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COPY NO. 9

KOREAN WAR

U. S. Pacific Fleet Operations

Commander in Chief U. S. Pacific Fleet
Interim Evaluation Report No. 1

Period

25 June to 15 November 1950

VOLUME II

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VOLUME II

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**MAJOR EVENTS OF THE KOREAN WAR
IN CHRONOLOGICAL SEQUENCE**

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Major Events of the Korean War in Chronological Sequence

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MAJOR EVENTS OF THE KOREAN WAR
IN CHRONOLOGICAL SEQUENCE

East Longitude Dates

- 25 June 1950 Announcement on radio by North Koreans of their invasion of South Korea made at 1200K.
- U.S. fighter planes of 8th Fighter Group fired on by small North Korean convoy at 37° 50'N. - 129° 40'E. off coast of South Korea at approximately 1700K.
- ROK Navy patrol craft (PC 701) sank an armed North Korean steamer with 600 troops, 18 miles off Pusan. This was first naval surface action of war.
- 26 June 1950 700 Americans and friendly foreign nationals evacuated from Seoul via Inchon to Japan by sea under direction of COMNAVFE. Escorted by USS MANSFIELD (DD 728) and USS DE HAVEN (DD 727).
- 27 June 1950 As directed by CINCPACFLT, COMSEVENTHFLT (VADM STRUBLE) at Buckner Bay, Okinawa, reported for duty to CINCFE (Gen. MAC ARTHUR).
- President Truman ordered Naval and Air Forces in Far East to support operations of South Korean Forces and directed Seventh Fleet to take steps to prevent an invasion of Formosa.
- North Koreans captured Seoul.
- 28 June 1950 UN Security Council ordered military sanctions against North Korea.
- British Admiralty placed Royal Naval units in Japanese waters at disposal of COMNAVFE (VADM JOY). COMNAVFE requested British ships to rendezvous at Buckner Bay, Okinawa.
- 29 June 1950 USS JUNEAU (CLAA 119) took shore targets under fire in vicinity of Samchock, Korea; first significant naval gunfire support mission of Korean War.
- Anti-submarine Warfare patrol off Sasebo area formed.
- 1 July 1950 CINCPACFLT formed Task Force Yoke (ships assembled on West Coast of U.S. and at Pearl Harbor for Korean campaign) under RADM BOONE.
- COMNAVFE authorized COMSEVENTHFLT to continue strikes after 3 July as practicable.
- COMNAVFE discontinue routine ASW patrols of Sasebo area until further notices.
- 3 July 1950 Planes of Seventh Fleet and British FES ships under over-all command of VADM STRUBLE (COMSEVENTHFLT) began carrier operations off west coast of North Korea as ordered by COMNAVFE on 30 June.
- 5 July 1950 CINCPACFLT established Service Squadron 3, effective 7 July as principal logistic agent of COMSEVENTHFLT.
- Fleet Marine Force Pacific directed 1st Marine Division to form the 1st Provisional Marine Brigade.
- COMNAVFE placed his operational order 50 in effect implementing President Truman's order for a blockade of the Korean Coast
- 7 July 1950 UN Security Council appointed General MacArthur Supreme Commander of UN Forces in Korea.

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9 JULY 1950 CDR Michael J.L. LUOSEY took command of ROK Navy.

10 July 1950 As directed by COMNAVFE naval blockade extended to include ports of Wonsan and Chinnampo. CNO directed CINCPACFLT to sail Task Force Yoke when ready.

11 July 1950 CNO authorized activation of ships from the Reserve Fleet. NK Prisoner of War reported mines laid vicinity of Chongjin.

12 July 1950 First increments of 1st Marine Brigade sailed for Far East from San Diego.

COMNAVFE set up Naval Air Japan as temporary organization for all naval aeronautical activities in Japan.

14 July 1950 COMNAVFE authorized attacks on unidentified submarines in self defense or when offensive action against our forces was indicated.

Main body of 1st Marine Brigade sailed from San Diego with approximately 6,000 troops.

15 July 1950 Task Force 90 transported two RCTs of the First Cavalry Division from Tokyo Bay to Pohangdong via Inland Sea and Shimonoseki strait.

Frigate (PF) activation program began at Yokosuka.

18 July 1950 First Cavalry Division (RCT 5 and 8; 10,027 troops) landed administratively at 0715I by CTF 90 at Pohang-dong.

18-19 July 1950 Carrier based planes from Seventh Fleet destroyed North Korean airfields, railroads, factories and oil refinery at Wonsan. Other targets at Hungnam, Hamhung, Numpyong destroyed or damaged.

19 July 1950 First Navy plane shot down by North Koreans.

23 July 1950 USS BOXER (CV 21) arrived Yokosuka in eight days sixteen hours from Alameda established trans-Pacific record in delivering a load of F-51 airplanes, equipment and personnel for the Air Force.

24 July 1950 COMNAVFE established Escort Element (CTE 96.50) under CAPT A.D.H. JAY, RN, consisting of HMS BLACK SWAN (PF), HMS HART (PF), and HMS SHOALHAVEN (PF).

27 July 1950 COMNAVFE directed harassing and demolition raids by CTF 90 utilizing UDT and Marine reconnaissance personnel against selected North Korean east coast military objectives.

29 July 1950 First shipment 6".5 Anti-tank aircraft rockets (ATAR), developed by Navy at NOTS Inyokern for the Air Force, delivered to the latter.

30 July 1950 CTF 90 completed Pohang administrative landing.

1 August 1950 2nd Infantry Division landed at PUSAN.

COMNAVFE ordered two CVE's (USS SICILY (CVE-118) and USS BADOENG STRAIT (CVE-116)) with assigned DD types to provide close air support to UN land forces in Korea.

USS PHILIPPINE SEA (CV-47) reported to COM7THFLT for duty.

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- 2 August 1950 1st Marine Provisional Brigade began landing at PUSAN.
- 3 August 1950 Marine Fighter Squadron 214, embarked in USS SICILY, attacked at Chinju with rockets and incendiary bombs - first action for Marine Carrier based air.
- 3-5 August 1950 Marine infantry in vicinity of Masan-Changwon on combat patrol aided by helicopter. First instance of this type of aircraft being used to carry rations and water and to evacuate personnel.
- 4 August 1950 Fleet Air Wing 6, commissioned and given operational control of all American and British patrol squadrons located in Japan-Korea area.
- 7 August 1950 1st Marine Brigade launched attack southwest toward Kosong, 1st Marine Brigade became involved in action for first time.
- 8 August 1950 Fleet Air Japan (COMFAIRJAP) established by COMNAVFE, replacing NAVAL AIR JAPAN.
- 11 August 1950 HMS WARRIOR (CVL) and HMS OCEAN (CVL) joined British and American Forces in Korea.
- 12 August 1950 Marines advanced to Sachon and to Changwon.
- 14 August 1950 Marine Brigade moved into assembly area at Maryang.
- 15-16 August 1950 First successful series of night raids on Korean East Coast by a landing party composed of a Navy underwater demolition team and U.S. Marines embarked in USS BASS (APD 124); railroad bridges and tunnels destroyed.
- 16 August 1950 1st Marine Brigade began to move to Yonson, CNO ordered 7th Marines to Far East.
- Navy Task Element (TE 96.51) successfully completed the evacuation of the entire 3rd ROK Division from a position south of Yongdok.
- 17 August 1950 First elements of 1st Marine Division sailed from West Coast for Korea.
- Marines began first battle of Naktong River Bulge.
- 18 August 1950 ROK Marines under cover of Korean Navy guns landed and captured city of Tangyong.
- 20 August 1950 CINCUNC ordered capture of Inchon-Seoul area by amphibious assault using RCT's 1 and 5, 1st Marine Division.
- 21 August 1950 Carrier based planes of TF 77 (VALLEY FORGE (CV-45) and PHILIPPINE SEA (CV-47)) set new record with 202 sorties in one day in Pyongyang area.
- 22 August 1950 CNO, Adm Forrest SHERMAN broke his flag in USS ROCHESTER at Sasebo.
- 1 September 1950 Korean Reds continued offensive toward PUSAN; MASAN threatened; SONGSAN fell; Marines and Second Army Division counter-attacked.

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- 2 September 1950 2nd Battalion, 5th Marines moved to Yongsan and took up defensive positions. 9th RCT of 2nd Infantry cleared town of Yongsan.
North Korean drive stopped as UN forces took the offensive.
- 3 September 1950 Marines fought due west of Yongsan in second Battle of Naktong River Pulge.
Marines carrier-based planes rendered close support from Ashiya Air Force Base while CVE's were replenishing.
- 4 September 1950 COMNAVFE ordered change of Fleet Base from Buckner Bay to Sasebo.
USS MCKEAN (DD784) destroyed 4 mines 38°28'W - 124°24'E.
- 5 September 1950 Russian bomber shot down in vicinity of TF 77; incident announced to UN.
Marine Brigade relieved from front lines and moved to Pusan to embark for Inchon operation.
Elements of 1st Marine Division arrived in Japan.
- 8 September 1950 Marine Brigade began loading at Pusan for amphibious assault at Inchon.
- 8-12 September 1950 7th Marines arrived at Kobe.
- 10-12 September 1950 Typhoon "Kezia" gave concern to Inchon loading operations and eye of typhoon passed over Kobe.
- 12 September 1950 COMNAVFE established UN Blockading and Escort Force (TF95) under RADM Allan E. SMITH.
- 15 September 1950 USS MISSOURI (BB 63) arrived from Atlantic and joined TG 95.2 in bombarding Samchok area; first bombardment by 16 inch naval guns.
3rd Battalion 5th Marines landed in assault at 0633I on Wolmi-Do Island, Inchon from Advance Attack Force of TF 90. 1st and 5th Marines landed in assault at 1730I on Inchon beaches.
USS BOXER (CV 21) reported for duty with TF 77.
- 16 September 1950 Marines captured Inchon. 7th Infantry Division landed administratively at Inchon as follow-up force. 5th Marines began drive for Kimpo Airfield.
- 17 September 1950 Marines captured Kimpo Airfield.
HMS JAMAICA (CVL) shot down one of 2 Yak aircraft attacking the ROCHESTER at 0555I. This was the only plane shot down by naval gunfire to date.
TF 77 flew 304 sorties, destroying 200 vehicles north of Inchon.
- 20 September 1950 Han River crossed and immediate approaches to Seoul under assault.

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21 September 1950 Marine aircraft sorties from Aimpo Airfield made for first time.
7th Marines landed administratively at Inchon.

23 September 1950 Mines in Korean waters have become a serious problem. Intelligence reports indicated that 3,500 mines had been laid to date.

24 September 1950 Seoul fell to 1st Marines. Total U.S. Marine casualties for Inchon-Seoul operations were 2,301.

26 September 1950 USS BRUSH (DD 745) struck mine off Tanchon.

29 September 1950 COMFAIRJAP initiated utilization of aircraft for anti-mine operations by establishing daylight patrol along West Coast of Korea, including extensive use of helicopters.
USS MAGPIE (AMS-25) mined and sunk while mine sweeping off Korean East Coast.

30 September 1950 USS MANSFIELD (DD 728) mined in vicinity of Changjon.

1 October 1950 General MacArthur issued surrender ultimatum to North Korean forces. South Koreans crossed 38th Parallel.
USS MISSOURI bombarded installations on Korean East Coast.

4 October 1950 Task Force 77 reported that planes from its carriers had flown 3,330 sorties during the 13 day period of the Inchon assault.
COMNAVFE announced that more than 65 moored and floating mines had been destroyed during the past month in Korean waters.
COMNAVFE ordered air strikes and shore bombardment of Chinnampo and Haeju areas.

6 October 1950 ROKN vessels authorized to operate on East Coast of Korea as far north as necessary to support advancing ROK ground forces.

8 October 1950 USS LEYTE (CV-32) reported to TF 77 from Atlantic.
Marines being withdrawn from north of Seoul to participate in Wonsan landings. Elements of 1st Marine Division commenced embarking in assault shipping at Inchon for Wonsan operations.

10 October 1950 Mine sweeping commenced in Wonsan area.

11 October 1950 Planes from TF 77 destroyed North Korean vessels off Songjin and Wonsan and north of Hungnam. Railroads, trucks, warehouses and supply dumps in Songjin area were destroyed.

12 October 1950 USS PIRATE (AM 275) and USS PLEDGE (AM 277), while sweeping approaches to Wonsan, struck mines and sank.

14 October 1950 Marine Air Squadron (VMF 312) operating in Wonsan area.

15-31 October 1950 Naval forces largely concentrated in Wonsan area in support of mine sweeping and amphibious landing. Blockading forces, consisting of USS MISSOURI (BB63), HELENA (CA 75), TOLEDO (CA 133), MANCHESTER (CA 83) and accompanying destroyers patrolled approaches to Wonsan.

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17 October 1950 Wonsan attack force (TF 90) sailed from Inchon.

20 October 1950 Attack force (TF 90) arrived off Wonsan; landing delayed six days because of uncompleted sweeping of enemy mines in area.

24 October 1950 Marine pilots reported AA fire from Manchurian side of Yalu River.

26 October 1950 1st Marine Division landed administratively at dawn on beaches of Kalma Peninsula, Wonsan.

29 October 1950 7th Division landed administratively at Iwon 1020I.

6 November 1950 Minesweeping operation at Hungnam commenced by CTG 95.6.

7 November 1950 Marine Jet Fighter Squadron (VMF 311) ordered to Far East.

8 November 1950 Landing of 7th Infantry Division at Iwon completed.

9 November 1950 TF 77 made initial effort against international Bridges at Yalu River.

Soviet designed MIG-15 planes attacked F9F's from USS PHILIPPINE SEA. First engagement between planes of this type.

10 November 1950 PBM destroyed 9 mines vicinity 38°42'N, 124°55'E.

11 November 1950 USS BUCK (DD 761) and USS THOMASON (DE 203) damaged by collision at 39°13'N, 129°32'E.

15 November 1950 Mine sweeping operations commenced at Songjin.

7th Marines reached Chosin Reservoir.

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On the 15 November 1950
CONCLUSIONS AND RECOMMENDATIONS

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CONCLUSIONS AND RECOMMENDATIONSCONTENTS

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MAJOR AREAS OF DEFICIENCY

Conclusion 1:

Plans for hostilities in the Far East apparently did not visualize a limited action, without general mobilization, of the scope developing from the so-called 'Police Action' in Korea.

Recommendation 1:

Conduct a continuing examination for "Koreas" in other parts of the world. Prepare tentative plans on a priority basis for such other "Koreas".

Conclusion 2:

The provision of qualified and trained personnel (particularly staff personnel) lagged well behind requirements in the Far East.

Recommendation 2:

Develop plans for the provision of adequate initial personnel and increments of necessary trained personnel to implement the plans in recommendation #1, allowing adequate lead time for necessary specialized training.

Conclusion 3:

Equipment and techniques do not exist at the present time for successful air interdiction of enemy ground forces.

Recommendation 3:

Undertake with the Air Force or unilaterally a research program for the development of new equipment and techniques to permit successful interdiction of ground forces.

Conclusion 4:

Our present methods of clearing enemy minefields is entirely too slow and expensive in forces required.

Recommendation 4:

Undertake a research program to develop new and relatively economical methods for the rapid destruction of minefields.

Conclusion 5:

The anti-submarine forces and harbor defenses in the Pacific and the Far East would have been inadequate to cope with the outbreak of a submarine campaign.

Recommendation 5:

Expand anti-submarine forces as practicable. Assign top priority to the plans for harbor defense and for reactivation of anti-submarine forces in the event of the outbreak of a major war.

Conclusion 6:

The handling of shipping in the Far East theatre with regard to turn around time of ships was no improvement over World War II standards. The type of delays experienced would be extremely serious in the event of a World War.

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Recommendation 6:

Undertake at Department of Defense level with representation from all services a thorough study of shipping utilization in the Korean Campaign, with the objectives of preparing directives which will establish basic concepts, ensure Joint Staff cognizance over shipping in Unified Command theatres, strengthen MSTS position, and emphasize responsibilities of shipper and consignee services.

Conclusion 7:

The landplane patrol squadron is currently not organized or equipped for deployment to advanced airfields that are under other than Navy control or support except for conditions of total mobilization.

Recommendation 7:

Develop the necessary supporting organization for patrol landplane squadrons which will allow them to be deployed to advanced airfields under other than Navy control or support during conditions of limited action such as existed in Korea.

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PROJECT I. A.1. - ORGANIZATION, Naval Air (Other than Marine Air)

CONCLUSIONS

1. Pre-June 1950 plans for a shore based naval air organization in Japan proved to be inadequate for the requirements of the Korean operation.
2. As a result of the deficiencies in plans mentioned above, the buildup of an adequate shore based naval air organization under COMNAVFE continuously lagged behind the requirements.

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PROJECT I.A.1. - ORGANIZATION, Naval Air (Other than Marine Air)

RECOMMENDATIONS

1. A plan should be evolved for the establishment of shore based naval air organizations, similar to those of COMFAIRJAP and COMFAIRWING SIX, to be established in the danger spots of the world as they develop. This should include stock-piling of necessary material, equipment and literature, etc., to provide for the rapid establishment of one or more staffs such as COMFAIRJAP and COMFAIRWING SIX in the event of further emergency.

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PROJECT I.A.2.a. - FAST CARRIER, Operations, Naval Air (Other Than Marine Air)

CONCLUSIONS

1. The Fast Carrier Force accomplished the missions assigned satisfactorily.
2. The optimum number of aircraft per carrier, with present type distribution and Korean missions is approximately 85.
3. Division of an air group embarked in a CV-9 class carrier into more than three squadrons plus a special mission airplane unit is highly undesirable for combat operations for the reasons discussed in the body of this report.
4. The Administration of special purpose units aboard ship is not satisfactory at present.
5. Division between squadrons and ship of responsibility for maintenance of embarked airplanes is not clearly defined in current Navy Department instructions.
6. Carrier squadrons strongly prefer to have clear and complete responsibility for, and authority over, shipboard maintenance of their embarked airplanes.
7. Assignment to squadrons of responsibility for, and authority over, shipboard maintenance of their embarked airplanes was found to be the best solution to maintenance problems posed by carrier operations of the Korean campaign.
8. Essex Class Carriers can sustain 120 to 140 sorties per day each lasting three hours in the case of the propeller type airplanes, or one and one half hours in the case of jets, if replenished each third day.
9. The maximum reported ammunition expenditure of 77 tons per day is not an index of the delivery capability of the Essex Class Carrier because of the special operations involved. The delivery limit is some figure well above 77 tons per day.
10. Systematic pre-strike and post-strike photographic coverage was not obtained. This would have been of great value for damage assessment, would have provided a needed measure of the effectiveness of the efforts of the Task Force, and would have spurred pilots to improve their accuracy.
11. Round the clock operations imposed a heavy load on carrier crews.

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PROJECT I.A.2.a. - FAST CARRIER, Operations, Naval Air (Other Than Marine Air)

RECOMMENDATIONS

1. Make a study of carrier air group organization to determine the optimum division into squadrons for embarked combat operations, giving approximate consideration to training requirements and other factors.
2. Further study on the administration of special purpose units should be made.
3. Clarify Navy Department instructions regarding division between squadrons and ship of responsibility for maintenance of embarked airplanes.
4. Provide a planned program of pre-strike and post-strike photo coverage, analyzing damage inflicted, bombing accuracy, and individual pilot performance.
5. Continue studies to determine the optimum means for increasing night capabilities of carrier forces.

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PROJECT I.A.2.b. - ESCORT CARRIER, Operations, Naval Air (Other than Marine Air)

CONCLUSIONS

1. There was no employment during Korean operations up to 15 November 1950 of the escort carrier as an Anti-Submarine weapon. Therefore no conclusions can be reached as to its continued suitability for ASW purposes.
2. The Korean Action has emphasized certain limitations of the present CVE which will seriously affect its ability to operate the aircraft becoming available in the foreseeable future to Marine and Navy squadrons for close air support of amphibious landings.

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PROJECT I.A.2.b. - ESCORT CARRIER, Operations, Naval Air (Other than Marine Air)

RECOMMENDATIONS

1. Re-study the employment of the CVE in future war giving consideration to the relationships among the following factors:
 - a. The numbers of CV's and CVE's in the active fleets, the reserve fleets and the new construction program.
 - b. The types of aircraft including assault helicopters which can be operated effectively from the CVE and the number of these types available now and in a representative future period.
 - c. The concept and expected techniques of carrier air support in amphibious assault landings in future war.

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PROJECT I.A.2.c.-CLOSE AIR SUPPORT, Operations, Naval Air (Other than Marine Air)

CONCLUSIONS

1. That, when employed under the Marine Corps - Navy close air support system, Naval carrier aircraft consistently rendered effective close air support in Korean operations.
2. That when employed under other systems of control those systems displayed weaknesses which resulted in largely unsatisfactory utilization of air strength available for close air support.
3. A wide discrepancy exists between the interpretation of the term "close air support" by the Navy - Marine Corps and by the Air Force.
4. That while communications and inadequate grid charts were responsible in part for this unsatisfactory utilization, the great weakness of other systems of close air support lies in the fact that they fail to vest control of aircraft in front-line ground forces for whom the support is intended.
5. That an urgent need exists to standardize close air support doctrines and techniques throughout the armed forces of the United States and, if possible, the United Nations.
6. A program to make a reality of night and all-weather close support operations should be given high priority.
7. Basically, in the Army - Air Force close air support system, the concept involves an airborne controller who determines targets by aerial observation without close liaison with the supported ground troops. This is diametrically opposed to the Navy - Marine Corps system, the concept of which is that specific targets are attacked only upon the request and under the direction of the frontline units of the supported ground organization.
8. Until a reconciliation of concept of close air support occurs between the Navy - Marine Corps on one hand and the Army - Air Force on the other, no standardization of close air support doctrines and techniques can occur within the armed forces of the United States.

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PROJECT I.A.2.c.-CLOSE AIR SUPPORT, Operations, Naval Air (Other than Marine Air)

RECOMMENDATIONS

1. That standardization of close air support techniques be effected by Departmental Action in such a manner as to provide (a) front-line ground control of close support aircraft and (b) a communication system fully capable of meeting the requirements of joint operations.
2. That the concepts underlying Marine - Navy close air support be retained with compromise.
3. That consideration be given to greater utilization of close air support training capabilities of the Amphibious Training Centers, Little Creek, Virginia and Coronado, California or to the establishment of a new air support training center (at a suitable air station such as El Centro) under Marine command, for the purpose of effecting standardized training of all U.S. forces in air-surface operations.
4. That the practice of inter-service assignment of officers and men of the armed services be expanded in order to effect closer and more harmonious understanding in joint operations.
5. That existing or planned programs to attain effective night and all-weather close support operations be given a high priority.

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PROJECT I.A.2.d.-INTERDICTION, Operations, Naval Air (Other than Marine Air)

CONCLUSIONS

1. In Korea, Air Interdiction Operations were conducted under the nearly ideal conditions of meager air opposition and flak. They were conducted against an enemy capable of living off the land, and whose essential logistic requirements in tons per day are probably less than one-tenth those of an equal American force. Under these conditions, interdiction failed sufficiently to deny the enemy use of his supply routes from Manchuria and Siberia. Moreover, the Chinese Communists were able to conduct their November reinforcement in North Korea, thereby changing the entire aspect of the war.
2. To be even moderately effective, interdiction against forces such as were encountered in Korea, must be maintained on a continuous 24 hour a day basis.
3. Interdiction operations, to be successful, must be conducted in accordance with a fully worked out overall central plan and cannot be prosecuted properly on a sporadic day to day uncoordinated basis.
4. Many of the air operations which the Navy regarded as interdiction were more properly armed reconnaissance.
5. The Navy can look forward to types of war techniques, on the part of the enemy in the future, similar to those encountered in Korea, and should exert every effort to develop systems, techniques and equipment to make interdiction effective.
6. Our photo interpretation teams were inadequate to provide the best information that might have been obtained with present equipment and techniques.
7. Our present technical equipment and the systems that are now in existence are inadequate to locate concealed enemy positions by day or positions and movement by night.
8. With a pattern of war similar to that encountered in Korea, we must be mentally and operationally prepared to conduct extended campaign from carrier based aircraft extending over day and night periods.
9. Our carrier task forces should be of such size as to permit continuous day and night operations over extended periods of time without subjecting our ship based personnel to excessive exhaustion as a result of continuation of operations of this type.

PROJECT I.A.2.d.-INTERDICTION, Operations, Naval Air (Other than Marine Air)

RECOMMENDATIONS

1. That air interdiction not be relied upon to provide absolute denial to the enemy of his lines of communication and supply. Air interdiction is relative, at best, and will not completely deter an enemy of the type we are now fighting over terrain of the kind found in Korea.
2. Future interdiction operations should provide for aircraft over the target areas at night as well as during the day.
3. A Joint Service Interdiction staff section, with qualified and experienced officers having no other duties, should prepare the plans for future interdiction operations. Once approved, these plans should be followed by all services, each service making a contribution along the line where its abilities can be most effectively utilized.
4. The distinction between Interdiction and Armed Reconnaissance should be brought to the attention of the Naval Aeronautical organization and the difference between these two missions clearly established.
5. We should deploy a heavy photographic squadron with an interpretation team to provide for the maximum photo intelligence for prompt relay to operational commanders.
6. We should immediately undertake an extensive research program to find better ways, means, systems and techniques and the development of equipment which will enable the location of enemy forces day and night, whether on the move or in fixed concealment.

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PROJECT I.A.2.e. - ATTACK, Operations, Naval Air (Other Than Marine Air)

CONCLUSIONS

1. Much more general employment of pre-strike and post-strike photographic coverage is required for purposes of damage assessment and for improvement of accuracy of delivery.
2. An air group of the present composition is capable of routine missions to a radius of two hundred twenty (220) nautical miles with effective attack loads, performance of the CORSAIR being the limiting factor.
3. It is practicable to provide jet fighter cover rendezvousing with the attack group at a short distance from the target area, remaining with the group until retirement.

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PROJECT I.A.2.e. - ATTACK, Operations, Naval Air (Other Than Marine Air)

RECOMMENDATIONS

1. Provide planned pre-strike and post-strike photographic coverage for all air attack operations.
2. Replace the CORSAIR with AD's for attack missions as discussed in the study of Naval Air Equipment.

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PROJECT I.A.2.f. - AIR DEFENSE, Operations, Naval Air (Other than Marine Air)

CONCLUSIONS

1. In combat operations against satellite nations, initial air opposition may not be of the same standard as either Soviet or our own air operations. On the other hand, reinforcement by Soviet aircraft, and even Soviet pilots is an ever present possibility which must be faced.
2. Notwithstanding well laid plans for control of air defense to be passed ashore upon the successful execution of an amphibious landing, unforeseen exigencies may delay establishment of the shore Tactical Air Direction Center. A delay similar to that encountered at Wonsan may happen again.
3. Officers and enlisted personnel assigned to CIC were inadequate in numbers for effective conduct of combat operations.
4. The present situation for identification of aircraft is unsatisfactory.
5. CIC's techniques have not been developed to a completely satisfactory point with respect to interior communications. Delay in transmission of information to the flag and commanding officers may again prove fatal as it did on at least one occasion during World War II.
6. The performance of SPS-6B radar equipment has been outstanding.
7. VHF communication channel assignments emphasized close air support and amphibious requirements at the expense of air defense. In the event of determined aerial opposition, such a policy could result in jammed air defense channels with resultant complications.

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PROJECT I.A.2.f. - AIR DEFENSE, Operations, Naval Air (Other than Marine Air)

RECOMMENDATIONS

1. That air defense measures in naval forces in combat areas not be relaxed even through effective air opposition in Korea has thus far been lacking.
2. That during amphibious operations, AGC, BB, CA/CL, DD/DDR/DDE and other vessels capable of control of aircraft in the objective areas be made available for such duty in the event of the delay in establishment on the shore Tactical Air Defense Center.
3. That officer and enlisted allowances for ships deployed to potentially active areas be more realistically planned in order to provide adequate personnel for effective combat operations.
4. That the replacement of MK 3 IFF by MK IFF be expedited all possible in order to shorten the "twilight" period when two systems will be in use.
5. That OPNAV initiate a study of the interior communications doctrine prescribed in effective publications concerning CIC with a view toward the improvement of this doctrine.
6. That SPS-6B radar equipment be installed in combatant ships with high priority.
7. That air defense communications requirements be given more consideration in future planned amphibious operations in order that the necessary channels required for this use may be provided.

