ship and swam into the beach through the surf. Shivering from the cold, they were plucked from the unfriendly beach by a Marine helicopter sent from Phu Bai. The following day I flew up to Phu Bai and thence to the beach about 10 miles north of Tan My where the Pacific fleet salvage officer and I swam out to the *Tiburón*, which, by this





*With its establishment in 1967, on a small island two miles north of the southern I Corps border, Sa Huynh became the newest, smallest, and southernmost of NSA Da Nang's five detachments. Unlike the other detachments, which supported elements of the First and Third Marine divisions, Sa Huynh was established to support a U. S. Army division.*



time, had been turned by the swells so that her bow pointed seaward. She still lay flat on her starboard side, as she was when abandoned by the crew. Her position made salvage attempts impractical. The company accepted the navy's recommendation and abandoned the tug. For at least the following year, she served as a reminder to all who flew north from Da Nang to Cua Viet of the fury and uncertainty of the sea. Ironically, the warping tug, which the *Tiburón* had been sent to rescue, was pulled off the shoal by an LCU the next day.

Two days later Da Nang had a bit of a blow. The Harbor Entrance Control Post advised ships anchored in the southeastern part of the harbor to check their position carefully to guard against dragging. One ship in particular, the *Coastal Trader*, on a General Agency Agreement charter, appeared to be getting set down toward the beach by the wind and swells. The following morning the Master sent out word that he was aground in a soft mud bank. The one NSA YTB, several pusher boats, and a couple of YTLs were all sent to pull the freighter out. After much tugging and twisting, the stranded merchantman floated free and was pulled to a safe anchorage. The next day word was received that the LCU-1493 had gone aground about ten miles south of the Cua Viet. A LARC and a YFU from Dong Ha were dispatched to assist the stricken vessel. Two days of skillful efforts finally freed this craft, permitting her to resume her trip north. The rescue was not without its cost, however. The LARC, then under tow by the LCU, because of engine failure, slowly filled with water and sank.

*The Loss of the USS Mahnommen County.* The climax to this turbulent week occurred on New Year's Day during the midwatch, when the USS *Mahnomen County* (LST-912) parted with her anchor off Chu Lai while waiting for better weather so she could enter and discharge her one thousand-ton cargo of cement. Before the main engines could be brought on the line, a combination of high winds, mounting seas and a uniquely high tide picked the hapless LST up and deposited her on a rock shelf adjacent to the MAG-36 helo pad. Salvage efforts were begun the next morning with the discharge of the cement over the stricken T's side. Elements of HCU One were flown down to Chu Lai to begin the salvage. The best efforts of three ATFs and an ASR pulling in concert were unable to dislodge her. It was puzzling, as well as disheartening, to witness all the effort exerted to dislodge the ship from her perch, and yet to see no evidence of movement. Later, when the seas calmed down sufficiently, divers were able to discover the reason for the failure in their salvage scheme. The LST had settled down on three rock pin-

nacles which had penetrated her bottom and they sealed her fate. Efforts were made to cut the hull in two and tow the ship off as a bow and stern section. Salvage efforts were finally determined to be futile and the ship was cut down to the second deck. The first reason was to remove any hazard to aircraft, but the strongest motive was to make less conspicuous a U. S. naval vessel wrecked on the coast of South Vietnam.

*The Dredge Hyde Mining Incident.* The *Hyde* was one of the operational anomalies of the logistic organization in I Corps. The Army at sea working for the Navy on land. The U. S. Army Corps of Engineers dredge *Hyde* was the first vessel working for NSA to fall casualty to enemy action. Steadily engaged in dredging the Cua Viet bar to permit the entrance of LSTs in this most northerly NSA outpost, the *Hyde* was the victim of two limpet mines placed on the starboard bow and port quarter, respectively, on 9 May 1967. The bow mine exploded first at about 0400 on 9 May 1967, whereupon the quick-thinking mate on watch coolly dumped his hopper of sand and headed the dredge into the south bank, where he beached the sturdily constructed vessel. Two hours later, the second charge detonated. Fortunately, the dredge, with sand dumped, had lost three feet of draft and the charge blew a hole about the size of a grapefruit in the ship's counter row above the water. Minor damage was done to the after steering machinery room. The hole in the bow was a different matter. It was seven feet long by four feet high and allowed the flooding of a ballast tank, the bosun locker, paint locker, carpenter shop, and sail locker. A cofferdam was placed over the hole into the working spaces, and a layer of cement was laid over the hole in the paint locker deck. A piece of quarter-inch boiler plate was welded over the skin of the ship to serve as a fairwater, and, within thirty-six hours, the intrepid dredge and her undaunted Master, Captain James Bartell, were resuming their slow but steady assault on the sand which formed the river entrance bar.

The USS *Coconino County* (LST-603) was the first major naval ship to suffer from the hands of enemy swimmers in the I Corps Tactical Zone. Mined while on the ramp at Cua Viet on 29 June 1967, the "lucky Coco" was towed back to Da Nang for patching by the Small Craft Repair Facility, before being towed to Guam for final repairs.

#### *Civic Action*

Although not specifically charged with Civic Action in its original charter, NSA assigned men to that job with the necessary equipment. It was a good investment in the country of South Vietnam, especially when one

considers the stark destruction of war. The first big effort was in the establishment of Civic Action Teams, or CATS. CATS were composed of skilled petty officers who volunteered to live in the hamlets with the Vietnamese and assist them in myriad projects ranging from building schools and digging wells to just plain instruction in sanitation and hygienic improvements. The accomplishments of these dedicated men were most impressive.<sup>10</sup> By living with the people they sought to help, they helped to dispel the suspicion, distrust, and resentful feeling among the villagers that they were charity cases, which are not uncommon to people of less developed areas. When the rocket and mortar attacks occurred, NSA CATS took their lumps with the villagers, and then were the first out of the shelters to begin the rebuilding.

The work of the CATS or VATS (Village Action Teams) had a strong appeal to NSA officers and sailors, and more and more of them succeeded in contributing to the program on their own time. Volunteer sick calls,

training opportunities assisted the local people to aspire to personal improvement. Sanitary conditions at Da Nang were greatly enhanced by the garbage disposal system organized by NSA. Streets and alleys, once rife with garbage, were once again negotiable without the former stench. Fire protection was another mutually benefitting civic action provided by the Support Activity.

In 1969, when the Accelerated Turnover to Vietnamese (ACTOV) began in earnest, the training program, begun as a matter of Civic Action, was converted into a Navy training program to equip the Vietnamese to operate the marine craft, vehicles, and electronic equipment which were being transferred to Vietnamese military personnel.

#### *Small Craft Repair Facility*

No account of the achievements of the support activity at Da Nang would be complete without describing the work of the Small Craft Repair Facility



city beautification projects, clothing distribution, and the like sprang up as a result of the generosity which lies in the hearts of all Americans when faced with the plight of the less fortunate. During July 1967, some 273 projects were completed by CATS involving the building of 60 classrooms, 19 hamlet offices, and 275 houses.

The training of Vietnamese civilians in basic skills became a very valuable adjunct to the work of the CATS. Auto repair and sewing were two of the most popular and productive classes. These and many other vocational

*High winds and a uniquely high tide hurled the USS Mahanomen County (LST-912) on a rock shelf off Chu Lai. Three ATFs and an ASR, pulling together, could not dislodge her even after her thousand-ton cargo of cement was taken off. She was found to be impaled on three rock pinnacles and, when all salvage efforts proved futile, she was cut down to the second deck and abandoned.*

<sup>10</sup> Described in detail by Captain C. E. Merdinger, CEC, U. S. Navy, in his article, "Civil Engineers, Seabees, and Bases in Vietnam," in *Naval Review* 1970, p. 254.

(SCRF). At first the SCRF was a branch of the operations department, but by mid-1966 it was accorded department status. The engineering and repair division, fore-runner of the SCRF, was organized in January of 1966 and consisted of two officers and 22 men, one LCM work boat, and three sections of pontoon causeway. By that April, the repair section expanded to include a YR, an AFDL, and a YFND.<sup>11</sup> These craft were originally positioned in the southeastern section of Da Nang Harbor. But this was exposed to the sea and therefore dredging, including a 20-foot channel, was begun in the eastern-most section of Tien Sha cove. This would not only permit the entry of craft to be repaired, but would also permit the floating drydock to submerge for pickup of the vessels to be drydocked. Soon another YR was received, as was another YFND. These were moored near the Vietnamese Naval Base behind Monkey Mountain and were designated to handle maintenance work on the boats assigned to Market Time.

The skill and ingenuity of the officers and men who manned the Small Craft Repair Facility cannot be praised too highly. To give the reader some idea of the tempo of operations during the month of March 1968, 68 small craft were drydocked. The engine shops in the YR worked around the clock overhauling the propulsion units for the essential lighters.

In the early days of the Support Activity, regular overhaul of lighterage, from LCM-3 to LCU or YFU-size, was done in Subic Bay or Japan. The YWs,<sup>12</sup> YO's, and YOGs, together with the tugs of various sizes, also had to make the long journey, either in an LSD or by sailing escorted, to receive their regular overhauls. It was the dream of the Repair Officer, Commander Ray Pierce, that SCRF would some day be able to save these long transit times and accomplish the overhauls in Da Nang. In February of 1967 this dream was realized when the overhaul of the first YFU in ICTZ was completed. Routine maintenance of the vast armada of service and lighterage craft<sup>13</sup> precluded overhauling all the vessels. However, the two months consumed by an overhaul outside Vietnam became unnecessary for a significant number of the craft.

Perhaps the most impressive of SCRF's many talents lay in their versatility. They never protested that because they lacked facilities, special tools, or specially trained men, they couldn't do a job. Whether it was changing one of the dredge *Hyde's* large screws, placing

a patch on the *Coconino County's* ruptured bottom, replacing the bottom and major portion of the hull of a YFU damaged by a mine, changing gas turbine engines in the gunboat *Asheville* (PG-84), or drydocking the Alaska Barge and Tug Company's tug *Makah*, SCRF could do it. In addition, the attached Navy divers were active during the monsoon season in keeping the sea load fuel lines in commission, as well as in aiding successful salvage work from one end of I Corps to the other. A small repair detachment was maintained in Chu Lai, which was adequate for performing maintenance and emergency repairs on their support craft. When the Cua Viet ramp was put into commission in March of 1967, a small detachment of repairmen was assigned to keep the many lighters operational. They were the same men who that May were to have the *Hyde* back in operation within 36 hours of the time she fell casualty to the mine.

The move to Tien Sha Cove by the SCRF greatly enhanced its value. It permitted the expansion of facilities on the beach. A finger pier, replacing pontoon causeways, was built alongside for mooring craft in need of repairs.

### *The NSA Hospital*

Just as the SCRF cared for sick craft, the NSA Hospital served the sick and wounded men in I Corps.<sup>14</sup> Construction of the 400-bed hospital began in July of 1965. By early 1966 it could accommodate 165 patients and consisted of 18 buildings which ranged from laboratories and an X-ray room to an optical shop. By June of that same year, it had grown to 330 beds and included air conditioned operating rooms and wards. By the end of August, the goal of 404 beds had been reached. This capacity, added to the almost 800 beds in the hospital ship *Repose*, greatly assisted in the rapid and excellent medical attention which has become one of the remarkable accomplishments of the Vietnam war. In the spring of 1967, the USS *Sanctuary* (AH-17) joined the USS *Repose* (AH-16) and added 780 hospital beds. Eventually Da Nang Hospital increased to 600 beds.

Each person who has served in Vietnam probably has his favorite example of the outstanding medical service available in country. My favorite example of cool courage combined with remarkable professional skill involves the removal of a live 60 mm. mortar round from the chest of Private First Class Nguyen Luong, ARVN. This daring operation was accomplished by Navy Medical Corps Captain H. H. Dinsmore with the assistance of Chief Engineman J. J. (Shorty) Lyons, Navy

<sup>11</sup>A YR is an internal combustion engine repair barge. It is not self-propelled, but is covered. An AFDL is a small floating drydock used to support amphibious action. A YFND is a covered barge used as a shop stores vessel. The last two types are non-self-propelled.

<sup>12</sup>These craft provided water to ships calling at Da Nang, obtaining their cargo from a stream running down the side of Monkey Mountain.

<sup>13</sup>On 1 January 1969 NSA Da Nang had 53 LCUs or YFUs, 36 LCM-6s or LCM-3s, and 46 LCM-8s.

<sup>14</sup>See "Doctors and Dentists, Nurses and Corpsmen in Vietnam," by Commander F. D. McClendon, Jr., MSC, U. S. Navy, in *Naval Review* 1970, p. 276.

explosive ordnance demolition expert. The pair, working in an area surrounded by sandbags to protect the rest of the operating room staff should the mortar round detonate, calmly made the incision and then gently lifted out the round with its detonating plunger just millimeters away from contact with the explosive squib. True to the Navy practice of awarding honorary memberships, Dr. Dinsmore was appointed an honorary member of the EOD fraternity, while Chief Engineman Lyons was made an honorary corpsman. Captain Dinsmore also received the Navy Cross for his intrepidity.

During the four years the hospital was operated under Navy management, a total of 66,007 patients, 21,523 of whom had combat related injuries, were treated. In addition, nearly a million persons received outpatient care (958,051 to be precise).

#### *New Equipment Enhances Capability*

New concepts and equipment were identified and used in an ever urgent attempt to keep the "customer happy." One of the early techniques used to keep supplies flowing into Northern I Corps was the use of LSDs to carry LCUs and YFUs "piggyback" during the monsoon season. As has been previously indicated, when the great northeast monsoon swells built up, transit time for the old YFUs was doubled, often tripled, or more. In an attempt to keep the Third Marine Division supplied, YFUs or LCUs filled with cargo were loaded into the well deck of an LSD, which then steamed north at three to four times the old lighter's speed. Arriving off Cua Viet in the morning, the LSD would disgorge her boats and then pick up a load of empties for the trip back south. Frequently AKAs were also used to assist in clearing cargo backlogs, or to assist in rotating Marine Units out of Vietnam. In each of these cases, the Support Activity supplemented the AKA's own boats to speed loading and unloading.

