

U.S. NAVY

NWP 3-02.1

(Formerly NWP 22-3 (Rev. B))

U.S. MARINE CORPS

MCWP 3-31.5

SHIP-TO-SHORE MOVEMENT

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**DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
AND HEADQUARTERS, U.S. MARINE CORPS**



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DEPARTMENT OF THE NAVY
NAVAL DOCTRINE COMMAND
8952 FIRST STREET, SUITE 200
NORFOLK VA 23511-3790

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LETTER OF PROMULGATION

1. NWP 22-3 (REV. B)/FMFM 1-8, SHIP-TO-SHORE MOVEMENT, is an Unclassified naval warfare publication. It shall be handled in accordance with NWP Ø, Naval Warfare Documentation Guide.
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3. Disclosure of this publication or portions thereof to foreign governments or international organizations shall be in accordance with NWP Ø.

A large, stylized handwritten signature in black ink, appearing to read "G.C. Krulak".

G.C. KRULAK
Lieutenant General, U.S. Marine Corps
Commanding General
Marine Corps Combat Development Command
Quantico, Virginia

A handwritten signature in black ink, appearing to read "F.L. Lewis".

F.L. LEWIS
Rear Admiral, U.S. Navy
Commander, Naval Doctrine Command

U.S. Navy Distribution: See page 5 for distribution list.

U.S. Marine Corps Distribution: PCN 139 000111 UU

U.S. Navy Distribution

NWP 22-3(B): SHIP-TO-SHORE MOVEMENT

SNDL PART I		Paper/Micro	
21A1	Commander in Chief, U.S. Atlantic Fleet		2
21A2	Commander in Chief, U.S. Pacific Fleet	1	1
21A3	Commander in Chief, U.S. Naval Forces, Europe ONLY: CINCUSNAVEUR LONDON UK	2	
22A1	Fleet Commander LANT	1	
22A2	Fleet Commander PAC ONLY: COMSEVENTHFLT ONLY: COMTHIRDFLT	1	1
22A3	Fleet Commander EUR	1	
23A2	Naval Force Commander PAC ONLY: COMNAVFORJAPAN YOKOSUKA JA ONLY: COMNAVFORKOREA SEOUL KOR	1	1
23A3	Force Commander Central ONLY: COMUSNAVCENT BAHRAIN	1	
23B1	Special Force Commander LANT ONLY: USCOMSOLANT	1	
23B2	Special Force Commander PAC ONLY: COMNAVSPECWARCOM CORONADO CA, COMASWFORPAC PEARL HARBOR HI	1	
23B3	Special Force Commander EUR ONLY: COMARSURVRECFORSIXTHFLT DET SIGONELLA IT, COMAREASWFORSIXTHFLT ONLY: COMARSURVRECFORSIXTHFLT DET ROTA SP	2	1
23C3	Naval Reserve Force Commander		1
24A	Air Force Commanders		1
24D1	Surface Force Commander LANT ONLY: COMNAVSURFLANT NORFOLK VA	2	
24D2	Surface Force Commander PAC ONLY: COMNAVSURFPAC SAN DIEGO CA	2	
24G	Submarine Force Commanders		1
24H2	Fleet Training Command PAC		1
24J	Fleet Marine Force Commands	1	3
25A	Mine Warfare Command		1
25A1	Mine Countermeasures Group ONLY: COMCMGRU ONE SEATTLE WA ONLY: COMCMGRU TWO	1	1
26A	Amphibious Group	3	
26B3A	Surface Reserve Forces Detachment		1
26C1	Beach Group LANT		2
26C2	Beach Group PAC	2	
26E1	Amphibious Unit LANT		