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PROJECT I.A.2.g. - ASW, Operations, Naval Air (Other than Marine Air)

CONCLUSIONS

1. Within the limitations of the five (5) -S configured aircraft assigned each squadron, the PBM Squadrons now operating in the Far East are trained and ready for any demands that may be made upon them in ASW Operations.
2. The VA(W) and VA(N) units of the Fast Carrier Task Force were inadequately trained for ASW missions at the time of their deployment from West Coast bases. The lack of training opportunities in the forward area prevented overcoming this handicap.
3. The Requirements for Intelligence for ASW in the operating units had not been fully provided for prior to the outbreak of hostilities.
4. A need exists for closer liaison between surface units engaged in ASW and air units similarly engaged.
5. If the Soviets had unleashed an unlimited submarine campaign at any time up to now, the Naval Air ASW organization would have been unable to handle it because of insufficient forces available and because of the poor material condition of the ASW equipment.

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PROJECT I.A.2.g. - ASW, Operations, Naval Air (Other than Marine Air)

RECOMMENDATIONS

1. VP 42 and 47 should be held intact in so far as possible in order that the know-how which they have acquired concerning ASW operations not be lost.
2. Review adequacy of equipment for ASP purposes and insure that deployed crews are adequately trained.
3. Provide a ground organization within the operating squadrons to meet the requirements for intelligence for ASW.
4. Provide greater contact between surface and air commanders engaged in ASW. Supervision of this contact should be furnished by the Force Commander. Provide for the interchange of officers on a temporary basis between the naval air and surface units.

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PROJECT I.A.2.h. ANTI-MINE, Operations, Naval Air (Other Than Marine Air)

CONCLUSIONS

1. Prior to the discovery of mines in the area, intelligence relative to the time, locations and methods of enemy mining operations was lacking.
2. Intelligence was developed through captured enemy documents and material, and interrogation of enemy prisoners.
3. It is probable that some mining activity was observed by patrol aircraft during coastal reconnaissance but was not interpreted as such.
4. If an effective air intelligence organization had existed in the area at the time the activity was observed it is possible that it would have been interpreted correctly.
5. Once the presence of mines was known, anti-mine search and reconnaissance operations conducted by patrol aircraft independently and in coordination with mine-sweepers were effective.
6. The employment of helicopters in coordination with mine-sweepers in the development of mine fields was effective.
7. Counter-mining with depth bombs by patrol aircraft and general purpose bombs by carrier aircraft was not effective. However, it has possibilities as evidenced by the relatively more successful effort made by patrol aircraft on 28 and 29 November.
8. Strafing with machine gun fire proved to be the most effective method of destruction of mines by aircraft.
9. Little training other than familiarization is necessary for aircraft personnel to become reasonably proficient in the detection of mines and their destruction by strafing.
10. Training of patrol aircraft personnel in recognition of mining operations by surface craft is needed.

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PROJECT I.A.2.h. - ANTI-MINING, Operations, Naval Air (Other Than Marine Air)

RECOMMENDATIONS

1. Assign trained air intelligence, including photo-interpretation personnel to units which are expected to engage in such operations.
2. Include the following in the training program of patrol squadron and helicopter personnel.
 - a. General familiarization with surface mining methods and techniques.
 - b. General familiarization with mine-sweeping methods and techniques.
 - c. Exercises with mine-sweepers.
3. Give high priority to research in anti-mining by aircraft including helicopters.

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PROJECT I.A.2.i. - PATROL SQUADRONS, Operations, Naval Air (Other than
Marine Air)

CONCLUSIONS

1. The patrol squadrons satisfactorily performed the missions assigned to them in the Korean War.
2. The greater part of the operational effort of the patrol squadrons was devoted to ASW. In the absence of proven enemy submarine opposition, it is difficult to assess the effectiveness of this effort.
3. A development of the Korean War has been the excellent performance of patrol planes in aerial mine search and destruction.
4. Although only an occasional employment, patrol planes have demonstrated their ability to spot, if so required.
5. The material condition of the ASW equipment in patrol planes is not being maintained at its optimum, partly because of lack of need to use it.
6. The landplane patrol squadron under present naval concept is not organized or equipped for deployment except in relation to supporting elements such as the Fasron and the air station or acorn. This concept does not provide adequate mobility for the landbased patrol squadron under conditions such as existed in Korea.
7. The shortage of qualified communication personnel in the wing staff and in the squadrons was a contributing factor in preventing the full effectiveness and capabilities of aerial search and reconnaissance missions from being realized.
8. The concept of the naval requirements for mobile seaplane squadrons supported by AV and AVP was proved valid.

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PROJECT I.A.2.1. - PATROL SQUADRONS, Operations, Naval Air (Other than
Marine Air)

RECOMMENDATIONS

1. The Navy Department should consider the assignment of an additional mission to patrol plane squadrons, the search and destruction of mines.
2. Consideration should be given to the assignment of a secondary mission to patrol planes of spotting.
3. ASW equipment in patrol planes should be brought up to peak operating condition, in anticipation of a possible future submarine offensive. -S configurations should be fully completed. Adequate maintenance facilities and maintenance personnel should be assigned to insure proper operation of all installed ASW equipment.
4. Review the concept of mobility of the landplane patrol squadron and the relationship between Patron, Fasron and established air station or acorn with a view to improving the mobility of the VPML.
5. Adequate transport and utility squadrons should be made available in any active area of combat operations in order that patrol squadrons will not be diverted from their combatant operations to logistic support missions.
6. A minimum of one landplane and one seaplane patrol squadron should be in readiness in each Fleet for deployment on 10 days notice and prepared for operations from a seadrome, and Air Force Base, or a Naval Air Facility, as the circumstances may dictate. Such squadrons should be completely provided with maintenance personnel, ammunition, spare parts kits, vehicles and field equipment as an integral and organic part of the squadron.
7. Assign qualified communication personnel in sufficient numbers to wing staffs and squadrons in forward areas to insure that the full effectiveness and capabilities of aerial search and reconnaissance missions can be realized.

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PROJECT I.A.2.j. - HELICOPTER, Operations, Naval Air (Other than Marine Air)

CONCLUSIONS

1. Helicopters significantly increase the ability of military forces in accomplishment of many types of missions.
2. The helicopter has great value in anti-mine operations.
3. Evacuation of wounded would be facilitated if the helicopter could proceed directly to the hospital ship.
4. Helicopter maintenance requirements are much greater than those of fixed wing aircraft.
5. Principal development requirements are as listed under "Recommendations".

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PROJECT I.A.2.j. - HELICOPTER, Operations, Naval Air (Other than Marine Air)

RECOMMENDATIONS

1. Review allowances of helicopter for carrier, battleship, and cruiser types.
2. Procure sufficient helicopters to meet the above requirement, plus those needed for other naval activities and the Marines, plus logistic support requirements.
3. Provide helicopter landing platforms in hospital ships.
4. Develop equipment and techniques for optimum location of mines by helicopter, and for their destruction when located.
5. In future helicopter development include:
 - a. Improved reliability, reduced maintenance.
 - b. Greater endurance and/or payload.
 - c. Facilities for night and instrument flying.
 - d. Some protection against small arms fire.
 - e. Simpler control.
 - f. Less critical load balancing requirement.
 - g. Versatility in equipment carried.
 - h. Accommodation for casualties in stretchers.

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PROJECT I.A.3. - PERSONNEL, Naval Air (Other Than Marine Air)

CONCLUSIONS

1. Officer Personnel

- a. The basic allowances of the staffs, ships, squadrons and shore establishments in commission at the outbreak of hostilities were inadequate to carry on sustained combat operations or in the case of shore establishments to support those operations.
- b. The necessity for augmenting staffs from 80% to 100%, ships from 20% to 50% and squadrons from 50% to 100% over their basic allowances, is evidence that the basic allowances are unrealistic and inadequate for meeting emergencies.
- c. The speed of augmentation was inadequate considering the fact that after four and one-half months the augmented allowances still were not filled.
- d. Aviation officers of adequate rank and qualifications should be included in non-aviation staffs as Air Officers; or in the Operations, Plans and Intelligence Divisions of the staffs of those major commands whose missions call for exercise of operational control over, or close coordination with air elements.
- e. The staffs of COMFAIRJAP and COMFAIRWING SIX had an insufficient number of officers on board upon commissioning to carry out their functions efficiently.
- f. The overall shortage of qualified CIC, Communication, Air Intelligence and Photo-Interpretation Officers, calls for an intensified training program to qualify officers for these billets.
- g. It is necessary that aviation ground officers be readily available to be assigned to carrier air groups and patrol squadrons in combat to carry out Administrative, Maintenance and Air Intelligence duties.
- h. In numerous cases officers who did not have the necessary qualifications or were of below average ability were assigned to staffs in the area.

2. Enlisted Personnel

- a. The basic allowances of the staffs, ships, squadrons and shore establishments in commission at the outbreak of hostilities were inadequate to carry on sustained combat operations or in the case of shore establishments to support those operations.
- b. The necessity for augmenting staffs from 39% to 95% and ships from 25% to 80% over their basic allowances is evidence that the basic allowances for staffs and ships are unrealistic and inadequate for meeting emergencies.
- c. The speed of augmentation was inadequate considering the fact that after four and one-half months the augmented allowances still were not filled.
- d. The overall shortage of first and second class petty officers in the engineering, electronics, supply and administrative or clerical rates calls for an intensified training program to qualify men for advancement in those ratings.
- e. The staffs of COMFAIRJAP and COMFAIRWING SIX had an insufficient number of men on board upon commissioning to carry out their functions efficiently.
- f. In numerous cases men who did not have the necessary qualifications or were of below average ability were assigned to staffs in the area.

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PROJECT I.A.3. - PERSONNEL - Naval Air (Other Than Marine Air)

RECOMMENDATIONS

1. It is recommended that:

- a. All Air Force Pacific Fleet Staffs, ships, air groups and squadrons be brought up to the present augmented allowances as soon as possible.
- b. Aviation officers of adequate rank and qualifications be assigned as Air Officers; or in the Operations, Plans and Intelligence Divisions of the staffs of those major commands whose missions call for exercise of operational control over, or close coordination with air elements.
- c. Inaugurate an intensified training program to qualify officers for Communications, CIC, Air Intelligence and Photo- Interpretation duties.
- d. Inaugurate an intensified training program to qualify men for advancement in rating in the engineering, electronics, supply and clerical rates.
- e. Screen all officer and enlisted personnel thoroughly prior to assigning them to staffs in the combat area.
- f. When and if a staff is established in a forward or combat area insure that a full allowance of qualified officer and enlisted personnel are actually on board upon commissioning.

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PROJECT I.A.4. - TRAINING, Naval Air (Other than Marine Air)

CONCLUSIONS

1. Considering the budgetary limitations and personnel instability that existed during the fiscal year 1950, ships and squadrons attained as high a state of operational readiness as could be expected prior to participation in the Korean Action.
2. Considering the continuation of the Korean Action and the unsettled future existing more concentrated training programs are desirable for both ships and squadrons in order to attain combat readiness in the minimum practicable time.
3. All fast carriers, escort carriers and tenders performed satisfactorily all operations required of them in the Korean Action.
4. The lack of determined submarine and air opposition precludes firmly establishing the adequacy of training for general war received by the fast carriers, escort carriers and tenders engaged in the action during the period of this report. Their operational performance indicates that within the limitations of their basic peacetime allowances of personnel they were adequately trained. However, these allowances were inadequate to carry on sustained combat operations. The resulting necessity for augmenting officer personnel from 20% to 50% and enlisted personnel from 25% to 80% after ships were in combat, or had completed the major portion of their training, would make the existence of a satisfactory degree of readiness for general war doubtful in the majority of ships at the time of their deployment.
5. Fast carrier squadrons performed the majority of missions assigned in a satisfactory manner; were especially effective in close air support when employed under the Marine Corps/Navy control system, and were adequately trained for the Korean Action. However, certain conditions were encountered and missions assigned which normally could not be foreseen, but should be considered in future training plans. They are as follows:
 - a. Pilots encountered difficulty in recognizing small, camouflaged and defiladed targets, and in successfully delivering attacks against them from the low altitudes and employing the shallow dives imposed by low ceilings and terrain.
 - b. It was necessary on many occasions for pilots to perform close air support missions under the Air Force/Army control system.
 - c. The unfamiliarity of the majority of pilots with gunfire spotting procedures caused poor results on many of these missions.
6. The adequacy of training of the fast carrier squadrons for general war cannot be firmly established principally because of the lack of determined air opposition and adequate photographic coverage for assessing weapon accuracy. However, the low average degree of reported readiness, caused primarily by budgetary limitations and high personnel turnover interfering with the training program, raises considerable doubt that a satisfactory degree of readiness for general war was attained.
7. VF(N) and VA(N) units were not employed extensively enough to assess the adequacy of their training in night and all-weather missions. However, the need became evident for research and development of equipment, methods and techniques; and subsequent training of all-weather units, to provide around-the-clock and all-weather interdiction and close air support.
8. VA(N) and VA(W) units were not adequately trained for ASW.
9. The inadequate pre-strike and post-strike photographic coverage and the

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PROJECT I.A.4. (Cont'd)

evidences of poor flight and camera techniques in some photographs received by COMNAVFE raises doubt as to the adequacy of training received by the VF(P) units.

10. Helicopters performed all the missions assigned in an excellent manner; were adequately trained for the Korean Action, and for all missions that can now be foreseen for them to perform in a general war.

11. Patrol squadrons performed all the missions assigned them in a satisfactory manner. Their performance in mine search and destruction was excellent and they were adequately trained for the Korean Action. In the absence of proven enemy submarine opposition their effectiveness in that department cannot be assessed. However, from their performance in this action on all missions, and their high state of initial readiness, it is evident they were adequately trained for general war.

12. There was no perceptible difference in the combat performance of AIRPAC and AIRLANT units. Carriers and squadrons operated together with no difficulty and no loss in effectiveness; thereby indicating no undesirable differences in training methods and standards between the two commands.

13. The inadequacy of officer and enlisted peacetime allowances resulted in a critical shortage of qualified personnel for the performance of certain duties necessary to carry on combat operations. This same personnel austerity prevented individual commands from deriving maximum benefit from training schools and facilities. Practically all training was necessarily done "on the job".

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PROJECT I.A.4. - TRAINING, Naval Air (Other than Marine Air)

RECOMMENDATIONS

1. The cognizant divisions or sections under the Chief of Naval Operations, the Chief of the Bureau of Personnel and the Type Commander make a strong effort to stabilize personnel at authorized allowances during the training periods and combat tours or forward deployment of ships and squadrons. In the event that such stabilization is not practicable provide operationally trained reliefs for key squadron personnel and fully qualified officers and men as reliefs for key ship personnel.
2. Concentrate the training programs of ships and squadrons in order to attain combat readiness in the minimum practicable time.
3. Include in the training program for all fast carrier pilots the following:
 - a. Qualification in close air support missions under Marine/Navy system of control including operations with Marine ground forces Marine TACP's.
 - b. Familiarization with Air Force/Army system of control.
 - c. Discovery and recognition of small, camouflaged and defiladed targets.
 - d. Bomb, rocket, strafing and Napalm attacks against these targets from relatively low altitudes and utilizing shallow dives, in addition to the conventional types of attack.
4. Include in the training program of patrol squadrons and helicopters:
 - a. General familiarization with surface mining methods and techniques.
 - b. General familiarization with mine-sweeping methods and techniques.
 - c. Exercises with mine-sweepers.
5. Include in the training program of each fast carrier group and patrol squadron qualification of a small number of otherwise experienced pilots in air spotting for surface gunfire.
6. Assign priorities to the training recommended in 3, 4 and 5, that are consistent with the priority of the squadrons' missions.
7. Emphasize night and all-weather training in close air support and interdiction commensurate with the capabilities of the equipment.

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PROJECT I.A.5. - AIR INTELLIGENCE, Naval Air (Other than Marine Air)

CONCLUSIONS

1. Due to the lack of qualified officers an effective naval air intelligence organization did not exist in the Japan-Korea area at the outbreak of hostilities.
2. Procurement and assignment of qualified officers later allowed the formation of relatively adequate organizations in the staff of COMNAVFE and throughout the Fast Carrier Task Force, but were of insufficient number to supply the needs of COMFAIRJAP, FAIRWING SIX and the Escort Carrier Task Group.
3. Personnel and organization were adequate in the 1st MAW during the entire period.
4. Basic information and materials available in the area were inadequate for the conduct of naval air operations.
5. Neither visual, nor photographic air reconnaissance provided adequate pilot briefing material for the conduct of attack and interdiction missions conducted by the fast carrier and Marine squadrons, or for assessment of damage resulting therefrom.
6. For close air support operations the information supplied for pilot briefing was inadequate.
7. Information supplied the patrol squadrons was not always sufficiently complete and up to date to allow adequate pre-flight briefing of pilots.

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PROJECT I.A.5. - AIR INTELLIGENCE, Naval Air (Other than Marine Air)

RECOMMENDATIONS

1. Bring all Air Force Pacific Fleet staffs, ships, air groups and squadrons up to their augmented allowances of air intelligence and photo interpretation personnel as soon as possible, giving first priority to units in the combat area.
2. Establish a program for the procurement and training of aviation ground officers to fill the air intelligence needs of the Pacific Fleet.
3. Give consideration to the inclusion of naval aviators of adequate rank and experience in this program for the purpose of ultimate assignment to air intelligence duties on force and fleet staffs.
4. Establish naval facilities for the rapid supply of maps and charts, and the processing of photography, needed for naval air intelligence purposes in the Japan-Korea area and in areas of probable future operations.
5. Establish training programs in Navy and Marine squadrons in familiarization of potential trouble areas, recognition of ship, aircraft and ground targets and other related air intelligence subjects.
6. Include sufficient photographic aircraft in the complements of carriers deployed to the forward areas to insure adequate photographic coverage to fulfill air intelligence needs.

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PROJECT I.A.6. - LOGISTICS, Naval Air (Other Than Marine Air)

CONCLUSIONS

1. Operations were not hampered to any serious degree by lack of aviation supplies.
2. Logistic requirements should be given careful consideration in operational planning to assure reasonable logistic support.
3. Logistic support should remain mobile to the maximum practicable extent especially through use of aviation supply vessels.
4. The landplane patrol squadron under present naval concept is not organized or equipped for deployment except in relation to supporting elements such as the FASRON and the air station or acorn. This concept does not provide adequate mobility for the landbased patrol squadron under conditions such as existed in Korea.
5. FASRON allowances should include a complete allowance of Section "G" shop equipment to assure reasonable mobility.
6. Establishment of an airplane pool at a point unnecessarily remote from the users, as at Guam, is undesirable.
7. Supply of airplanes, although tight at times, was generally satisfactory.
8. Supply of aircraft engines likewise was generally satisfactory.
9. Exploitation of air transportation is extremely valuable in assuring satisfactory outfitting of aviation type vessels, and avoidance of AOGs (grounded airplanes).
10. In addition to its other functions, the Fleet Logistic Air Wing performed a valuable service in supporting aviation type ships, which frequently are remote from established MATS routes.
11. An air transportation system for distribution of items in the operating area is necessary.
12. Airplane courier service to carrier groups is necessary to provide logistic support.
13. The need for cargo airplane bases or landing strips close to all major naval bases has been demonstrated. Lack of such imposes a severe handicap on logistics and administrative operation. Seaplane or amphibian support is a less satisfactory alternative.
14. Transportation of airplanes to the forward area was satisfactory.

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PROJECT I.A.6. - LOGISTICS, Naval Air (Other Than Marine Air)

RECOMMENDATIONS

1. Continue to implement philosophy of mobile support.
2. Review the concept of mobility of the landplane patrol squadron and the relationship between PatRon, FASRon and established air station or acorn with a view of improving the mobility of the VPML.
3. Revise aviation Circular Letter 100-49 to provide FASRons allowances of ship equipment irrespective of their bases.
4. Maintain airplane pools at locations as close as practicable to the users.
5. Maintain Fleet Logistic Air Wing service for support of aviation type ships.
6. Assure that an air transportation system exists for local coverage of the operating area.
7. Provide shore based courier service to operating carrier groups.

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PROJECT I.A.7. - EQUIPMENT, Naval Air (Other than Marine Air)

CONCLUSIONS

1. There were no defects in carriers, airplanes or equipment which prevented the accomplishment of missions assigned in the Korean operations during this report period.
2. The aviation fuel capacity of ESSEX class carriers is inadequate.
3. The CVE is only marginally satisfactory for basing Corsairs for close air support employment.
4. Catapults in ESSEX class carriers were only marginally adequate for launching F9F-2 and -3 airplanes.
5. Aircraft fueling and de-fueling provisions in ESSEX class carriers are inadequate in delivery rates.
6. The time required for replenishing aviation fuel is roughly double that required for replenishing black oil.
7. Assignment of carrier space to air groups should be re-examined and adjusted if necessary.
8. The ARV ships FABIUS (ARVA-5) AVENTINUS (ARVE-3) arrived in the Far East too late for evaluation during the present report period.
9. Korea employment of the F9F did not justify installation of rockets in that model.
10. The F9F is not a satisfactory close air support airplane, as compared with the AD and Corsair.
11. F9F combat losses were not excessive; no requirement for added armor was indicated.
12. The weight of the F9F-2 and -3 is excessive as compared with thrust available.
13. The Corsair airplane is excessively vulnerable especially in the lubricating oil system.
14. The Corsair has been rendered obsolescent as a fighter by the F9F and other jet fighters, and as an attack airplane by the AD.
15. Cruising speed of the AD while equal to that of the Corsair is too low for convenient close escort by jet fighters.
16. AD effectiveness in operations such as those required in Korea would be greatly enhanced by addition of two more 20 MM guns.
17. While Helicopters proved to be of great value, need for improvements in pay load, endurance, instrument flight capabilities, and protection was indicated.
18. Helicopters require considerably more maintenance effort than fixed wing airplanes due to their complexity and fragility.
19. The value of Napalm under conditions such as those encountered in Korea justifies development of a special Napalm tank.
20. No reliable evaluation of ATAR's was possible during this report period.

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PROJECT I.A.7. (Cont'd)

21. Incidence of hung rockets is high, many of these becoming detached on landing aboard ship.
22. Use of the toss bomb sight in the AD in Korea was not sufficient in itself to justify specification of this sight. However, experience in Korea is not considered conclusive.
23. Loss rates of ADs were not sufficient to justify addition of armor at the expense of payload.
24. There is a requirement for a search and rescue aircraft to recover air crews in the water at distances up to 150 miles from the ship.

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RECOMMENDATIONS

1. Expedite the 27A carrier conversion program in order to provide added aviation fuel capacity, added catapult launching energy, and other improvements.
2. Provide carriers with launching capacity greater than that of the present CVEs for close air support squadrons.
3. Increase rate of fueling and de-fueling airplanes in ESSEX class carriers.
4. Modify present ESSEX class carriers to double aviation gas replenishment rate.
5. Type Commander review assignment of carrier spaces to air groups.
6. At high priority provide a carrier fighter capable of combatting contemporary developments of the MIG-15. The F9F has inadequate performance for fully effective defense against MIG-15 type jet fighters.
7. Permanently remove HVAR rocket provisions from F9F and similar jet fighters.
8. Make no sacrifice in F9F or other similar fighters to provide close air support features.
9. Make no addition of armor to the F9F.
10. If practicable decrease the weight of the F9F-2 and -3 by a means other than removing fuel; add items of significant weight only with compensating decreases.
11. Continue the installation of armor plate for oil coolers, and oil cooler by-pass valves, in Corsair airplanes.
12. Replace Corsairs with jet fighters to the extent that fighters are required, and with ADS to meet attack requirements.
13. Develop and procure attack airplanes with cruising characteristics suitable for escort by jet fighters.
14. Increase the forward fixed battery of the AD to four 20 MM guns.
15. Develop new helicopters which provide greater payload or endurance or both, instrument flight capabilities, and some measure of protection.
16. In new helicopter development, attempt to achieve greater sturdiness.
17. Develop an inexpensive easily stowed tank suitable for Napalm use to be distributed by the Service Force in the same manner as ammunition.
18. Provide greater assurance of discharging all rockets, or provide a positive means of releasing hung rockets in flight, or provide greater security of the rockets on the racks; or possibly two or three of these measures.
19. Assure adequate training in use and maintenance of the toss bomb sight in the AD prior to deployment of AD squadrons.
20. Make no increase in armor protection in the AD.
21. Provide a rescue aircraft, perhaps a version of a production helicopter type, suitable for rescue of aircrews in the water at distances up to 150 miles from the carrier.

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PROJECT I.A.8. - BASES, Naval Air (Other Than Marine Air)

CONCLUSIONS

1. At the outbreak of hostilities in Korea in June 1950, the U.S. Navy was faced with a problem of augmenting Naval air forces in the Western Pacific.
2. Naval air facilities available at the beginning of hostilities consisted of one (1) activity with accommodations for limited seaplane operations and storage. No land plane facilities under Navy control were available in Japan. The problem of acquisition of air facilities became an immediate and pressing one.
3. Use of certain Air Force facilities under temporary agreement subject to change or cancellation emphasized the need for base facilities under Navy control.
4. A lack of Naval air staff personnel in the Western Pacific made it necessary to operate with make-shift and interim staffs at a very critical period. This lack of staff personnel further complicated the air base problem.
5. The need for an aviation supply facility in Japan to meet wartime operational needs imposed an additional base requirement on Naval Air in the Western Pacific.
6. A shortage of FASRON personnel in the Western Pacific further complicated the air base problem by requiring already relatively small detachments to be further sub-divided to provide support for Naval air units deployed among various Air Force facilities.
7. The lack of a land plane facility adjacent to Sasebo Naval Base imposed severe restrictions on movement of both personnel and cargo to and from this vital area.

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PROJECT I.A.8. - BASES, Naval Air (Other Than Marine Air)

RECOMMENDATIONS

1. As a matter of policy, the U.S. Navy should retain emergency rights to facilities relinquished to other services in areas where forced economies or other reasons require their inactivation as Naval facilities.
2. To the extent permitted by the peace treaty when made, Naval Air should maintain both NAF Yokosuka and NAS Atsugi in their present or projected status to insure the continued availability of air bases for Naval use.
3. Naval staffs should include sufficient Naval air personnel to insure continued evaluation of Naval Air problems and timely action for their solution.
4. As a planning policy, land-plane facilities in close proximity to major fleet bases should be provided wherever practicable.
5. The possibility of improving deployment and advanced base operating capabilities of Fleet Air Wing elements should be considered.

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PROJECT I.B.1. - ORGANIZATION, Marine Air

CONCLUSIONS

General

1. While the Marine Corps is primarily an amphibious force it is also a force in being with a highly developed readiness. In future emergencies, as in Korea, Marine ground and air units may expect to be deployed and committed quickly wherever they are needed and whether or not the operation is amphibious. Marine aviation therefore must be organized and equipped to support our ground forces in overland operations extending beyond amphibious beachheads.
2. The ability of the First Marine Aircraft Wing to organize, equip and embark Marine air units for the Far East within ten (10) days after receipt of the directive demonstrates the soundness of the overall organizational and command structure of Fleet Marine Force air units.
3. The immediate redeployment of air units to combat operations from both land and carrier bases, within a matter of days after their arrival in Japan attests to the basic soundness of their individual organizational structure. Their combat performance in support of the 1st Provisional Marine Brigade and other elements of the Eighth U.S. Army during the Pusan perimeter operations further supports this conclusion.
4. The participation of Marine air units (MAG-33, Reinf.) in the Inchon amphibious assault, providing close air support continuously with two (2) squadrons CVE based and initiating air support operations from KIMPO airfield three (3) days after its seizure by the 5th Marines further certifies the soundness in the organizational make up of the Marine Aircraft Group as well as the Squadrons.