#### *Introducing the Containership and the Roll-On-Roll-Off*

Containership operations in Vietnam were started in ICTZ on 1 August 1967, when the steamship *Bienville* arrived in Da Nang with 228 35-foot long trailer truck size containers, 55 of which were refrigerated vans. Within 18 hours the *Bienville* was unloaded and her cargo, still in its containers, was on its way to the customer. The vans, lifted out of the ship's holds by her own cranes, were moved to the side of the ship and lowered carefully to the waiting wheeled frames and tractors parked on the pier below. Customers were pleased with this new method of packaging and delivery. The time saved in handling by NSA Da Nang was substantial. Since the vans were locked, pilfering was reduced, and critical pier space was saved by the

rapid movement of vans from the unloading area. The vans also afforded a convenient container for retrograde cargoes, such as empty brass.

Refrigerated vans were particularly valuable. Lettuce picked in the Salinas Valley of California was packed in the refrigerated container in the field and, without further handling, traveled to Da Nang in an ordinary containership. In this way spoilage was drastically reduced in all refrigerated items. The reefer vans also offered critically needed temporary refrigerated storage space. Finally, the vans eliminated the need to handle and stage cargo at ocean terminals. Despite the early concern that the monsoon weather might make the unloading of containers unfeasible, it was discovered that there was no appreciable effect on the operation during most of the monsoon season. The use of Sky-crane helicopters for unloading containers was experimented with in Da Nang, but was never adopted.

The introduction of Roll-On Roll-Off (Ro Ro) shipping, however, which in Vietnam was begun at Cam Ranh Bay, in II Corps, also proved quite advantageous in the movement of rolling stock to and within I Corps. In November 1967, the steamer *Transglobe*, under MSTs charter, began a Ro Ro service between Da Nang and Okinawa. On the first occasion, 44 trailers and 15 miscellaneous vehicles were discharged in a five-hour period. The Ro Ro concept allows a vehicle to be driven both aboard and off the ship. The ship to be unloaded is moored alongside a pier in the normal manner. When alongside, she is gently eased back until her stern ramp is within reach of the causeway or barge located astern on to which her cargo is driven. The causeway or barge is connected to the land so that the vehicles are easily driven ashore. This system was used not only at Da Nang, but also at Cua Viet, and was a welcome improvement in the logistic movement of vehicles, especially in the handling of trailers and semi-trailers.

#### *The "Skilak"*

So far as local seaborne lines of communication are concerned, the greatest improvement coming out of the war was the introduction to the Navy of the "Skilak." The old YFU, and its newer version, the 1400 class LCU, did a yeoman job of handling the unique shuttle of cargo from Da Nang to the many ancillary ports served. They sailed when all the rules of prudent seamanship dictated that they should stay in port. They lost their way because their primitive navigational equipment was never designed for such open sea voyages. In spite of the efforts of a group of hard-working electronic technicians, their radars and communication gear were out of order about as often as they operated. Yet they continued to sail north and south from Da

Nang with their hundred-ton loads of cargo. The intrepid crews who manned these "U boats" were undaunted in carrying out their arduous and often monotonous routine, which, beginning in 1967, became hazardous as well. Sometimes the 'Us' were stranded on unfriendly shores and on occasion sailed past the DMZ only to have the North Vietnamese garrison on Tiger Island fire at them, giving them their first clue that they had passed their destination.

Then, in late 1967, the first of the new breed of cargo carrier came into the picture. The "Skilak" was designed in San Francisco for the Alaska trade. When NSA examined the new craft concept, it was apparent that its greater capacity made the "Skilak" perfect for logistic operations in I Corps. When the first one of them arrived in Vietnam in the well deck of an LSD, the NSA lighterage operators were convinced. Here was a craft that could carry 360 ST of dry cargo for harbor operations and 260 ST for coastal operations (the lighter load gave a greater amount of freeboard and allowed for greater safety). The "Skilak's" draft and speed was about the same as the 1400 class LCU. The living quarters were better than quarters on either the YFU or LCU, being roomy and air-conditioned. Engineering spaces were roomy and accessible compared with the YFU wherein the engineer was forced to walk in a crouch through his main engine room. About the only disadvantage was that the main well deck was not strengthened to carry tanks, and, in a purely logistical role, this really wasn't a drawback. One favored use was in the movement of ammunition. The "Skilak" was loaded alongside ammunition ships and then proceeded to her destination at Tan My or Dong Ha without any further handling.

In addition to her improved dry cargo capacity, the "Skilak" had a very impressive liquid cargo storage capacity. In December of 1969, with the sea load line at Cua Viet not operational because of monsoon storm damage, "Skilaks" delivered 130,000 gallons of diesel oil to Dong Ha. Designed as they were for the rough weather of the Alaskan trade, they had few problems in the monsoon weather.

#### *The Versatile Ammi*

Another new design to come out of the war in Vietnam was the Ammi Pontoon. This versatile piece of equipment, which measured 90 x 28 x 5 feet, offered answers to a wide range of requirements associated with forward area logistic operations.

Designed to accommodate 22-inch steel spuds at each corner, the Ammi could become a quick reaction mini-DeLong pier. These same spuds served as guides when the Ammi was flooded and used as a forward area small craft dry dock. With the craft positioned

over it, the water was removed with compressed air and up came Ammi with up to 200 tons of small craft high and dry. Equipped with large warping tug "outboards," it became a self-propelled fuel barge with a capacity for 58 thousand gallons of different kinds of fuel in its six tanks. When further equipped with a transfer system, the Ammi was used to fuel lighters in Da Nang harbor and relieve the overworked YOGs and YOs. Eventually it relieved the LCM-8 bladder-equipped boat on the Cua Viet fuel shuttle to Dong Ha. In November of 1969, when the YOG-76 was mined in the Cua Viet, the reliable Ammi played a role in helping to refloat that valuable fuel carrier. Both Ammi and "Skilak" have earned a well deserved spot in the history of Navy logistic support operations in Vietnam.

#### *Operational Obstacles*

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Certainly, a logistic operation the size of NSA faced obstacles, as the reader has come to learn. Obsolescence of equipment, absence of clearing port staging areas, shortage of spare parts, disagreeable geography, unknown hydrography, enemy action, and difficult weather, were the major problems which provided daily challenges to the Commander and his staff.

Obsolete equipment represented a definite obstacle to a smooth, efficient operation of NSA. Twenty-year-old service craft posed problems in maintenance and reliability. They continued to function only because of the masterful efforts of their dedicated crews, and the ingenious repair department people, who never let anything deter them from meeting a craft's sailing schedule. Tired engines, worn out transmissions, and poor preservation made most of these relics of another war candidates for a scrap yard. In fact before the war began two of the YFUs had been sunk at Yokosuka to serve as improvised harbor breakwaters. Pumped out and refloated, they were overhauled and sent to Da Nang to join the coastal shuttle which kept the Marines in business in I Corps.

Clearing cargo staging areas was initially a problem of some magnitude. There simply were not enough trucks to keep the cargo cleared on its way to the customer or to storage. The roads, few in number and bad in quality, contributed to this problem.

Worth its weight in gold when it worked, and yet a millstone around the freight terminal officer's neck when it needed repairs, was the rough terrain fork lift. It was ideal for working cargo on the unimproved terrain and it was able to move itself about the confines and obstacles which an LST ramp and tank deck presented; but the lack of repair parts kept many inoperable during the first two years. The shortage of these versatile



*Because the thousands of NSA Da Nang's Bluejackets—whose job it was to use the blue and brown water—were not found wanting, the thousands of Marines like this mortar crew—whose job it was to hold the ground—did not want.*

vehicles had a definite deleterious impact on cargo movement.

Geography and hydrography of the area also posed substantial obstacles to logistic operations. Waterways were shallow and filled with sandbars, which made voyages at all tidal stages difficult. The labyrinth of waterways which crisscrossed the countryside made travel ashore difficult because of the enemy's land mines, booby traps, and sabotage of bridges. There is just no easy way to move cargo in the land of rice paddies and coolie hats.

#### *Enemy Interference*

As one might expect, enemy action provided some obstacles to NSA operations. A few examples will suffice:

On 12 June 1967, NSAD Cua Viet received 200 rounds of rocket and artillery fire. Three 10,000-gallon bladders and their contents were destroyed.

In February 1968 the Officer-in-Charge of NSAD Hue was killed during the Tet offensive.

In September 1968, three LCM-8s were damaged by mining in Dam Nuoc Man at Sa Huynh.

On 16 January 1969, YFU-62 was mined while transiting Cua Viet. The craft sank. Eight were killed, three wounded.

On 27 February 1969, a rocket and mortar attack on the Bridge Cargo Facility at Da Nang sank the LCU-1600 and YFU-78, killing 13 in the one and 6 in the other. Both craft were loaded with ammunition.

That more NSA bluejackets and officers were not killed can be credited more to a kindly and protective Providence than to any invulnerability which their craft, armament, or cargo offered.

#### *Weather*

Weather complicated the job of the logistician in I Corps. We can give weather full credit for keeping two, and sometimes three, dredges on duty in I Corps waterways—and there were times when these busy craft did not prove adequate to keep the channels open after a typhoon, such as Doris in September of 1969. We

can credit weather with making life miserable for salvage and UDT divers who had to get out and check to see if the sea load lines were intact after each north-east monsoon. Many a young lieutenant (junior grade) was thwarted in his job as YFU convoy commodore by 14-foot waves which caused him to postpone sailing his vital cargo until the storm had abated. For further confirmation of the weather's role, ask any of the skippers of the craft whose hulks litter the foreshores of northern I Corps.

#### *Overcoming the Obstacles*

Among the lighters, obsolescence was slowly overcome by introducing the new "Skilak," while as soon as reasonable data on parts usage could be compiled for the rough terrain fork lift, the spare parts problem for this equipment disappeared. The geography was changed by ambitious and skilled Seabees to accommodate land transportation, and the hydrography was altered to support river operations by the courageous crews of the dredges. Enemy action could be controlled by Marines pushing the perimeter out and maintaining good air cover and tight security support. But the weather was, as Mark Twain said, "something everybody talked about, but nobody ever did anything about." While improvements have occurred in the realm of all other obstacles mentioned, the weather, for all the talk, has not improved one whit. It was the principal item on an NSA commander's list of worries.

#### *Additional Contributions*

Not surprisingly, there were many miscellaneous support functions provided by NSA, such as the rescue of two Marine Corps pilots by the LCU-1615 and LCU-1619 off the Cua Viet River on 26 and 29 September 1967, or the tactical support provided by NSA's LCUs and YFUs as they redeployed tanks and heavy equipment in support of ground operations throughout I Corps. While NSA was chartered to support only U.S. and Free World forces in I Corps, its people never failed to provide visiting ships of the Fleet with water, diesel oil, or provisions to the limit of their ability. For instance, during January 1967, NSA supplied ships from the Fleet with 793,912 gallons of diesel oil and over a million gallons of fresh water. On the 17th through

the 22nd of May in 1967, when the DMZ sterile zone was being created, the *YFU-55* and *YFU-57* evacuated the Vietnamese population north of the Cua Viet. Two NSA LCM-8s were responsible for towing to Chu Lai the North Vietnamese trawler which had been forced ashore by Market Time forces 15 miles south of Chu Lai in July of 1967.

NSA harbor security forces cooperated periodically with the Vietnamese harbor police in pulling periodic surprise junk identification checks in Da Nang Harbor. NSA operations department men also represented the Commander in the joint port coordinating committee which worked with the Vietnamese Army and civilian port directors in improving aids to navigation and port facilities. Disposing of defective ordnance and supporting USAID (the foreign aid agency) were two more of the many activities engaged in by the Support Activity. The excellent communications department, in addition to providing support for the commander, also assisted from time to time in supporting the Fleet broadcasts.

NSA had come into existence for the special purpose of supplying the Third Marine Amphibious Force in I Corps when the Army said it was unable to assume the logistic task. As it became apparent that the U. S. must reduce its presence in Vietnam and look to Vietnamization of the war, the need for continued Navy support in I Corps lessened. It was determined that the Army should properly relieve the Marines of the ground action and the Navy of the support effort. The Commanding General XXIV Corps relieved the Commanding General III MAF as I Corps Commander in March of 1970. The phasing out of the Naval Support Activity, Da Nang, began in earnest in December 1969. The ACTOV, or Accelerated Turn-Over to the Vietnamese program, saw *YOG-71*, *YG-51*, *YFRN-997*, *YFR-888*, four LCUs or YFUs, three LCM-8s, and other miscellaneous small craft turned over to the Vietnamese. NSA people assisted in the training of their new operators.

Since by then the sea communications were replaced by land supply routes, on 15 February 1970, NSA Da Nang closed its detachments at Dong Ha-Cua Viet, and Sa Huynh. On 15 March, Tan My was turned over to the Army. By 26 March, all fuel supply operations in ICTZ were being run by the Army. NSAD Phu Bai was turned over on 10 April; the support organization at Chu Lai came under Army operation on 1 June. The NSA Hospital became an Army cantonment after its patients were sent in mid-May to the USS *Sanctuary*, the Marine's 1st Medical Battalion hospital, or the Army's 95th Base hospital. On 30 June 1970, just three and a half months short of five years from the date of its original commissioning, Rear Admiral R. E. Adamson, Jr., transferred all remaining logistic support functions to the U. S. Army in Vietnam. From NSA

Da Nang's impressive force of over 400 officers and over 10,000 men, whose domain stretched from the DMZ to the southern boundary of Quang Ngai Province, came the Naval Support Facility, Da Nang, which, on 15 September 1970, consisted of 2,500 to 3,000 persons of the U. S. and Vietnamese navies and Vietnamese civilians. NSF Da Nang is now the second largest naval industrial establishment in Vietnam.