U. S. Navy Distribution (continued)

	ONLY: ACU FOUR, ACU TWO		1
	ONLY: COMSPECBOATRON TWO, SPECBOATU TWO TWO	1	
	ONLY: BMU TWO		8
26E2	Amphibious Unit PAC		
	ONLY: ACU FIVE, ACU ONE	1	
26F3	Operational Test and Evaluation Force	1	
26H1	Fleet Training Group and Detachment LANT		
	ONLY: FLETRAGRU DET NORFOLK	1	
26J1	Afloat Training Group and Detachment LANT		
	ONLY: COMAFLOATRAGRULANT NORFOLK VA	4	
26J2	Afloat Training Group and Detachment PAC		
	ONLY: AFLOATRAGRUMIDPAC PEARL HARBOR HI	1	
26Q2	Nuclear Weapons Training Group PAC	1	
26R1	Mobile Inshore Undersea Warfare Unit and Group LANT	1	
26R2	Mobile Inshore Undersea Warfare Unit and Group PAC		
	LESS: MIUWU 111	1	
26V2	Landing Force Training Command PAC	5	
26W1	Cargo Handling and Port Group LANT		1
26W1A	Reserve Cargo Handling Training Battalion	1	
26CC	Fleet Coordinating Group		1
26FF	Mine Warfare Inspection Group		1
26GG1	Explosive Ordnance Disposal Mobile Unit and Group LANT		
	ONLY: EODMU TWO	1	
26GG2	Explosive Ordnance Disposal Mobile Unit and Group PAC		
	ONLY: EODMU ONE, COMEODGRU ONE, EODMU ELEVEN, EODMU NINE	1	
	ONLY: EODMU THREE		1
	ONLY: EODMU FIFTEEN	2	
26JJ1	Fleet Area Control and Surveillance Facility LANT		
	ONLY: FACSFAC JACKSONVILLE FL	1	
26QQ1	Special Warfare Group, Unit and Detachment LANT		
	ONLY: COMNAVSPECWARGRU TWO		1
26QQ2	Special Warfare Group, Unit and Detachment PAC		
	ONLY: NAVSPECWARUNIT ONE	1	
26HHH1	Fleet Tactical Deception Group LANT		
	ONLY: COMFLETACREADGRU NORFOLK VA		1
26KKK1	Tactical Training Group LANT	2	
26KKK2	Tactical Training Group PAC	1	
26SSS	Medical Treatment Facility		
	ONLY: MEDTRE FAC COMFORT	1	
26YYY	Carrier Airborne Early Warning Weapons School	1	
28A2	Carrier Group PAC		
	ONLY: COMCARGRU ONE	1	

U. S. Navy Distribution (continued)

28B	Cruiser-Destroyer Group		1
28C1	Surface Group LANT		
	ONLY: COMSURFWARDEVGRU LITTLE CREEK VA	1	
28D1	Destroyer Squadron LANT		1
28D2	Destroyer Squadron PAC		
	ONLY: COMDESRON FIFTEEN		1
28E	Surface Squadron		1
28L1	Amphibious Squadron LANT		
	LESS: COMPHIBRON TEN, COMPHIBRON TWELVE	2	
	ONLY: COMPHIBRON TEN	1	
28L2	Amphibious Squadron PAC		
	LESS: COMPHIBRON NINE, COMPHIBRON SEVEN		2
	ONLY: COMPHIBRON SEVEN		1
	ONLY: COMPHIBRON NINE	1	
29A1	Guided Missile Cruiser LANT (CG) (CGN)		
	LESS: USS ANZIO (CG 68), USS BAINBRIDGE (CGN 25), USS HUE CITY (CG 66) USS VICKSBERG (CG 69)		1
	ONLY: USS HUE CITY (CG 66), USS ANZIO (CG 68), USS VICKSBURG (CG 69)	1	
29A2	Guided Missile Cruiser PAC (CG) (CGN)		
	ONLY: USS MOBILE BAY (CG 53) USS ARKANSAS (CGN 41)		1
	ONLY: USS CHOSIN (CG 65), USS SHILOH (CG 67)	1	
29B1	Aircraft Carrier LANT (CV) (CVN)		
	LESS: USS ENTERPRISE (CVN 65)		1
29B2	Aircraft Carrier PAC (CV) (CVN)		
	LESS: USS CARL VINSON (CVN 70)		1
	ONLY: USS CARL VINSON (CVN 70)	1	
29E1	Destroyer LANT (DD) 963 Class		1
29E2	Destroyer PAC (DD) 963 Class		
	ONLY: OLDENDORF (DD 972)	1	
29AA	Guided Missile Frigate (FFG) 7 Class		1
31A	Amphibious Command Ship (LCC)	2	1
31B1	Amphibious Cargo Ship LANT (LKA)	1	
31B2	Amphibious Cargo Ship PAC (LKA)	2	
31G1	Amphibious Transport Dock LANT (LPD)	1	
31G2	Amphibious Transport Dock PAC (LPD)	2	
31H1	Amphibious Assault Ship LANT (LHA), (LPH)		
	LESS: USS GUAM (LPH 9)	3	
	ONLY: USS GUAM (LPH 9)	3	1
31H2	Amphibious Assault Ship PAC (LHA), (LPH)	3	
31I1	Dock Landing Ship (LSD) LANT	2	
31I2	Dock Landing Ship (LSD) PAC		
	LESS: ANCHORAGE (LSD 36), FORT FISHER (LSD 40), MOUNT VERNON (LSD 39)	1	