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PROJECT I.B.1. - ORGANIZATION, Marine Air

SPECIFIC CONCLUSIONS

1. The rapid deployment of air units into airfields as soon after seizure as possible as accomplished at both KIMPO and WONSAN, supported initially by airlift, demonstrates a continuing need for transport elements organic to the Marine aviation organization.
2. The increased tempo of deployment of Marine air units experienced throughout the Korean campaign indicates a trend in tactical employment. Initial readiness plus flexibility of movement are becoming increasingly important organizational characteristics.
3. Movement of tactical air units into newly seized airfields created an immediate and urgent need for air base elements to set up and operate the airfield and its facilities.
4. Marine air units employed on airfields close in rear of fighting ground elements will continue to face an airfield perimeter security problem over and beyond the internal security of their own area.
5. Marine Divisions will continue to experience the need for an air support section operating in close proximity to and directly with the Division Commander and his staff. Marine Air Wings will continue to experience the need for an overall air control agency operating in close proximity to and directly with the Wing.
6. The doctrine presently in use in amphibious operations under which control is initially exercised by the naval commander afloat and later passes to the ground commander ashore is sound.
7. The doctrine imposing the highest air echelon in the area (Fifth Air Force) in the operational chain of command between the ground commander (CG, X Corps) and the supporting air commander (CG, 1st MAW) creates a cumbersome system and contravenes proven principles of air-ground team work as employed by the Marine Corps.

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PROJECT I. B.1. - ORGANIZATION, Marine Air

RECOMMENDATIONS

1. Although Marine air units were successful in their frequent and rapid redeployment made necessary by the changing ground situation, the Marine Corps must continue to examine the weight and composition of its tactical air units with a view toward improving Marine aviation's ability to redeploy its tactical squadrons to bases afloat or ashore.
2. Although the present organization of Group Headquarters and Service Squadrons provides personnel for limited air base functions, the Marine Corps should examine airbase operation requirements in the light of experiences in Korea.
3. Any plan envisaging the early employment of Marine air units on forward airfields must include provisions for perimeter defense of airfields.
4. The entire concept of employment of the Marine Air Control Group and its subordinate elements in conjunction with the existing control system for close air support should be examined and consideration given to the thought that an element similar in nature to the air support section of a Marine Tactical Air Control Squadron (MTACS) be made organic to each Marine Division and an overall air control agency including an element similar to the air defense section of MTACS be made organic to each Marine Aircraft Wing. This recommendation has as its basis the concept that air support control is of primary interest to the ground commander while air defense and overall air control is of primary interest to the air commander.
5. The Marine Corps must insist on retention of the direct interlocking relationships established between the Marine ground commander and his Marine supporting air commander. When and if employed in conjunction with U.S. Air Forces and U.S. Army ground forces in addition to our own fleet Marine forces, the same interlocking relationships should be maintained.

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PROJECT I.B.2.a. - CLOSE AIR SUPPORT, Marine Air

CONCLUSIONS

1. The Marine Corps Close Air Support system again has been proved to be sound and effective.
2. Marine Corps joint air-ground training has ensured effectual utilization of the Marine Close Air Support system.
3. There is evidence that further training effort could profitably be devoted to Battalion - Squadron exercises.
4. Night and all-weather close air support technique is an area in which much remains to be done.
5. The ratio of one support squadron to one battalion of infantry is appropriate for amphibious forces.
6. The jet aircraft is, at present, not the most suitable type for close support of ground forces.
7. Marine carrier-based groups can perform their missions most effectively when based aboard CV type carriers.
8. There are certain deficiencies in inter-service and intra-service communications.
9. The requirement exists for a close air support system, common to all U.N. forces, based on front-line ground control.
10. The practice of breaking up air-ground teams geared to operate together is inimical to the efficient employment of such units and contravenes the intent of the National Security Act which so constituted them.
11. There is a widespread and serious lack of understanding of approved air-ground terminology throughout the military forces of the United Nations.

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PROJECT I.B.2.a. - CLOSE AIR SUPPORT, Marine Air

RECOMMENDATIONS

1. That joint air ground training of Marine Corps units be continued at all levels and expanded at squadron-battalion level.
2. That efforts to develop all-weather, all-visibility close air support equipment and techniques be vigorously pursued.
3. That the ratio of supporting squadrons to amphibious troops be established at a figure of one squadron per battalion of infantry employed, based on presently assigned aircraft types.
4. That present and immediate future aircraft for close support be of the reciprocating engine type, but that efforts be continued to develop a versatile turbo-propelled aircraft capable of efficient performance of air attack and air defense missions.
5. That CV type carriers be made available for Marine squadrons when carrier based.
6. That the deficiencies in the status of inter-service and intra-service communications be thoroughly explored by specially qualified personnel on a UN wide basis and an adequate solution presented to the attention of the Joint Chiefs of Staff.
7. That a basic doctrine for close air support, founded on the principle of front-line ground control, be formulated and presented to the Joint Chiefs of Staff for application by all UN forces.
8. That every effort in future engagements be made to retain the tactical unity of organizations so constituted as to be geared to operate together and supplement each other in joint air-ground operations.
9. That terminology promulgated by the Joint Chiefs of Staff concerning air-ground operations be disseminated widely enough to ensure complete understanding by all branches of the service.

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PROJECT I.B.2.b. - Combat Operations Section, Marine Air, Operations
Air Defense

CONCLUSIONS

1. Air defense in Korea was largely subordinated to other air operations.
2. Air defense provisions, while more than adequate for expected opposition, would have been dangerously weak against a powerful air opponent.
3. Throughout operations in Korea considerable reliance was placed on continuous availability of Naval air defense control and warning facilities.
4. Quantitative and qualitative deficiencies in Marine Corps air defense control equipment would seriously endanger success of operations against an enemy with a high air potential.
5. Jet fighter aircraft are essential to adequate air defense against a jet equipped air power.
6. Auxiliary duties, such as perimeter defense, were assumed by air defense control units and detracted from their effectiveness.
7. It was essential to improvise co-ordination of air defense activities at Wonsan between facilities afloat and those ashore.

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PROJECT I.B.2.b. - Combat Operations Section, Marine Air, Operations
Air Defense

RECOMMENDATIONS

1. That Marine Corps air defense capabilities be based on the requirement for complete self-sufficiency once command has passed ashore.
2. That specific deficiencies in Marine air defense equipment, both ground and air, be rectified as soon as practicable.
3. That a unit of appropriate size be attached to Marine air organizations for ground defense purposes in combat.

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PROJECT I.B.2.c. - AIR TRANSPORT, Marine Air

CONCLUSIONS

1. The ready availability of airlift for both personnel and supplies is becoming increasingly important to the Marine Corps.
2. Marine air transport elements are organized trained and equipped to perform their primary mission of providing airlift and air supply for units of the Fleet Marine Force.
3. By virtue of being prepared to perform their primary mission, Marine air transport has a capability of providing air transport service for other Marine Corps units and Naval activities when such services are not met by normal air transport facilities. This, in effect, becomes a secondary mission.
4. Initially Marine air transport squadrons of AIRFMFPAC were employed entirely in trans-Pacific airlift under the operational control of CINCPACFLT. As such Marines furnished over 50% of the R5D aircraft involved.
5. VMR-152 with ten (10) R5D aircraft operated in the Far East from Itami AFB Japan under the operational control of the FEAF Combat Cargo Command. As such Marines furnished less than 5% of the total aircraft involved. Most of the loading and unloading of Marine aircraft involved in Combat Cargo Command missions was accomplished by Combat Cargo Command personnel.
6. The participation of Marine air transports in the trans-Pacific airlift constituted employment in their secondary mission, that of providing air transport service when such services are not met by normal transport facilities.
7. Marine air transport units employed in the trans-Pacific airlift were so employed because an urgent need for additional airlift existed and because they were equipped with aircraft capable of efficient trans-Pacific employment. This diversion of VMR elements from their primary mission appears justified.
8. Trans-Pacific airlift contributed appreciably to the support of Fleet Marine Forces in the Far East.
9. The rapid deployment of tactical aircraft into newly seized airfields as practiced by Marine air units in Korea placed heavy reliance on air transport for airlift of personnel and air supply.
10. These air transport requirements were met by a combination of FEAF Combat Cargo Command Support, a utilization of Marine R5D's in excess of Combat Cargo Command requirements and a utilization of administrative transport aircraft organic to Group and Wing Headquarters.
11. The contribution of the ten (10) Marine air transport aircraft to the overall Combat Cargo Command effort was relatively small. The requirements for Marine Air Transports to operate under control of FEAF Combat Cargo Command deprived the CG First MARAIRWING of certain flexible air logistic support which normally is an integral part of his command.
12. Marine air transport units experienced a shortage of qualified transport crews for maximum utilization of aircraft. This may indicate a need for inactive Marine air reserve personnel qualified and available in emergencies to augment the VMR program.

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PROJECT I.B.2.c. - AIR TRANSPORT, Marine Air

RECOMMENDATIONS

1. Marine air transport units organic to the Fleet Marine Force air organization should normally be retained in Marine Aviation to insure ready availability of airlift.
2. The Marine Corps should emphasize the training of both ground and air units in air movement and air supply. Particular emphasis should be placed on exercises requiring rapid deployment of air units with initial support furnished by air transport.
3. It should be remembered that the employment of Marine Air Transports in the Korean emergency to date has been almost totally in the field of TRANSPAC Operations. Any contemplated changes or modifications in VMR tables of organization or equipment should continue to consider the primary mission of the VMR squadrons and not consider Korean employment as normal.
4. The employment of Marine air transport units should follow a policy that provides:
 - a. That VMR units are retained under Marine Corps control and are utilized in their primary mission of providing airlift and air supply for units of the Fleet Marine Forces.
 - b. That when additional airlift beyond the capacity of Marine air transports is required requests will be made for same to outside agencies.
 - c. That when the capacity of Marine air transport units exceeds Marine requirements, this lift will be made available to outside agencies on request.
5. The Marine Corps should consider the advisability of including in its organization at appropriate level a nucleus of personnel trained and specially equipped for the rapid and efficient loading and unloading of transport aircraft.

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PROJECT I.B.2.d. - HELICOPTERS, Marine Air

CONCLUSIONS

1. The versatility and usability of the helicopter as a military vehicle under combat operations was proved in Korea to such an extent that the concept of its employment as a vehicle for ship to shore movement in amphibious operations is supported.
2. Its limitations, such as vulnerability to ground fire, maintenance requirements, high altitude performance, and the like, were not excessive in Korea.
3. A need continues for a helicopter capable of transporting a larger payload a longer distance.
4. Requests for helicopter evacuation of wounded should be passed through medical channels insofar as possible.
5. Combat helicopters, including assault helicopters should be adaptable to quick conversion to ambulance purposes.
6. Facilities for night maintenance of helicopters should be provided VMO squadrons.
7. Lack of landing facilities aboard hospital ships seriously reduced the effectiveness of helicopter evacuation.
8. Centralized control of helicopters at division level is sound practice under normal tactical conditions.
9. The practice of placing helicopter services of VMO squadrons at the disposal of other units than Marine Corps organizations, except under emergency conditions, seriously overtaxes the capabilities of VMO squadrons to perform their assigned missions.
10. The helicopter, because of its high initial as well as upkeep cost, should not be considered as a substitute for light observation or liaison type aircraft. Some of the tasks previously considered within the sphere of the OY have been better performed by the HO3S, notably those within the liaison category. Others, according to reports, should be retained for the OY, the general functions of which are discussed in I.B.2.e. of the overall report.

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PROJECT I.B.2.d. - HELICOPTER. Marine Air

RECOMMENDATIONS

1. That the helicopter program of the Marine Corps be expanded as rapidly as practicable to provide required assault air lift capabilities.
2. That evacuation doctrine require that requests for helicopter evacuation of wounded pass through medical channels insofar as possible.
3. That combat helicopters, including assault helicopters, be equipped for rapid conversion to ambulance purpose.
4. That facilities for night maintenance of helicopters be provided VMO squadrons.
5. That helicopter landing facilities be constructed on hospital ships including those employed during assault phases of amphibious operations.
6. That control of helicopters be centralized at Division level.
7. That Marine Corps helicopter capabilities be reserved for utilization by the units a VMO squadron is constituted to support.
8. That helicopters and conventional type observation aircraft be assigned in appropriate numbers to Marine Observation Squadrons.

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PROJECT I.B.2.e. - OBSERVATION, Operations, Marine Air

CONCLUSIONS

1. Because tactical and gunnery observers operate with, and in practice are billeted and messed with the VMO Unit, they might logically become an integral part of the observation squadron.
2. The landing force in amphibious assault requires a mobile operating base for its observation unit until such time as conditions permit shore-based operations.
3. Tactical Air Observers provided a valuable link between Tactical Air Control Parties and attack aircraft in close support operations.
4. VMO employment by the Division, was sufficiently broad to warrant giving consideration to placing it directly under Division headquarters for operational control.
5. The practice of night aircraft maintenance indicated deficiencies in equipment authorized VMO units.
6. A definite requirement exists for an improved observation type aircraft.
7. Observation type aircraft can be more successfully employed if equipped to communicate adequately on both medium high and very high frequencies.
8. Because of frequent operations from temporary airfields, VMO units require some form of base radio equipment.

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PROJECT I.B.2.e. - OBSERVATION, Operations, Marine Air

RECOMMENDATIONS

1. That consideration be given to establishing in VMO units an air observer section for the purpose of providing the parent ground organization with tactical and gunnery observers as required.
2. That careful consideration be given to supplying a mobile operating base for Marine observation units during amphibious operations.
3. That Tactical Air Observers be included in the Close Air Support System of the Marine Corps.
4. That the advisability of placing the VMO unit directly under Division headquarters be given thorough consideration.
5. That VMO units be fully equipped to perform night maintenance of assigned aircraft.
6. That an improved observation type aircraft be provided VMO units.
7. That VMO aircraft be equipped to communicate adequately on medium high and very high frequencies and, when required, on ultra high bands.
8. That VMO units be equipped with adequate, easily transportable, base radio equipment.

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PROJECT I.B.3. - PERSONNEL, Marine Air, Combat Operations

CONCLUSIONS

1. Peacetime economy measures necessitated personnel strength reductions in Marine Air units. These reductions, when magnified by the requirement for rapid deployment of "ready-to-go" Marine Air units to the Far East, posed serious personnel problems affecting the entire Marine Air Organization.
2. While the personnel strengths of peacetime tables of organization of Marine Air units are adequate for training, expansion and limited emergency deployment, they do not lend themselves to sustained combat operations.
3. In any emergency deployment of peacetime Marine Corps Air units, a requirement for rapid last minute personnel build-up will have to be met, if these peacetime units are expected to engage in sustained combat operations.
4. To meet readiness requirements, the Marine Corps must maintain a Marine Air Reserve in a high state of unit and individual combat readiness. This requires the inclusion of significant numbers of officers and men who have had previous experience with Marine Corps Aviation.

PROJECT I.B.3. - PERSONNEL, Marine Air, Combat Operations

RECOMMENDATIONS

1. If peacetime restrictions continue to force the adoption of tables of organization with seriously reduced personnel strengths, plans for deploying units should provide for build-up to war strength prior to actually engaging in combat operations.
2. The Marine Corps must continue to maintain a strong organized air reserve. This requires a program that will insure the feeding into organized units a steady flow of young pilots and aviation enlisted personnel.

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PROJECT I.B.4. - TRAINING, Marine Air

CONCLUSIONS

1. Marine Air training of regulars and reserves in all essential respects adequately met the requirements imposed by operations in Korea.
2. Minor areas have been revealed in which Marine air training may be improved.
3. More extensive and varied training conditions should be developed in order to realistically train pilots and ground controllers in target location, identification, and attack.
4. More accent should be placed on training of realistic small close air support flights with battalion Tactical Air Control Parties.
5. Additional emphasis should be placed on low level work to ensure maximum effectiveness of close air support as now practiced under conditions of low ceiling and reduced visibility.
6. Survival, and escape and evasion training is an area which requires continuous emphasis.
7. Marine carrier-based squadrons were of extreme value, demonstrating a continued need to keep Marine squadrons in a state of constant readiness for carrier operations.
8. The accent on close air support in Korea has produced a tendency to neglect other air support functions, notable control of the air.
9. The policy of rotating officers through all billets is a highly effective method of insuring readiness for expansion. However, war-time requirements may reduce the scope of this policy considerably.
10. Operations revealed the inability of Marine squadrons to render effective close support to the desired degree under night and all-weather conditions.

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PROJECT I.B.4. - TRAINING, Marine Air

RECOMMENDATIONS

1. That the broad pattern of regular and reserve training engaged in by Marine Corps Aviation be continued without major modification.
2. That continuing attempts be made to develop and utilize more realistic and varied training areas.
3. That close air support training place more emphasis on the squadron - battalion level.
4. That low-level operations be expanded in training to improve efficiency of close air support under low ceiling and restricted visibility conditions.
5. That renewed emphasis be placed on survival, and escape and evasion training.
6. That Marine tactical squadrons equipped with carrier type aircraft be qualified at all times for carrier operations.
7. That an immediate training effort be placed on air combat techniques to ensure readiness to engage a first rate air opponent.
8. That efforts be expanded to evolve equipment and techniques that will ensure effective night and all-weather close air support.

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PROJECT I.B.6. - LOGISTICS, Marine Air

CONCLUSIONS

1. The policy of maintaining Fleet Marine Force Air units with their organizational equipment and supplies in a ten (10) day readiness status was the determining factor in enabling the First Marine Aircraft Wing to meet established sailing dates. The policy is sound.
2. Korea has demonstrated the desirability of rapid deployment of tactical air units into airfields immediately following their seizure. Airlift of personnel, equipment and supplies to furnish initial logistic support accelerates initiation of air operations on such fields.
3. That aviation mounting out ammunition for Marine Aircraft Group 33, as prescribed in CG, 1st Marine Air Wing letter, serial 4951 ord. 4952 of 10 August 1949, was not available to the 1st Marine Air Wing Ordnance Officer when requested, as noted in MAG-33 Special Action Report for period ending 6 September 1950.
4. The initial plans for resupply of class V(A) for Marine air units placing responsibility on Far East Air Forces proved unsatisfactory due to the fact that the Air Force does not stock all types of aviation ordnance required by Marine Corps Aviation.
5. Shipping as initially allocated to Marine Aircraft Group-33 was not only insufficient to lift the aviation ammunition mounting out requirements but also forced the Group to leave approximately thirty (30) per cent of its transportation equipment behind to be shipped at a later date.
6. Limited shipping necessitated last minute tailoring of Marine Air units' personnel, supplies and equipment for the INCHON and WONSAN operations. This coupled with a shortage of time and limited planning information made the preparation of Group Logistic plans extremely difficult.
7. The lack of a major source of supply of aeronautical material west of ASD, Oakland, California placed serious time and space restrictions on the requisitioning and receipt of emergency aviation supplies as well as normal resupply.
8. Palletization of supplies of Marine air units proved to be less satisfactory than anticipated because of the fact that limited shipping frequently required breaking up of pallets during loading.
9. Although airlift into KIMPO AFB met the Class III(A) requirements for the type aircraft involved, employment of higher fuel consumption types such as jets, poses a much greater aviation fuel problem. Drummed fuel does not appear to be an acceptable answer due to the handling problems.
10. The rapid and frequent deployment of Marine tactical air units in Korea suggests that consideration be given to mounting out tactical units with thirty (30) days supplies, all capable of movement by air, with the balance of essential equipment and material controlled by a single agency organized to service all elements of a Marine Aircraft Wing.
11. Temporary shortages of aviation fuel and ammunition can be expected to occur as a result of unanticipated operational difficulties. Logistic plans should be sufficiently flexible to minimize such emergencies.
12. Marine Aviation experience in Korea in conjunction with advanced air base operations indicates the advisability of organizing and equipping additional Marine air units to assume air base functions if required.
13. Progress can be expected in reducing air's limitations in night and all-weather operations and in target location. An increase in load carrying capabilities of attack type aircraft is also indicated. The progressive improvements point out a trend toward increasing the overall aviation logistics problem.

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PROJECT I.B.6. - LOGISTICS, Marine Air

RECOMMENDATIONS

1. That the Marine Corps continue the practice and improve the present procedures for maintaining organizational equipment and expeditionary supplies in a "ready to go" status.
2. That periodic checks be made to insure that all mounting out supplies and equipment are maintained as prescribed by higher authority.
3. That every effort be made to insure the air transportability of essential aviation equipment and supplies to facilitate airlift of these items in rapidly changing tactical situations.
4. That when Marine Air Units are employed as a part of a larger force (X Corps at INCHON and WONSAN), adequate liaison be provided to insure that air's planning requirements, such as surface lift, air lift, resupply, etc., are thoroughly understood and appreciated.
5. That palletization of Marine aviation stores be restudied with the view of determining the best policy to adopt to meet problems imposed by the allocation of various types of shipping.
6. That a source of aviation material, such as aviation supply ships or shore-based supply facilities be established with high priority within reasonable accessibility of units deployed at long distances from the United States.
7. That the problems of providing aviation fuel to shore-based air units during the assault phase of an amphibious operation be actively prosecuted with a view to development of suitable equipment and techniques.
8. That the Marine Corps study the logistic capabilities of Marine air units under the present organizational and equipment concept in light of its experience in KOREA, considering the advisability of lightening the mounting out requirements for Squadrons and Groups and centralizing heavy service and logistic support at Wing level.
9. That agencies responsible for the supply of critical items to air units, such as aviation fuel and ammunition, insure that their logistic plans provide for emergency sources of these critical items in the event that normal sources are disrupted.
10. That long range aviation plans be in consonance with aircraft developments which indicate that fuel and ammunition expenditures will increase the requirements for logistical support.

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PROJECT I.B.7. - EQUIPMENT, Marine Air

CONCLUSIONS

1. The absence of effective enemy air opposition during the July - 15 November phase of the Korean War established a highly unrealistic pattern of operations.
2. CORSAIR employment in Korea was influenced to a considerable degree by the lack of enemy air opposition.
3. The advent of jet fighter type aircraft has had the effect of limiting CORSAIR employment to ground attack missions and air defense missions against reciprocating engined aircraft.
4. Developments in the design of attack type aircraft are forcing the CORSAIR into an obsolete status as an attack airplane.
5. CORSAIR aircraft in Marine Squadrons are currently being replaced by Navy jet-type fighters.
6. Marine Corps Aviation is faced with the problem of determining a balance between jet fighter types and types more suitable for close support of our ground forces.
7. An increased employment of jet aircraft by the Marine Corps imposes added operational problems. Carrier operations require carriers larger than CVE's. Shore based operations require bigger airfields.
8. Supporting equipment provided for Marine Air units must lend itself to employment in overland operations beyond amphibious beachheads.
9. Air transportability of supporting equipment required to initiate air operations at newly acquired air bases is of primary importance.
10. Experience of Marine Air Units in Korea suggests a redistribution of equipment to lighten tactical units and increase their mobility especially by air.
11. The need for air base elements to facilitate setting up and operating newly acquired airfields is primarily an equipment redistribution problem.
12. Marine Aircraft Group 33 training exercises of May 1950 recognized the need for minimum equipment and maximum logistical support and thereby established a pattern followed closely in Korean operations.
13. The recommendations of the 1st MAW Informal Board for the Revision of Allowance lists were substantiated in principle during Korean operations.

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PROJECT I.B.7. - EQUIPMENT, Marine Air

RECOMMENDATIONS

1. The Marine Corps should re-examine current plans for the replacment of aircraft in Marine Air units in the light of experience in Korea with a view of insuring a continuing availability of types suitable for close air support of our ground forces.
2. The possible introduction of VA types will create a problem of determining a proper ratio between air defense aircraft and air support or attack types. This problem merits early consideration by the Marine Corps.
3. Plans should provide for the qualification and continued training of Marine jet equipped squadrons in appropriate type carriers to insure continuation of their readiness to support amphibious operations.
4. Advanced air base requirements for the operation of jet aircraft should be examined in the light of experience in Korea.
5. Marine Corps Aviation should continue emphasis on air transportability of all possible items of supporting equipment especially those essential items required to initiate air operations from advanced bases.
6. Aviation equipment allowance lists should be re-examined in the light of experience in Korea with a view toward lightening tactical units by eliminating unnecessary items and redistributing heavy equipment to higher echelons.
7. All items of equipment required to set up and operate newly occupied advanced airfields should be in the hands of units designed for that purpose.
8. The report of the 1st Marine Aircraft Wing 1950 Informal Board for Revision of Allowance Lists should be restudied to determine the soundness of the recommendations regarding specific items of equipment when compared with actual experience of Marine air units in Korea.

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PROJECT I.C.2. - ATTACK FORCES, Amphibious and Ground

CONCLUSIONS

1. Our ability in the Korean emergency to make amphibious assault landings with extremely short planning time and without rehearsal testifies to the soundness and effectiveness of the Navy and Marine Corps peacetime training program. It also confirmed the soundness of our national policy in entrusting to the Navy and Marine Corps the specialization in, and development of, amphibious warfare.
2. The success of amphibious landings in Korea, planned and executed in an unorthodox manner, in many respects, must not set unconsidered precedents for the future. The unique conditions prevailing which made success possible must be carefully thought through. Although planning was achieved in only 10 to 15 days as against doctrine 90 to 150 days, this was made possible by the long experience of COMPHIBGRU 1's staff and by its previous studies of potential landing areas. Intensive preparatory training and full scale dress rehearsals are considered necessary for continuing success, although time did not permit this in Korea.
3. Command relationships established by current amphibious doctrine are sound. For the Inchon operation some difficulties existed at expeditionary force level, resulting primarily from the late formation of X Corps staff, its inexperience in amphibious warfare, and the physical separation of commands at this level during the landing phase. The assistance given X Corps staff by Marine TTU officers materially reduced many of the difficulties.
4. The organization of the Naval Beach Group appears to need further study and improvement. Present organization was considered to be cumbersome for command and administration. Due to personnel shortage, adequate Beach Group detachments were not available in Korea for independent operations when the regular group was already committed. (For example, the Iwon landing).
5. Korean operations proved the ability of the USSR-assisted North Koreans to mine harbors effectively. With full scale participation of Soviet forces, even more advanced techniques may be expected. In order to achieve the necessary surprise against large land mass objectives of the future, it is likely we may be forced to select the least likely and least desirable landing points on the assumption that all good areas will be heavily mined. Surprise and denial of enemy reinforcement of a selected landing area may not obtain if prolonged pre-landing sweeping operations are necessary. Future possible use of assault helicopters is indicated.
6. Although Korean employment of UDTs for on-shore demolition raids was necessitated by urgent circumstances, such employment should not set a precedent for normal amphibious situations. Except in such emergency cases, UDT personnel as organized, trained and employed by present doctrine, should not be committed to hazardous or unorthodox tasks which may jeopardize their primary function.
7. In certain areas UDT night beach reconnaissance by stealth under conditions of good visibility, and particularly in moonlight, is almost certain of failure through early detection from shore.
8. The employment of indigenous Korean labor for unloading ships did not fulfill operational requirements to the degree expected. The use of Korean labor, handicapped by language difficulties, inexperience and lack of skill resulted in unloading delays. Although a landing may be made administratively, the possible threat of enemy air or naval attack will require the most efficient labor as ship's platoons to reduce the time that ships are exposed to this threat.

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PROJECT I.C.2. - (Cont'd)

9. The basic loading problem for MSTs ships, particularly chartered merchantmen, was the lack of loading characteristics data for individual ships. This lack of information was an impediment to expeditious planning for loading and allocation of shipping to various embarkation groups.

10. Modern war, may not, in view of modern submarines, atomic attack and limited availability of shipping, permit ships to act as floating dumps in an objective area. The tendency must be toward even greater unloading rates for shipping assigned, for safety of the ships and to reduce the time between amphibious assaults. The bottleneck of unloading operations is the time required to move cargo from the beach to supply dumps. Past tendency has been to slow down unloading of ships to conform. Korean experience has not improved this condition but has continued to prove the necessity for reducing this bottleneck. In this connection, in order to avoid initial congestion and delay on the beaches, general unloading must not be commenced until the beach is secured and organized to handle the traffic.