### *NSF's New Role*

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When Rear Admiral Adamson decommissioned NSA Da Nang, his chief of staff became Commanding Officer of the new facility, which consists principally of the SCRF and Camp Tien Sha. Here U. S. Navymen teach their counterparts in the Vietnamese Navy the skills of repair and maintenance of patrol and logistic craft which have been turned over in the ACTOV program. This will culminate in the turnover of the Small Craft Repair Facility complex.

The organization was combined in October 1970 as a joint U. S. and Vietnamese naval base, with a Vietnamese executive officer and assistant department heads, the commanding officer and department heads being U. S. officers. In a concluding memo to the U. S. Navymen remaining at NSF Da Nang, Rear Admiral Adamson stated, "Those of you remaining here will carry out the tremendously important job of preparing the Vietnamese Navy to take over responsibility for prosecuting the war effort. Training is the key to success of this undertaking, and this is where each of you becomes very important. The degree of success you have in communicating your experience and knowledge of the job to your counterpart will dictate just how soon the Vietnamese Navy will no longer require your presence."

Training is divided into three phases, the first of which is classroom instruction lasting about 12 weeks. The second phase involves on-the-job training, the Vietnamese working alongside their U. S. Navy counterparts. Phase three begins with the Vietnamese actually relieving our men. The entire process has all the earmarks of being an orderly and effective Vietnamization of the war with no Irish pennants left over to mar the splendid record built by the Navy's I Corps support activity.

Significant to any operation of this magnitude upon its completion are the lessons learned. A Joint Logistics Review Board, consisting of very senior officers from all Services, convened in 1969 and completed its review of the logistics effort in Vietnam in June of 1970. This paper does not presume to guess what the JLRB will have concluded; however, certain points appear obvious.



*Lessons Learned*

The first of these is that the lack of logistic tradition may well have been the key to the Navy's success in I CTZ. The Army logistic Table of Organization and Equipment (TO & E) spells out the support requirements for various Army forces. There is no guesswork and consequently little flexibility in this system. The Army operates a "push" logistic pipe line. Conversely the Navy, lacking all but the most rudimentary guidelines and having few experienced people (most of whom were to be found in a very small number of Cargo Handling Battalions), started with a small support force, extracted the maximum effort (12 hours per day, seven days a week) and then expanded as necessary to keep the troops supported. The Navy pipeline was a "pull" effort, the Naval Support Activity Commander and his staff being expected to keep the supplying logistic agent advised of their needs. While this method did not afford the admiral and his department heads a feeling of complacency, the fact that details were not spelled out in a book back on the mainland did afford them an exciting challenge. It provided motivation and stimulated ingenuity at every level of the support organization, and the job was done well. It was a manifestation of the old Navy "Can Do" spirit honed down to its finest edge. There was no fat in the NSA organization. Documentation of this effort will provide the Navy with guidelines on the minimum requirements to perform a maximum effort in any future operation of this type. In addition, it allowed the sea-going Navy to remain at maximum strength at a time when our commitments on, under, and above the surface of the seas were most demanding.

The second lesson was a revalidation of the efficacy of an arm of the Navy which earned its place on the Navy-Marine Corps team during World War II, the Seabees. The construction requirements in all of Vietnam were unbelievable in scope. Captain Merdinger described the Seabee impact on the war effort in his excellent article in last year's *Review*. Little could be added here to describe the courageous and professional job that they did as construction men and fighters. They proved themselves capable of following the Marines ashore and building airfields, cantonments, utility plants, landing ramps, piers, and even an ice cream factory.

*Brown Water Logistics*

NSA wrote a new chapter in the book of warfare on shallow water resupply. Assault craft found new uses as draught wagons using the waterways which criss-crossed Vietnam. New craft such as "Skilak" were pressed into service to increase the efficiency of the

logistic effort. As long as there are waterways and small craft available to ply them, lack of organized land lines of communication should never again cause logistic support to falter.

Weaknesses in assault fueling techniques were discovered and corrected; this knowledge will serve us in good stead in future operations. It was reaffirmed that sheltered piers, large enough to accommodate sea-going tankers, were not necessary to support the prodigious fuel requirements of modern warfare. The Mono-buoy appears to have answered a great many questions on how to keep the seaward end of bottom lay lines functioning during the severe storms such as those which plagued I Corps during the monsoon seasons.

*Ultimate Lesson*

Of all the lessons learned, one stands out above all others—Man is still the ultimate answer in logistic support of large armies. For men sailed the battered YFUs to their destinations deep in the heart of hostile territory; men unloaded ships in 120-degree tropical heat during long twelve-hour shifts; men built the airstrips and carved out the roads and dredged the silt-filled sand bars from the waterways; men dived in murky and turbulent waters to locate the elusive ends of the 12-inch flexible hoses which wrapped themselves about the chains of mooring clumps; men guarded the cargo operations from the enemy and from the thieves. It was the U. S. bluejacket who gave credence to the Naval Support Activity, Da Nang motto—"They Shall Not Want."



# Doctors and Dentists, Nurses and Corpsmen in Vietnam

By Commander F. O. McClendon, Jr., Medical Service Corps, U. S. Navy



OFFICIAL PHOTOGRAPH BY ROBERT D. MOESER, JOC, U. S. NAVY



*A wounded man is surrounded by the unreal quality of his own emergency in the triage area of the USS Repose (AH-16) in October 1967.*

The landing of the first units of the Third Marine Expeditionary Force (shortly renamed Third Marine Amphibious Force) at Da Nang early in 1965, a prelude to troop buildup later to include the 1st and 3rd Divisions, 1st Marine Air Wing, and supporting combat units, combined with the attention being given to the role of Naval Support Activity, Da Nang, as a major logistic command, caused consternation in the medical service concerning the way in which medical support could be made available for troops in I Corps Tactical Zone (ICTZ). Existing facilities were not considered adequate, and in May 1965 the Chief of Naval Operations was requested by CincPacFlt to activate the hospital ship *Repose* (AH-16) and to authorize an Advanced Base Functional Component G4 hospital at the Naval Support Activity, Da Nang. Response was immediate and within 24 hours after receiving the request, the hospital component was assembled and shipped from Port Hueneme, California. Supplemental medical equipment and supplies for outfitting the hospital were subsequently shipped from Oakland, California. The request to reactivate the *Repose* was approved shortly thereafter and will be discussed separately.

Construction began on the hospital in July 1965 and the prospective senior medical officer and the medical administrative officer arrived 31 July 1965. By then the Seabees were well established and busily clearing the hospital site. Construction proceeded on schedule until 28 October 1965 at which time enemy forces overran the compound and inflicted major damage to the hospital with satchel charges and other explosives, including destruction of three receiving wards, a hut housing the central sterilization room, and X-ray and laboratory facilities. Rebuilding commenced immediately and on 10 January 1966 it was opened with sixty beds. It was officially dedicated 17 January 1966 by the Commander in Chief, U. S. Pacific Fleet, and by July 1966 the hospital was expanded to its initially planned peak of four hundred beds. Force buildup continued with a

corresponding increase in medical requirements, and an additional two hundred bed component was completed in 1968. It continued to function with six hundred beds until mid-1969 when a temporary expansion to seven hundred beds was authorized because of increased malaria cases.

Organizationally, the hospital is a department of the U. S. Naval Support Activity (NSA) Da Nang. For the most part it consists of "quonset hut" buildings used in the Advanced Base Functional Component System. It is equipped with some of the most modern medical equipment, is normally staffed with approximately six hundred officers and men of the Medical Department including 48 physicians, 20 medical service officers, 12 dentists, 34 nurses, and 485 hospital corpsmen, and has all the professional services of a general hospital plus a preventive medicine unit, a naval medical research unit, frozen blood bank, optical fabrication shop, armory, helo pad, and triage area. It is by far the largest casualty hospital in Vietnam and is responsible for providing both emergency and definitive hospital care (or total care involving care by specialists). The hospital is primarily for members of the Navy and Marine Corps in ICTZ; for furnishing medical services to patients with diseases and injuries involving specialties not available in medical elements organic to Marine units; and also to provide dispensary services for other eligible people, including American and third country civilians, the latter being employees of the U. S. government from countries other than the U. S. or Vietnam, such as the five Thai nurses employed at HSA Saigon.

Since it is an acute casualty hospital, the surgical services occupy the greatest percentage of space. It has eleven operating rooms, an intensive care unit, recovery room, and five surgical wards, each of fifty to sixty beds. Because of the high incidence of malaria, parasitic diseases, and tropical fevers, the medical service is almost equally as extensive with five wards, each having a capacity of thirty to sixty beds.

## Medical Services in Vietnam

Complementing the hospital is a research detachment of the Naval Medical Research Unit, Taipei, Taiwan, and a surgical research group. Among other duties, those assigned to these units conduct studies in the I Corps area involving: diarrhea, insect-borne, and exotic diseases, methods of improving diagnostic techniques to assist medical officers in Da Nang to diagnose and treat patients, and evaluation of treatment of shock from battle wounds. The surgical shock study group has been a major factor in establishing the high level of patient care and has published several papers on the valuable work which it has done. From a practical viewpoint the research unit has had charge of many of the most seriously wounded and has given them total care. Over a two-month period it received 23 very seriously wounded patients, usually double or triple amputees. All but one survived. Without the special, sophisticated, and meticulous care provided by this research group the mortality rate may have been higher. Of further importance, the work of the group will be of invaluable assistance to both the military and civilian medical communities in studying ways of improving the quality of patient care.

Since the doors to the Da Nang hospital were first opened in 1966, its workload has been phenomenal. During 1968, 23,437 patients were admitted to the hospital, accumulating in excess of 150,000 sick days. More than 2,500 were admitted during the May 1968 offensive, an all time high for admissions in a single month. Of the total hospitalized, 51 per cent were treated for wounds or injuries, requiring more than 23,000 major surgical procedures. Despite this tremendously heavy workload, and repeated rocket and mortar attacks inflicting injuries to the hospital staff and damage to the hospital, the staff has consistently performed superbly. Major structural damage to clinics and wards occurred during an attack in 1968. The most recent attack occurred in August 1969 when the hospital took 10 mortar hits, sustaining 18 casualties (none of which were critical, fortunately), and damage to clinical spaces.

*III Marine Amphibious Force Organic Medical Support.* Medical support to the Marine Corps is provided by: integral elements, force troop supporting elements, and by Navy hospital facilities ashore and afloat. For example, the Navy hospital at Da Nang, while under the command of Naval Support Activity, is responsible for any care to Marines which exceeds the capabilities of their own units. These medical units are manned by medical officers and hospital corpsmen of the Navy Medical Department. Prior to assignment to duty with the Marines, the officers and men are given a course of instruction in Marine Corps organization and tactics,

field medical problems, sanitation, and such like, and physicians may receive additional instruction in tropical medicine, staff procedures, and exercise in the employment of field medical units. Generally, all corps codes (medical, dental, medical service, and nurses) receive instruction and training in organization, field medical problems, and other subjects mentioned. The training period varies from two to four weeks at the field medical service schools, Camp Lejeune, North Carolina, and Camp Pendleton, California, to ten months at the Command and Staff College, Quantico, Virginia. The latter course is limited to senior medical and medical service officers.

The Marine Division organic medical support consists of those medical elements at various headquarters and regiments, and the medical battalions. The medical battalion is a separate supporting battalion within a division. It consists of a headquarters and four collecting and clearing companies (C&C Companies). The headquarters contains the command element, the preventive medicine section, motor transport section, and the medical records section. Collecting and clearing companies consist of a company headquarters, two clearing platoons, and one collecting platoon. Each clearing platoon is staffed and equipped to establish and operate a thirty bed clearing station. The textbook flow of patients is from the field to battalion aid station to collection and clearing company and to designated ships of an amphibious task force. However, with the advent of helicopters, battalion aid stations are being bypassed to a large degree.

Each headquarters within the division is provided a dispensary sufficient to furnish day-to-day medical care to the unit. When circumstances warrant, the Marine Corps may provide, from outside a division, a hospital company for support of casualties. This is a one hundred bed hospital designed and equipped to provide surgical and medical care for non-critical cases.

Basically, medical support is provided to Marines in I Corps by battalion aid stations, regimental aid stations, the 1st Medical Battalion, and 1st Hospital Company, 1st Marine Division, the 3rd Medical Battalion, 3rd Division, the 9th Marine Amphibious Brigade, and the 1st Marine Airwing.

The battalion aid stations have limited capabilities, mainly first aid, routine sick call, and a 48- to 72-hour holding capability. The regimental aid stations give the same kind of support for regimental headquarters.

The 1st Medical Battalion works in a hospital kind of facility and maintains the capability of deploying any of its four collection and clearing companies to the field in support of infantry regiments. It is currently in Da Nang and has 240 beds authorized. The 1st Hospital Company has 100 beds authorized and is also at Da Nang.

The 3rd Medical Battalion, at Quang Tri, has 218 beds. The 1st Marine Airwing operates small dispensaries for each aircraft group. Such dispensaries were first in tents, but have progressively advanced to semi-permanent structures.

More than 1,500 Medical Department people are serving with the 1st Marine Division and approximately 1,200 are assigned to the 3rd Division. Nearly 300 are serving with the 1st Marine Airwing.

Of the total Medical Department strength providing direct medical support to Vietnam activities, more than 3,200 personnel including approximately 200 medical officers, 70 dentists, 50 medical service officers, 150 dental technicians, and more than 2,700 hospital corpsmen are committed to the support of the 1st and 3rd Marine Divisions, 1st Marine Airwing, and combat supporting units in the I Corps Tactical Zone (ICTZ). Charged with the responsibility for rendering first aid, performing emergency surgery, collecting, temporary hospitalization and evacuation of casualties, these personnel are serving generally with the 1st and 3rd Medical Battalion, First Force Hospital Company, the 1st, 3rd, and 11th Dental Companies, and directly with combat elements.