U. S. Navy Distribution (continued)

	ONLY: FORT FISHER (LSD 40), ANCHORAGE (LSD 36), MOUNT VERNON (LSD 39)	2	
31M	Tank Landing Ship (LST)	1	
31N	Multi-Purpose Amphibious Assault Ship	3	
32A	Destroyer Tender (AD)		1
32KK	Miscellaneous Command Ship (AGF)	1	
39B	Construction Brigade	1	
39C2	Construction Regiment PAC		
	ONLY: COM THREE ONE NCR PORT HUENEME CA	1	
39B	Amphibious Construction Battalion		1
39I	Construction Battalion Maintenance Unit	1	
41A	Commander Military Sealift Command	1	
41B	Military Sealift Command Area Commanders		
	ONLY: COMSCSWA MACDILL AFB FL	1	
41L	Maritime Prepositioning Ships Squadron	1	
42A1	Fleet Air Command LANT		
	ONLY: COMFAIR KEFLAVIK IC		1
42A3	Fleet Air Command EUR	1	
42B2	Functional Wing Commander PAC		
	ONLY: COMSTRKFIGHTWINGPAC LEMOORE CA, COMFITAEWWINGPAC	1	
42B3	Functional Wing Commander Reserve		
	ONLY: COMHELWINGRES SAN DIEGO CA	1	
42E1	Type Wing Commander LANT		
	ONLY: COMLATWING ONE CECIL FIELD FL, COMFITWING ONE OCEANA VA, COMHELTACWING ONE NORFOLK VA		1
	ONLY: COMSEASTRIKE WING ONE CECIL FIELD FL	1	
42N1	Air Anti-Submarine Squadron LANT (VS)		
	ONLY: AIRANTISUBRON TWO SEVEN	1	
42P1	Patrol Wing and Squadron LANT (VP) (VPU)		
	LESS: PATRON SPEC PROJ UNIT ONE BRUNSWICK ME, PATRON THREE ZERO, PATRON TWO FOUR	2	
	ONLY: PATRON TWO FOUR		2
42P3	Patrol Squadron Reserve (VP)		
	LESS: PATRON NINE ONE, PATRON NINE THREE, PATRON SIX EIGHT, PATRON SIX FIVE, PATRON SIX NINE, PATRON SIX SEVEN	1	
	ONLY: PATRON SIX SEVEN, PATRON NINE THREE		1
42S2	Air Test and Evaluation Squadron (VX) and Antarctic Development Squadron (VXE) PAC		
	LESS: ANTARCTICDEVRON SIX	1	
42T1	Tactical Air Control Group and Squadron LANT (VTC)		
	ONLY: TACRON TWO ONE	2	
	ONLY: TACRON TWO TWO	3	
42T2	Tactical Air Control Group and Squadron PAC (VTC)		