11. Present APA and AKA are obsolescent for modern war. Unlike the LST, LSD, LSU, etc., present AKA and APA are conversions of conventional merchant cargo hulls, not designed for either economical combat loading, (only about thirty-five per cent (35%) efficient when so loaded) or rapid troop or cargo discharge. Evidence of success of a ship which can unload rapidly is the LSD. Further, our APA and AKA should have speeds well in excess of 15 knots to reduce the modern submarine menace.

12. Boats and amphibian vehicles used in World War II and Korea are antiquated. They have neither sufficient desirable speed nor (in some cases) the requisite capacity and ability to carry modern equipment. (e.g., the LCM cannot carry the M26 and M46 tank.) LVT and LCVP should have overhead protection of personnel from VT fused projectiles (air bursts).

13. LST which are repossessed and commissioned from commercial cargo employment will probably require extensive, expensive and prolonged overhaul and refitting to place them in satisfactory minimum operational readiness for assault operations. The cost and time may be prohibitive. Similarly, but to a less degree, attack transports and cargo ships which are re-assigned from MSTs peacetime use may require considerable refitting for amphibious operations.

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PROJECT I.C.2. - ATTACK FORCES, Amphibious and Ground

RECOMMENDATIONS

1. On the basis of experience in the Korean War, no change to current doctrine for amphibious command relationships is recommended. Present command structure was evolved as a result of battle experience, is eminently satisfactory, and should remain in effect until change is dictated by some future major development in the field of amphibious warfare.
2. Changes to the Naval Beach Group organization suggested by experience in Korea should be studied and tested. In particular the advisability of combining beachmaster and Naval Beach Group Commander duties under one officer, and the consolidation of the administrative elements of each unit into a single administrative unit for the entire beach group, should be considered. The organization must have future flexibility to permit the provision of detachments for the conduct of smaller concurrent operations.
3. Present employment, techniques, and organization of UDTs should not be changed as a result of their successful but unorthodox employment as raiders in Korea. Future employment for raiding should not be undertaken except in urgent situations, and only than if adequately protected by troops.
4. That merchant ships be authorized to use ship's winchmen exclusively if available in adequate numbers. The question of over-payment becomes a minor factor when speed of unloading is required to support a landing force in contact with the enemy.
5. That the force being landed provide the necessary ship's platoons from military personnel for unloading of assault shipping. Members of this force being acutely aware of their responsibilities will provide the best ships' platoons and the most efficient labor.
6. That positive provisions be made to initially augment the normally inadequate deck crew organic to the usual merchant ship in order to expedite preparing hatches and booms for unloading operations after the ship arrives at the objectives.
7. That all MSTs ships be required to prepare and maintain Ship's Loading Characteristics Pamphlets similar to those required of naval amphibious ships. These plans should be prepared in sufficient quantities and promulgated to those commanders who will require this data in order that timely distribution may be made to landing force organizations. For chartered vessels it is recommended that ships' plans be reproduced or basic data be prepared at the time of chartering, with distribution made as above.
8. If not already under consideration or preparation, it is recommended that the design and construction of a prototype attack transport and attack cargo ship, especially designed from the keel up for amphibious assault use, be undertaken. The ship should provide for rapid launching of pre-loaded assault craft by waves and, in the case of AKA, pre-loaded cargo craft. Design should provide for economical combat loading.
9. The future submarine menace may make it necessary for amphibious shipping to have higher speeds for reasonably safe movement to an objective. When possible, future design should provide such speed, particularly for LST and larger type ships assigned for amphibious use.
10. New design is recommended for assault boats and amphibian vehicles, especially for considerably more speed. In particular, the LCM must be redesigned to carry modern tanks of all types. The DUKW's capacity should be increased to permit carrying the 105 MM howitzer complete with accessories, ammunition and crew. The LVT and LCVP should have overhead protection.

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PROJECT I.C.2. - (Cont'd)

11. Some redesign of LST is recommended, particularly to provide for dry ramp landing on shallow gradient beaches. The deck cargo hatch should be enlarged or offset from the centerline since only the longest cargo booms of a ship can plumb this hatch at present. Only ramp type LST are recommended for future use; they are far superior to elevator type.

12. It is recommended that a Board of Inspection and Survey inspect LSTs 742, 802, 883, 898, 975, 1048, 715, 799, 914 and 973 (recommissioned in Yokosuka from SCAJAP and Army commercial cargo use) to determine whether fit for retention, considering the estimated exorbitant cost of repairing, overhauling and properly outfitting these ships for minimum standards of future amphibious use.

13. It is recommended that MSTs ships suitable for amphibious employment as AKA and APA be earmarked in peacetime and provisions made to insure their continuing readiness for amphibious use, particularly as concerns boats, davits and skids.

14. Helicopters should be provided for future amphibious operations, assigned and embarked in CVE, AGC, tractor group flagships, hospital ships and LST(H). Their great value for transfer of casualties, personnel and mail, and their use as anti-mine search ahead of formations was demonstrated in Korean operations. Action should be expedited for the provision of troop carrying helicopters for ship-to-shore movement.

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PROJECT I.C.3. - LANDING FORCE (Including Land Operations of FMF Units),

Amphibious and Ground.

CONCLUSIONS

1. The Marine Corps, even though seriously reduced in strength due to economy measures, was able to meet all requirements and deadlines established by higher authority and provide air-ground expeditionary forces of trained amphibious troops under emergency conditions for combat in Korea. To have been able to do this attests to the soundness of Marine Corps doctrines, schooling, training and organization.
2. Due to these same economies and restrictions, it was necessary to withdraw personnel from other Marine Corps activities and organizations, which were already understrength, to bring the 1st Marine Division and the 1st Marine Aircraft Wing to prescribed war strength.
3. Personnel shortages existed within the Fleet Marine Force, Pacific, necessitated the formation of the 1st Provisional Marine Brigade with only two rifle companies per infantry battalion. Although the 1st Provisional Marine Brigade executed all of its combat missions in an outstanding manner, the absence of the third rifle company in each infantry battalion was a serious handicap. The third company is essential to the battalion in order to provide flexibility in operations, security in depth against enemy infiltration, and staying power during prolonged frontline action.
4. It was necessary to order a high percentage of the Organized Marine Corps Reserve Units, both air and ground, to extended active duty before the Marine Corps, due to its strength limitations, could meet the overall demands imposed upon it as a result of the Korean War.
5. The combat effectiveness of the Marine Corps air-ground team and the soundness of the Marine Corps concept for the employment of its air-ground team have again been proven in combat operations.
6. Current tables of organization and equipment for the Marine Division (Reinf) provide an extremely flexible and powerful striking force for the execution of amphibious operations.
7. The amphibious effort at INCHON demanded competent professional forces skilled in amphibious operations. The 1st Marine Division (Reinf) was the only available United Nations force that could meet the requirements for the landing force component, from the point of view of composition.
8. The thoroughness and uniformity of Marine Corps training, schooling and doctrines permitted the execution of the highly successful INCHON assault landing despite the fact that major elements of the 1st Marine Division (Reinf) had not previously trained or served together.
9. Only as a result of years of joint study and training in the field of amphibious operations by Naval and Marine personnel was it possible for a group of Marine officers to fly to Japan, sit down with corresponding Naval staff officers and efficiently produce, in the short space of fourteen days, the highly satisfactory plan for the amphibious assault at INCHON.
10. For an amphibious operation in which only a single assault division is employed, the designation of an Expeditionary Troops Commander above the Landing Force Commander is unnecessary and results in needlessly complicated command relationships.
11. It was found advisable to provide Marine officers, with their inherent knowledge, training and experience in amphibious operations, to the staffs of the 1st Cavalry Division, 7th Infantry Division and the X Corps Headquarters to assist those units in their planning for the execution of the P'OHANGDONG, INCHON, WONSAN and IWON landings.

12. The execution of the INCHON landing was a calculated risk at best. The high degree of success obtained from this operation should not, however, influence or change established doctrine as relates to amphibious operations. The necessity for adequate planning time, training, rehearsals and embarkation prior to the execution of amphibious operations is still valid.

13. The Fleet Marine Force must be prepared for possible commitment into an extended land campaign which develops as the result of a successful amphibious landing.

14. The intensity, diversity and realisms of the pre-Korean unit training conducted by the Fleet Marine Force was a major factor in the combat success of the Brigade and the 1st Marine Division and their supporting air components during combat operations in Korea.

15. The thoroughness and uniformity of Marine Corps training, schooling and doctrines permitted the execution of highly successful land combat operations in Korea, despite the fact that some elements of the 1st Marine Division and the 1st Marine Aircraft Wing had not previously trained or served together.

16. Because of its prior air-ground team training, Marine aviation should be employed primarily in support of Marine ground forces, and secondarily in support of other ground organizations.

17. Marine aviation rendered effective close air support with equal success whether carrier or shore based.

18. The 1st Provisional Marine Brigade, due to lack of shipping space, was forced to leave approximately two-hundred (200) of its organic, combat vehicles in the San Diego area, when it mounted out for combat operations in Korea. This imposed additional operational limitations within the Brigade during subsequent combat in Korea.

19. The operations of the 1st Marine Division (Reinf) were seriously handicapped by a lack of motor transport, created, at least in part, by the attachment of the 7th Motor Transport Battalion to X Corps elements during the periods 17 Sept. - 1 Oct. and 28 Oct. - 15 Nov. 1950.

20. The assignment of the 1st Shore Party Battalion, 1st Marine Division (Reinf) as a Port Operations Unit by the X Corps at WONSAN, deprived the 1st Marine Division of organic personnel and equipment it could normally expect to employ during combat operations.

21. The principles of Landing Force Fire Support Coordination, as set forth in governing publications, has been proved valid, with field experience emphasizing the necessity for simplicity in all aspects of this function. Particular wisdom attaches to paragraph 1323 of USF 63 wherein it states:

"The Fire Support Coordination Center is not an additional echelon vested with command functions, nor is it charged with joint control or direction of the supporting arms. It is an advisory and coordinating body only - - -."

22. The fundamental Marine Corps conviction that military schooling and training must develop and emphasize leadership in junior officers and non-commissioned officers is sound and has been borne out in Korean combat operations.

23. The execution of the HAN River crossing was dependent on the availability of Marine LVTs, DUKWs, and pontoon ferries.

24. Marine Corps Organized Reserves, both air and ground, have performed in a highly acceptable manner since being called to active duty. This success, in part, can be attributed to the high percentage of World War II veterans within the Organized Reserve Units. The overall performance to date attests to the soundness of the Marine Corps Reserve program.

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25. Observation type aircraft remain necessary for the conduct of modern warfare and should not be replaced by the helicopter, particularly when employed in spotting field artillery fire and in the execution of tactical observation missions.

26. The performance of helicopters during Korean operations was spectacular. The employment of helicopters in Korea proved to be the outstanding "new technique" of modern warfare to result therefrom.

27. The training of selected Marine Corps personnel in the field of Civil Affairs is warranted.

28. Medical officers and hospital corpsmen require indoctrination, experience and physical conditioning prior to assignment to a Marine Division if full utilization of their capabilities in the field is to be obtained.

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PROJECT I.C.3. - LANDING FORCE, (Including Land Operations Of FMF Units),

Amphibious and Ground.

RECOMMENDATIONS

1. The Marine Corps should continue unremittingly to indoctrinate all officers and men, through frequent schooling and Fleet Marine Force duty, in the tactical doctrines and techniques which motivate operations of the Marine air and ground combat arms and their related services. This is a primary requisite to the successful emergency mobilization of an expeditionary force which is adequately trained for amphibious and other operations.
2. The Marine Corps in peace time should be maintained at a strength sufficient to insure the tactical integrity and utmost fighting ability of its units. The Marine Divisions should, regardless of expense, be maintained in a state of organization and training that will provide "combat ready" troops for any emergency.
3. In order to produce superior air-ground expeditionary forces under emergency conditions, the Marine Corps should, in peace time, maintain combined ground forces of Division size and air elements of Wing size and of proper composition. Ground and air forces should be located in proximity to each other and train together, under a common Marine Corps superior. The ground and air training programs should stress realistic and varied field exercises of extended duration for the air-infantry-tank-artillery-supporting services team at battalion, regimental and division level. Both ground and air elements should foster and continue to develop the close association of air and ground staffs and officers and a philosophy of mutual approach to the problems confronting Marine Forces in amphibious or ground combat.
4. Marine Corps air-ground training problems should be conducted with Marine squadrons operating from both ground and carrier bases. Navy fast carrier units should be included in some air-ground training programs.
5. Changes to the current Tables of Organization for a Marine Division should not be made solely as a result of operations in Korea.
6. Specific titles and relationships should be set forth in orders or plans in accordance with USF doctrines. A clear delineation of command responsibilities should be set forth for amphibious operations.
7. Fleet Marine Force unit training programs should continue to be based upon an assumption that expeditionary duty involving combat is imminent. Training should be as realistic as peace time safety and budgetary considerations permit. Field training should continue to be stressed. Recommended innovations for training programs: They should cover extended periods; they should include operations in adverse weather and terrain conditions; and they should repeatedly introduce situations taxing the capabilities of units and individuals.
8. The Marine Corps should take steps to insure that the tactical integrity of its air-ground team is maintained during either amphibious or extended land campaigns.
9. Shipping space should be provided in order to insure that 100% of organic motor transport can be embarked in assault shipping. When shipping space is not available initially to lift all organic vehicles of Marine units in assault shipping, the vehicles remaining should be embarked in follow-up shipping at the earliest practicable time.
10. Bearing in mind the mission of the Marine Corps, it is felt that specific recommendations on augmentation of the Division with motor transport for extended land campaigns as a result of the operations in Korea would be faulty. However, a detailed study should be made of additional motor transport requirements during extended joint operations over large land masses, and consideration

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given to the preparation of supplementary T/O's and T/E's for organic Division units to provide necessary augmentation for such operations. It is felt that transportation organic to units normally will not be detached by higher commands, whereas additional motor transport units attached to the Division would be vulnerable to detachment and employment by higher authority.

11. Immediate steps should be taken by the Marine Corps to insure the organic integrity of its Fleet Marine Forces when serving as a part of an Army field command.
12. The development of initiative, professional competence and leadership in junior officers and in non-commissioned officers should continue to be a fundamental element in all Marine Corps Schools and training programs.
13. A study should be made to determine the optimum requirements of a VMO squadron with particular emphasis on the type and number of aircraft to be included in such an organization. It is further recommended that immediate steps be taken to procure troop-carrier type helicopters for employment by FMF units and that T/Os and T/Es be established for such troop-carrier units.
14. Marine personnel should be trained in the execution of Civil Affairs functions. Teams of sufficient size to operate effectively should be assigned to division and regimental level.
15. A school or conditioning program should be established within the Marine Corps to indoctrinate and physically condition naval personnel destined for assignment to Fleet Marine Force units in the combat zone.
16. The presence of considerable numbers of World War II trained personnel within the Organized Reserve, especially in the Air Component, has unquestionably contributed greatly to the performance of those reserve units called to extended active duty. Thorough examination of the Reserve program is merited in order to maintain the same high standards once time has eliminated these combat experienced personnel from the Marine Corps Reserve.

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PROJECT I.C.4. - AIR SUPPORT, Amphibious and Ground.

CONCLUSIONS

1. That Navy-Marine Corps doctrines and training policies for the employment of air in amphibious operations are sound.
2. A minimum of time was available for operating units to assimilate the details of the Inchon plan.
3. Occasionally, emergency flights were requested without apparent justification.
4. The echeloning ashore of control of air and other supporting arms created problems in air defense that are based upon communication difficulties and require careful examination.
5. Services of the specially trained aerial observation unit (VMO) of the Landing Force were not available to an appreciable degree prior to D-3 because an operating base for the organization was not available.
6. Communications problems relating to air, including discipline, procedure, security, frequency assignments and others require continuous attention during planning and execution of an amphibious operation.

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PROJECT I.C.4. - AIR SUPPORT, Amphibious and Ground.

RECOMMENDATIONS

1. That, whenever conditions permit, planning for an amphibious operation be completed in sufficient time to permit proper assimilation of the plan by subordinate units.
2. That commands controlling the air effort carefully weigh the value to be realized from ordering emergency operations by units operating at near-maximum tempo against the disrupting effect of such flights upon subsequently planned operations.
3. That close attention be devoted to the problems incident to moving command ashore in amphibious operations, with a view to improving communications rather than reducing the flexibility provided by present doctrine.
4. That an adequate base of operations be provided VMO units during the assault and consolidation phases of future amphibious operations.
5. That a program to emphasize the great importance of observing established communications doctrines and techniques, relating to air as well as all other facets of amphibious operations, be instituted at the earliest practicable time.

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PROJECT NO. I.C.5. - NAVAL GUNFIRE SUPPORT, Amphibious and Ground

CONCLUSIONS

1. The ability of fire support ships to provide effective preliminary bombardment and to deliver effective close and deep support for troops on shore with no special training or rehearsal for the Inchon operation, testifies to the effectiveness of peacetime training and preparation for support in emergency and war.
2. Peacetime training of Marine shore fire control parties has been sound insofar as technique of spotting and control of NGF is concerned. Battle experience in Korea disclosed difficulties of team transportation, mobility, equipment and supply which require study and improvement for the future. Peacetime training has been on an individual or team basis primarily; when attached to battalions, regiments and division for operations, some organizational problems naturally developed.
3. Extensive, prolonged naval gunfire support for troop advance was not necessary at Inchon. The scheme of maneuver, a land warfare push inland against light resistance, quickly took the troops beyond the range of naval guns. Except for harassing fires on the flank, particularly in the Kumpo peninsula area, NGF support was not needed after the first few days of the operations.
4. Present Marine radios for NGF spotting and liaison teams are not satisfactory for long ranges (10-20 miles) over rugged terrain such as encountered in Korea. Communications with fire support ships, attack force commander and other stations on gunfire support nets was poor to unsatisfactory throughout and resulted in a serious loss of available support.
5. Night illumination fire is most effective in stopping enemy movement and, in particular, in reassuring own troops of their safety by lighting up the area to the front. As in the last war, illumination was found to give own troops a great psychological lift. However, the usual past tendency of over expenditure of illuminating ammunition still exists, requiring better discipline of troops and NGF spotters.
6. 8-inch harassing fire at night is highly effective, especially in discouraging enemy early morning counter-attacks. On nights when this fire was not available, enemy attacks were launched. The enemy appeared to hold a very healthy respect for 8-inch fire.
7. Lack of training in the use of CW for NGF support communications is evident. The few operators who were qualified in CW were highly successful in getting messages through when voice transmission and reception were difficult or impossible. Past training has not stressed CW operation sufficiently.
8. Gridded target maps provided for the Inchon operation are not satisfactory for NGF support use. The regular 1:25,000 bombardment charts were not available and the smaller scale, less satisfactory 1:50,000 approach charts had to be used.
9. Damage assessment and effectiveness evaluation of naval gunfire against shore targets is inadequately provided for. There are no regularly established assessment teams for post-attack inspection of enemy defenses. Post operation analysis and evaluation is therefore inaccurate and meagre.
10. Current doctrine, techniques and procedures for naval gunfire support as developed by World War II are effective and sound. No change appears necessary as a result of Inchon experience.

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PROJECT I.C.5. - NAVAL GUNFIRE SUPPORT, Amphibious and Ground

RECOMMENDATIONS

1. That immediate action be taken to provide effective, reliable radio equipment for Marine NGF spotting and liaison teams. In particular, T/E radios must have more power, capable of operating at least 20 miles over rugged terrain. The SCR-193 has been suggested as a replacement for the AN/MRC-6. A new and more powerful set is required to replace the SCR-300. For spotting teams a radio of high portability, higher power and capable of continuous operation while being carried, is needed to replace the AN/GRC-9.
2. That consideration be given to providing a $\frac{1}{2}$ ton 4 x 4 truck and $\frac{1}{2}$ ton trailer for NGF spotting and liaison teams for transporting heavy pack and equipment. The need for such transportation will depend on the nature of the objective. It was not needed in Pacific atoll operations of the last war where present T/O and E were developed.
3. That more attention be given to the CW qualification of personnel assigned to NGF spotting and liaison teams and that once assigned, personnel be required to maintain their CW operating ability at a usable level. Ships' CIC must likewise be prepared to receive CW for use with shore fire control parties when voice communications become unreliable.
4. That doctrine be established for the employment of NGF spotting and liaison team personnel when their units move beyond the range of naval gunfire support. No instructions exist at present. Liaison teams might be effectively employed as additional personnel for CP's, Fire Support Coordination Centers, etc. Spotter teams might be used as replacement communications personnel in the division or assigned as additional personnel to the Tactical Air Control Party.
5. That provision be made for percussion firing of 5-inch SS rockets and that a means of jettisoning these rockets from launcher tubes be provided. Additional squib and igniter have been proposed as a possible means of reducing the number of misfires. Provision of these improvements is unquestionably already under study by BUORD. The need is reemphasized as a result of Inchon experience.
6. That USF6, 66, and 63 be corrected and amplified in those sections dealing with LSMR rocket support, using up to date information submitted by COMLSRDIV 11.

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PROJECT I.D.1. - SHORE BOMBARDMENT, Surface and Covering

CONCLUSIONS

1. That air spot is frequently necessary for most effective employment of naval gunfire support; that the helicopter, for various reasons, may be unable to take over the full aerial spotting load; and that there will be a continuing requirement for air spot from available carrier-based and shore-based air.
2. That spotting, both air and ground, by Marine aviators and SFCP's was outstanding.
3. That at the beginning of the Korean hostilities the Army, Navy and Air Force were using dissimilar grid charts printed with different projections, resulting in confusion and some loss in mutual effective support.
4. That there is a need for personnel and facilities for determining results of shore bombardment, including the effect of various amounts, calibre, type and fuze against specific materiel and personnel targets under combat conditions.
5. That the most serious defect in shore bombardment which appeared during the Korean War was the inadequacy of existing SFCP communication equipment. Its line-of-sight characteristics, lack of ruggedness, low output power and poor reception hindered continued and effective gunfire support over the mountainous Korean terrain.
6. That at the outbreak of the Korean hostilities little or no liaison existed between the Army and Navy regarding the employment of naval gunfire for the support of ground forces. This resulted in considerable confusion and delay before any workable support system was placed in effect.
7. That little or no CW Radio communication was utilized in the employment of Naval Gunfire. Further, that some improvement in SFCP radio performance possibly may have been obtained if such use had been made.
8. That the Marine Corps Air and Naval Gunfire Liaison Company (ANGLICO) was a sound and effective organization for the efficient employment of Naval gunfire in support of an infantry division.
9. That the capabilities of the NGLF element of the FMF ANGLICO unit on the scene at the outbreak of hostilities were not effectively exploited, in that they controlled only one shot during the first five months of hostilities.

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PROJECT I.D.1. - SHORE BOMBARDMENT, Surface and Covering

RECOMMENDATIONS

1. That a sufficient number of USN combat aviators attached to carriers be trained in and qualified for air spotting of Naval gunfire. Further that when air spotters are required for gunfire support missions the most experienced spotters be assigned for the purpose.
2. That the methods and procedures employed by the Marines for air and ground spot be continued.
3. That a mutually satisfactory and uniform system of grid charts be established for all three Armed Services, and this system be implemented for all parts of the World of mutual or individual interest.
4. That in planned operations involving naval bombardment, provision be made for gathering data as to its effectiveness. That the use of technical intelligence teams, combat photographic parties, and heavy VP squadrons be considered for this purpose.
5. That the Navy and Marine Corps cooperate in the development of improved SFCP communication equipment and systems which will be capable of operating over all types of terrain. Further, that close liaison be maintained with the Army in the above development work.
6. That adequate liaison be established and maintained with the Army regarding the utilization of Naval gunfire for the support of ground forces. Further, that recommendations be made to the Army that it form and train a minimum number of Air and Naval gunfire Liaison Companies similar to the Marine's organization (ANGLICO).
7. That when FMF ANGLICO's are assigned T.A.D. with Army units, provision be made for the prompt return of NGF liaison and spotting teams to naval control at such time as the elements supported pass beyond the maximum range of the heaviest naval gun in support.

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PROJECT I.D.2. - BLOCKADE AND ESCORT, Surface and Covering

CONCLUSIONS

1. That flexibility of naval forces continues to be a necessity as demonstrated by the prompt and efficient use of blockade and escort forces to render gunfire support, cover emergency evacuation, etc.
2. That naval air reconnaissance is an essential part of blockade and escort operations
3. That movement of ships within enemy harbors was detected and reported but not interpreted. Specifically, the observed activity in Wonsan and Chinnampo was not identified as mining.
4. That destroyer sonar gear does not possess sufficient mine-warning capabilities.
5. That screening ships provided for naval groups and support shipping were inadequate in number to have provided acceptable protection in the event of submarine or air attack in moderate strength.
6. That the training program conducted by Type Commanders aided by the Training Command and the Amphibious Training Command was largely instrumental in maintaining a high level of know-how in our forces between wars.
7. That under the present system, the provision of an adequate staff and necessary files and publications to a newly constituted command is subject to unacceptable delay.
8. That initially there did not exist in the Far East station any adequate facilities for evaluating sighting reports from other than Navy commands for the purpose of sifting out known friendly units, navigational impossibilities, and previously reported hulks.
9. That no adequate ASW classification equipment was available for evaluation of sonar contacts as "submarine" or "non-submarine".
10. That lack of adequate IFF was keenly felt.
11. That adequate provision was not made for maintenance and refresher training periods.

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PROJECT I.D.2. - BLOCKADE AND ESCORT, Surface and Covering

RECOMMENDATIONS

1. That the principle of flexibility be observed in equipment, weapons and weapons systems, and plans.
2. That in setting up a blockade or escort force, close coordination between surface and naval air elements be provided for by: (a) including an air element in the blockade or escort force, or (b) providing for close liaison between element commanders and a common voice and CW channel between units.
3. That provision be made for day and night naval photographic reconnaissance and photographic interpretation of activities in enemy held ports, particularly those which figure in future planning.
4. That mine-detection sonar gear or a mine-detection modification of present sonar gear be developed to enable ships to enforce a close blockade in mineable waters within acceptable loss rates.
5. To put the fleet on a better war footing, provide more escorts in order to furnish adequate ASW and AA protection to naval groups and support shipping.
6. That Type Training programs be continued and that Training Command and Amphibious Training Command activities be continued at an adequate level of support. Specific recommendations to increase effectiveness of fleet training are listed in enclosure (1) to COMTRAPAC ltr A12(3) serial 0449 dtd 21 November 1950, attached as an annex to the main report.
7. That the "package unit" idea for staff and publications, as proposed for Naval Air Commands by COMFAIRJAP ltr CFAJ/11/j, A9 Serial 096 dated 24 November 1950 be extended to include all important naval commands, air or surface.
8. That a nucleus for an organization at least equal to COMNAVFE's "Theatre Shipping Surveillance Intelligence Center" be maintained by area commanders, and that its facilities be made immediately available for screening of un-evaluated sighting reports.
9. That research be accelerated in an effort to produce an acceptable ASW classification equipment.
10. That provision of adequate IFF to the active fleet be pursued at high priority.
11. That operational commanders give increased consideration to the necessity for periodic upkeep and training, and to the ultimate unsatisfactory condition occasioned by failure to provide these periods.

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PROJECT I.D.3. - SUBMARINES, Surface & Covering, Combat Operations Section

CONCLUSIONS

1. That at the opening of the Korean hostilities a certain degree of misunderstanding existed between COMNAVFE and his senior subordinate commanders on the one hand, and CINCPACFLT and COMSUBPAC on the other, as to who had operational control¹ and operational responsibility¹⁻² of submarine in WESPAC.
 2. That existing provisions for the protection of our Submarines from attack by friendly forces were not sufficiently well known by those who needed to know.
 3. That the lack of effective mine detecting sonar is a serious military deficiency in present day submarines. Further, that without it submarines are not capable of accomplishing all of the missions assigned in current operation plans without risk of prohibitive losses.
 4. That ineffectiveness of shore-to-ship communications occasioned by saturation of existing fleet broadcasts coupled with the lack of a high-power V.L.F. transmitter seriously jeopardized the effectiveness of submarine communications.
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¹ Definitions from Joint Chiefs of Staff "Dictionary of United States Military Terms for Joint Usage", (First Revision), June 1950.