Initial medical support to elements of the Third Marine Amphibious Force which landed in Da Nang in March 1965, consisted of two medical officers and approximately fifty hospital corpsmen. As the buildup evolved, elements (collecting and clearing companies) were brought ashore and by 25 June 1965 the complete Medical Battalion was landed. The collecting and clearing companies which had been established at Da Nang, Chu Lai, and Phu Bai were later developed into field hospitals. Currently field hospitals are located at Da Nang, Quang Tri, and Dong Ha with a capacity of approximately 560 hospital beds and as tactics dictate they may be shifted in the I Corps Tactical Zone. During 1968 more than 24,000 men were hospitalized in these facilities accumulating more than 111,000 sick days. Of the total admissions, 43 per cent were returned to duty and approximately 56 per cent were transferred either to Da Nang, the *Repose*, or the *Sanctuary* for continued treatment and disposition. The mortality rate was less than one per cent.

*Medical Support in II, III, and IV Corps Tactical Zones.* Assignment of unprecedented responsibilities to the Navy for logistic support of U. S. troops and Free World Military Assistance Forces in I Corps Tactical Zone caused the Army to be given responsibility for inpatient care in II, III, and IV Corps tactical zones while the Navy concentrated on medical support in ICTZ. The Navy continues to provide dispensary care to coast surveillance and land based riverine forces at widely separated detachments. Normally hospitalization

for patients too badly injured or too sick to be properly cared for at these detachments is provided by Army and Air Force units.

Navy medical support to the Mobile Riverine Force when it was active in the Delta in 1967-1969 was by and large provided by Navy hospital corpsmen assigned to the base ships (APBs). Army medical units, consisting of doctors and corpsmen, organic to the force supported their troops. The base ships of the force, USS *Benewah* (APB-35) and USS *Colleton* (APB-36) had limited facilities and casualties from the force were therefore generally evacuated to the Army's Third Mobile Surgical Hospital at Dong Tam.

#### *Off-Shore Medical Support*

Off-shore medical facilities consisting of two hospital ships, the *Repose* and *Sanctuary*, and surgical casualty evacuation teams on LPHs were established to provide medical support during amphibious assaults and to back up land based medical elements.

*USS Repose (AH-16).* After eight months of extensive preparation, fitting out, and refresher training, the *Repose* arrived off the coast near Chu Lai on 16 February 1966. Her arrival marked the beginning of a major increase in medical facilities in the I Corps Tactical Zone (ICTZ). The hospital spaces were equipped with the most modern medical facilities available, including 560 hospital beds, which could be increased to 750 beds. This was accomplished by setting up or increasing the number of beds in wards or rooms designed for patients' beds. It represented the ultimate in casualty care. The hospital staff numbered more than 300 including 25 medical officers in all specialties, 7 medical service officers, 3 dentists, 29 nurses, 8 dental technicians, and more than 200 hospital corpsmen in all technical specialties.

Under the Seventh Fleet Command, *Repose* is responsible for providing direct hospital support to operating forces, including both emergency and definitive hospital care. Primarily service is rendered to Navy and Marine personnel in the ICTZ, and to forces engaged in amphibious operations in other tactical zones. Movements of both *Repose* and *Sanctuary* are coordinated with the Seventh Fleet by III MAF.

The ships are stationed near sites of heaviest action. Virtually all casualties are received aboard by helicopter. The *Repose* seldom leaves the combat zone and spends approximately eighty days of the quarter on the line. Ever increasing demands for medical services made it difficult to gain relief for even brief upkeep periods. During December 1967, admissions and medical treatments continued to reach new highs as evidenced by reaching the five-thousandth helicopter landing that month. This was followed by the six-thousandth land-

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ing 30 April 1968, and the seven-thousandth landing 22 June 1968. She marked the ten-thousandth safe helicopter landing in January 1969.

On 29 July 1967, the *Repose* was called upon to give emergency assistance to the USS *Forrestal* (CVA-59) which had suffered a major fire while on Yankee Station in the Gulf of Tonkin. It was later determined that 134 men had been killed and 162 were injured by the explosions and fire. The response of the *Repose* was immediate as she set course to meet the *Forrestal*. The two ships met at their rendezvous at 2230, 29 July 1967. By 0500 the next morning, 25 critically and seriously injured had been flown to the *Repose* and assistance was given in disposing of the remains of those killed in the fire. This emergency demonstrated the versatility of hospital ships. While the *Repose* was absent from line medical service support responsibility, the *Sanctuary* took over her duties.

By December 1968, nearly 17,000 casualties had been admitted to the *Repose*. Approximately 7,000 of those were hospitalized for treatment of wounds, and the remainder for treatment of disease and other injuries.

*USS Sanctuary (AH-17)*. Demands for more beds continued along with a troop buildup in ICTZ and in March 1966, only a week after the *Repose* anchored off Chu Lai, the USS *Sanctuary* was pulled from the Reserve Fleet to be overhauled and outfitted. Much was learned from the fitting out and the early days of the deployment of the *Repose*. These lessons were applied during the recommissioning of the *Sanctuary*, insuring improved use of hospital spaces. After installing the latest innovations for treating the sick, injured, and wounded, she arrived in Da Nang Harbor 10 April 1967. Her mission, like that of the *Repose*, was to provide direct hospital support to forces fighting in Vietnam. Her hospital staff (approximately 317) and bed capacity of 560 beds, essentially the same as the *Repose*, were employed immediately off the coast to support our forces in I Corps. For the remainder of 1967, more than 4,000 patients were admitted to the *Sanctuary* and an average of 389 beds were occupied daily. As military activities increased in 1968, the *Sanctuary* experienced a comparable increase in her workload, while casualties sustained more devastating wounds. These wounds were a result of the increased tempo of operations in areas long occupied by enemy forces; use of more sophisticated weaponry by hostile forces such as plastic explosives, land mines, and booby traps. Admissions totaled 6,799 during 1968, including 2,360 patients hospitalized for treatment of wounds.

*When the Marine, below, was wounded in the wooded hills south of the DMZ in September 1968, the rescue helicopter was unable to land, so the wounded man was lifted to safety by a hoist designed for just such occasions. Helping others can be exhausting, as shown by Lieutenant Alvina Harrison, Nurse Corps, U. S. Navy, after a hard day in surgery at a civilian hospital in Saigon in 1966, and by Hospital Corpsman Leslie G. Osterman, caring for a heat-exhausted Marine while on patrol in I Corps, in 1968. The final photograph shows surgeons at work in the *Repose* in April 1966.*



OFFICIAL PHOTOGRAPH BY SSGT. D. L. SHEARER, U. S. MARINE CORPS





OFFICIAL PHOTOGRAPH BY FRANK T. PEAK, PH3, U. S. NAVY



OFFICIAL PHOTOGRAPH BY T. B. DAVIS, PH3, U. S. NAVY



OFFICIAL PHOTOGRAPH BY J. E. COTÉ, PH1, U. S. NAVY

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On 11 January 1969, the *Sanctuary* was ordered south to Cape Batangan to participate in Operation Bold Mariner, one of the largest amphibious operations of the Vietnam conflict. More than 120 casualties were received by the *Sanctuary* during this operation including nine double and five single amputees, and one triple amputee. The *Sanctuary* subsequently reported that wounds encountered during this operation were unlike those previously treated and that land mines and other explosive devices had inflicted massive soft tissue defects of the extremities, buttocks, and abdomen, loss of limb and eye injuries from multiple fragments, and that it was not unusual to have three teams of surgeons working on a single casualty simultaneously. Shortly after supporting this operation, the *Sanctuary* entered the yard at Subic Bay after a record 116 consecutive days on the line. Generally both AHs are on line 85 days a quarter with a 5-day yard period for maintenance and upkeep. A combatant spends approximately 60 days a quarter on line.

*Medical Support of Amphibious Ready Group/Special Landing Forces.* As tactics dictate, amphibious assaults are mounted from special landing forces afloat. These amphibious groups are composed of several ships which include LPH class vessels. The supporting LPHs have an expanded medical capability and are augmented with a modified surgical team, casualty evacuation team, and a surgical team supply block. The additional teams, which generally remain on board the LPHs, consist of four medical officers, two male nurses, and twenty hospital corpsmen on each LPH and are capable of providing initial care for casualties sustained during an assault operation. For instance, in an operation in January 1969, 172 casualties were received aboard an LPH, 94 of which were treated for combat wounds. Depending on the area of assault operation, further evacuation of casualties may be made to either Navy or Army medical facilities.

### Observations

*Personnel.* More than 13 per cent of the Medical Department is serving in Southeast Asia. Approximately 14 per cent of all Navy personnel in Vietnam are medical. There was an overall increase of 30 per cent in total Navy medical personnel strength during the Fiscal Years 1965-1969, while Navy-Marine strength increased by approximately 25 per cent. This major medical support of troops in Vietnam has not been without sacrifice in other areas. Because of austere peacetime staffing, a reduction in the U. S. facilities was necessary to insure that deploying units were fully staffed. While the staff of the Medical Department increased from approximately 36,000 to slightly more than 47,000 during the

Fiscal Years 1965-1969 in support of a combined Navy-Marine strength of 1,094,000, manpower resources continue to be strained because of a 54 per cent overall increase in the daily average number of patients (from 11,000 to nearly 17,000) occupying hospital beds.

*Hospital Ships.* Upon deployment, the USS *Repose* (AH-16) and USS *Sanctuary* (AH-17) both were staffed with highly specialized personnel and equipped with the most modern medical equipment including special items such as an artificial heart enabling surgeons to bypass part or all of the heart; an artificial kidney; a recompression chamber for treatment of anaerobic infections (gas gangrene, tetanus, and the like), and ultrasonic diagnostic equipment for detecting foreign bodies in the brain. On the other hand, both the *Repose* and *Sanctuary* were converted to AHs during World War II and their effectiveness is limited by obsolete hull configuration. Neither ship had a triage area until deployment to Vietnam. The last ship to be planned and constructed from the keel up as a hospital ship was the *Relief* (AH-1) in 1916. Again, the operating room space is not sufficient to meet heavy casualty requirements, the existing triage area for initial resuscitation of wounded is inadequate, and the helicopter platform limits the number of casualties that can be received simultaneously. This also represents a hazard because the larger, heavier helicopters now in service must land and be launched from a platform not adequate to their needs.

Yet there is no question that a hospital ship provides a vital mobile medical capability to the operating forces. Unfortunately, existing hospital ships were conceived for wars past, and experience has shown that placing such ships in the reserve fleet does not ensure ready availability of modern facilities. The ships operate differently today than either in Korea or World War II. More casualties bypass medical facilities ashore, which more often than not have limited capabilities, and casualties are flown directly to the hospital ships. This improved forward looking management concept; larger helicopters; increased frequency of medical evacuation flights requiring larger and stronger landing platforms; expanded triage area for initial resuscitation of the wounded; a radiology area adjacent to triage; and increased operating room space; all require new design. This is not a question of reconfiguration or arrangement but rather one of obsolescence, and the obvious need is to provide replacement vessels developed and designed as hospital ships.

*Facilities.* For several years prior to the Vietnam commitment, the Navy Medical Department repeatedly recommended development of new advanced base functional components, particularly the use of more modern

structures for medical facilities. Though in-house studies had been done on this project, they had not reached a point where radical improvements could be made prior to the necessity of locating these facilities in support of Vietnam operations. Consequently, the field medical facilities deployed to Vietnam by the Navy and the various Marine elements were of the same general configuration as those used in World War II, and later in Korea. On the other hand, the Army introduced the "medical unit self-contained transportable" (MUST), a building unit which provides a modern controlled environment and ancillary facilities necessary for patient care. The Air Force later introduced modular components both for fixed and mobile medical installations. Components of two MUST units were subsequently bought by the Navy and are currently being tested in the field by the First Hospital Company at Da Nang and the Third Medical Battalion at Quang Tri. Both the Army and Air Force components, which can be set up quickly and which provide for a comfortable, air conditioned, clean environment for patient care, are a great improvement over tents and quonset huts used by the navy and Marines in Vietnam. They are symbolic of progress made by other Services in providing improved facilities for treating casualties. Space requirements have repeatedly been documented by the Navy Medical Department. A civilian architectural and engineering firm is conducting on-site studies in Vietnam before redesigning medical and dental advanced base components. In the meantime, existing Navy medical facilities in Vietnam continue to be housed in obsolete structures because of the low priorities previously given this program.

*Air Ambulances.* Helicopter evacuation which began in Korea and is used extensively in Vietnam for movement of casualties has revolutionized combat medicine with the ability to pick up the wounded within minutes of injury. There is little question that this saves lives and often it is the only mode of transportation possible. The Army has a superb single mission ambulance helo medical evacuation system with assigned medical crew members. On the other hand, neither the Navy nor the Marine Corps has air ambulances designed for movement of patients between combat medical support units to more sophisticated medical facilities in the rear. Though there is no significant statistical difference between the Marine /Navy mortality rate and that of other Services, studies show that the present system using operational aircraft for movement of Navy/Marine casualties takes longer, is inefficient, and they often arrive without necessary equipment to move casualties. They frequently do not have medical personnel aboard. While the Marine Corps has flown more than 127,000 medical

evacuation missions in Vietnam during the years 1966-1969, and has saved countless lives, the system as it currently exists cannot be favorably compared with the Army's. Perhaps if the Navy were to adopt a modified version of the Army's evacuation system, and designate specific Navy helicopters as air ambulances, this would represent an optimal step forward.

*Casualty Recovery Rate and Causative Agents.* The type of the military action being waged in Vietnam contributes to devastating wounds, and multiple wounds of a massive nature are not uncommon. The type of encounter is generally reflected by the nature of wounds seen at medical service facilities. Offensive deployment usually generates a high proportion of small arms and artillery wounds. On the other hand, multiple fragmentation wounds caused by mines, booby traps, and grenades are associated with search and destroy missions. Thus far, 65 per cent of the nonfatal injuries have occurred from fragments and represent some of the most serious wounds, requiring prolonged hospitalization. Conversely more than 41 per cent of combat deaths have been due to small arms fire, a much higher rate than experienced in either World War II or Korea.