OPERATIONAL CONTROL -- Comprises those functions of command involving the composition of subordinate forces, the assignment of tasks, the designation of objectives and the authoritative direction necessary to accomplish the mission. Operational control should be exercised by the use of the assigned normal organizational units through their responsible commanders or through the commander of subordinate forces established by the commander exercising operational control. It does not include such matters as administration, discipline, internal organization and unit training, except when a subordinate commander requests assistance.

RESPONSIBILITY -- 1. The obligation to carry forward an assigned task to a successful conclusion. With responsibility goes authority to direct and take necessary action to insure success.

² Quoted from USF 6.

"253. Command responsibility for accomplishment of the assigned tasks on shore will pass to each Landing Force Commander within his respective zone of operations, after his arrival and establishment ashore, and upon his notification to the commander of the corresponding Attack Force that he is prepared to assume his responsibility.

"254. Command responsibility for the accomplishment of the assigned tasks on shore will pass to the Commander Expeditionary Troops after his arrival and establishment ashore and upon his notification to the Commander Joint Expeditionary Force that he is prepared to assume this responsibility."

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PROJECT I.D.3. - SUBMARINES, Surface & Covering, Combat Operations Section

RECOMMENDATIONS

1. That, in situations short of a general emergency wherein relatively few submarines are employed, Fleet Commanders normally transfer operational control of submarines to subordinate naval commands - such control to be exercised through qualified submarine unit commanders.

Further, that in the event of a general emergency, operational control of all Fleet submarines be exercised by the Submarine Force Commander in order that the missions assigned by the CinC of the Fleet can be accomplished expeditiously.

Finally, that in any future emergency the operational status (control and responsibility) of all submarines be delineated immediately by the Fleet Commander or other competent authority.

2. That the joint publication "Operating Zones, Bombing and Attack Restrictions in the Pacific Ocean Areas" and the corresponding Atlantic publication be given the widest distribution possible, consistent with its classification.

Further, that the above joint publications be appended to all fleet and type commanders' operations plans, including those of Army and Air Force air commands, and reference to these publications be included in all operation orders.

3. That, as an interim measure, QLA presently available in Reserve Fleet Submarines, be installed in operating submarines.

Further, that the development of more reliable and effective mine detecting sonar equipment be given the highest priority.

4. That the following steps be taken to improve communications with submarines on patrol during any emergency:

- a. That each area of anticipated submarine operations be covered by a submarine broadcast with adequate frequencies permanently assigned, whether the broadcasts are active or in a stand-by status.
- b. That the appropriate special submarine broadcast be activated immediately upon the outbreak of any emergency in which submarines are to be employed.
- c. That the submarine operational commander in the event of limited emergencies be provided with a communication officer and key communication personnel on his staff to aid in the screening and administration of submarine communications.
- d. That the Far Eastern area, and all other areas in which submarine wartime operations are anticipated, should be adequately covered by high-power V.L.F. transmitters in defensible locations.

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PROJECT I.D.4. - AIR DEFENSE AND A.S.W., Surface and Covering

CONCLUSIONS

1. Insufficient escort types were available to furnish adequate anti-submarine and air defense screens for shipping in the combat areas.
2. That the organization for naval control of shipping had not progressed to the point where it could be promptly placed in effect in the Far East Area.
3. Ships movement reports were not getting through to cognizant authorities.
4. Anti-submarine warfare classification equipment and air, surface and sub-surface IFF are inadequate.
5. The majority of U.S. escorts are not equipped with anti-submarine attack weapons of lethality equivalent to their British and Dominion counterparts.
6. Inadequate time was allowed for material upkeep and refresher training.

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PROJECT NO. I.D.4. - AIR DEFENSE AND A.S.W., Surface and Covering

RECOMMENDATIONS

1. In planning the strength and composition of the active fleet, more consideration should be given to provision of an adequate number of escorts.
2. Naval Control of Shipping Offices and facilities should be maintained at least in skeletonized form in all areas.
3. Movement Report Offices should be indoctrinated in the importance of getting movement reports through.
4. Research should be intensified on anti-submarine warfare classification equipment. Provision of improved IFF to the fleet should be accelerated.
5. U.S. escorts should be equipped with anti-submarine attack gear of lethality at least equal to that in use by the British.
6. In any extended operations, operating schedules should include adequate maintenance and training periods for escort types.

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PROJECT I.E. - MINE WARFARECONCLUSIONS

1. The North Koreans laid sea mines in order to deny these waters to our forces, which resulted in forcing U.N. Naval Forces outside of mineable waters with deterrent effects to naval gunfire support and delayed opening ports required for amphibious attack or logistic support of U.N. forces in North Korea.
2. This mining effort delayed the Tenth Corps landing at Wonsan for 5 days, prevented the immediate use of Haeju and Chinnampo as terminals for sea lines of logistic support to U.N. forces in North Korea, and forced U.N. East Coast bombardment ships outside the 100 fathom curve and out of effective gunfire support range.
3. Seven (7) ships not engaged in minesweeping operations were sunk or damaged as a result of North Korean mining operations. Three (3) ships were sunk or damaged while engaged in minesweeping operations. Compared to the five (5) ships incurring damage from gunfire or aircraft bombs, it can be seen that mining accounted for the major damage to U.N. Naval Forces in this operation.
4. As a result of progressive inactivations from September 1945 there were on 25 June 1950, only 19 U.S. minesweepers in PACFLT. These ships were strategically distributed between the West Coast, Hawaiian Area, Marianas Area and Far East. Forces in the Far East were being currently augmented by 12 operating Japanese minesweepers. There was no single Mine Force type commander in the Pacific.
5. When evidence indicated that full scale mine countermeasures would be required, all available minesweepers were deployed to the Far East; CINCFE authorized the use of 20 Japanese minesweepers in Korean waters; OpNav organized and provided a MACTU Unit (Mine and Countermeasures Technical Unit); and OpNav authorized increase in PACFLT minesweeping strength to a total of 35 minesweepers. In November, a flag officer was established as Commander Minesweeping Forces, Western Pacific, as an interim measure, pending the reactivation of a Mine Force type commander.
6. The readiness of U.S. minesweeping forces to conduct effective clearance operations varied with the individual ship. In general, those stationed in the Far East and at Pearl were in a better state of readiness than the remainder. Minesweeping operations brought out undesirable features of ship's characteristics, radio material, machinery installations, and mine clearance equipment which had not previously been developed in peacetime operations.
7. Minesweeping on the East Coast was extremely dangerous as the majority of moored mines were laid in shallow water within six (6) feet of the surface. No advantage could be taken of tidal currents. Initially, no shallow draft boat sweepers were available and all classes of U.S. and Japanese minesweepers were forced to sweep in unprotected formations. Three (3) U.S. minesweepers were sunk while engaged in this type of minesweeping.
8. Minesweeping on the West Coast was relatively safe. As a result of the large tidal ranges mines could be detected more readily at lowest water.
9. The coordinated use of PBM, helicopters and UDT teams, as developed during these operations, contributed greatly to the safety and success of the clearance operations conducted.
10. For the types of mines encountered, the minesweeping material, procedures and techniques presently available to PACFLT proved effective and adequate. Many minor deficiencies were discovered during operations which, if rectified, would increase effectiveness of material.

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PROJECT I.E. (Cont'd)

11. There was a general lack of service knowledge of mine warfare, and specifically of the operational and logistic requirements of a balanced effective minesweeping force.

12. Individual ship protection against mining was relatively poor.

a. Although field modifications to ship sonar had been developed in World War II to permit increased reliability of ASW sonar in detecting mines, neither instructions nor procedure were available to ships in September 1950. BUSHIPS promulgated instructions for field modification of ASW sonar in October, but adequate procedures and reliable evaluation have yet to be accomplished.

b. Due to the fact that the only active degaussing facility in the Pacific was at Pearl, the condition of degaussing readiness of individual ships was not well known. The majority of the naval and MSTs ships operating in Korean waters had not been over a degaussing range in over a year.

c. Although Underwater Object Locator equipment had been developed during World War II for the detection of mines, no PACFLT minesweepers were equipped with this gear.

13. Advance warning of the development of the mine threat was not sufficient to justify augmentation of the minesweeping forces in the Far East from the limited forces available. Intelligence sources did not later adequately develop the location of minefields in areas to be swept which fact made sweeping more difficult and dangerous.

14. The distribution of minesweeping material stocks was adequate on 25 June for normal operations of minesweepers in defensive harbor sweeping. As minesweeping requirements mounted after 1 October 1950, the established stock levels were inadequate and much effort had to be exerted by COMSERVPAC to meet small boat gear and small boat degaussing material. A noteworthy administrative shortcoming is the lack of adequate minesweeping gear lists with appropriate identifying stock numbers for the various parts of the gear.

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PROJECT I.E. - MINE WARFARE

RECOMMENDATIONS

GENERAL RECOMMENDATIONS TO IMPROVE OVER-ALL WARFARE READINESS

1. Although much information is available and has been disseminated on general Russian mine warfare capabilities more information would be desirable on such specific details as location and size of mine stocks and types of mines in stock and production in order that the scope of mine countermeasures requirements might be estimated with greater accuracy.
2. In conjunction with local defense measures, cognizant commanders should review plans to determine the desirability or necessity for defensive mine plans to supplement other local defense measures, should establish an organization for mine "watching", and should establish local requirements for mine location and sweeping boats or ships.
3. There are approximately 130 minesweepers distributed among our U.N. allies in the Far East. Most of these units are ineffective through deficiencies in material condition or training or both. The Korean war offers an unparalleled opportunity for all available U.N. minesweeping forces in the Far East to participate in active sweeping under U.S. supervision and thus improve their readiness for D-day employment.
4. When minesweeping forces of different nationalities are operating together in an operation, the best interpreters available should be provided the unit commander to prevent misinterpretation of verbal minesweeping orders. When practicable all orders should be reduced to writing and overlays of areas to be swept provided.
5. OpNav should reduce the allowance of minesweeper cryptographic aids to an absolute minimum for peacetime as well as wartime operations. No allowance of cryptographic machines should be provided AM or AMS types. Reduce correspondingly the distribution of highly classified publications or letters to these minesweeping types.

MINING

6. The techniques of U.S. defensive mining should be reviewed. Present Pacific defensive mine plans are based upon the utilization of DM minelayers and are presently phased after these types have been activated from PACRESFLT. The development of locally improvised methods of laying would greatly accelerate the laying of defensive minefields.
7. The concept of U.S. defensive mine planning should be reviewed. North Korean fields were well planned to make minesweeping dangerous and as tedious as possible. Fields were integrated with harbor defense artillery and mortar batteries to bring minesweepers under fire during penetration of mine lines.
8. Defensive mine plans should be considered for Japan, the Ryukyus and the Philippines. Mining might well deter penetration of strategic ports now unprotected by harbor defense.

MINE COUNTERMEASURES

SYSTEMS

9. Increase the number of active minesweeping ships and boats to provide increased mine countermeasure readiness in the Pacific. In order to provide present forces with balanced mine countermeasures systems, it is recommended that:

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PROJECT I.E. (Cont'd)

- a. Equipment be provided surface vessels to permit detection of minefields.
- b. A MACTU should be provided each MINRON staff when the unit is engaged in live minesweeping operations.
- c. The priority of applied research and development in countermeasure techniques and material be increased to 1A, including all possible new and original approaches to this problem.
- d. Projects be initiated to develop mine location and minesweeping methods for use by aircraft.
- e. Projects be initiated to develop sound techniques of counter-mining mines by aircraft.
- f. As an immediate measure, subject to further review of adequacy, an LST flagship be provided to COMINRON 5. The LST 799 and this additional LST flagship should be altered to provide adequate flagship CIC and communications, flight deck space and logistics for two (2) helicopters and logistic support to small minesweepers (fuel, water, provisions, electronic and machinery spares and repair facilities, minesweeping gear spares, dan and channel buoy stowage, hydrographic chart spares and reproduction equipment such as ozalid process).
- g. MINRON 3 and 5 should be provided with the minimum of (12) small boats each as follows:
 - (1) Four (4) LCPR equipped for mine location and buoying, and
 - (2) Eight (8) LCVP or 40-50 foot motor launches for minesweeping.
- In addition, an allowance of officers and enlisted men should be assigned and filled as a component of the Squadron Staff.
- h. Each MINRON staff allowance should include a mine disposal officer. Each MINRON staff complement should include two (2) mine disposal teams of one (1) officer and one (1) enlisted man each.
- i. Each MINRON should include a J11B component to provide personnel and test equipment to assemble drill material for training.
- j. U.S. drill mine allowances should be provided to permit improvised laying of drill mines for mine detection, location, sweeping and recovery exercises.
- k. MINRON 3 should be provided with two (2) helicopters and personnel detachment based on the LST 799; MINRON 5 should be provided with one (1) helicopter and detachment based on the LST flagship - this to provide experience in coordinated mine location and field development exercises.

SHIP CHARACTERISTICS

10. Installation of equipment designed to support secondary missions must not be permitted to interfere with the best possible execution of the primary mission.

DMS - High Speed Minesweepers (1630 Tons)

11. Critically review the need for DMS minesweepers in order to determine whether this type should be eliminated in preference to AM.

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PROJECT I.E. (Cont'd)

AM - Mines Sweeper (890 Tons)

12. Critically review the ship and military characteristics of AM in order to immediately improve primary mission of minesweeping. Specifically to:
- a. Remove unnecessary armament and ammunition.
 - b. Replace ASW sonar with UOL equipment, with urgent installation of UOL in at least one (1) ship of each division.
 - c. Improve degaussing and ship's treatment against new mine types (i.e., sensitive, magnetic and latest acoustic).
 - d. Increase dan gear stowage capacity.
 - e. Improve radio communications while decreasing allowance to minimum.
 - f. Provide VPR navigation.

AMS - Auxiliary Motor Mine Sweeper (270 Tons)

13. Critically review the ship and military characteristics of AMS in order to immediately improve primary mission of minesweeping. Specifically to:
- a. Remove unnecessary armament and ammunition.
 - b. Replace ASW sonar with UOL equipment with urgent installation of UOL in at least one (1) ship of each division.
 - c. Improve degaussing and ship's treatment against new mines (i.e., sensitive, magnetic and latest acoustic).
 - d. Increase dan and gear stowage.
 - e. Increase fresh water capacity (although effective Shipalt provides 1000-gallon-per-day distillers, not all PACFLT ships are so equipped).
 - f. Standardize radio equipment. Provide one medium power CW channel, two (2) medium power voice channels for tactical primary and secondary circuits, and at least one (1) channel of reliable voice for ship to aircraft (helicopter or PBM). These small ships require more powerful voice and CW transmitters than are presently provided.
 - g. Provide VPR navigation.
 - h. Provide small compact DRT.
 - i. Provide small powerful searchlight, mounted aft, to give adequate illumination when clearing fouled mines from gear at night.
 - j. Provide a small, light, inboard motor boat to replace dinghy.
 - k. Improve laundry facilities.

Dan and Destructor Vessels

14. Review requirements for dan and destructor vessels to provide balance to the countermeasure systems. Until such vessels are activated and assigned, MINRON 3 and 5 AMS will be required to perform this function with consequent decrease in minesweeping potential.

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PROJECT I.E. (Cont'd)

Small Boat Sweepers

15. As an interim and inexpensive substitute for the 56 MSB, exploit the development of 40-50 foot motor launches and LCVF as shallow sweepers. Provide at least eight (8) small boat sweepers each to COMINRON 3 and 5 for evaluation. Initial minimum recommendations are:

- a. Internal degaussing.
- b. 120 H.P. LCVF type diesel engine for motor launches.
- c. Equipment as follows:
 - (1) Mounted machine gun and rifles with AP ammunition.
 - (2) Waterproofed, permanently installed radios, one (SCR608) boat-to-ship frequency, and one (SCR300) boat-to-aircraft frequency.
 - (3) Radar screen and socket.
 - (4) Best possible boat compass mounted high enough to permit use of azimuth circle.
 - (5) Semaphore flags.
 - (6) Multipurpose electric signal light.
 - (7) Collapsible chart table.
 - (8) LCR(S) lifeboat.

MINE COUNTERMEASURE MATERIAL

16. Detection and location equipment

- a. Until UOL equipment is made available, all minesweeper ASW sonar should be altered and adjusted in accordance with BUSHIPS instructions and used exclusively in training and development of mine detection procedures and techniques.
- b. Provide UOL to all minesweepers, with urgent installation as equipment becomes available in at least one ship of each division.
- c. Develop equipment, procedure and techniques for the detection of mines by aircraft and submarines.

17. Moored Minesweeping Material

- a. Use AM type gear on DMS when sweeping in shallow waters.
- b. Investigate Russian mine cables. U.S. mechanical cutters had difficulty in cutting this cable. Redesign mechanical cutters if required.
- c. Investigate field of Size 4 depressor; sensitive magnetic mines at Wonsan may have been activated by moored depressor field. Provide non-magnetic depressors if requested.

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PROJECT I.E. (Cont'd)

18. Magnetic Minesweeping Material

a. Use a depressor at three (3) fathoms with "jig" sweep to prevent fouling of moored and magnetic wires when turning away from the gear. In this regard, investigate the need of a non-magnetic depressor if present steel depressor field would endanger the sweeper.

19. Acoustic Minesweeping Material

a. Stow M Mk 4(v) gear on LST or other large ship when not actually in use by AMS minesweepers.

20. Pressure Minesweeping Material

a. Continue research and development to provide effective pressure minesweeping material.

b. As an interim measure, modify as a Guinea Pig and retain in moth balls at each strategic U.S. and overseas port at least one liberty ship hull for emergency use as a Guinea Pig for that port. This minesweeping measure will be a requirement in an emergency.

c. Conduct training of Guinea Pig teams to run the above ships.

21. Dans and Buoys

a. Investigate the characteristics of wire presently being provided for use with dans. Korean experience indicated high fouling rate in moored cutters. Either use softer wire or redesign cutters.

b. Investigate the design of dans to provide a means of more readily adjusting wire length when operating in waters of variable depth.

c. Increase the size (diameter) of dan recovery loops to facilitate recovery in choppy water.

d. Review the color code of dan flags, to bring code into closer conformance with international buoyage codes.

e. Provide allowances of large dans (inert Mk 7 mine type) for use in channel and area sweeping. These buoys, used in World War II, were not available for planting by ARS in Korean operations.

22. Small boat sweep, magnetic

a. As a matter of urgency, investigate the reliability and over-all effectiveness of properly adjusted Japanese bar magnetic sweep. If sufficiently effective, this gear would be cheaper to procure and operate than B8 gear now planned for small boat sweepers.

LOGISTICS

23. As a matter of urgency, review the availability and distribution of electronic and machinery spare parts for AM and AMS.

24. Review the strategic distribution of minesweeping material spares in order to effect optimum distribution of gear, dans, buoys and other associated equipment to meet anticipated needs of the operating forces.

25. As a matter of urgency, revise mine sweep material lists by gear types to facilitate ordering standard and non-standard replacement parts.

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PROJECT I.E. (Cont'd)

COMBAT PAY

26. In order to induce high caliber personnel into minesweeping service in peacetime and compensate these personnel for participation in relatively dangerous wartime minesweeping operations, consideration should be given to providing extra pay compensation for officers and enlisted personnel "while actively engaged in the sweeping of mines".

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PROJECT II.A.1. - LOGISTICS, Surface

CONCLUSIONS

1. That actual usage and accurate inventory data from all ammunition issuing ships and shore activities must be made available at regular intervals to the logistic commanders responsible for procurement and distribution of ammunition.
2. That ammunition stocks on the order of eight thousand (8000) tons, as existing at Yokosuka and Guam combined, prior to the Korean War, are not sufficient to support fleet operations even for the period in which a pipeline flow is being established. A fleet ammunition resupply, in readiness for shipment on short notice in response to the will of the fleet commander, is necessary in order to provide for an emergency.
3. That during the early phases of the Korean War, in the absence of adequate ammunition stocks ashore, it was necessary to move a tonnage to WESTPAC three (3) to four (4) times that actually expended in the same period. That this ratio of excess was necessary for flexibility of operations and the assurance all required items would be available when and as needed. That this ratio, is however, subject to reduction by close adherence to inventory control principles as the campaign develops, and that such reduction may be vital to the national economy in an all-out war.
4. That the planning and execution of ammunition distribution requires a large amount of detail work, a broad familiarity with ammunition components, and the closest coordination with combatant forces, if necessary efficiency is to be attained.
5. That a fleet ammunition resupply stock system requires less preparation work and results in shorter lead time requirements than by ordering each ammunition shipment by special request to BUORD.
6. That approved stocks in both ashore ammunition stocking activities and fleet issue ammunition ships must include some quantity of each type and component of ammunition usable by the combatant ships served. That this need should not restrict the varying of the composition of individual ammunition ship loadings when suitably complete stocks are maintained in other ships.
7. That the wood sheathed AKA with augmented personnel is a useful ammunition ship for in-port replenishments and has distinct possibilities as a substitute for an AE in underway replenishing, especially if minimal alterations are accomplished.
8. That the P.O.L. position in the Pacific Command was, in general, satisfactory during the period 25 June to 15 November 1950. Abnormal requirements of avgas for transiting aircraft and transfers of avgas to CINCFE reduced avgas inventories below optimum safe levels. However, slated requirements plus stocks enroute provided sufficient margin of safety.

That the P.O.L. position in the CINCFE area was not favorable at the outbreak of hostilities to support a large operation, and this position has continued to be critical. Emergency transfer of stocks from Pacific Command has on occasion been required.

9. (a) The quantity of petroleum products stored in the CINCFE area was at times marginal and barely sufficient to meet operating requirements. Adequate advance planning is necessary, particularly as regards requirements for petroleum products. Furthermore, that the Munitions Board Petroleum Committee function (JCS 1694/18, JCS 1741/34) in exercising supervision of product levels was ineffective in serving as a timely check on declining CINCFE stock levels or in boosting slated requirements.

(b) That horizontal liaison between contiguous commanders and their area petroleum offices as provided for in the Unified Command Plan (JCS 1259/27)

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PROJECT II.A.1. (Cont'd)

was lacking and if it had existed, would have materially assisted in a more favorable distribution of P.O.L. in the CINCFE - PACIFIC COMMAND areas.

10. That the operations of the Fleet, particularly those of the fast carrier task forces, are critically sensitive to the number of Fleet oilers in the mobile logistic support force. The proximity of the operating area to shore storage facilities and/or the area of supply, the type of Fleet operations being conducted, and other factors, have an important bearing on the number of tankers required. Though the operating area was favorably located with respect to shore storage facilities, the number of Fleet AO's was, however, barely adequate and any operational or battle damage would have seriously restricted Fleet operations. Another factor favorable to the marginal number of tankers was the relatively low NSFO consumption rate due to the low speeds required of the CV's.

11. That the ratio of avgas to NSFO in fleet oilers and in fast carriers is a critical number which should permit maximum periods between replenishment. In the case of the carrier, this ratio will vary with the operational requirements. In the Korean War, three (3) day replenishment intervals were required since the carriers could completely exhaust their avgas in five (5) days of full scale operations. Similarly, the fleet AO's with only 18 M bbls avgas capacity aboard required replenishment more frequently than if their load ratio had included more avgas.

That the operational endurance from the present storage capacity of avgas in the carrier is even further reduced by the increased employment of jet aircraft with their correspondingly higher consumption rate. In this connection, if at all possible, it would be a tremendous advantage for jets to be able to burn bunker fuel thus solving the mono-fuel problem.

12. That Pacific bases, excluding Pearl Harbor, were ill-prepared to support any increase over peacetime activity insofar as material support was concerned, as a result of their austerity-dictated missions.

13. That standard load lists for General Stores Material(GSM), Clothing and Small Stores, Ships Store stock, and materials under cognizance of other Bureaus were in existence prior to the conflict, but not completely in line with current usage.

14. That West Coast stocks of all materials, both at tidewater and inland, were adequate, with timely replenishment, to support the Korean conflict.

15. That an AKA is not an acceptable substitute for an AKS in the fleet issuing of the approximately seven thousand five hundred (7500) items of GSM, Clothing and Small Stores, Ships Store Stock, and Medical Stores contained in standard loads, for the principal reason that it lacks the necessary bins for break-out and issue.

16. That the desirable frequency of replenishment of forward area stocks of fresh provisions is determined by the life expectancy of many items of chill produce. At the end of a six thousand (6000)mile pipeline the remaining keeping expectancy for chill provisions is measured in days; for freeze provisions in months.

17. That the use of domestic type containers for some overseas shipments of dry provisions, (due possibly to the urgency of requirements), resulted in excessive losses in transfer and issue.

18. That the small ten (10) knot ADRIA class reefer ships, of which type COMSERVPAC has three (3) assigned, are not capable by reason of their rigging, slow speed, and small capacity for replenishment at sea operations. Their small capacity also restricts their utility as station reefers.

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PROJECT II.A.1. (Cont'd)

19. That space requirements for the multiplicity of items of BUSHIPS and BUORD technical equipments and repair parts now required for support of a fleet or force exceed the capacities of tenders.
20. That there were no logistic planning factors based on usage for providing electronics tubes and spares. That the presently inaugurated program of ESO Great Lakes to obtain usage data and develop planning factors will overcome this deficiency.
21. That although allowances were in general satisfactory, shortages in on-board equipment and spares imposed some handicaps initially on the mobile repair forces in WESTPAC. That shortages were in some cases aggravated in flotilla type ships (such as DD) by the lack of supporting tender's stocks of similar spares, due to minimal numbers of tenders deployed.
22. That the over-all flow of naval personnel to WESTPAC, as a result of the partial mobilization, was not satisfactory during the first three months, and that deficiencies in providing certain types of personnel existed over a longer period.
23. That in view of the early more urgent needs for manning combatant ships in WESTPAC to full complement and increasing staffs, the equal priority given to the activation program's personnel requirements resulted in a rate of build-up which was adequate only because no opposition was met at sea.
24. That complements of shore-based activities in WESTPAC were based upon an assumption that any major war effort would be in another area and that the Pacific would be a minor front, and hence were totally inadequate as to allowed strength to meet the problems of the Korean War. The expansion of COMNAVFE's staff and Fleet Activities in Japan became at once a most urgent requirement.
25. That the transportation of officers and men to WESTPAC demonstrated a lack of proper coordination and interchange of essential information on appropriate travel priorities in that there was a significant number of instances of airlift for personnel not urgently required and surface lift for urgently required personnel.
26. That some delay in processing enlisted personnel to West Coast Receiving Stations and other assembly points was caused by the necessity of COMWESTSEA-FRON having to make dispatch reports to various type commanders prior to effecting personnel distribution.
27. That the authorization for the activation of the various service craft did not provide for an increase in personnel within the commands to which they were assigned. That this resulted in forward area commanders experiencing personnel shortages due to lack of allowances for these craft and caused difficulty in accounting for the personnel necessarily used to man them.
28. That the provision of crews for the reactivating ships was a difficult problem due to the scarcity of trained personnel readily available for assignment. These ships beginning activation on 20 November and thereafter had nucleus crews of regular USN personnel drawn largely from the operating forces and overseas bases.
29. That previously provision has been made for only a peacetime personnel allowance or a wartime complement, with no determination of personnel strengths required by each ship, base, staff, etc., for a condition in between war and peace as was the case between 25 June and 15 November.
30. That indigenous labor in WESTPAC, particularly in Yokosuka and Sasebo, was plentiful and was employed to such a degree that it reduced significantly the numbers of uniformed and U.S. civilian personnel required to be sent

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PROJECT II.A.1. (Cont'd)

overseas. That this favorable situation particularly as regards skilled labor is unlikely to exist in other possible Pacific areas of war.

31. That provision of additional materials handling and automotive equipment did not keep pace with the increased level of activity ashore in the Far East except for the initial period at Yokosuka until its small pool of rehabilitated equipment had been exhausted.

32. That the mobile logistic service squadron must be augmented by drydocking facilities in which to accomplish emergency dockings. That this requirement was met in WESTPAC by Japanese graving docks in a generally adequate manner, but the service of an ARD at Sasebo would have led to much more efficient and rapid docking of destroyer types.

33. That at the outbreak of the Korean War, there was a serious deficiency in operational degaussing and deperming facilities in the Pacific. That the only fully complete station was at Pearl Harbor. That the activation of other facilities required an excessively long period.

34. That insufficient inactivated service craft were maintained in the Pacific outside the limits of the continental United States.

35. That there was a deficiency in numbers and types of active logistic ships and craft on 25 June 1950 for the support of the Korean War. The augmentation by transfer, redeployment and activation was insufficient for adequate mobile support of the naval forces engaged during the period 25 June - 15 November.

36. That in the early stages of the Korean War the Pacific Fleet overhaul schedule was disrupted in favor of maximum fleet deployment. That this decision led to some ships operating for long periods of rapidly declining material conditions.

37. That the small numbers of Pacific Fleet minesweepers precluded the deployment of an adequate minesweeping force to the operating area at the start of hostilities.

38. That optimum intra-area distribution of mail was slow in being achieved inasmuch as delays were experienced in handling mail, primarily between the terminals of the overseas lift and the points from which distribution to the operating forces was made. Furthermore, although the Army was willing to cooperate in the handling of Navy mail, it was in no position to assume this additional burden with the attendant unfamiliar distribution problem.

39. That support as provided by logistic commanders might have been better attuned to actual operational requirements had operational commanders furnished broad estimates of needs, or had they at all times consulted logistic commanders sufficiently in advance of projected operations to allow logistic planning concurrent with operational planning.

40. That fleet freight shipping and distribution problems were increased by the submission of some requisitions directly upon U.S. sources for "luxury" items and for materials on hand in, or on order by, logistic support ships. That because of some departures from requisition routing, the screening system exercised by the service squadron did not fully eliminate such irregularities.

41. That the use of messages for priority "B" and "C" requisitions proved to be an unwarranted burden upon communication facilities and personnel.

42. That the requisition priority system, although of Navy-wide application in the form of a directive in BUSANDA Manual, in many instances was ignored or misinterpreted by ships and activities. The system is fundamentally sound and, if followed faithfully, is adequate to insure that the proper degree of attention be accorded requisitions received by supplying activities.

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PROJECT II.A.1. (Cont'd)

43. That the preliminary planning of some continental logistic agencies was hampered by the lack of a developed plan for logistic support of a localized emergency such as the Korean campaign until the exchange of dispatches between CNO and CINCPACFLT; CINCPACFLT 180048Z August and CNO 071638Z September.

44. That procurement lead time, numbers of ships required, and the amount of material on the six thousand (6000) mile pipeline could have been appreciably reduced if fleet issue and replenishment types of ships had been capable of greater sustained speeds.

45. That the overseas shipment, distribution, and delivery of fleet freight required an inordinate share of logistic commanders' efforts, and an excessive use of labor by reason of inadequate transshipment and terminal facilities, difficulties in rehandling material and effecting delivery to consigned ships, and instances of improper packing and marking.

46. That continuance of peacetime accounting procedures proved a burden to many ships and activities and a questionable expenditure of effort for all ships and activities in the Far East.

47. That recent experience in WESTPAC has indicated deficiencies in the qualifications of reserve supply officers recalled to duty, in that they have not been retrained in new supply procedures. That technically trained enlisted men in supply ratings are required.

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PROJECT II.A.1. - LOGISTICS, Surface

RECOMMENDATIONS

1. That directives governing the reporting of ammunition expenditures in combat and inventories be incorporated in Fleet circular letters in order to insure prompt sources of such data to the logistic commanders.
2. That an appropriate depot be directed to maintain a fleet ammunition resupply stock at all times during peace, and that such resupply stock be constantly under review by Fleet Commanders and BUORD.
3. a. That in any wartime overseas naval operation provision be made for early shipments of ammunition for resupply and to meet adequately possible requirement "surges".
b. That adherence to inventory control methods be instituted early in any war to minimize the excesses of ammunition subsequently maintained while insuring the fullest response to operational needs.
4. a. That the logistic staff allowances make early provision for sufficient trained officer personnel to prosecute ammunition distribution problems.
b. That at least one officer familiar with aviation ammunition be assigned to such staffs.
5. That the foregoing fleet ammunition resupply stock system be inaugurated Navy-wide. (In brief, the previous normal procedure is to make requests to BUORD to issue ammunition shipment orders (AMSO's) for each shipment required. The AMSO's direct ammunition stocking points to assemble the designated ammunition and ship it when and where directed by COMWESTSEAFRON. This involves considerable procurement lead time in the administrative and assembly procedures alone, estimated to be from one to three weeks. The "NAVFE ammunition Stock" procedure put into effect in the Korean War, and which is recommended for further use, greatly cut down the lead time by COMSERVPAC requesting BUORD to maintain a stock-pile of "approximately one month's supply" available at inland stocking points for immediate shipment by COMWESTSEAFRON upon request from COMSERVPAC).
6. a. That fleet issue ammunition ships normally carry some of all approved ammunition items, but that with suitable ammunition stocks readily available ashore and afloat, the widest latitude of loading specific ships be granted to the logistic commander.
b. That with increases in ammunition carrying AKA and AE, the loadings of aircraft ammunition in AE replenishing the CV task force be increased at the expense of other types of ammunition.
7. a. That in view of the advantage of flexibility and versatility in time of war and of the possibility of AE losses, type plans be developed for modification of a limited number of AKA.
b. That AKA presently employed in ammunition supply be trained in ammunition replenishment at sea.
8. That there be reviewed at proper Department of Defense level the effectiveness of reviewing the adequacy of P.O.L. stocks maintained by the various unified command area commanders and the adequacy of slated requests to meet combined combat operations, as exercised by the Munitions Board Petroleum Committee.
9. That the number of fleet AO's which provided P.O.L. to the fast carrier forces in the operations in Korea not be used in planning for war operations since the presence of enemy submarines and aircraft requirements for higher operating speeds, battle damage, larger areas of operations, etc. will result

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PROJECT II.A.1. (Cont'd)

in greater expenditures of P.O.L. than that experienced in Korea with a consequent increase in the number of Fleet AO's required.

10. a. That the aviation fuel storage capacity aboard fast carriers be reviewed and action be taken to bring the operational endurance therefrom more nearly into balance with the bunker fuel endurance. Further, that the feasibility of storage of both avgas and jet fuels be investigated.

b. That the quantity of aviation fuel carried by fleet oilers be increased by an additional 18 M bbls, or that provision be made for segregated storage of jet fuel.

11. That cognizant Bureaus, responsible commands, and the various Supply Demand Control Points continuously review standard load lists for all types of materials toward the end that they at all times reflect the latest usage data.

12. That West Coast stocks of all materials be kept at the peak of presently prescribed levels, and that such levels be continuously reviewed to determine their adequacy for planned ship reactivations, and for such reactivations in the event of all-out war.

13. That at least one AKS be maintained in an active status in both the Atlantic and the Pacific during peacetime.

14. That freeze or fresh-frozen substitutes be investigated for chill provisions items of low keeping quality.

15. That supply activities insure that all overseas shipments of dry provisions, as well as other materials, are packed in accordance with BUSANDA requirements.

16. That the three ADRIA class reefer ships now assigned to COMSERVPAC be replaced by larger capacity reefers capable of replenishment at sea and at least 15 knots sustained speed.

17. That AG's be retained in service, equipped at all times with well rounded stocks of technical equipments and repair parts to reinforce the stocks normally carried by tenders.

18. a. That more emphasis be placed on maintaining full allowance of spares and equipage in active ships and for Reserve Fleet ships.

b. That when numbers of destroyer tenders deployed are less than required from the tender spare point of view, that additional type spares be provided afloat by other means. (AG 146-151 class with tailored loads of electronic, machinery, hull, and ordnance spares are ideally suitable).

19. a. That personnel qualified in communication duties, both officer and enlisted, and yeoman rates should be among the first mobilized, and that sources of personnel in the various Naval Reserve programs be reviewed as to their adequacy.

b. That during fleet expansion in an emergency, earlier and more positive action be taken to build up the staff of both the logistic and operational commanders.

20. That in the case of a partial or total mobilization, personnel requirements be filled by utilizing a priority scheme which is predicated upon weighing of needs of operational increases and needs of specific types of ships in the activation program rather than through an overall priority system.

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PROJECT II.A.1. (Cont'd)

21. That a complete restudy of the war time missions of all Pacific overseas bases and facilities be made in the light of the Korean War. That based upon the results of such study sound realistic complements be established. Emphasis should be given to logistic functions and to maintaining strong nuclei of personnel to facilitate rapid expansion and utilization of local industrial potential.
22. That the commander in the area of operations determine and advise the commanders in the rear areas who control transportation the ranks, rates, and types of specially qualified personnel whose services are most urgently required and the desired priorities of their transportation.
23. That the distribution of enlisted personnel be expedited by maintaining direct liaison between COMWESTSEAFRON's Personnel Officer and representatives of the various type commanders, and that all Pacific Personnel Accounting Machine Installations be consolidated at one location, preferably on the West Coast. (PAMI's are now located at Pearl Harbor, San Francisco, and San Diego).
24. That simultaneously with the authorization to activate Service Craft corresponding increases in service craft personnel allowances be granted to the parent activities. Also, that BUPERS issue appropriate instructions for accounting for personnel in service craft operating far distant from their normal locations.
25. That schedules for the reactivation of ships and the ratios of regular USN to reserve personnel in such ships be continually reviewed with consideration given to the personnel requirements of combatant ships in the area of operations.
26. That studies be inaugurated to determine what numbers and grades of personnel, are required for each ship, base, staff, etc., during a period of partial mobilization or limited emergency.
27. That in the establishment of planning factors for war operations, derived from the Korean campaign, care be exercised to weigh the part played by indigenous labor.
28. That allowances of new and/or rehabilitated automotive and materials handling equipment of naval activities in areas remote from the scene of operations be reduced as necessary to meet the demands of war or emergency until such time as regular procurement procedures can fulfill requirements.
29. a. That provision be made for earliest deployment of adequate floating drydocks in support of the Service Squadrons in any area of operations where full dependence cannot be placed upon local shore facilities.
b. That service squadrons deployed in distant overseas areas be provided with at least one ARD whenever possible operations may deny them the use of graving docks. That ARD's be held in ready reserve to provide early dry-docking augmentation in both the Atlantic or Pacific.
30. That during peacetime there be maintained at least one operable station for the magnetic measurement and treatment of ships in each of the following areas: U.S. West Coast, Pearl Harbor, Guam, and Yokosuka.
31. That in view of the early requirements for service craft in an emergency, the delays due to towing and demands on tugs, that the numbers of various types of inactive service craft be revised upward in areas where industrial facilities are available.
32. a. That a greater proportion of logistic type ships be maintained in the service forces, commensurate with the number of combatant ships deployed and closely integrated with the operational planning for the Far East and other

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PROJECT II.A.1. (Cont'd)

distant areas. That AE and AO be given particular emphasis in upward revision of the composition of logistic forces.

b. That in the future, augmentation plans include an earlier phasing of the activation of logistic support ship types with the activating of combat types.

33. That consideration be given in preparing reactivation schedules to provide at early dates those types of ships most required to relieve critically overdue-for-overhaul ships.

34. a. That provision be made for trained Commanding Officers and key officers in activated minecraft.

b. That provision be made for adequate numbers and types of minesweep craft.

c. That the Mine Force and logistic Commanders conduct periodic review of established minesweep gear stock in forward area stocking points, in order to reflect operational experience and planned expansions.

35. That, in view of the important morale factor involved in the delivery of personal mail, and the serious aspects in any delay of official mail early steps be taken in an emergency to analyze fully mail routing and movement within the area of operations toward the end of immediate elimination of bottlenecks by providing necessary Navy postal facilities and shuttle transportation as required.

36. That logistical Commanders be advised or consulted at the inception of planning for any special operation so as to permit concurrent logistic and operational planning.

37. a. That positive means be established to screen out "luxury" items and items on hand in, or on order by, forward area logistic support ships from requisitions submitted by ships before passing to continental supply points in order to reduce overseas lift requirements and Fleet freight distribution problems.

b. That, in view of the serious aspects of the fleet freight delivery and distribution problem in a distant area all administrative commanders should be advised of the necessity for insuring compliance with established requisitioning channels.

38. That in view of the extensive disregard or misinterpretation of the requisition priority system experienced and the attendant burden upon the supply system, all administrative commanders insure compliance with established procedures in BUSANDA Manual.

39. That planned new construction of fleet issue and replenishment types of ships (especially AO, AE, AF, and AKA) provide for greater sustained speeds.

40. That terminal and transshipment facilities for air and surface fleet freight, with necessary handling equipment and personnel be established either separately or, preferably, within the framework of existing naval activities.

41. a. That money accountability, except for provisions and re-sale stores, be discontinued for ships and ashore activities in an area of operations.

b. That within the Navy's peacetime accounting structure the elements of necessary wartime accounting be specifically labeled so as to facilitate orderly and rapid transition.

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PROJECT II.A.1. (Cont'd)

42. a. That continental and rear area supply activities be required to furnish the maximum practicable trained supply personnel to fill complements of forces in the forward area.

b. That through the Naval Reserve training program steps be taken to minimize the apparent deficiencies in qualifications of Reserve supply personnel.

43. That detailed plans of logistic support to be followed in various possible distant theatres of operations, which integrate the available indigenous facilities and minimal base development to be undertaken with mobile logistic support be developed and promulgated by CNO as soon as possible.

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PROJECT II.A.2. - UNDERWAY REPLENISHMENT, Logistics, Supporting Operations Section.

CONCLUSIONS

1. That the number of ships assigned to underway replenishment operations was a minimum, and that the loss of any one of them would have impaired services to a marked degree. This was particularly true in the case of the MT KATMAI the only fleet AE available in the area until the arrival of PARICUTIN at the end of October.
2. That in view of the fact the controlling time factor in refueling carriers is the aviation gasoline replenishment, the existing single hose supply rig on fleet oilers is inadequate.
3. That with existing rigs and personnel allowances present fleet ammunition and provisioning ships can replenish two ships simultaneously at sea only at a reduced rate. Further, that existing equipment for the internal handling of provisions in GRAFFIAS is inadequate.
4. That much time that is now wasted during fueling operations might be employed profitably if fueling, re-arming and provisioning could be accomplished via a composite underway replenishment vessel.
5. That the AKA has excellent possibilities for conversion as an effective standby fleet AE with minimum internal modifications and rigging rearrangement. Further, that such conversion would reduce the ship's capabilities as an AKA to a slight degree only.
6. That Change No. 2 to USF 83 will result in entire allowance of AO 6" fuel hose being used simultaneously in a single fueling operation, leaving no spares.
7. That the return of damaged aircraft from a carrier task force to rear areas for repair or salvage is a problem met at present only by carriers returning to port. The retention of these "duds" on board during extended operations or jettisoning them are unacceptable alternatives. The return of duds to repair-facilities could be vital to the carrier aircraft replenishment problem in first year of a war. That the problem is within the scope of underway replenishment operations.

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PROJECT II.A.2. - UNDERWAY REPLENISHMENT, Logistics, Supporting Operations Section.

RECOMMENDATIONS

1. None

2. None

3. That the concept of composite underway replenishment ships be further evaluated and if possible, two general composite types for serving carrier task forces be developed or improvised from existing ships; one to perform AO and AE functions and the other to perform AF and AKS functions.

4. That underway replenishment be included in the Navy's Research and Development of underway logistic supply ships be stressed.

5. (a) That the Bureau of Ships initiate the development of type plans for the conversion of at least four (4) AKA's for use as emergency ammunition replenishment ships.

(b) Further, that fleet AKA's receive training in underway replenishment operations at regular intervals during fleet maneuvers.

6. None.

7. (a) That every effort be made to develop a suitable transfer-at-sea technique and that suitable modifications be made to fleet AO and/or AKS to receive damaged aircraft from aircraft carriers.

(b) That further consideration be given to the "meccano" portable decking used for ferrying aircraft in MSTs T2 tankers, with the purpose of developing a partial installation forward of a fleet AO bridge, such as to receive two aircraft and still not curtail fueling at sea operations.

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PROJECT II.A.3. - SHIPPING SUPPORT (BY OTHER THAN PACIFIC FLEET FORCES),
Logistics, Support Operations Section

CONCLUSIONS

1. (a) That there were in the CINCFE area excessive port times, and the resultant delays in turnarounds experienced by many of the MSTs controlled ships did not create a shipping shortage only because of the limited nature of the conflict, negligible ship losses, the availability of SCAJAP and Japanese charter shipping, and activations from the Reserve Fleets. The utilization of MSTs cargo ships as warehouses and their retention in the forward areas in the support of Army forces was a waste of shipping and material during the present emergency.

(b) That the overestimating of lift or ship requirements by continental United States commands resulted in the maintaining of a considerable number of idle time charter merchant ships in the San Francisco Bay area during August and September of 1950.

(c) That the continuance of this low ship utilization practice could not be countenanced during an all out war, when greater requirements would exist and losses due to enemy action would occur, and would result in the following:

- (1) Reduction in pipeline support due to lack of bottoms.
- (2) Excessive cost in ships and merchant marine personnel due to the high proportion of non-productive days.
- (3) Back-up of war materials at the tidewater and overseas bases resulting in further back-up of materials throughout the nation, involving extra handling of material, shortage of railroad cars, depletion of suitable storage locations, etc.

2. That MSTs controlled shipping augmented by SCAJAP and Japanese charters were adequate both as to quantity and types to meet the requirements imposed by the Korean War for overseas and intra-area lifts.

3. That divergent concepts on the utilization of MSTs support shipping were held by the various area and service commanders.

4. That MSTs shipping within WESTPAC was not controlled or integrated in the same overall objective manner as in the latter part of World War II. In this respect, the control in the CINCFE area as exercised was limited largely to screening, combining and correlating requirements, and procurement of shipping, but not in expediting its subsequent operations.

5. That the delivery of cargo in accordance with the MSTs charter "free-on-board" provision at the point of delivery was satisfactory where adequate port facilities, stevedores, and equipment were available. The delivery of "free-on-board" at the point of delivery via MSTs controlled merchant ships when the point of delivery was an invasion beachhead left much to be desired. The port and beach saturation with the resultant delay to support shipping was due in part to insufficient application of certain World War II learned amphibious assault principles. In retrospect, it is apparent that beach and/or port capacity based on beach or port area, equipment, stevedores and lighterage were not fully considered, especially on initial assaults.

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6. That Force amphibious assault operations orders did not include full provision for the discharge of follow-up or resupply shipping. That advance provision for establishing a Port organization to take over from the amphibious Commander the responsibility for discharge of resupply shipping, under the shore commander was lacking in one amphibious operation (Wonsan).

7. (a) That the number of active 15 knot Navy and Commercial reefer ships available was barely sufficient to meet the basic requirements of the Korean War and was adequate only by reducing maintenance time and eliminating overhauls.

(b) That the number of suitable 15 knot reefer ships in the Maritime Reserve Fleets would be insufficient to meet the loads posed by a major war.

(c) That 10 knot reefer ships, which were available in the Maritime Reserve Fleets, are not suitable substitutes for 15 knot reefer ships.

8. That diversion by one service, of MSTS controlled merchant ship lifting mixed service cargo was the source of actual break in pipeline support.

9. That the time lag experienced in obtaining and processing merchant marine personnel in the San Francisco Bay area indicated the desirability of maintaining current marine registers by all AREA Commanders.

10. That the MSTS personnel situation in the WESPAC area, originally inadequate, improved to the extent that a reasonable working organization is now maintained. The time required to obtain the necessary personnel was excessive.

11. (a) That the LST, the work-horse of the Korean War, was invaluable for both amphibious assaults and supporting operations. These ships are especially useful for ground force support in coastal areas, where, through military action or lack of original development, good roads and rail facilities do not exist.

(b) That the SCAJAP LST group formed the major portion of the LSTs assigned to invasion landings and were vitally important also as lighterage and subsequent shuttle trips.

12. That the procedure for the submission of shipping requirements in the Far East Command promulgated by CINCFE 280109Z August (Restricted), which required all major commands to submit requests for sea transportation to GHQ (Transportation Section) for screening and assignment of priorities on shipping, though not provided for in the MSTS Charter, was within the prerogatives of CINCFE. That this procedure as carried out increased the overall time required to act upon lift requirements by COMSTSWESTPAC.

13. That the lack of shiploading characteristic pamphlets for USNS and Merchant ships hampered the pre-planning for the IWON landing operation. This lack of information will continue to hamper advance planning until such pamphlets are available on all cargo and passenger carrying ships.

14. That the utilization of Japanese shipyards and the Japanese economy for the maintenance of ships and the procurement of supplies assisted materially in the prosecution of the Korean War.

15. That MSTS/NSCO offices accomplished their limited missions in the Japanese/Korean ports with the limited personnel and facilities allotted. The operational difficulties experienced due to the lack of an adequate rapid communication system for handling classified traffic were excessive and in the event of active enemy air and/or sea action would have resulted in further port delays and/or loss of merchant shipping.

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16. That cargo operations records of MSTs (USN, USNS, and MSTs controlled) and other shipping in the CINCPAC area were inadequate for the most effective control and complete subsequent analysis of operations.

17. That LST(H), early in the War would have assisted materially in the movement of patients between KOREAN ports and Japan.

18. That the non-payment of overtime to MSTSWESPAC ship crews (US and Japanese personnel) created dissension since the KOREAN War necessitated frequent overtime work in these ships.

19. That the small number of MSTs ships under repair in Japanese ports during this period indicated generally good engineering practices and maintenance by the ships' companies and operators.

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PROJECT II.A.3. - SHIPPING SUPPORT (BY OTHER THAN PACIFIC FLEET FORCES),
Logistics, Support Operations Section

RECOMMENDATIONS

1. To insure more economical employment of MSTs merchant shipping the following is recommended:
 - (a) That in amphibious assaults, the operation plan fully cover unloading operations, and MSTs Area Commander and amphibious force commanders be consulted as to the capabilities of the assault beach and/or port, and that the rate of flow of MSTs initial and subsequent support shipping be governed accordingly.
 - (b) That provisions be always made in advance by the commander of the port of destination for sufficient stevedoring personnel and equipment to be available to accomplish the discharge of support shipping.
 - (c) That shipper services provide MSTs with realistic lift requirements based on their ability to deliver material to tidewater.
 - (d) That the shipping requirements placed on MSTs be tempered by the ability of the port facilities to handle the cargo consigned.
2. That:
 - (a) A strong modern U.S. merchant marine is essential to augment government shipping in national emergencies.
 - (b) Continued utilization be made of Japanese Charter and SCAJAP shipping for intra-area support in view of its economy and release of U.S. ships.
 - (c) Local shipping be used to the maximum extent in other areas in the event the present conflict spreads.
3. That a joint armed services board at the Department of Defense level undertake further study and review of the use of support shipping in the KOREAN operations and establish and promulgate basic principles and control to insure the most efficient utilization of shipping.
4. That a joint armed services shipping control board be established in the CINCPAC area to insure a continual review of cargo ship requirements, efficient utilization of shipping, and release of overseas shipping not essential to present and committed operations.
5. Same as 1 (b) and (d).
6. That amphibious operations orders include full provision for the discharge of amphibious force and support shipping, including the service commands responsible for providing the personnel and equipment.
7. That sufficient large fast reefer ships be made available to MSTs and Service Force Commands as soon as possible by activation and construction to insure balanced support shipping.
8. That:
 - (a) Mixed service loads enroute to the forward areas during war time be held to the absolute minimum especially on critical items such as ammunition and aircraft materials in order to avoid disruption in pipeline support of one service when diversions are initiated by another service.

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(b) That Fleet cargo lifting capabilities within the Service Force be increased commensurate with the fleet and fleet base support load imposed upon that command. The adoption of the recommendation will further simplify the delivery of cargoes by reducing the number of mixed service loads and the attendant possibilities of diversion.

(c) That OCAs (Operational Control Authorities) not divert a MSTS ship for urgent medical attention for crew members without prior approval from the cargo consignee.

9. That each MSTS Area Commander maintain a current merchant marine register of personnel cleared by U.S. security officers. The importance of keeping these registers current cannot be overstressed due to the nomadic characteristics of the majority of civilian marine personnel.

10. None.

11. That:

(a) Additional LSTs be activated from the Reserve Fleets as soon as feasible.

(b) Continuing development of LSTs and associated type landing ships will pay dividends.

(c) Following required utilization of LSTs to lift amphibious assault cargo, and upon completion of initial discharge, in the absence of piers and lighters, that LSTs serve as lighterage to expedite AK type ships unloading suitable cargo such as rolling stock and drum POL products.

(d) A Navy liaison officer be assigned to each SCAJAP LST during amphibious operations to insure proper and expeditious execution of operation orders.

(e) In cases of inadequate piers and/or lighters, greater number of LSTs or other smaller ramp type craft be provided to expedite unloading operations.

12. That:

(a) The screening and assigning of priorities of shipping in the Unified Command Area be made the function of a joint Armed Services staff group under the Area Commander instead of GHQ (Army).

(b) Army and Air Force officers be assigned to MSTSWESPAC for priorities board and liaison duties.

13. That the following be accomplished to insure the availability of necessary cargo ship information essential to pre-planning cargo loads:

(a) All USNS ships prepare and maintain on board a supply of fifty (50) copies of the Transport Characteristics pamphlets prepared in accordance with Article 1511, USF 66.

(b) Commander MSTs prepare Transport Characteristics pamphlets in accordance with Article 1511, USF 66 (plus trim and stability tables) for each of the applicable Maritime Commission designs and special types such as "Seatrains", etc.

Distribution of these pamphlets should include the following

- (1) All MSTs Activities
- (2) Amphibious Force Commanders
- (3) Service Force Commanders

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(4) Marine Corps Headquarters and Divisional Commanders

(5) All Army-Navy Port Terminals

(6) Ships operating under time charters

(7) All OCAs and all offices of the NCSO Organization

14. That:

(a) Continued fullest use be made of Japanese shipyards to insure the availability of their facilities and trained personnel in the event of a full scale war.

(b) Procurement of suitable Japanese supplies to reduce shipping requirements and expenditures be continued and expanded wherever possible.

15. That adequate communication facilities and personnel be made available for rapid transmission of MSTS/NCSO radio traffic.

16. That MSTS commanders and amphibious force commanders initiate action to insure the assembly of individual ship cargo operation data (port abstract) for each port of call by requiring such as in the following: (see sample attached, page xviii).

(a) MSTS controlled shipping (USNS, TAK, TAKA, TAPA, TAO, TCVE, time charters, etc.) submit a cargo operational data report, (port abstract), to the MSTS Commander executing the time charter with a copy to the MSTS Commander having Operational Control. MSTS ships serving with amphibious forces submit two additional copies to the amphibious force commander concerned.

17. That LST(H) be made available for lifting patients when suitable short haul requirements such as the Pusan - Sasebo run exist.

18. That provisions be made for COMMSTSWESPAC to authorize the payment of overtime to MSTSWESPAC ship crews.

19. None.

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PROJECT II.A.4. - AIR LIFT, Logistics, Supporting Operations Section

CONCLUSIONS

CHRONOLOGY (2)

1. That the multiplicity of necessary shifts in deployment of squadrons and in loading instructions and the repidity and smoothness with which the Wing responded clearly demonstrate the essentiality of a transport wing as a component part of a fleet.
2. That every effort was made to anticipate and to provide service where needed to WESTPAC.
3. That there is a place and a need for both the rigidly scheduled air line providing lift for all services such as MATS with its regularity for planning, and for the ready alert or "charter" type system as a part of the fleet such as FLOGAIRWING which with its flexibility is ever ready to meet the special demands in any area required by a mobile fleet.