Since January 1965, more than 120,000 Navy and Marine Corps patients have been admitted to hospitals in Vietnam and supporting offshore medical facilities. The largest number of admissions during the period of 1965-1968 occurred in 1968 when the Navy and Marine Corps sustained more than 31,000 combat casualties, sixty per cent of which required hospitalization.

### *Summary*

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In summary, the missions of Navy and Marine Corps forces deployed in Southeast Asia are diverse and include large Marine combat units in the most northern sector of South Vietnam; small naval units engaged in riverine operations in the South and surveillance operations along the coast; and Marine and naval units involved in aerial and surface bombardment of targets in both North and South Vietnam. This diversity of missions dictates different requirements for medical support at various locations within the I, II, III, and IV Corps tactical zones. The Navy was the first of the services to provide a major inpatient and outpatient capability in the southern sector of South Vietnam, and approximately six thousand Medical Department servicemen, including more than one hundred assigned to give medical assistance to the Vietnamese under the AID Program, were eventually committed in direct support of forces involved in the conflict. With reorganization and a shift in tactical requirements employing a large Navy and Marine force in I Corps, most Navy

medical forces were redeployed from the southern sector and concentrated in I Corps area. Included are major medical units organic to III Marine Amphibious Force, a 600 bed hospital at Da Nang, and the hospital ships *Repose* and *Sanctuary*, each of which have 560 beds. Navy medical support to land based riverine and coastal surveillance forces is limited to dispensaries, and any required hospital support other than in I Corps area is generally provided by the Army. Additional medical

teams on LPHs provide support for amphibious assaults, and depending on the area of operations, casualties may be evacuated to either Navy or Army medical facilities. Of those requiring hospitalization (approximately 120,000), 87 per cent were returned to duty, seven per cent required separation because of residual disability, and five per cent remain under treatment. The mortality of those admitted to the hospital has been, less than one per cent.

*Lt. Col. M. J. Plunk*



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MajGen Harold W. Chase, USMC. Review of *War of Ideas: The U.S. Propaganda Campaign in Vietnam*, by Robert W. Chandler, *Marine Corps Gazette*, Jan82, pp. 68-69.

Gen Chase was the III MAF psychological operations officer in 1968-69 and discusses the inept use by the military of psychological operations, noting that "the propaganda of words cannot for very long be effective if they are not supported by deeds . . . ."

Capt D. R. Christensen, USMC. "A Special Gazette Report: Vietnam," *Marine Corps Gazette*, Sep63, p. 5.

A one-page article on the Vietnamese Marine Brigade's counterinsurgency operations. Stresses the importance of civil affairs in the counter-guerrilla environment.

Capt George R. Christmas, USMC. "A Company Commander Reflects on Operation Hue City," *Marine Corps Gazette*, Apr71, pp. 34-39.

(Reprinted in this anthology.)

Maj Ron Christmas, USMC. "A Company Commander Remembers the Battle for Hue," *Marine Corps Gazette*, Feb77, pp. 19-26.

Company commander's perspective on battle for Hue.

Maj H. A. Christy, USMC. "Complacency, the Enemy Within," *Marine Corps Gazette*, Nov67, pp. 25-26.

Maj Christy points out that complacency and overconfidence were two of the biggest killers in Vietnam.

LtCol Archie J. Clapp, USMC. "Shu-Fly Diary," *U.S. Naval Institute Proceedings*, Oct63, pp. 42-53. (Reprinted in this anthology.)

Maj Edward J. Clarkson, USMC. "An Unknown Warrior," *Marine Corps Gazette*, Aug70, pp. 38-43.

A discussion of the Chieu Hoi (VC/North Vietnamese ralliers) program in Vietnam which led to the use of these ralliers as "Kit Carson Scouts" by the Marines.

LtCol David Clement, USMC. "Le My, Study in Counterinsurgency," *Marine Corps Gazette*, Jul67, pp. 18-24.

An article about the Marines' highly successful pacification effort in the village of Le My in 1965.

Capt Leon Cohan, Jr., USMC. "Intelligence and Vietnam," *Marine Corps Gazette*, Feb66, pp. 47-49.

The author feels that the Marines' intelligence training has been neglected.

Maj D. A. Colby, USMC, and Maj D. N. Bittner, USMC. "Recon Artillery," *Marine Corps Gazette*, Jan67, pp. 49-51.

The two authors discuss means of employing artillery in support of reconnaissance teams.

Cdr Frank C. Collins, Jr., USN. "Maritime Support of the Campaign in I Corps," *Naval Review* 1971. Annapolis: U.S. Naval Institute, 1971, pp. 156-179.\*

(Reprinted in this anthology.)

\*Although after 1968, the *Naval Review* became the May issue of the *U.S. Naval Institute Proceedings*, it will be treated in this bibliography as an annual for purposes of continuity.

Maj George E. Constantino, USMC. "Have Confidence in HSS," *Marine Corps Gazette*, Sep69, pp. 47-48.

The author describes the role of the shore party personnel in the Logistic Support Area (LSA).

Capt William V. Cowan, USMC. "Killer Forest," *Marine Corps Gazette*, Aug70, pp. 31-34.

A Marine advisor's recollections of working with South Vietnamese forces in the Rung Sat Special Zone, 30 miles south of Saigon during 1969-1970.

Capt William V. Cowan, USMC. "Kit Carson Scouts," *Marine Corps Gazette*, Oct69, pp. 30-32.

The article describes the use of former VC and North Vietnamese operating with Marine units in Vietnam.

Maj Alfred J. Croft, USMC. "Date-Line . . . Vietnam," *Marine Corps Gazette*, Oct63, p. 18.

A U.S. Marine advisor's account of a Vietnamese Marine heliborne assault operation conducted in Quang Ngai Province in 1963.

Col Victor J. Croizat, USMC. "Vietnam in Review," *Marine Corps Gazette*, Jan58, pp. 53-58.

Basically a political discussion of post-Geneva South Vietnam by the first U.S. Marine advisor to South Vietnam's Armed Forces.

Col Victor J. Croizat, USMC (Ret). "Vietnamese Naval Forces: Origin of the Species," *U.S. Naval Institute Proceedings*, Feb73, pp. 48-58.

(Reprinted in this anthology.)

Col Victor J. Croizat, USMC (Ret). "Origin of the Vietnamese Marines," *Marine Corps Gazette*, Dec70, p. 14.

The author gives a one-page summary of the origins of the Vietnamese Marine Corps. For a more detailed account see the same author's article reprinted in this anthology.

Col Marion C. Dalby, USMC. "Combat Hotline," *Marine Corps Gazette*, Apr69, pp. 27-30.

A study of the employment of helicopters in support of the 3d Marine Division's Task Force Delta's operations in 1968.

Col Marion C. Dalby, USMC. "Task Force Hotel's Inland Beachheads," *Marine Corps Gazette*, Jan69, pp. 35-38.

A discussion of the 3d Marine Division's operations in Quang Tri Province in 1968, whereby

Marines adapted amphibious techniques for helicopter operations.

1stLt Crane Davis, USMC. "Bridge at Cam Le," *Marine Corps Gazette*, Feb70, pp. 33-38.

On 23Aug68, the 38th NVA Regiment attacked the Cam Le Bridge in a drive towards Da Nang. The 27th Marines held and then counterattacked, defeating the enemy force.

1stLt Gordon M. Davis, USMC. "Dewey Canyon: All Weather Classic" *Marine Corps Gazette*, Jul69, pp. 32-40.

(Reprinted in this anthology.)

MajGen Raymond G. Davis, USMC, and 1stLt Sheridan W. Bell III, USMC. "Combined Operations with ARVN," *Marine Corps Gazette*, Oct69, pp. 18-29.

A detailed discussion of combined operations between the 3d Marine Division and South Vietnamese forces in Quang Tri Province in 1968.

MajGen Raymond G. Davis, USMC, and 1stLt Harold W. Brazier II, USMC. "Defeat of the 320th," *Marine Corps Gazette*, Mar69, pp. 22-30.

(Reprinted in this anthology.)

MajGen Raymond G. Davis, USMC, and Capt R. O. Camp, USMC. "Marines in Assault by Helicopter," *Marine Corps Gazette*, Sep68, pp. 22-28.

The authors use an RLT operation in Vietnam as a backdrop to illustrate a composite of assault techniques.

MajGen Raymond G. Davis, USMC, and 1stLt James L. Jones, Jr., USMC. "Employing the Recon Patrol," *Marine Corps Gazette*, May69, pp. 41-45.

A study of Sting Ray and Key Hole operations by 3d Marine Division reconnaissance elements.

Col Bryce F. Denno, USA. "Viet Cong Defeat at Phuoc Chau," *Marine Corps Gazette*, Mar65, pp. 34-40.

The former senior U.S. advisor to I Corps recounts a 1962 battle for a small semi-isolated government outpost in northern South Vietnam. Includes a brief analysis of the tactics employed by both the government and the Communist forces involved in the battle.

Editors. "The War in Vietnam: Cam Ne (4)," *Marine Corps Gazette*, Oct65, pp. 28-30.

An explanation of Marine actions in respect to the burning of Cam Ne, a village south of Da Nang, which took place in Aug65 and received widespread publicity in the United States. The editorial article is based upon a report by LtCol Verle E. Ludwig, the officer who commanded the 1st Battalion, 9th Marines, at the time the incident occurred.

Editors. "The War in Vietnam: Civic Action," *Marine Corps Gazette*, Oct65, pp. 30-32.

A brief pictorial account of the Marine Corps Civic Action program as it was being instituted in Vietnam during the summer and fall of 1965.

RAdm B. Eiseman, USNR. "The Next War: A Prescription," *U.S. Naval Institute Proceedings*, Jan75, pp. 32-40.

A discussion of naval wartime medical support with references to the Vietnam War.

1stLt Ord Elliot, USMC. "Why We Are in Vietnam," *Marine Corps Gazette*, Oct68, pp. 47-51.

1stLt Elliot offers a review of U.S. foreign policy that led to the involvement in Vietnam.

LtCol R. H. Esau, Jr., USMC. "Da Nang After the Armistice," *Marine Corps Gazette*, Jul74, pp. 49-50.

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LtCol D. L. Evans, USMC. "USMC Civil Affairs in Vietnam, a Philosophical History," *Marine Corps Gazette*, Mar68, pp. 40-45.

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Maj David P. Evans, USMC. "A Foreign Troop . . .," *U.S. Naval Institute Proceedings*, Jun80, pp. 32-37.

The author compares the U.S. experience in Vietnam with the British military effort during the Revolutionary War.

Capt Fred T. Fagan, USMC. "Company Commander's Notebook," *Marine Corps Gazette*, Dec70, pp. 34-38.

A detailed account of the combat techniques of Company K, 3d Battalion, 7th Marines in 1968.

Bernard B. Fall. "Street Without Joy," excerpts from

the author's book by the same title, *Marine Corps Gazette*, Jan62, pp. 34-42.

An analysis of a French amphibious operation on the Vietnamese coast north of Hue.

LtCol Gilbert W. Ferguson, USMC. "Guns at Da Nang," *Marine Corps Gazette*, Feb66, pp. 27-31.

The author discusses some of the early problems the artillery faced when it first arrived at Da Nang in the spring of 1965.

Maj Raymond F. Findlay, Jr., USMC. "Behind the Hedgerow," *Marine Corps Gazette*, Apr69, pp. 22-26.

A study in the employment of the ambush.

Col George C. Fox, USMC. "Recollections of Combat, Esprit de Corps," *Marine Corps Gazette*, Jun84, pp. 28-29.

The commanding officer of 2d Battalion, 9th Marines recalls the ambush of NVA forces in Laos during Operation Dewey Canyon in Feb69.

LCdr Clark M. Gammell, USN. "Naval and Maritime Events, 1 July 1966 - 30 June 1967," *Naval Review 1968*. Annapolis: U.S. Naval Institute, 1968, pp. 239-272.

This chronology includes Marine Corps operations in Vietnam.

Vo Nguyen Giap. "Vo Nguyen Giap on Guerrilla War," *Marine Corps Gazette*, Apr-Jul62.

Four parts of a book condensation which deals with basic North Vietnamese guerrilla doctrines and strategies as articulated by Giap.

Capt John E. Greenbacker, USN (Ret). "The Lesson of Vietnam," *U.S. Naval Institute Proceedings*, Jul73, pp. 18-25.

The author argues that Vietnam "was not clearly susceptible to decisive influence and control through the exercise of U.S. maritime capabilities."

Maj Wallace M. Greene III, USMC. "Countermeasures against Mines and Boobytraps," *Marine Corps Gazette*, Dec69, pp. 31-37.

A discussion of mines and boobytraps employed by the enemy in Vietnam and techniques to combat these weapons.

LtCol Samuel L. Grier, USMC. "Black Pajama In-

telligence," *Marine Corps Gazette*, Apr67, pp. 36-40.

A short article on the Viet Cong intelligence network.

LtCol Samuel L. Grier, USMC. "Silent Victory," *Marine Corps Gazette*, Sep67, pp. 40-41.

The author predicts that when the shooting stops the war will continue by other means since the Communists will not admit defeat.

George Haering. "How Tactical Air Works," *U.S. Naval Institute Proceedings*, Nov82, pp. 61-65.

An account of how tactical air had been employed in three wars with an emphasis on Vietnam.

LtCol J. W. Hammond, Jr., USMC. "Combat Journal," Part 1, *Marine Corps Gazette*, Jul68, pp. 20-29.

LtCol Hammond recounts the heavy fighting that the 2d Battalion, 4th Marines encountered around Con Thien during the period Aug-Sep67.