ROUTES AND SCHEDULES (3)

1. That schedules established for Fleet Logistics Air Wing, Pacific were flexible and permitted easy shift of routes as conditions required.
2. That TRANSPAC air routes requiring numerous stops in the forward area are less economical than routes with a single terminus or limited termini supplemented by a feeder or distribution shuttle service, because of the complications injected in establishing enroute check points and crew staging.
3. Provision should be made to allow cargo receiving units and plane commanders more latitude in determining unloading points in forward areas.
4. That aside from the use of the carrier's combat planes, there is no organized means for providing air logistic support direct to the task force via the carrier's deck.

FLIGHT EQUIPMENT - AIRCRAFT (4)

1. That the transport aircraft available in the Pacific were reliable and safe but inadequate in numbers.
2. That present equipment is rapidly becoming obsolete and should soon be replaced with standard high performance (range and cargo capacity) types of transport aircraft.
3. That the large, MARS type transport, seaplane is ideally suited for TRANSPAC transport operations.
4. That many economies and better operation have resulted from the procurement of standard, proven commercial airplanes for use by military transport squadrons rather than from special planes like the R60 (Constitutions.)

FLIGHT EQUIPMENT AND MATERIAL - GENERAL (5)

1. That flight equipment and material for the number of planes originally assigned prior to the Korean Incident were adequate. However, procurement of items required for expansion was extremely slow and difficult; in particular, adequate supplies of navigation instruments, tables, charts and hydrographic data were difficult to obtain.

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PROJECT II.A.4.

FLIGHT CONTROL AND COMMUNICATIONS (6)

1. That general communication facilities, adequate for normal traffic in the Far East, were overloaded and unacceptably slowed down by the load imposed by the Korean airlift.
2. That overclassified routine messages contributed to the time required to get information through on general communication circuits.
3. When operating from fields close to the combat zone, transport aircraft should be assigned frequencies separate from those of tactical air.
4. Jamming of air to ground communications may be expected in the forward areas.
5. Essential field equipment, required immediately on establishment of a field for transport plane use is:
 - a. Portable homer beacon so that field at destination can be found.
 - b. Field lighting.
 - c. G.C.A.

FLIGHT SERVICE FACILITIES (7)

1. That flight service facilities were not fully adequate to support the expanding airlift that developed with the Korean Incident, but facilities did improve slowly as personnel and equipment became available.
2. The subject of in-flight rations in an air transport line is complex and important and should be the subject of continuous attention and survey. The situation in FLOGAIRWINGPAC at the present time leaves much to be desired.

ALONG ROUTE DETACHMENTS (8)

1. That the along route detachments as originally constituted were not able to meet the demands imposed by the greatly accelerated transport operations.

MAINTENANCE (9)

1. That, with the outbreak of the Korean Incident, and the resulting rapid expansion of operations, maintenance in the field became greatly complicated as a result of a shortage of adequately trained personnel and stocks of spare parts.
2. That along route maintenance is greatly complicated if squadrons within a FLOGAIRWING are operating under different heavy maintenance plans because, primarily, of the difference in engine check periods.
3. That supplies of airplane spare parts were not kept abreast of major component changes in the aircraft, particularly in along route detachments.

PERSONNEL (10)

1. That personnel buildup required did not keep abreast of the increased tempo of operations.
2. That enlisted Reserve personnel recalled to active duty were in many cases not trained sufficiently to fulfill requirements of their ratings.
3. That commands issuing orders to personnel often made mistakes in the orders, so that personnel were misdirected and their usefulness lost for protracted periods of time.

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PROJECT II.A.4.

4. That full advantage was not taken of the large pool of transport pilots available in the Navy and Naval Reserve who were not on active duty involving flying as evidenced by the numbers of these personnel observed on other duty as of 15 November 1950.

TRAINING (11)

1. That adequate training of flight personnel received after the beginning of the Korean incident was not possible due to the urgent need for all aircraft in the TRANSPAC airlift.

2. That the training programs of the various squadrons were not sufficiently standardized within the Wing.

TRAFFIC COORDINATION AND SPACE CONTROL (12)

1. That a definite improvement resulted in the Fleet Logistics Air Wing traffic control procedures in the Pacific when the carrier was relieved of the responsibility of maintaining a traffic backlog.

2. That prior to the Korean incident the FLOGAIRWING traffic control organization was not capable of rapid expansion over a multiplicity of areas.

3. That training of traffic and crew personnel in traffic matters prior to the Korean incident was inadequate.

4. That heavy work loads suddenly imposed precluded satisfactory training of personnel and plane crews in traffic and space control matters during the Korean incident.

5. That personnel, facilities and equipment were not available at Haneda AFB to receive, process and deliver incoming FLOGAIRWING traffic, throughout the period ending 15 November 1950.

6. That units providing the services of Naval Overseas Air Cargo Terminal have proved invaluable to air transport squadrons.

PRIORITY SCREENING (13)

1. That air lift is frequently abused and wastefully employed by being assigned cargo which should properly go by surface or for which the need should have been anticipated.

PACKAGING AND HANDLING (14)

1. Better light containers for air cargo which will not disintegrate under weather and handling are required.

2. Ramp trucks expedite loading and unloading operations.

3. Meticulous cargo manifesting is essential in airlift operations.

4. Advance information as to destination on cargo to be delivered and space available for loading will greatly expedite cargo movement.

TRAINING (15)

1. Covered in subparagraph (12) 3 above.

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PROJECT II.A.4. - AIRLIFT, Logistics, Supporting Operations Section

RECOMMENDATIONS

CHRONOLOGY (2)

1. That NAVSTA Midway be retained in active status now and be continued in reduced active status in peacetime.
2. That the present navy transport air wing organization which provides for a wing or wings as a part of a major fleet be continued and developed.

ROUTES AND SCHEDULES (3)

1. That in an area such as Japan where there are numerous scattered Naval activities, aircraft be deployed within the forward area to provide feeder service rather than schedule stops at these points by the trans-ocean flights.
2. That instructions be issued to transport squadrons and cargo receiving detachments outlining conditions under which they may change cargo destination or routing.

FLIGHT EQUIPMENT - AIRCRAFT (4)

1. That procurement of additional large transport seaplanes (4 engine) in numbers sufficient to outfit four, six plane squadrons be initiated for use in the Pacific.
2. That CNO be requested to commission VR squadrons equipped with TBM type aircraft capable of lifting personnel, cargo, and mail to carriers at sea and equipped to land aboard and be catapulted night or day.

FLIGHT EQUIPMENT AND MATERIAL - GENERAL (5)

1. That reserve stocks of navigation instruments, safety and survival equipment, tables, charts, and miscellaneous hydrographic data at established issue points be greatly augmented to meet the needs imposed by expanded emergency operations.

FLIGHT CONTROL AND COMMUNICATIONS (6)

1. That fleet logistic air wings be directed to submit recommendations to fleet commanders with a view to reduction in number and content and to standardization of aircraft load reports, movement reports and advisories.

FLIGHT SERVICE FACILITIES (7)

1. That mobile Transport Aircraft Service Units be formed in accordance with the advance base component concept, the mission of which would be to provide at enroute stops those services peculiar to naval air transport operations which are not normally within the technical capabilities of enroute air activities. These units to be composed of personnel within present squadrons, trained and equipped to set up enroute service until such time as a permanent detachment can be mobilized, trained and deployed if needed.

ALONG ROUTE DETACHMENTS (8)

1. That along route detachments be organized and trained with a view to their providing maintenance service to the transport aircraft as a primary mission.

MAINTENANCE (9)

1. That an emergency maintenance plan be prepared by Commanders of Fleet Logistics Air Wings and kept up to date, ready for immediate execution in the event of future operations similar to the Korean incident.

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PROJECT II.A.4.

2. That the 1,000 hour heavy maintenance plan be adopted for all transport type aircraft.
3. That when major component changes in aircraft are made, that every effort be made to ensure an adequate supply of appropriate spares.

PERSONNEL (10)

1. That enlisted Reserve personnel recalled to active duty be carefully screened and that personnel with transport squadron experience be ordered to such duty as soon as possible in numbers sufficient to fill mobilization allowance.
2. That commands issuing orders for the transfer of personnel be directed to exercise greater care in writing complete and correct orders.
3. That in future emergencies such as the Korean incident, every effort be made to meet the expansion requirements of transport squadrons by providing already qualified pilots. Pilots who were removed from flying status for budgetary reasons may be an available source of such personnel.

TRAINING (11)

1. Provide sufficient squadron aircraft for training purposes.
2. That in the interest of rapid expansion in time of emergency, steps be taken at once to standardize training requirements and procedures throughout the naval air transport organization.

TRAFFIC COORDINATION AND SPACE CONTROL (12)

1. That COMFLOGAIRWINGPAC set up a training program for traffic personnel and plane crews in matters of traffic handling and space control, and that steps be taken to insure that such a program is maintained.
2. That the traffic control procedures initiated by CINCPACFLT for the Korean incident be continued in effect, i.e., FLOGAIRWINGPAC not be required to maintain traffic backlogs or allocate space for airlift.
3. That a traffic organization composed of trained personnel and capable of immediate expansion to meet future emergencies, be maintained within the Fleet Logistics Air Wing, Pacific.
4. That a NOACT or an agency performing the functions of a NOACT be established at appropriate air cargo terminal and trans-shipment points.

PRIORITY SCREENING (13)

1. That frontier and, where necessary, force commanders be authorized and directed to establish a section within their staffs responsible for maintaining a continuous survey of air cargo backlogs with a view to adjusting priorities and diverting all appropriate cargo to surface lift.

PACKAGING AND HANDLING (14)

1. BUSANDA and BUAER be requested to undertake jointly the further development of light, durable aircraft cargo containers.
2. That ramp trucks be made standard equipment at transport plane terminals.

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PROJECT II.A.4.

3. That responsible commands be directed to indoctrinate personnel in the importance of proper cargo manifesting.

TRAINING (15)

1. Covered in subparagraph (12) 1 above.

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PROJECT NO. II.A.5. - FLEET MARINE FORCE, Logistics, Supporting Operations
Section

CONCLUSIONS

1. That the present equipment and service organizations in a Marine Division are, in general, satisfactory for the conduct of amphibious operations and limited operations inland.
2. That the organic equipment of a Marine Division is not adequate for extended operations over large land masses.
3. That the system of holding in "ready reserve" necessary equipment and supplies to mount out Fleet Marine Force units for combat was a major factor in enabling the First Provisional Marine Brigade, the First Marine Division, and the First Marine Air Wing to meet proposed sailing dates from the west coast.
4. That the tables of equipment for Fleet Marine Force units contain items of equipment which are not required initially in combat.
5. That the policy of organizations carrying thirty (30) days replenishment supplies into combat is sound.
6. That, in joint operations of this nature, Marine Corps reinforcing elements are subject to diversion from normal missions and detachment from Marine Corps operational control.

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PROJECT NO. II.A.5. - FLEET MARINE FORCE, Logistics, Supporting Operations
Section

RECOMMENDATIONS

1. That no major permanent changes in Fleet Marine Force Tables of Equipment, based upon operations in Korea thus far, be considered at this time.
2. That a detailed study be made of additional equipment required by Fleet Marine Force units in the conduct of extended joint operations over large land masses and that consideration be given to the preparation of supplementary Tables of Equipment for use in such operations.
3. That the Tables of Equipment for each type Fleet Marine Force unit be examined with a view toward determining which items could be eliminated altogether, or left in rear areas and echeloned into the forward areas as needed.
4. That a study be made to determine the feasibility of standardization of equipment, requisitioning forms, and material classification of the Army and the Marine Corps.
5. That a study of the shortcomings of the Marine Corps equipment used in the Korean campaign be initiated with a view toward procuring or developing improved types.
6. That a study be made to determine ways and means to insure the organizational integrity of Marine Corps units in joint operations.

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PROJECT II.B. - COMMUNICATIONS

CONCLUSIONS

General Communications

1. Many officers in command, including flag officers, failed to exercise positive control over communications.
2. The primary Fleet Broadcast system covering the area of operations, under the stress of the Korean campaign, was unable to handle the tremendous volume of traffic generated. Message delays of days were common.
3. The security classification and precedence systems were completely out of hand, as were number of information addressees, message lengths, etc.
4. The establishment of additional fleet broadcasts provided some relief but the full benefit was not achieved because of duplication in many of these broadcasts and incomplete information as to what units were guarding the various broadcasts.
5. The effective cut-off point for reception of manually transmitted FOX traffic is very close to 21 words per minute. The effective group output of the FOX broadcast, however, is only 60% of the theoretical output.
6. The screening of encrypted traffic at an intermediate station between the originator and the addressee is unsound.
7. The need for differentiation between administrative and operational traffic has been continuously demonstrated, and a requirement for some means of distinguishing exists in priority, routine, and deferred precedences.
8. One of the most glaring deficiencies noted at Guam was lack of adequate information as to ships guarding the respective FOX's. Positive information in this regard is essential.
9. The full traffic handling capacity of ship-shore radio teletype circuits was not utilized and chain of command communication was not fully exploited.

Ship-Shore Communications

10. In general, ship-shore communication was satisfactory and the circuits were used in emergencies to deliver traffic to the fleet. Delivery of traffic to the fleet by Fleet Broadcast schedules can be effectively aided by utilization of fleet commander circuits particularly for items such as intelligence summaries, which should be limited in primary distribution to the higher echelons, with chain of command distribution to other units requiring this information.
11. The 4255 KC series is quite adequate for the purpose intended at present but the 8,000 and 12,000 KC bands become congested periodically.

Ship-Shore Communications in Amphibious Operations

12. It is highly desirable that equipment be available on amphibious force flagships (AGC) to establish a radio-teletype (RATT) circuit between the AGC and the landing force ashore.
13. Existing portable equipment such as SCR-300 and SCR-610/619, is not adequate when long distances are necessary between the transport area and the beach.

Short Range Tactical Communications

14. Ultra High Frequency equipment was not completely satisfactory from either a maintenance or operational viewpoint.

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PROJECT II.B. - COMMUNICATIONS

15. In general, ~~UHF~~ equipment was not considered capable of replacing TBS for tactical communication at this time.

16. ~~UHF~~ radio teletype was profitably employed by some task groups.

Air-Ground Communications

17. Tactical air-ground communication requires better coordination among the Services to achieve optimum efficiency. This will entail the promulgation of a Joint doctrine before any considerable improvement in Joint close air support communication can be achieved.

18. Some improvement in air-ground communications would obtain by:

- a. Having more channels available on radio equipment installed in certain aircraft.
- b. Adherence to frequency assignments listed in JANAP 195 and other applicable publications.
- c. Improved communication planning in the higher echelons.
- d. Improved ground radio equipment.
- e. Standardization of aircraft radio equipment installations in aircraft involved in close air support, naval gunfire spotting, etc.

Naval Gunfire Communications

19. Limited experience gained in one opposed and several administrative landings indicates the validity of current communication techniques for Naval Gunfire in support of amphibious operations.

20. It is impracticable to implement the VHF air-ground-surface Naval Gun Fire (NGF) spotting net because of technical limitations in equipment. In addition, an adequate number of frequencies is available for this purpose.

21. Naval Gunfire circuits, other than spotting nets, could be consolidated with Air Request Nets below Division Headquarters. Possibly some integration could also be made with Artillery Nets as well.

22. A spotting code similar to CSP-2156 should be adopted for Joint use and the same one should be used for both artillery and naval gunfire.

23. Having air spotting, naval gunfire spotting and artillery spotting on a common circuit would reduce the equipment and personnel requirements.

24. The use of the fire control radar beacon will be limited during the transition period.

25. In the event operational commanders are unable to provide adequate administrative communications for units of all services for which operationally responsible, establishment of separate administrative intra-service circuits is warranted.

Landing Force Radio Equipment

26. Field radio equipment requires improvement.

27. It is neither practicable nor desirable to base unit Tables of Equipment on the requirements imposed by all foreseeable contingencies under which that unit may operate; they must be based on normal conditions expected in carrying out its primary mission. Requirements imposed by secondary missions, abnormal conditions or special operations, will have to be solved by special allowance, centralized pools of equipment, and by the provision of extra or special signal units under force troops.

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PROJECT II.B. - COMMUNICATIONS

28. For operations in terrain similar to North Korea, highly portable MHF equipment appears to be the only solution for reliable radio communication.

Press

29. Personnel concerned with the origination and handling of press were not fully versed in correct procedures, and often failed to distinguish between commercial press and official Navy press.

30. Army tactical units are authorized to handle press messages free to the nearest commercial refile point, but naval ships must charge.

31. In the same area a correspondent attached to one service may be in a more favorable position than a correspondent attached to another service, dependent upon the communication facilities available on the spot at the time.

32. The volume of press traffic originated by press correspondents will have to be curtailed within the limits imposed by shipboard facilities and demands for operational traffic, or separate press and/or air courier facilities provided.

Communication Personnel

33. The training of "other department" personnel in cryptography to provide for a greatly expanded volume of encrypted traffic at shore stations and large flag commands afloat is unrealistic. Services of such personnel usually are required by their own departments at the time when they are most needed for crypto duty.

34. Placement of men in billets, irrespective of their job classification, results in square pegs in round holes, and deprives the Navy of benefitting from their special abilities. A need exists for providing allowances for certain key billets in terms of ratings and Navy Job Code Numbers.

35. The need for trained reserve communication teams available upon the outbreak of hostilities or declaration of an emergency, has become apparent.

36. The rotation of officers to provide well rounded naval experience results in officers inexperienced in communications being found in key communication billets, such as air stations, while officers experienced in communications are in billets which do not require such experience.

37. Practical Factors for the rating of telemen are still too varied for personnel in this rating to become well versed in all the required subjects, resulting in this rating being avoided.

38. The ordering to active duty of reservists whose civilian pursuits and Navy ratings are identical (e.g. mailmen), and then diverting these ratings to other duties because they are in excess is not sound from both a morale and public relations standpoint.

Training of Radio Operators

39. The range capability of radio-telephone equipments was not fully utilized primarily because of inability of operators to use continuous wave.

40. In combined operations, difficulties arose from lack of a common language or diction.

Movement Report System

41. The system of addressing and readdressing Movement Reports is entirely too complicated, time consuming and inefficient.

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PROJECT II.B. - COMMUNICATIONS

42. The instructions for assignment of precedence to Movement Reports require adjustment and revision, not only to assist originators, but to emphasize this important feature to stations involved in readdressing the basic Movement Report.

43. The term "need to know" in the instructions for the Movement Report System is abused.

44. Movement Report instructions relative to providing communication information are not sufficiently comprehensive.

Naval Control of Shipping Organization

45. The present communication facilities for the Naval Control of Shipping are satisfactory. Delays existing in the transmission and encryption of messages are of the same nature as with other operational traffic with the one exception that the physical distance between the Naval Control of Shipping Officer (NCSO) Routing or Reporting Officer and the communication or Crypto Center serving them presents a problem which may call for the provision of crypto facilities to NCSO's, and a direct communication link to the nearest communication facility.

46. The Movement Report System has proved to be a satisfactory medium for the dissemination of NCSO traffic.

47. A continuing effort is necessary in order to ensure that unnecessary subject matter and unnecessary messages are eliminated. Particularly this applies to delayed messages which often call for unnecessary queries from NCSO's seeking to verify either arrivals, or information in Pre-sail and Sailed messages.

48. The use of precedence on NCSO messages should be clarified in order that a minimum precedence may be assigned by originators while taking into consideration the available transit time for the message and the urgency of the particular message. While at the present time the allocation of precedence to messages in Wartime Pacific Routing Instructions (Emergency)(WPRI(E)) is satisfactory, latitude should be allowed in order to expedite messages in exceptional circumstances.

49. Briefing of Masters and communication personnel of vessels routed by NCSO's will require experienced communication personnel.

50. Positive control of shipping will require a continuous watch.

Facsimile

51. Although shipboard experience has been limited facsimile has effectively demonstrated its potentialities.

52. Present development of security features for facsimile should be pursued.

53. For maximum usefulness shipboard transmitters used for facsimile transmissions should have a frequency range up to 26 NCS. There is general need for HF radio transmitters in the fleet which go above the current standard 18.1 MCS limitations.

RADMAIL

54. RADMAIL has failed in its intended use to materially reduce the load on the Fleet Primary Broadcasts.

Radio Frequency Plan

55. On the whole, JANAP 195 proved to be a satisfactory Radio Frequency Plan. Some conflict and interference was experienced when not adhered to in Joint operations

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PROJECT II.B. - COMMUNICATIONS

PRECEDENCE

56. The most effective method of keeping the assignment of precedence at an appropriate level is a continuous campaign by communication personnel to remind and familiarize drafting and releasing officers with the importance thereof.
57. The trend to assign too high precedences to messages has built up during the Korean incident as it always does during a peak of operations.
58. The requirement that messages mailed to shore commands be addressed to the command, rather than the communication center serving that command, is the source of constant criticism.
59. The different philosophies existing relative to precedence in the Army, Air Force, and Navy militate against the Navy insofar as the flow of comparable messages over Joint channels is concerned.
60. Use in the Navy of the "Deferred" precedence for administrative traffic is very high whereas in the other services it is relatively low.
61. From a psychological point of view, the term "Deferred" in the minds of originators immediately builds up an attitude of resistance. If the term "Routine" were utilized with the same definition as currently identified the term "Deferred" the situation would be improved and would place Navy messages on a more comparable footing with those of the Army and Air Force.

Registered Publications

62. Although the need for additional issuing offices was anticipated and recognized soon after the outbreak of the Korean incident their establishment was unduly delayed.

Cryptographic Aids

63. Joint crypto allowance lists in handy reference form as needed.
64. There is an urgent requirement for a lightweight, reasonable secure cipher machine that can be used by all Marine Corps field echelons down to the infantry battalion. It should be capable of operating off batteries where the use of a noisy power supply is not acceptable. However, it should be capable of using generator power supply when conditions permit.
65. The Marine division should be authorized the use of a Combined Cipher Machine (CCM) or equivalent in combat. During combat operations with the Army in Korea, the First Marine Division was provided such equipment by the X Corps.
66. There is an inescapable increase in requirements for crypto repair facilities as the work load on crypto machines is increased.
67. Cryptographic repair facilities, spare parts, and competent personnel were in short supply.

Officer Messenger Mail

68. There is need for Joint agreement for the handling of Officer Messenger Mail.
69. Operation of the Officer Messenger Mail Service as part of the Registered Publication Issuing Office in peacetime and immediately shifting to the Postal organization upon the outbreak of war is not realistic.

Publications

70. There are too many separate series of publications for the conduct of naval communications.

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PROJECT II.B. - COMMUNICATIONS

71. JANAPS, in general, are adequate for the purpose intended. From a purely practical standpoint more indoctrination in application is required.

72. JANAPs are adequate for combines use.

73. JANAPs are considered sufficiently detailed at present to reduce the work involved in the preparation and size of joint communication plans if it can be assumed that other services hold the same effective editions.

74. The distribution of JANAPs among all three services is not yet on a firm and positive basis. In the Navy, distribution to newly-commissioned ships has not been completely satisfactory.

Communication Annexes

75. Communication Plans generally were adequate, timely, and without serious defects. This is attributable largely to the Navy's excellent Basic Communication Plan USF 70(B).

76. More emphasis should be placed on concurrent communication planning when possible, and in making appendices to Communication Annexes adaptable for use in Communication Plans of subordinate commanders.

77. It is highly desirable that Army and Air Force have basic communication Plans comparable to USF 70 and JANAP 195, available to other services for use in communication planning.

Postal Affairs.

78. The lack of qualified postal officers in the forward areas capable of establishing and maintaining an efficiently operating postal service was largely responsible for a service which would be described as nothing better than average at the onset of hostilities.

79. Not all officers who were capable of qualifying as experts in postal affairs were ordered to focal points where they could be best utilized.

80. Most communication officers are lacking in "mail consciousness."

81. The existing postal facilities and personnel in the Western Pacific at the onset of Korean hostilities were inadequate.

82. The standard of service obtainable from military aircraft as far as transportation of mails is concerned, is still below that of commercial carriers.

83. The method of billing mail transported by military aircraft are not uniform and are unsatisfactory as compared to the commercial procedure.

Air Search Radar

84. The new AN/SPS-6 series radars are notable superior to the older air search radars in use after World War II.

85. Although normally presumed to be equivalent to the AN/SPS-6 series, the performance of the SR-3 and SR-6 radars, modified, does not measure up to that of the AN/SPS-6 series type.

86. The reliability of the AN/SPS-6 series is considered to be very good.

IFF (Identification, Friend or Foe)

87. The IFF situation is unsatisfactory.

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PROJECT II.B. - COMMUNICATIONS

Electronic Countermeasures (ECM)

88. Fleet readiness in electronic countermeasures is unsatisfactory. This applies to equipment, personnel, and doctrine.

89. Shipboard ECM equipment has inadequate frequency coverage both for intercept and jamming. Specifically, the high frequencies above 3100 mcs were poorly covered.

90. Carriers and other screened units have difficulty with available equipment in intercept work because of the interference from own ship and task group radar.

91. ECM installations in carrier aircraft have inadequate frequency coverage. Only one of four tuning heads for AN/APR-9 receivers was available. Frequencies below 2200 mcs as well as high frequencies above 4300 mcs were not covered. No jamming equipment was available for any frequency. As a consequence, no effective search could be made of enemy anti-aircraft fire control radar, early warning and ground control interception (GCI) stations and fighter aircraft communications. When enemy anti-aircraft fire control radars were detected, they could not be jammed.

92. North Korean forces employed little electronic communication equipment. Anti-aircraft fire control radars were observed. Russian shore, ship and submarine radars were observed. Some enemy jamming of communication circuits was in evidence.

93. The unsatisfactory state of readiness of electronic countermeasures is due in part to a lack of active interest on the part of all echelons of command, and a lack of guidance to subordinate commands from the top echelons on down.

94. The present practice of assigning officers to ECM billets as collateral duty on major staffs has not allowed aggressive prosecution of ECM policy. It is essential that ECM billets on these staffs be full-time billets and filled with technically qualified officers in order to assure an orderly and complete compilation and dissemination of useful information from passive countermeasures.

95. The responsibility for the compilation and dissemination of ECM information within the organizations of major staffs is not clear-cut, but is divided among intelligence, operations, and communications. This responsibility should be fixed upon communications thereby paralleling the organization of CNO.

Electronics Supply

96. Current stocks of electronics material is considered satisfactory for present operations. Considerable confusion has existed and still exists due to the lack of conversion of active fleet units to the bin-storage system. All replenishment stocks are identifiable only under the new stock numbering system. Mobile supply units frequently are unable to issue material required by fleet units due to inability to identify and find in its own system material requisitioned under the old system.

Electronic Maintenance

97. The electronic maintenance in the Pacific Fleet is considered generally satisfactory under present operating conditions.

98. Additional electronics technicians in the higher ratings would greatly improve shipboard electronics maintenance.

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PROJECT II.B. - COMMUNICATIONS

RECOMMENDATIONS

GENERAL COMMUNICATIONS

1. Command, particularly Flag Officers, attention be brought to their responsibilities in connection with control of communications as stated in Article 123, USF 70(B).
2. More use be made of dual and deferred precedence and use of mail for info addressees.
3. Following possibilities be carefully considered for reducing the communication load imposed by intelligence and operations summaries:
 - a. Send summaries less frequently.
 - b. Omit large masses of negative information.
 - c. Omit unnecessarily detailed information on trivial items.
 - d. Duplication of reports.
 - e. Elimination of non-essential addressees.
4. Communication Officers constantly remind drafters and originating officers of basic ground rules for drafting of messages.
5. Responsible officers exercise effective supervision to insure adequate circuit discipline.
6. Revise existing instructions in the appropriate JANAP publication(s), to require that messages mailed to Naval Shore Activities shall be mailed to the Communication Center of the command concerned, rather than direct to the activity itself.

Ship-Shore Communications in Amphibious Operations

7. Radio teletype (RATT) equipment be available on all amphibious force flagships (AGC) to establish both terminals for ship-shore RATT in an amphibious operation between the AGC and the landing force ashore.
8. The supplying of this equipment be a responsibility of the Navy.
9. The operation of the two terminals be the responsibility of the AGC and the landing force, respectively.
10. The AGC terminal be pre-installed with the voice channel wired to the ship's telephone switchboard and with the teletype channels wired to the teletype patch panel.
11. One boat from each amphibious vessel be provided with pre-installed radio equipment of medium range (SCR-608 or equivalent) for use as a "free-boat" for trooper commanders during the ship-shore movement.
12. The research program on reduction of mutual interference in amphibious flagships continue to be vigorously prosecuted.