LtCol J. W. Hammond, Jr., USMC. "Combat Journal," Conclusion, *Marine Corps Gazette*, Aug68, pp. 46-51.

This second part of LtCol Hammond's two-part article covers 2d Battalion, 4th Marines' operations during the latter part of Oct67.

Col James W. Hammond, Jr., USMC. "Operation New Arrival," *Marine Corps Gazette*, Aug75, pp. 20-32.

An in-depth discussion of the problems involved in the handling and processing of the South Vietnamese refugees at Camp Pendleton, California.

Cdr Daniel G. Hartley, USNR. "Keeping Faith With Our People," *U.S. Naval Institute Proceedings*, Feb83, pp. 58-63.

The author compares air-rescue attempts by the Navy as compared with the Air Force and declares that the Navy effort was ineffective.

LtCol Peter L. Hilgartner, USMC. "Amphibious Doctrine in Vietnam," *Marine Corps Gazette*, Jan69, pp. 28-31.

(Reprinted in this anthology.)

CPO Martin Hill, USNR. Comments on "Wanted:

A Free Press; Wanted: A Professional Press; Wanted: A Responsible Free Press," *U.S. Naval Institute Proceedings*, Dec84, pp. 113-117.

Comments by a professional journalist on the relationship between the military and the press with special reference to the Vietnam War.

Maj William C. Holmberg, USMC. "Civic Action," *Marine Corps Gazette*, Jun66, pp. 20-28.

An interesting article on the Marines' early involvement in civic action in Vietnam.

Capt Wayne P. Hughes, Jr., USN. "Vietnam: Winnable War?," *U.S. Naval Institute Proceedings*, Jul77, pp. 60-65.

Author advances thesis that the way the U.S. fought the Vietnam War almost assured defeat.

Capt K. P. Huff, USNR. "Building the Advanced Base at Da Nang," *Naval Review 1968*. Annapolis: U.S. Naval Institute, 1968, pp. 89-113.

Discussion of U.S. Navy logistical support of III MAF 1965-66. Detailed discussion of initial III MAF efforts which expanded to the establishment of the Naval Support Activity, Da Nang.

LCdr K. C. Jacobsen, USN. "Television and the War: The Small Picture," *U.S. Naval Institute Proceedings*, Mar75, pp. 55-59.

A discussion of the limitations of television to depict the larger aspects of the Vietnam War.

VAdm A. E. Jarrell, USN (Ret). Comments on "The Lessons of Vietnam," *U.S. Naval Institute Proceedings*, Jan74, pp. 73-74.

Provides his own "lesson," stating that it is a fallacy to wage no-wins wars, citing an amphibious invasion of North Vietnam as a viable tactic that was never exercised.

SgtMaj Jack W. Jaunal, USMC. "One Large Success in a Lost War," *Marine Corps Gazette*, Nov78, pp. 72-73.

Describes Operation Meade River in Quang Nam Province, Nov-Dec68.

1stLt Kevin E. Johns, USMC. "The War Powers Resolution: Congress vs. the Commander in Chief," *U.S. Naval Institute Proceedings*, Dec80, pp. 41-46.

The author discusses the War Powers Act in the context of its usage in the Da Nang and

Saigon evacuations plus other national crises including the rescue of the S.S. *Mayaguez*.

Col J. M. Johnson, Jr., USMC; LtCol R. W. Austin, USMC; and Maj D. A. Quinlan, USMC. "Individual Heroism Overcame Awkward Command Relationships, Confusion and Bad Information Off the Cambodian Coast," *Marine Corps Gazette*, Oct77, pp. 24-34.

Graphic description of the complex and sometimes confused operation to rescue the S.S. *Mayaguez* and its crew in May75.

Col William G. Johnson, USMC. "Helicopter COC," *Marine Corps Gazette*, Jul67, pp. 25-28.

The author explains the need for forward helicopter combat operations centers in Vietnam.

Col William G. Johnson, USMC. "Three Fasts and a Slow," *Marine Corps Gazette*, Jun67, pp. 31-35.

This article discusses operations in Vietnam against both guerrillas and organized forces, including both VC units and NVA forces. It outlines some of the requirements involved in operations against the enemy in Vietnam.

Maj Richard S. Kaye, USMC. "A Direction for Division Recon," *Marine Corps Gazette*, Apr70, pp. 34-36.

A study of techniques for employing the division reconnaissance battalion.

Capt Allan K. Kernins, USMC. "Inflight Refuel," *Marine Corps Gazette*, Jul72, pp. 44.

An account of VMGR-152's Da Nang-based KC 130 "Hercules" aircraft operations in Vietnam.

James J. Kilpatrick. "Etched Upon the Sky," *Marine Corps Gazette*, Nov82, p. 88.

An appreciation of the Vietnam War memorial.

Maj Blain D. King, USMC. "Force Comm In Vietnam," *Marine Corps Gazette*, Feb73, pp. 35-38.

The author describes the communication network of III MAF in 1968-69.

LtCol Richard V. Kriegel, USMCR. "Revolutionary Development," *Marine Corps Gazette*, Mar67, pp. 34-43.

The author describes the development of the

- Revolutionary Development program, its techniques, and its goals. He believes that the program may be South Vietnam's best chance for victory.
- LtCol Richard V. Kriegel, USMCR. "Vietnamese Attitudes and Behavior," *Marine Corps Gazette*, Jun74, pp. 25-31.  
A study of the Vietnamese people, their feelings, and loyalties.
- LtGen V. H. Krulak, USMC (Ret). "Strategic Limits of Proxy War," *Marine Corps Gazette*, Jun74, pp. 18-22.  
A discussion of what the author considered the basic U.S. errors in tactics, strategy, and political measures in fighting the Vietnam War. Writing before the fall of South Vietnam Gen Krulak called the Vietnam War a "limited victory." Gen Krulak was CG, Fleet Marine Force, Pacific, from 1964-68 and administratively and logistically responsible for all Marines in the Pacific during this period.
- LtGen Victor H. Krulak, USMC (Ret). "A Conflict of Strategies," *U.S. Naval Institute Proceedings*, Nov84, pp. 84-90.  
A verbatim copy of a chapter from his new book, *First to Fight*. This chapter focuses on the differences between the Marines and Gen Westmoreland about the way the war in Vietnam should have been fought.
- RAdm Julian S. Lake, USN, and LCdr Richard V. Hartman, USN. "Air Electronic Warfare," *U.S. Naval Institute Proceedings*, Oct76, pp. 42-49.  
The author compare the use of missiles and electronic countermeasures during the Vietnam and Yom Kippur Wars.
- Maj J. R. Laws, USMC. "One Response to Personal Response," *Marine Corps Gazette*, Mar68, pp. 26-28.  
The article points out that before the Personal Response program can work, Marine officers and senior NCOs must learn all they can about the country and the people.
- Maj William G. Leftwich, Jr., USMC. "Decision at Duc Co," *Marine Corps Gazette*, Feb67, pp. 34-38.  
An excellent account of the Vietnamese Marines' victory over NVA regulars at Duc Co in Aug65.
- LtCol William G. Leftwich, Jr., USMC. ". . . and a few Marines," *U.S. Naval Institute Proceedings*, Aug68, pp. 34-45.  
LtCol Leftwich reviews the early advisory effort in South Vietnam and outlines the qualities and capabilities that are required in an advisor.
- LtCol W. G. Leftwich, Jr., USMC. "Management by Suggestion," *Marine Corps Gazette*, Nov68, pp. 24-25.  
LtCol Leftwich discusses the management problems that U.S. advisors encountered while serving in Vietnam.
- LtCol William G. Leftwich, Jr., USMC. "An Afternoon with Bernard Fall," *Marine Corps Gazette*, Feb69, pp. 25-27.  
The author's personal interview with noted writer Bernard Fall concerning the Vietnam War.
- Col William F. Long, USA (Ret). "Counterinsurgency: Corrupting Concept," *U.S. Naval Institute Proceedings*, Apr79, pp. 56-64.  
Traces U.S. involvement in Vietnam to an unrealistic faith in efficacy of counterinsurgency theory.
- Capt John E. Liebmann, USCG. Comments on "Cutters and Sampans," by D. L. Noble, *U.S. Naval Institute Proceedings*, Sep84, pp. 152-153.  
Capt Liebmann discusses an Air Force accidental bombing of the Coast Guard Cutter *Port Welcome* near Cua Viet in 1966, and difficulties in coordination with the Air Force.
- LtCol Verle E. Ludwig, USMC. "Bus to Tra Khe," *Marine Corps Gazette*, Oct66, pp. 32-36.  
An account of III MAF's first Golden Fleece (rice protection) operation.
- Capt R. E. Luehrs, USN. "Marine Medical Evacuation," *Marine Corps Gazette*, May69, pp. 56-57.  
Describes the Marine medical evacuation system in Vietnam.
- Capt Herbert G. Lyles, USMC. "Civic Action Progress Report," *Marine Corps Gazette*, Sep69, pp. 52.  
A report on III MAF's use of USMCR Civic Action Fund.
- RAdm Brian McCauley, USN. "Operation End

Sweep," *U.S. Naval Institute Proceedings*, Mar74, pp. 18-25.

An operational review of the mine removal effort in North Vietnamese waters in 1973 with only minimal mention of Marine Corps participants.

Capt R. B. MacKenzie, USMC. "Intelligence Starts at the Top," *Marine Corps Gazette*, Jul73, pp. 40-44.

Discussion of intelligence exploitation teams, using as an example the intelligence gathered after the enemy sapper attack on Fire Support Base Russell in Feb69.

Maj Bruce M. MacLaren, USMC. "Reconnaissance by Tankers," *Marine Corps Gazette*, Mar69, pp. 16-17.

Describes the employment of tanks in northern I Corps Tactical Zone in 1968.

Maj Bruce M. MacLaren, USMC. "Tank Tactics for Unit Leaders," *Marine Corps Gazette*, Jul69, pp. 41-44.

A discussion of the employment of tanks in Vietnam.

Cdr F. O. McClendon, Jr., MSC, USN. "Doctors and Dentists, Nurses and Corpsmen in Vietnam," *Naval Review* 1970. Annapolis: U.S. Naval Institute, 1970, pp. 277-289.

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MajGen Keith B. McCutcheon, USMC. "Air Support for III MAF," *Marine Corps Gazette*, Aug67, pp. 19-23.

Summarizes the many and diversified tasks being performed by the 1st Marine Aircraft Wing in South Vietnam.

LtGen Keith B. McCutcheon, USMC. "Marine Aviation in Vietnam, 1962-1970," *Naval Review* 1971. Annapolis: U.S. Naval Institute, 1971, pp. 122-155.

(Reprinted in this anthology.)

LtCol R. E. Mack, USA. "Minbotrap," *Marine Corps Gazette*, Jul67, pp. 39-42.

Covers the unorthodox employment of mines and booby traps by the Viet Cong.

Col J. F. McQuillen, USMC. "Indochina," *Marine Corps Gazette*, Dec54, pp. 14-21.

Part one of a geographical, political, and military summary of the French-Indochina

War. Part one deals primarily with the origins of French influence in the region.

Col J. F. McQuillen, USMC. "Indochina," *Marine Corps Gazette*, Jan55, pp. 48-62.

Part two of the previously cited article. The author concerns himself primarily with the French-Indochina War in this part. Abundantly illustrated with combat photographs.

Maj William T. Macy, USMC. "Telling It Like It Really Is," *Marine Corps Gazette*, Jan70, pp. 47-48.

A discussion of Viet Cong and NVA ralliers (Hoi Chanhs) in I Corps.

LtCol Paul A. Manning, USMC. "VMCJ," *Marine Corps Gazette*, Oct72, pp. 40-43.

A history of Marine Composite Reconnaissance Squadrons' operations with emphasis on VMCJ-1 in Vietnam Aug64-May71.

James D. Mason, "VC Trail," *Marine Corps Gazette*, Apr69, pp. 38-41.

Discussion of booby traps employed by Viet Cong.

Col Bruce J. Matheson, USMC. "Airframes versus Boatspaces," *Marine Corps Gazette*, Oct69, pp. 46-47.

Discusses the USMC ground-air officer debate on employment of helicopters in Vietnam.

Capt Charles J. Merdinger, CEC, USN. "Civil Engineers, Seabees, and Bases in Vietnam," *Naval Review* 1970. Annapolis: U.S. Naval Institute, 1970, pp. 224-275.

A major portion deals with the Naval Construction Regiment's efforts in support of III MAF operations in ICTZ during 1965-1969.

Gen Vernon E. Megee, USMC (Ret). "The Genesis of Air Support in Guerrilla Operations," *U.S. Naval Institute Proceedings*, Jun65, pp. 48-59.

An account of the origins of Marine air support as practiced against guerrillas in Nicaragua between 1927-32. Mentions connections to air operations in Vietnam War only in passing. Does not draw parallels.

Cdr J. A. Messegee, USN; Cdr Robert A. Preston, USN; Cdr J. Michael Rodgers, USN; Maj J. B. Hen-



dricks, USMC; and Capt Walter J. Wood, USMC. "Mayday for *Mayaguez*," *U.S. Naval Institute Proceedings*, Nov76, pp. 93-111.

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LCdr Lawrence P. Metcalf, USN. "Corpsman: Numbah-wun Bac-si!," *Marine Corps Gazette*, Jul70, pp. 12-13.

Discussion of the duties of a corpsman with the Combined Action Program.

Col Bruce F. Meyers, USMC. "Jungle Canopy Operations," *Marine Corps Gazette*, Jul69, pp. 20-26.

A description of 26th Marines' operations in "Happy Valley," 30 miles to the west of Da Nang, and the engagement with elements of the 2d NVA Division in Operation Mameluke Thrust in May-Jul68.

LtCol Stanley J. Michael, Jr., USMC. "Vietnam: Failure to Follow the Principles of War," *Marine Corps Gazette*, Aug77, pp. 56-62.