Shore Range Tactical Communications

13. Retain TBS equipments until UHF gear conclusively demonstrates its adequacy.

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PROJECT II.B. - COMMUNICATIONS

Air Ground Communications

14. Aircraft of all Services be equipped so as to be capable of immediately communicating on any frequency required by operations in which they may be involved.
15. Aircraft radio equipment provide for the employment of various channels without the stocking and distribution of a large number of crystals.
16. Frequencies assigned be such as to enable inter-communication by ship, aircraft, and a ground unit on one circuit, or by two or more ground units and an aircraft. (If this is not practicable, it is recommended that current Naval Gun Fire (NGF) doctrine and technique based on such a requirement be revised.)
17. Air-communication frequencies be jointly assigned both as to function and service on a world-wide basis, and that deviation therefrom may be undertaken only with authority of the Joint Chiefs of Staff.
18. The feasibility of combining tactical air request functions below Division Headquarters Net with similar Naval Gunfire and artillery functions be explored, thereby relieving units subordinate to the Marine division from guarding the Tactical Air Request Net.
19. The feasibility of using the same ground personnel in Marine infantry battalion zones of action for directing close-in air support, NGF spotting and artillery spotting be explored, in order to reduce communication circuits and personnel.

Naval Gunfire Communications

20. Radio equipment in all spotting aircraft be standardized.
21. A joint (Combined) spotting code be provided.
22. Explore the practicability of combining certain functions of supporting arms in order to reduce the complexity in the amount of communications required.

External Administrative Communications - Marine Corps

23. Consideration be given to authorizing the establishment of direct circuits from senior Marine unit(s) in the field to the nearest activity of the naval communication service where another Service's communication facilities are inadequate.

Landing Force Radio Equipment

24. Continued effort be made to improve current field radio equipment.
25. Portable RATT equipment be included within the division. More RATT units should be organized under Force Troops.

Press

26. The rules of all the services for the handling of press be made uniform.

Communication Personnel

27. Reserve communication teams be trained as units in up-to-date procedures, and techniques, with special emphasis on latest instructions.
28. Divorce mailmen qualifications from those of telemen, and set up a separate peacetime rating of mailmen corresponding to that of the present mailman emergency rating, code 2250-2259.

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PROJECT II.B. - COMMUNICATIONS

29. Recall to active duty of Mailmen, code 2250-2259, be more closely related to the postal requirements of the service.

Movement Report System

30. Overhaul and rewrite chapter five in USF 70(B) (The Movement Report System.)

Note: This is now being undertaken by the CINCPACFLT.

31. Where NCSO's Routing Officers, and Reporting Officers are so located that they are not conveniently near a communication facility capable of handling this extra load of crypto and conjunction traffic, they be provided with their own crypto allowance, and when traffic volume warrants, a direct communication link to the nearest communication activity.

32. Continue emphasis on the development, installation, and utilization of facsimile equipment.

Operational Messages

33. Provide a "Z" signal to indicate "This is an Operational Message" for precedences of Priority and lower.

Radio Frequency Plan

34. Explore feasibility of providing additional HF RATT circuits and frequencies for use of Fleet, Task Force and Task Group Commanders.

35. Include MF and HF air support nets for joint use in the aircraft section (E) of JANAP 195.

Registered Publications

36. A joint publication be promulgated in handy reference form showing the allowances of type units of all services to include the following details:

- a. Allowances for various types of duty such as garrison, combat, hazardous duty, etc. (Hazardous duty should be clearly defined for all types of units.)
- b. Specification as to the type of unit, i.e., "Marine Infantry Battalion, etc.." Vague terms such as "Marine Units" are meaningless.

Cryptographic Aids

37. Increased effort be made to develop, procure and distribute a lightweight machine cipher for use by Marine Corps infantry units in the field.

38. A combined Cipher Machine (CCM) be authorized for Marine divisions, Wings, and separate Brigades in combat.

Officer Messenger Mail

39. Early action be taken at the departmental level to attain and develop joint instructions relative to the consolidation and handling of Officer Messenger Mail and Army-Air Force Security Courier Mail.

40. An appropriate joint system for assignment of air priorities for Officer Messenger Mail be established to provide for the expeditious movement of mail meriting fast handling. (This must be so devised as to permit equally expeditious handling via any or all military aircraft.)

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PROJECT II.B. - COMMUNICATIONS

41. Review the factors which resulted in the decision to operate the Officer Messenger Mail System under the RPIO organization in peacetime and the immediate shift over to cognizance of Postal personnel upon mobilization.

Publications

42. Review the series of publications now originating in the Office of the Chief of Naval Operations with a view of consolidation such series as "Communication Circular Letters", "Communications Standing Orders," "Op 20," "DNC's, ETC., into one publication.

Communication Annexes

43. The following be made a matter of doctrine and promulgated in USF 70 (B) and appropriate JANAPs: "Preparing commands analyse Communication Annexes to their Operation Orders for applicability of the Appendices for use by succeeding echelons of command in their own Communication Plans, and that distribution of sufficient copies be made of each Appendix in which 75% or more of the material therein may be used."

Postal Affairs

44. Officers with postal backgrounds and qualified as experts in postal affairs be ordered to key positions.

45. Consideration be given to establishment of reserve postal teams ready for recall to active duty as a unit on short notice.

46. Agreements at departmental level be made with a view to arriving at a satisfactory and uniform method of billing mail transported by military aircraft.

47. The curriculum of communication schools and communication courses place additional emphasis on the part of postal affairs in communications and to develop "mail consciousness" among Naval Personnel.

Air-Search Radar

48. SR-3 and SR-6 radars, even though modified, be replaced with factory engineered AN/SPS-6B radars.

49. Research and development in the field of shipboard air surveillance and air control radars be pursued with high priority to meet the rapidly increasing requirements posed by jet aircraft.

Electronic Countermeasures

50. Establishment of full time ECM billets under Communication cognizance on the following major Pacific naval staffs and equivalent in other fleets:

CINCPACFLT	COMSEVENTHFLT	COMCRUDESAC	COMSUBPAC	CTF 77
COMFIRSTFLT	COMAIRPAC	COMPACFLT	COMNAVFLE	

51. Current planning programs for new shipboard electronic countermeasures installations be expedited.

52. The airborne countermeasures program provide for equipment which will intercept or jam all frequencies being used by potential enemies.

53. ECM publications on doctrine, training exercises, etc., be consolidated and overhauled and rewritten so as to be realistic and "down-to-earth."

54. Greater emphasis be placed on specialized training.

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PROJECT II.B. - COMMUNICATIONS

Electronic Supply

55. All advance base and mobile supply points be provided with necessary stock identification tables to permit them to effectively issue material to fleet units.

56. The conversion program of active fleet units to the new bin-stowage system be expedited to insure completion by 1 January 1952.

Electronic Maintenance

57. Priority of conversion be tender and repair ships, carriers, cruisers, battleships, amphibious force flagships, destroyers, smaller combat vessels and auxiliaries.

58. Adequate supplies of equipments and maintenance parts be provided at forward repair bases to avoid long delays entailed in requisitioning from continental supply points.

59. Mobile repair force teams with limited amounts of equipment and maintenance parts for all equipments in the attack area be available in the objective area during amphibious operations.

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PROJECT II.C. - SUPPORTING OPERATIONS SECTION, IntelligenceCONCLUSIONS1. Pre-War Intelligence

The overt and covert facilities provided for acquiring information during peace; such as CIA, Military Mission, Attaches, Observers, etc., and the consequent evaluation of this information were both unsatisfactory in that definite warning of impending hostilities in Korea was not furnished Commands.

Contributing factors included: The state of mind induced by policy statements; a lack of appreciation on the part of intelligence personnel of the capabilities of the North and South Korean forces resulting in faulty estimates by the Intelligence Agency exercising theatre Intelligence Coordination and direction; and within the Naval Establishment, a shortage of competent personnel.

2. Tactical Intelligence

Although our forces exercise command both of the air and sea the opportunities thus presented for acquiring and utilizing intelligence have not been fully exploited. The enemy has been able to move large numbers of ground forces considerable distances without our knowledge.

Evaluated intelligence obtained from facilities including Sightings, Photography, POW interrogations and covert sources has failed to provide timely information of enemy movements, dispositions and intentions.

3. Personnel

The pre-war allowances for some intelligence sections were inadequate. The maintenance of large sections during peace time is not practicable. Reliance upon a Theatre Intelligence Organization is not sound practice due to necessity for maintenance of mobility of Naval Commands and the differing concepts of Intelligence requirements of the various services. The lack of linguists in probable areas of operation will impede the Naval Intelligence effort. The provisions for augmentation of Intelligence Sections by the recall to active duty of reserve components is not satisfactory due to the time lag in physically placing them in assigned billets.

4. Photography

The procedures in effect providing for the acquisition, reproduction, interpretation and dissemination of photographs, while a marked improvement over those in effect prior to November are still susceptible of improvement. There are no heavy naval photo aircraft employed.

5. Captured Documents and Equipment

Present directives retaining positive control of the handling and disposition of all captured documents within the theatre commander's intelligence organization and requiring express approval prior to their shipment outside the theatre are arbitrary and undesirable.

6. Maps - Grids

The systems of grids used during the initial phases of the war caused delays and confusion. The practice of issuing new and improved series of maps by the Army Map Service through GHQ has resulted in a steady improvement both as to quality and coverage.

7. Technical Intelligence

Due to proximity of area of operations to Tokyo and lack of equipment of paramount naval interest except mines, to be expected, present system is

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PROJECT II.C. (Cont'd)

satisfactory. An extension of operating area would probably require services of Naval Technical Intelligence Teams.

8. Shipping Surveillance Center

The present directive establishing the Shipping Surveillance Center does not in itself definitely fix the responsibility within the theatre for locating, tracking, and taking effective action in regard to unidentified shipping contacts.. However, it is believed that the intent was to place responsibility within COMNAVFE, in accordance with previous directives; repeat flights or investigations to be carried out by naval units, and by units of the Army, Air Force and civilian agencies either on a request basis or on an operational control assignment. The Center as presently constituted is advisory in so far as other agencies are concerned. Its effectiveness will be in direct proportion to the area covered by reconnaissance and the accuracy of reports made as a result thereof.

9. Basic Intelligence Studies

Presently available intelligence studies do not permit of the preparation on short notice of complete intelligence annexes necessary to support naval operations. The studies are lacking in detail, in accuracy and in completeness, necessitating an undue amount of research at the local level. The urgent necessity for Naval Forces being able to initiate operations throughout the world on little or no warning requires that basic studies be more complete. Basic intelligence material on Korea was not obtained during the occupation period when conditions were most favorable for its acquisition.

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PROJECT II. C. - SUPPORTING OPERATIONS SECTION, Intelligence

RECOMMENDATIONS

1. Pre-War Intelligence

Sources of information be improved as to quality and quantity, and the Navy take positive steps to insure that adequate and timely intelligence of developments during peace, which might require naval operations, be furnished naval commands. If necessary Navy obtain above by own personnel, on principle that neither CIA, theatre, nor any other Intelligence agency relieves it of responsibility.

2. Tactical Intelligence

The Navy undertake immediate research to improve methods of locating enemy day and night. This should include a determination of the practicability of providing more complete coverage both by Sightings and Photography. The solution of this problem may also require expansion of reconnaissance facilities and a more aggressive program of covert intelligence.

3. Personnel

Naval Intelligence Teams be established and maintained, in all areas under major naval commands; for the purpose of conducting intensive research on selected areas, preparing files of basic intelligence material on those areas, and remedying deficiencies, by receipt from other agencies or by prompt and direct action by the Navy. The personnel must be experienced and must be available for immediate despatch either to acquire intelligence or to augment an Intelligence Section. Their employment as a unit is strongly recommended. A suggested composition is given below:

- 1 - Intelligence Officer - General
- 1 - Air Intelligence Officer
- 1 - Underwater Intelligence Officer
- 1 - Amphibious Warfare Officer
- 1 - Language Officer - (as required)

The Senior Naval Commander in a theatre be provided with personnel, which will permit him to maintain, irrespective of the theatre commander's intelligence organization, an operational intelligence section sufficient to meet the requirements of an operating Naval Force.

Steps be instituted to provide for the recall to active duty of Reserve personnel on an immediate basis, i.e., no deferments, and on one that will provide sufficient qualified personnel.

Provision be made to supply a newly established Force or Group, with an Intelligence Section equipped with all files needed to carry out its duties.

4. Photography

Provision be made for providing responsible naval commands with adequate photographic squadrons with facilities and photo interpretation teams; for retention within the Navy of these facilities including photo planes of Marine Divisions and photo planes assigned amphibious commanders for aerial reconnaissance; and for Navy controlled reproduction and dissemination to the end that standard, prompt and direct distribution be made to:

- a. Operating forces
- b. Senior Naval Commander in Theatre
- c. Area Naval Commander (as applicable)

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PROJECT II.C. (Cont'd)

and d. Rear areas including Evaluation Groups, Technical Bureaus and Photographic Interpretation Centers.

5. Captured Documents and Equipment

Documents and equipment of paramount Naval interest be disposed of as determined by the Naval Forces in accordance with CNO policy.

6. Maps - Grids

Firm agreements should be reached on Departmental level for a standard grid system to be used by all services. Unless maps issued at outset of a particular operation are inaccurate to point of detriment, retain and use those maps, until the particular operation is completed (Chosin Reservoir), rather than issue and use new maps utilizing a different orthographic system.

7. Technical Intelligence

Billets for Technical Intelligence Teams be established and teams be assigned to Senior Naval Commander in theatre or area Naval Commander if distance permits, for use as he may direct.

8. Shipping Surveillance Center

There be established within Theatre, a Shipping Surveillance Center as an integral part of a Joint Operations Command Center, under the Navy. The shipping Center to retain the responsibility of collecting and evaluating reports of unknown shipping. The Joint Operations Command Center to be given the above intelligence to initiate necessary action under COMNAVFE authority. Such action to be limited to command of naval forces or other services assigned to operational command of COMNAVFE, other operations to be on a request basis.

9. Basic Intelligence Studies

A priority list of probable areas of operation be established and that the Forces afloat be provided at the earliest opportunity with basic material, particularly that required by air, amphibious, blockade, submarine and mine commands, sufficient in detail and accuracy to permit operations being conducted with the minimum of local reconnaissance. Effort should be devoted to completing the studies on presently friendly areas while time permits in order that the studies may be more complete and accurate.

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PROJECT NO. II.D. - MEDICAL, Supporting Operations Section

CONCLUSIONS

1. Planning

a. That a medical officer qualified for staff duties should be assigned to each major staff and be responsible directly to the command for realistic planning (Ref: Historical Portion of Medical Evaluation page 11-13 Sep 50).

b. That the medical annex to lower echelon plans must be sufficiently detailed to assure proper guidance to personnel charged with casualty care and evacuation (Ref: PHIBGRU ONE Inchon landing).

c. Medical annex should contain a paragraph outlining pertinent data concerning communications (Ref: Action Report Transport Div III and USS CONSOLATION Inchon operations).

d. Activities having evacuation responsibilities should be so advised (Ref: FLEACT Pusan Evaluation of Medical Support in Korea War of 9 Dec 50).

e. Standard Casualty Doctrine should be constantly maintained abreast of new developments and should be required study material for every navy medical officer.

f. Standard Casualty Doctrine should receive wide dissemination (Note failure in casualty reporting procedures - 1st Marine Division - Special Action Report Inchon).

g. Evacuation planning should consider the use of all types of transportation (Ref: CINCPACFLT Historical Portion of Medical Evaluation page 12, 20 Sep 1950).

2. Personnel

a. That greater care should be exercised in the assignment of personnel, utilizing specialty for officers and NJC for enlisted personnel, in order to insure the functional competence of medical organizations (Ref: Request from U.S. Naval Hospital, Yokosuka and AH for key personnel).

b. That hospital ships should be manned and operated by navy crews.

c. That greater emphasis should be placed on training of personnel of all ratings in first aid (Ref: Training reports).

d. That specialized units such as EDCU and Surgical Teams should not ordinarily be permanently attached to small fleet or force units and their integrity as a unit should be maintained.

e. On occasion Medical Department personnel have been issued small arms in combat areas without the benefit of instruction in their use. (Ref: 1st Marine Division Special Action Report - Inchon).

f. Medical Beach Group allowance as it presently stands does not provide sufficient medical personnel to afford proper care and evacuation of casualties.

g. That all personnel assigned to field combat need more training in basic field hygiene and sanitation.

3. Evacuation

a. Surgical Teams were most useful in filling a long existing hiatus in casualty care and evacuation. These teams were used to excellent advantage in support of amphibious landings. Their existence as a functional unit lends a

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PROJECT NO. II.D. - (Cont'd)

flexibility which makes possible the augmentation of overburdened medical activities on shortest notice. Use of Surgical Teams achieves an overall economy of personnel in conjunction with improved casualty care.

b. Sufficient AH should be available to serve as ambulance ships in addition to their present function as station and fleet hospitals.

c. A small hospital ship (such as converted LST or LSH) is needed for support of amphibious operations and for use in fleet anchorages where use of an AH is not justified.

d. Helicopter landing platforms should be installed aboard all ships designated for reception of serious casualties (LSH and AH).

4. Medical Supply

a. In order to render effective the mobile support concept, sufficient AKS vessels should remain in commission at all times to support the active fleet.

b. Should large scale general mobilization be necessary on short notice a serious shortage of certain biologicals and immunizing agents would occur unless a system of stockpiling these items is adopted.

c. A medical supply storehouse ashore in a theatre of operations as far removed from continental sources as Korea is a necessity (Air shipment of emergency material requires 14 days for delivery).

d. The whole blood program as carried out in the Korean Theatre has been eminently satisfactory and is largely responsible for the low mortality rate among treated war casualties.

e. That Surgical Team equipment should be made available for issue as a unit to the appropriate specialty teams on requisition.

f. Personnel of small mobile units such as Surgical Teams, and Epidemic Disease Control Units should, whenever possible be transferred in company with their material. Loss or misdirection of the small amounts of technical equipment used by these units renders them ineffective.

g. Ships departing for overseas assignments should fill maximum stock requirements prior to sailing from continental ports.

h. Surgical trailer should be revised.

i. EDCU ashore should be furnished with a small laboratory mounted on a trailer.

j. A Red Cross presents an excellent point for aim for enemy fire and is frequently used for this purpose.

k. That transportation for medical department equipment in present Table of Equipment is inadequate.

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PROJECT NO. II. D. - MEDICAL, Supporting Operations Section

RECOMMENDATIONS

1. Planning and Administration

a. Staff Medical Officers:

(1) That during periods of combat or potential hostilities each major staff should be assigned a medical officer qualified in staff duties.

(2) That staff medical officers not be required to serve on more than one active staff at a given time. Such officers should not be assigned major collateral duties such as a command or officer in charge of operating activities or offices.

b. Medical Portions of OP Plans

(1) It is recommended that the medical annex to operation plans or orders on lower echelons be required to contain instructions in sufficient detail to obviate the necessity of reference to classified or registered publications.

(2) Where reference is necessary in the interest of brevity, standard casualty and/or unclassified publications of wide distribution should be used.

c. That the medical annex to operations plans contain a paragraph outlining availability and use of communication facilities for units charged with evacuation and casualty care. Where the military situation permits each such unit should have available direct communication with each other unit.

d. That activities assigned responsibility for evacuation of casualties should be so informed and should be given sufficient information concerning the location and capabilities of medical facilities to intelligently discharge their obligations.

e. Present casualty doctrine should be revised to include:

(1) Use of helicopters

(2) Use of Surgical Teams

(3) Use of LSH

(4) Realistic patient capacity of various type vessels (Ref: Special Action Report Inchon Landing).

(5) Standard casualty handling plans for specific type vessels

(6) Specific detailed instructions on casualty reporting

(7) Remain as an unclassified publication

f. Operation plans must contain a section on casualty reporting making reference to unclassified publications of wide distribution for details (Standard Casualty Doctrine).

g. Theatre evacuation planning should take a realistic view of facilities available for casualty care and evacuation. The use of all methods of transportation should be considered and evacuation policy should be balanced against facilities available for hospitalization in the theatre.

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PROJECT II.D. - (Cont'd)

2. Personnel

a. Sufficient properly trained key personnel should be assigned:

(1) Hospitals and hospital ships: to insure trained representatives in the major specialties required for proper care of war casualties.

(2) Surgical Teams: To provide medical officers trained in general surgery, treatment of fractures and anaesthesia on each general team. Sufficient specialty teams in neurosurgery, eye, thoracic, and urologic surgery should be organized to provide at least one each to support major amphibious landings.

(3) A nucleus of trained and experienced medical personnel should be assigned to each medical unit supporting the Marine Corps in combat. All medical personnel given field combat assignments should have a designated minimum of field training.

b. In the interest of efficient operations of hospital ships under all conditions and in combat areas these ships should be manned by navy crews.

c. Approved standard first aid course should be adopted for training all ratings in the essential elements of first aid.

d. In order to maintain flexibility and increase the usefulness of units such as EDCU and Surgical Teams these units should be redistributed at the discretion of the theatre or task force commander.

e. Medical Department personnel should be given training in the use of small arms prior to their employment with FMF in operations against an enemy who has not subscribed to the agreements of the Geneva Convention.

f. That present beach group medical personnel allowance be revised to provide for staffing of an evacuation aid station with each beach company.

g. That more emphasis be placed in training troops in field hygiene and sanitation.

3. Evacuation

a. Surgical Teams:

(1) That the use of Surgical Teams be made an integral part of standard casualty doctrine.

(2) That two or three teams be assigned each LST designated as casualty handling ships. Those ships whose cargo lends itself to rapid unloading and which are scheduled for early discharge of cargo should be designated for casualty care, this would allow the Surgical Teams to prepare for the immediate reception of casualties.

b. That two additional AH be activated in addition to the three presently commissioned.

c. That LSH type ships be authorized and made available in sufficient numbers to properly support amphibious landings.

d. That AH and LSH be fitted with helicopter landing platforms.

e. That necessary alterations be made on considerable number of helicopters to make them more effective for air evacuation but not to preclude their use for other purposes.

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PROJECT II.D. - (Cont'd)

4. Medical Supply

- a. That sufficient AKS vessels be maintained in such a state of readiness that they will be capable of providing mobile support to the active fleet on short notice.
- b. That the medical supply system be authorized to maintain a backlog of certain biologicals and immunizing agents, despite the expense of some loss by deterioration in the event they are not used.
- c. That strategically located facilities for emergency augmentation of mobile support concept be maintained.
- d. That the organization and facilities which made possible the expeditious delivery of whole blood not be allowed to disintegrate during periods of military quiescence.
- e. Surgical Team outfitting list should be made a part of component parts supplement of the Armed Services Catalog of Medical Materiel.
- f. That, when conditions permit, personnel of small units (EDCU and Surgical Teams) be transferred in company with their equipment and material.
- g. That ships departing Continental United States for overseas assignments be fully supplied prior to sailing.
- h. A light, easily maneuverable surgical trailer should be designed to replace the present unsatisfactory item. Separate trailers should be developed for use as central supply units.
- i. A small laboratory trailer should be developed for use of EDCU ashore.
- j. That an inconspicuous marking such as an oak leaf be adopted as a medical identifying symbol in lieu of currently used conspicuous red cross.
- k. That transportation organic to medical activities in the field be increased to meet the need.

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PROJECT NO. IV - PUBLIC INFORMATION SECTION

CONCLUSIONS

1. The public information organization of Naval Forces Far East was unable to absorb the demands thrown upon it by the advent of hostilities in the Far East Area. As a result, the Navy's service of combat public information coverage up through the WONSAN operation suffered greatly, especially in comparison with the other services.
2. As a by product of the Navy's early public information weakness in the combat area, relations with the press became severely strained, which further militated against an effective service of public information.
3. An effective public information organization in NAVFE was not realized until approximately four months after the commencement of hostilities. Even at that late date, there still were areas of weakness in public information activity, notably in combat radio coverage, and in accommodations, communications, and services for the correspondents corps covering large operations.
4. In the area of combat public information the Navy, through the separation of WWII trained public information personnel, has lost much of the "know how" gained so laboriously in that conflict.
5. Although some performance was not of high calibre during the early period much of the difficulty can be attributed to the failure of the Navy as a whole to appreciate and accept this comparatively new field of naval operations (Public relations and information) as it has the submarine, aviation and the guided missile.
6. The service of information to the public concerning the activities of naval and marine forces in the Far East is now satisfactory but not optimum. Until a new public relations philosophy is inculcated in the personnel of the Navy through education, this service in peace or war will not reach the degree of efficiency realized in other areas of naval operations.
7. The personnel of the Navy as a whole are not familiar with fundamental principles of public relations and information, particularly as they apply to relations with the press. A long range program of education of all naval and marine personnel in these fundamentals is indicated.
8. The need for close liaison and mutual understanding between the commander and his PIO at all levels was re-affirmed in the Korean action. This is particularly true in planning for operations and preparing PR Annexes to operation orders.
9. The performance of the Naval Service in the Korean action in general has been outstanding. As superior performance is the principle ingredient of a sound public relations and information program, this factor should be exploited fully.

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PROJECT NO. IV - PUBLIC INFORMATION SECTION

RECOMMENDATIONS

1. That the public information needs of NAVFE, recently made known to CINCPACFLT by letter¹, be met as soon as possible.
2. That a Marine officer qualified in public relation duties be assigned to COMNAVFE OPI in order to strengthen liaison between Navy and Marine Corps public information activity in NAVFE.
3. That immediate steps be taken to provide a press ship of the type so successfully employed in the latter stages of WW II, for use in NAVFE. Upon completion of arrangements for such a vessel, this fact should be publicized to the press as an expression of the Navy's good faith in its relations with that group.
4. That steps be taken to regain our lost combat public information "know how" through promulgation to the service of pertinent information contained in PR Annexes of WW II Operations Plans and Orders for such operations as Okinawa², and through consultation at the policy-making level with experts with wartime experience. Rear Admiral H. B. MILLER, U. S. Navy (Ret), and Captain Fitzhugh LEE, U. S. Navy, each at one time CINCPACFLT PIO during WW II so qualify.
5. That the public information organizations of NELM and Sixth Fleet be studied and augmented with personnel and material as necessary to prepare those commands for the initial public information impacts, should war break out in their theatre of operation.
6. That the need for close liaison between intelligence and public information at all echelons be promulgated to the Naval service.
7. That a long range plan of formal education in public relations principles be initiated without delay for all personnel within and entering the Naval Service in either a military or civilian capacity.
8. That the matter of censorship be reviewed in the light of WW II experience with the thought that this function be divorced from the public information service. Documentary experience is available in the files of CINCPACFLT.
9. That a regular forwarding service be established whereby press clippings, new digests and other evidence of the effectiveness of the NAVFE public information effort may be evaluated at NAVFE Headquarters.
10. That the provision for marking all officers on the performance of their public relations duties as approved by the Secretary of the Navy in June, 1950 and implemented by the Marine Corps shortly thereafter, be put into effect without delay in the Navy.
11. That the matter of service charge for the radio transmission of press copy be studied at Department of Defense level to remove the discrimination which now exists against the Navy as compared with the two other services.
12. That the exploits and accomplishments of the Naval Service in the Korean action, a bright page in military history, be made known to the American public on a sustained basis through all media, that full confidence and support of the Service may be maintained.
13. That a peacetime modus operandi for Navy public relations and information be worked out which, when peace and retrenchment are once again with us, will insure the fighting strength of the Naval Service.

¹APPENDIX 6 COMNAVFE letter Ser 7415 of 18 Dec 1950, "Proposed Public Information Organization, Naval Forces Far East, description of."

²APPENDIX 11 Public Relations Appendix to Operation Plan for Operation ICEBERG (SECRET)

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5. (Blank)		(Y) Hydrographic Office study of Map & Chart Problem	
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