The author examines why U.S. policy in Vietnam failed although its Armed Forces were not defeated militarily. His answer is that the U.S. military deviated from the principles of war.

Maj Philip C. Mikkelson, USMC. "Fingerprint Pilots Challenged," *Marine Corps Gazette*, Nov69, pp. 78-80.

Discussion of Aerial Observer-Tactical Air Controller (Airborne) duties.

Allan R. Millett. "Lessons Learned from Vietnam," *Marine Corps Gazette*, Sep80, pp. 72-78.

An extensive review of the literature on the Vietnam War.

Col Allan R. Millett, USMCR. Review of *On Strategy: The Vietnam War in Context* by Col Harry G. Summers, Jr., *Marine Corps Gazette*, Aug82, pp. 15-16.

The reviewer takes exception to Col Summer's main thrust that the U.S. did not focus clearly enough upon the defeat of the North Vietnamese Army. Millett argues that the "principles of war" cannot be extended "from the conduct of operations to the conduct of war."

LCdr Robert E. Munford, Jr., USN. "Jackstay: New Dimensions in Amphibious Warfare," *Naval Review 1968*. Annapolis: U.S. Naval Institute, 1968, pp. 68-87.

A naval officer's view of the 1966 SLF Operation Jackstay in the Rung Sat Special Zone.

LtCol Dennis J. Murphy, USMC. "Let's Practice What We Preach about Helicopter Operations," *Marine Corps Gazette*, Aug69, pp. 18-24.

A discussion on the proper employment of helicopters in combat environments.

Maj John P. Murtha, USMC. "Combat Intelligence in Vietnam," *Marine Corps Gazette*, Jan68, pp. 30-34.

The author makes the point that it is necessary that the intelligence officer remain in the job long enough to learn the tactics of the particular enemy that he is fighting.

Maj Donald J. Myers, USMC. "The Pacification of Cam Lo," *Marine Corps Gazette*, Oct69, pp. 50-51.

A company commander discusses his relationship with South Vietnamese Regional and Popular Forces in Quang Tri Province.

Charles E. Myers, Jr. "Deep Strike Interdiction," *U.S. Naval Institute Proceedings*, Nov80, pp. 47-52.

The author questions the validity of deep penetration strikes using examples from the air war over North Vietnam.

Maj George D. Navadel, USMC. "Prior to Decisive Engagement," *Marine Corps Gazette*, Nov70, pp. 56-57.

A description of 3d Battalion, 9th Marines engagement with the NVA in northern Quang Tri Province in May67.

Maj Robert V. Nicoli, USMC. "Fire Support Base Development," *Marine Corps Gazette*, Sep69, pp. 38-43.

This article discusses the introduction of the fire support base in northern I Corps during the summer of 1968.

"1967 Seventh Fleet Summary," *Naval Review 1969*. Annapolis: U.S. Naval Institute, 1969, pp. 371-385.

Summary includes special landing forces amphibious operations in Vietnam and naval gunfire actions in I Corps and the Demilitarized Zone.

SCPO Dennis L. Noble, USCG. "Cutters and Sampans," *U.S. Naval Institute Proceedings*, Jun84, pp. 46-56.

The author reviews the Coast Coast participation in Operation Market Time, the anti-sea infiltration campaign in South Vietnam.

Keith W. Nolan. "Battle at Hue City," *U.S. Naval Institute Proceedings*, Apr82, pp. 50-58.

The story of the fight at the platoon, company, and battalion level.

Maj Charles F. Norton, USMC. "Mortar Battery Still Useful," *Marine Corps Gazette*, Dec70, pp. 48-49.

Author discusses use of the 107mm mortar in the fire support base concept.

Capt G. W. O'Dell, USMC. "Lessons Learned in Vietnam," *Marine Corps Gazette*, Apr73, pp. 50-51.

Author describes the employment of reconnaissance teams for intelligence gathering.

Michael P. Palladino. "Remembering Another Kind of War," *Marine Corps Gazette*, Jul83, pp. 24.

The author argues that the Vietnam War taught the U.S. that the insurgent was "a formidable enemy."

Capt W. Hays Parks, USMC. "Viet Cong Village Law and Order," *Marine Corps Gazette*, Oct69, p. 53.

A discussion of Viet Cong judicial procedures used in villages under their control.

Maj W. Hays Parks, USMCR. "Crimes in Hostilities," *Marine Corps Gazette*, Sep76, pp. 33-39.

The author examines conditions under which troops committed crimes with a focus on Vietnam and the My Lai case. The article includes a useful chart showing court-martial convictions for crimes involving Vietnamese victims.

Maj W. Hays Parks, USMCR. "Law of War Training in the Navy and Marine Corps," *U.S. Naval Institute Proceedings*, Dec77, pp. 26-32.

The author argues for the need of peacetime training in the Rules of War in light of the Vietnam experience. This is largely a condensation of the same author's earlier articles in the *Marine Corps Gazette*.

Maj W. Hays Parks, USMCR. Review of *Rumor of War* by Philip Caputo, *U.S. Naval Institute Proceedings*, Jan78, pp. 95-96.

Review calls book an "articulate descriptive account of the Vietnam War during the period

1965-66 as seen through the eyes of one Marine second lieutenant." Caputo acknowledges his errors involving the killing of two VC suspects, but "then condemns the Marine Corps . . . for taking action against him."

Maj W. Hays Parks, USMCR. "Comment on Deep-Strike Interdiction," *U.S. Naval Institute Proceedings*, Jan81, pp. 18-21.

Parks argues that the restraints on the bombing were the true cause of the ineffective bombing campaign in the north.

Maj W. Hays Parks, USMCR. "Conventional Aerial Bombing and the Law of War," *Naval Review* 1982. Annapolis: U.S. Naval Institute, 1982, pp. 98-117.

The author examines aerial bombing in Vietnam and during World War II in light of international laws of war.

LtCol W. Hays Parks, USMCR. "4 December: It Wasn't the Law," *U.S. Naval Institute Proceedings*, Sep84, pp. 125-126.

The author discusses the law of war and civilian casualties with reference to events in Lebanon and Vietnam.

BGen O. F. Peatross, USMC. "Victory at Van Tuong Village," *Naval Review* 1968. Annapolis: U.S. Naval Institute, 1968, pp. 2-13.

A brief account of the Marines' first major battle against the Viet Cong in Operation Starlite.

BGen O. F. Peatross, USMC, and Col W. G. Johnson, USMC. "Operation Utah," *Marine Corps Gazette*, Oct66, pp. 20-27.

The article provides an excellent example of the rapid reaction to intelligence during Operation Utah when Marine Task Force Delta defeated the 36th NVA Regiment west of Chu Lai in Mar66.

James H. Pickerell. "Marine Advisor: Vietnam," *Marine Corps Gazette*, Apr64, pp. 24-28.

The author discusses the role of the individual Marine advisor in South Vietnam. The article was based on interviews with Capt Donald Koelper, an advisor who was killed while earning the Navy Cross in Feb64.

James H. Pickerell and Robert Pearman. "The

Marines' War in Vietnam," *Marine Corps Gazette*, Dec64, pp. 42-47.

A brief pictorial account of a Marine helicopter assault operation in I Corps during 1964.

LtCol W. A. Piper, Australian Army. "Fire Support Bases: A Tactical Appraisal," *Marine Corps Gazette*, Dec70, pp. 26-31.

A detailed discussion of the fire support base concept.

Maj K. W. Pipes, USMC. "Men to Match their Mountains," *Marine Corps Gazette*, Apr74, pp. 18-24.

Article emphasizes company raid to recover bodies of Marines from Company B, 1st Battalion, 26th Marines, killed in an ambush. Gives description of the detonation of the Khe Sanh ammunition dump.

LtCol William Plaskett, Jr., USMC. "New Life for Towed 155 How," *Marine Corps Gazette*, Feb69, p. 51.

Author discusses airborne employment of artillery in Vietnam.

MajGen Jonas M. Platt, USMC. "Military Civic Action," *Marine Corps Gazette*, Sep70, pp. 20-26.

A discussion of military civic action with illustrations from the Marines' civic action program in I Corps.

Lt Michael N. Pocalyko, USN. Review of *Without Honor: Defeat in Vietnam and Cambodia* by Arnold R. Isaacs and *Peace with Honor: An American Reports on Vietnam 1973-1975* by LtCol Stuart A. Herrington, USA, *U.S. Naval Institute Proceedings*, Jul84, pp. 114-115.

A comparative review of these two books and their common theme of the value of American honor in Southeast Asia and its relation to the final collapse of Cambodia and Vietnam.

Maj Thomas M. Pratt III, USMC. "Population and Resources Control," *Marine Corps Gazette*, Sep70, pp. 35-39.

Commander of Company E, 2d Battalion, 1st Marines in Vietnam during Aug66-Sep67 relates his experiences in denying the enemy access to Vietnamese hamlets by conducting censuses and employing population control devices.

Cdr W. N. Pugliese, USN. Comment and Discussion ltr on "The Lessons of Vietnam," *U.S. Naval Institute Proceedings*, Dec73, pp. 83-84.

Argues by providing other "lessons" that conventional military force must be reshaped in order to appropriately respond to crimes and should always avoid commitments such as Vietnam.

Col A. R. Pytko, USMC. "An Epoch of Need," *Marine Corps Gazette*, May73, pp. 42-48, (Reprinted in this anthology.)

Maj John E. Regal, USMC. "Surprise for the 803d," *Marine Corps Gazette*, Apr70, pp. 29-33.

A description of Company K, 3d Battalion, 1st Marines engagement with elements of the 803d NVA Regiment in the region of the Cua Viet River on 2Feb68.

Capt J. W. Rider, USMC. "Helicopters in Vietnam," *Marine Corps Gazette*, Oct67, pp. 30-32.

Capt Rider comments on the misuse of helicopters in Vietnam.

Maj John W. Ripley, USMC. "Tiger Tale," *Marine Corps Gazette*, Jun77, pp. 39-45.

Describes USMC patrol in which Marine found himself attacked by a tiger.

Maj Ernest G. Rivers, USMC, and Capt Marshall N. Carter, USMC. "Camaraderie Among Marines," *Marine Corps Gazette*, Sep70, p. 50.

A short discussion of the Vietnamese Marine Corps.

LCdr James H. Robinson, USN. "Recording Naval History in Vietnam," *U.S. Naval Institute Proceedings*, Sep69, pp. 144-145.

Description of monthly historical reports prepared on U.S. naval actions in Vietnam.

"Rock Pile," *Marine Corps Gazette*, Jan67, pp. 40-42.

Pictorial featuring the area north of the Rock Pile with comments by LtCol William Masterpool (3d Battalion, 4th Marines).

Cdr J. Michael Rodgers, USN. Comments and Discussion ltr on "Linebacker Strike," *U.S. Naval Institute Proceedings*, Dec75, pp. 72-73.

The writer responds to discussions of fleet conventional gun capability by observing that the

rescue of the S.S. *Mayaguez* was an inaccurate and inappropriate example of poor naval gunfire support.

Maj Lane Rogers, USMC. "The Enemy," *Marine Corps Gazette*, Mar66, pp. 51-55.

The article reviews Viet Cong doctrine and tactics and offers several suggestions for countering them.

LtCol Richard E. Romine, USMC. "Let's Discuss the Vietnam War," *Marine Corps Gazette*, Jun79, pp. 16-17.

The author suggests that it is necessary for the veterans of the Vietnam War to discuss and write about their experiences so that historians and the general public will have an understanding of the war.

LtCol Richard B. Rothwell, USMC. "Leadership and Tactical Reflections on the Battle for Quang Tri," *Marine Corps Gazette*, Sep79, pp. 34-42.

Article about the 1972 Battle for Quang Tri which states that fundamental tactical principles remain the precepts for success in battle.

Maj Don C. Satcher, USMC. "Ugly ONTOS is Underrated," *Marine Corps Gazette*, Nov69, pp. 88-89.

Author discusses the employment of the ONTOS in Vietnam.

1stLt Charles J. Schneider, Jr., USMC. "Radars for the Artilleryman," *Marine Corps Gazette*, Mar70, pp. 34-36.

A discussion of ground surveillance and counter-battery radars used in the Marine Corps and their employment in Vietnam.

Col Martin J. Sexton, USMC, and LtCol Joseph E. Hopkins, USMC. "Assault at Mutter's Ridge," *Marine Corps Gazette*, Mar70, pp. 20-25.

Authors describe the 2d Battalion, 4th Marines' action in a multi-battalion operation just south of the DMZ against elements of the 27th NVA Regiment in Dec68.

Col Martin J. Sexton, USMC. "Sapper Attack," *Marine Corps Gazette*, Sep69, pp. 28-31.

A detailed study of the planning and execution of an enemy sapper attack on 24Feb69.

Maj Carl A. Shaver, USMC. "Reflections of a Com-

pany Commander," *Marine Corps Gazette*, Nov69, pp. 29-34.

Commander of Company L, 3d Battalion, 7th Marines relates his combat experiences to the principles of warfare in Vietnam.

Jack Shulimson. "Vietnam Historical Data Base," *Marine Corps Gazette*, Feb69, pp. 43-45.

A discussion of historical records available for research and writing on the Marine Corps participation in Vietnam.

Jack Shulimson and Maj Edward F. Wells, USMC. "First In, First Out, The Marine Experience in Vietnam," *Marine Corps Gazette*, Jan84, pp. 36-46.

(Reprinted in this anthology.)

Col Edwin H. Simmons, USMC. "The Marines and Crisis Control," *U.S. Naval Institute Proceedings*, Nov65, pp. 26-35.

A discussion of the Marine Corps' role in the Vietnam crisis which developed in early 1965 and culminated in the landing at Da Nang in March. The author places the use of U.S. Marine amphibious forces in their historical perspective.

BGen Edwin H. Simmons, USMC. "Marine Corps Operations in Vietnam, 1965-1966," *Naval Review* 1968. Annapolis: U.S. Naval Institute, 1968, pp. 2-35.

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BGen Edwin H. Simmons, USMC. "Marine Corps Operations in Vietnam, 1968," *Naval Review* 1970. Annapolis: U.S. Naval Institute, 1970, pp. 292-320.

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BGen Edwin H. Simmons, USMC. Review of *A Soldier Reports* by Gen William C. Westmoreland, *Marine Corps Gazette*, Jul76, pp. 13-15.

The review highlights the differences between

- Gen Westmoreland and his Marine subordinate commanders.
- BGen E. H. Simmons, USMC (Ret). "Remembering Vietnam, Comment" and James Webb, "Reply," *Marine Corps Gazette*, Feb81, p. 15.  
Discussion relative to the addition of the word "Vietnam" to the Marine Corps War Memorial.
- BGen Edwin H. Simmons, USMC (Ret). "The United States Marine Corps, Conclusion," *Marine Corps Gazette*, Dec74, pp. 31-41.  
This is the concluding chapter of the author's history of the U.S. Marine Corps which appeared serially in the *Gazette* and was later published by Viking Press. This chapter covers the Vietnam War and is largely a condensation of the same author's articles that appeared in the *Naval Review* and are republished in this anthology.
- Howard R. Simpson. "The Guerrilla and His World," *U.S. Naval Institute Proceedings*, Aug69, pp. 42-53.  
A study of the Communist guerrilla in Southeast Asia.
- LtCol Thomas H. Simpson, USMC, and Capt David LaBoissiere, USMC. "Fire Support in Riverine Operations," *Marine Corps Gazette*, Aug69, pp. 43-47.  
Description of armament and related utilization in Vietnam of the Navy's riverine craft.
- LCpl Pete Siva, Jr., USMC. "An Ordinary Day in Vietnam," *Marine Corps Gazette*, Feb72, pp. 53-54.  
A Marine of the Seventh Fleet's Special Landing Force relates his feelings before commitment to battle.
- Norman Sklarewitz. "Dateline: Soc Trang," *Marine Corps Gazette*, Dec62, pp. 54-56.  
A pictorial account of the Marine helicopter task unit at Soc Trang.
- Norman Sklarewitz. "Counter-insurgency: Marines at Work in Vietnam," *Marine Corps Gazette*, Jan63, pp. 56-57.  
A photographic article covering Marine helicopter task unit at Da Nang.
- Norman Sklarewitz. "Dateline Da Nang: The Choppers Move North," *Marine Corps Gazette*, Jan63, p. 3.  
A brief account of the Marine helicopter task unit's move north to Da Nang. Includes a cursory analysis of operations in the Mekong Delta.
- LtCol Albert C. Smith, Jr., USMC. "Rung Sat Special Zone, Vietnam's Mekong Delta," *U.S. Naval Institute Proceedings*, Apr68, pp. 116-122.  
The author discusses the activities in the Rung Sat area of a joint U.S. Marine, Navy, and Army advisory team under the operational control of the U.S. Naval Advisory Group in Saigon.
- Col Richard B. Smith, USMC. "Leatherneck Square," *Marine Corps Gazette*, Aug68, pp. 34-42.  
Author describes operations of the 9th Marines in northern Quang Tri Province during 1967-68.
- Capt William R. Smith, USMC. "Why the Bridge?" *Marine Corps Gazette*, Jun70, pp. 34-37.  
Study of the methods of psychology employed by the Viet Cong on the Vietnamese villagers.
- Capt K. J. Snyder, USMC. "Friendship: A Principle of War," *Marine Corps Gazette*, Mar68, pp. 36-40.  
Capt Snyder recounts the 2d Battalion, 7th Marines' successful civic action program in the village of Long Phu.
- Col James B. Soper, USMC (Ret). "A View from FMFPac of Logistics in the Western Pacific, 1965-1971," *Naval Review* 1972. Annapolis: U.S. Naval Institute, 1972, pp. 222-239.  
(Reprinted in this anthology.)
- Col James B. Soper, USMC (Ret). "Battlewagon," *Marine Corps Gazette*, Aug76, pp. 39-42.  
A broad look at battleships, with mention of the role of the USS *New Jersey* in Vietnam.
- Col Norman K. Stanford, USMC. "Bamboo Brigades," *Marine Corps Gazette*, Mar66, pp. 41-47.  
Colonel Stanford outlines the pacification aspects of the Marine Corps' counterinsurgency operations in Vietnam.
- Cdr Paul Stillwell, USN. "The Battleship Battle, 1964-1967," *Marine Corps Gazette*, Aug81, pp. 38-46.

The author discusses the behind-the-scenes maneuvers to activate the battleship *New Jersey* for the Vietnam War.

LtCol John C. Studt, USMC. "Battalion in the Attack," *Marine Corps Gazette*, Jul70, pp. 39-44.

A description of the 3d Battalion, 26th Marines' attack against Hill 881 on 13Apr68, one of the major engagements during the siege at Khe Sanh.

Maj Mark A. Swearer, USA. "Forty Days at Khe Sanh," *Marine Corps Gazette*, Apr73, pp. 23-28.

Artillery liaison officer of 2d Battalion, 94th Artillery, USA, recalls his role in the Khe Sanh fire support coordination center in 1968.

Maj Merrill A. Sweitzer, Jr., USMC. "The Tribulations of an S-4," *Marine Corps Gazette*, Mar70, p. 53.

Recollections of an officer-in-charge of logistics support area (LSA) during combat operations in Vietnam.

Lt Harold S. Terrance, USN. "Naval and Maritime Events, 1 July 1967 - 30 June 1968," *Naval Review* 1969. Annapolis: U.S. Naval Institute, 1969, pp. 281-323.

Chronology includes actions of III MAF and Special Landing Forces.

LtCol Vincent R. Tocci, USAF. "Understanding the War in Southeast Asia," *Marine Corps Gazette*, Jul70, pp. 34-38.

A discussion of U.S. involvement against Communist insurgency in Southeast Asia. Provides a gauge to measure progress in the war.

Maj Gary E. Todd, USMC. "Let's Talk Marine Priorities," *Marine Corps Gazette*, Aug69, pp. 51-52.

Discussion of manpower priorities as withdrawal from Vietnam begins.

Maj Gary E. Todd, USMC. "Planning and Exploitation," *Marine Corps Gazette*, Dec69, pp. 18-26.

Discussion of battlefield tactics for encirclement, isolation, and destruction of enemy forces in Vietnam.

Maj Gary E. Todd, USMC. "Tet: A Psychological Prep," *Marine Corps Gazette*, Jan70, p. 47.

Psychological warfare practiced by the

VC/NVA prior to the enemy Tet offensive, Jan-Feb68.

Maj Gary E. Todd, USMC. "Three-Point Program for Vietnam," *Marine Corps Gazette*, Apr70, pp. 46-47.

Discussion of the merits of proposed changes to the combined action program to unify it under a single combined command and expand it as U.S. forces withdraw from Vietnam.

LCdr James E. Toms, USN. "Justice in the Battle Zone," *U.S. Naval Institute Proceedings*, Jun69, pp. 53-57.

Legal officer of Naval Support Activity, Da Nang recalls problems of administering legal justice in a combat zone in 1967-68.

Maj Patrick L. Townsend, USMC. "The Hand of Hope," *U.S. Naval Institute Proceedings*, Sep76, pp. 38-45.

The account of Vietnamese refugees at Marine Corps Base, Camp Pendleton, California.

Maj Patrick L. Townsend, USMC. "Clausewitz Would Have Wondered at the Way We Fought in Vietnam," *Marine Corps Gazette*, Jun78, pp. 55-57.

States the failure to use Clausewitzian principles by American military helped lose the Vietnam War.

Col William L. Traynor, USMC. "The Political War in Vietnam," *Marine Corps Gazette*, Aug67, pp. 24-27.

Author discusses the value of the Revolutionary Development Cadre Group in gaining the support of the people of Vietnam.

LtCol G. H. Turley, USMC, and Capt M. R. Wells, USMC. "Easter Invasion 1972," *Marine Corps Gazette*, Mar73, pp. 18-29.

(Reprinted in this anthology.)

LtCol Gerald H. Turley, USMC. "Time of Change in Modern Warfare," *Marine Corps Gazette*, Dec74, pp. 16-20.

Discussion dealing with the author's appeal for the mandatory revision of current tactical doctrine to cope with the introduction of electronic weapons systems onto the battlefield. Article deals with North Vietnamese use of such weapons during the 1972 Easter offensive.

- Col Gerald H. Turley, USMC. "Easter Offensive, 1972," *Marine Corps Gazette*, Nov84, pp. 42-53.  
Extract from the author's book, *The Easter Offensive: Vietnam, 1972*. At the time, the attack was the largest North Vietnamese Army conventional assault.
- "Up from the Ranks," *Marine Corps Gazette*, Nov70, pp. 44-45.  
Narrative on the combat action of Sgt Alfredo Gonzales, awarded the Medal of Honor, posthumously. Describes his combat actions with III MAF from Christmas 1967 to his death on 3Feb68.
- LtCol Leon N. Utter, USMC. "Solid Contact for 217," *Marine Corps Gazette*, Apr66, pp. 25-30.  
An account of a counter-ambush action at Ky Phu (Operation Harvest Moon) one week before Christmas 1965.
- Capt Paul K. Van Riper, USMC. "Riot Control Agents in Offensive Operations," *Marine Corps Gazette*, Apr72, pp. 18-23.  
Author describes employment of tear gas against elements of the 141st NVA Regiment southwest of Da Nang in Feb69.
- LtCol John Van Nortwich, USMC. "Endsweep," *Marine Corps Gazette*, May74, pp. 29-36.  
A highly technical discussion of mine countermeasures and the removal of mines from North Vietnamese waters in 1973.
- Maj Davis G. Vest, USMC. "Toward a Fighter Posture for the Seventies," *Marine Corps Gazette*, Dec70, pp. 18-25.  
Article uses a hypothetical case describing how the war in Vietnam would have been different if the NVA had had air superiority.
- LtCol David H. Wagner, USMC. "A Handful of Marines," *Marine Corps Gazette*, Mar68, pp. 44-46.  
A brief discussion of the goals of the Combined Action Program—"work yourself out of the job."
- Maj George F. Warren, USMC. "Return to Conventional Warfare," *Marine Corps Gazette*, Sep69, pp. 34-37.  
A description of 2d Battalion, 4th Marines operations in the Cua Viet area in Mar68.
- Capt James H. Webb, Jr., USMC (Ret). "The Military and the Media," *Marine Corps Gazette*, Nov84, pp. 30-37.  
The author discusses the relationship between the media and military with specific reference to two highly publicized incidents during the Vietnam War, one during the Tet offensive in 1968 and the other during the Easter Offensive in 1972.
- Capt F. J. West, Jr., USMCR. "Fast Rifles," *Marine Corps Gazette*, Oct67, pp. 38-44.  
Account of a combined action platoon's operation in the village of Binh Nghia in Quang Ngai Province during the summer of 1966.
- Francis J. West, Jr. "Stingray 70," *U.S. Naval Institute Proceedings*, Nov69, pp. 26-37.  
Author describes the development of the "Sting Ray" technique whereby small reconnaissance elements were able to direct supporting arms on large enemy forces.
- Col Edwin B. Wheeler, USMC. "Vietnam Campaign, 1965," *Marine Corps Gazette*, Nov65, pp. 90-92.  
A synopsis of early Marine operations in the Republic of Vietnam. The author briefly discusses pacification, search and destroy operations, and heliborne assaults in the guerrilla environment which confronted the U.S. Marines during 1965.
- LtCol Michael E. White, USMC. "Vietnamese Riverine Forces Taking Up the Slack," *Marine Corps Gazette*, Dec70, pp. 41-42.  
Author describes the formation of a Vietnamese Navy and Marine Corps Amphibious Task Force.
- Capt Richard C. Williams, USN. "How to Succeed in the Construction Business by Really Trying," *U.S. Naval Institute Proceedings*, Sep69, pp. 72-80.  
The U.S. role in the building of port facilities in South Vietnam.
- Capt R. E. Williamson, USMC. "A Briefing For Combined Action," *Marine Corps Gazette*, Mar68, pp. 41-43.  
The author feels that the combined action program offers the best chance to eliminate the Viet Cong at the grass roots level.



Capt David F. Winecoff, USMC. "Body Armor or Mobility," *Marine Corps Gazette*, Jun71, pp. 28-31.

Commander of Company H, 2d Battalion, 9th Marines discusses Operation Dewey Canyon, and plus and minus factors of body armor in combat.

LtCol Dave Winecoff, USMC. "Night Ambush!," *Marine Corps Gazette*, Jan84, pp. 47-52.

Night ambush by Company H, 2d Battalion, 9th Marines on Route 922 in Laos during Operation Dewey Canyon.

Col Don P. Wyckoff, USMC. "Bloodless Weapon," *U.S. Naval Institute Proceedings*, Sep69, pp. 65-69.

Author discusses military employment of psychological warfare in Vietnam.

Dov S. Zakheim. Review of *On Strategy: A Critical Analysis of the Vietnam War*, by Col Harry G. Summers, Jr., Feb84, pp. 76-79.

The reviewer agrees that Col Summers has asked some important questions, but believes that Summers has placed too much responsibility for strategic errors on the civilian establishment rather than on the military.

Maj A. C. Zinni, USMC. "The Story that Won't Be Told about the Vietnam War," *Marine Corps Gazette*, Feb79, pp. 58-60.

The author argues that the novels and movies that have appeared on the Vietnam War do not reflect the experience of the men who fought the war and he doubts if their story will be told.

*The device reproduced on the back cover is the oldest military insignia in continuous use in the United States. It first appeared as shown on Marine Corps buttons adopted in 1804. With the stars changed to five points, the device has continued on Marine Corps buttons to the present day.*