U. S. Navy Distribution (continued)

	LESS: COMTACGRU ONE	3	
	ONLY: COMTACGRU ONE	2	
42U1	Helicopter Combat Support Squadron LANT (HC)		
	LESS: HELSUPPRON FOUR, HELSUPPRON TWO	1	
	ONLY: HELSUPPRON TWO		1
42W1	Helicopter Mine Countermeasures Squadron LANT (HM)		
	ONLY: HELMINERON FOURTEEN	1	2
42W2	Helicopter Mine Countermeasures Squadron PAC (HM)		1
42W3	Helicopter Mine Countermeasures Squadron Reserve (HM)		
	ONLY: HELMINERON NINETEEN		1
42DD2	Carrier Airborne Early Warning Squadron PAC (VAW)		
	ONLY: CARAEWRON ONE ONE ZERO	1	
45A1	Fleet Marine Force Commands	6	
45A2	Marine Expeditionary Force		
	ONLY: 2ND MEF, 1ST MEF	6	
	ONLY: SECOND MEF DET ONE	2	
	ONLY: CG III MEF	6	2
45B	Marine Division		
	ONLY: 2ND MARDIV	2	
	ONLY: CG THIRD MARDIV	5	2
	ONLY: 1ST MARDIV	2	1
	ONLY: 4TH MARDIV	5	1
45C1	Assault Amphibian Battalions		
	LESS: 3RD ASLTPHIBBN	2	
45C2	Armored Assault Battalion	1	1
45C3	Light Armored Infantry Battalion		
	ONLY: 2ND LAIBN	2	
45C4	Force Reconnaissance Company	1	
45D	Artillery Regiment		
	ONLY: TWELFTH MAR		2
	ONLY: 10TH MARINES	2	3
	ONLY: 11TH MARINES	2	1
45E	Infantry Regiment		
	LESS: 23RD MARINES, 25TH MARINES, 27TH MARINES, NINTH MAR	2	2
	ONLY: 27TH MARINES, 23RD MARINES	2	
	ONLY: 25TH MARINES	1	1
45G	Artillery Battalion		
	LESS: 11TH MARINES 1ST BN, 11TH MARINES 2ND BN, 11TH MARINES 3RD BN, 11TH MARINES 5TH BN, FOURTHBN TWELFTH MAR	2	1
45H	Engineer Battalion and Company		
	ONLY: 7TH ENGRSPTBN A CO, NINTH ENGRSPTBN	2	
	ONLY: 7TH ENGRSPTBN	1	
	ONLY: THIRD CBTENGRBN	2	1

U. S. Navy Distribution (continued)

45J	Headquarters Battalion		
	ONLY: 2ND MARDIV HQBN	1	
45K	Headquarters and Service Battalion	2	
45L1	Infantry and Reconnaissance Battalion		
	ONLY: 3RD MARINES 1ST BN, 1ST RECONBN, 3RD MARINES 2ND BN, 7TH MARINES 2ND BN, 3RD MARINES 3RD BN, 3RD RECONBN	2	1
45M	Medical Battalion and Logistic Company		
	LESS: 2ND MEDBN	2	
45N	Motor Transport Battalion and Company		
	ONLY: 8TH MTBN, 1ST MEB BSSG MTCO	2	
	ONLY: NINTH MTBN	2	1
45O	Light Antiaircraft Missile Battalion		
	LESS: 2ND LAAMBN	2	
	ONLY: 2ND LAAMBN	2	1
45Q	Division and Service Support Group and Battalion		
	LESS: 1ST FSSG, 1ST FSSG DET CHARLIE, 1ST MEB BSSG, 2ND FSSG HQSVCBN, 2ND FSSG MAINTBN, CG THIRD FSSG, FIRST FSSG FWD	5	
	ONLY: CG THIRD FSSG	1	1
	ONLY: 1ST FSSG	5	5
	ONLY: 1ST MEB BSSG	5	3
45R	Communication Battalion		
	LESS: 8TH COMMBN	2	2
	ONLY: 8TH COMMBN	1	
45T	Air Naval Gunfire Liaison Company, FMF	5	2
45U	Missile Battalion Headquarters and Service Battery	2	
45V	Expeditionary Brigade and Unit		
	ONLY: 1ST MEB, 6TH MEB, 15TH MEU	2	
	ONLY: 13TH MEU, 11TH MEU, 26TH MEU	2	1
	ONLY: 24TH MEU		2
	ONLY: 22ND MEU	2	2
	ONLY: CG NINTH MEB	1	
45W	Task Force and Group	2	
45Y	Tank Battalion		
	ONLY: 3RD TKBN	2	
45BB	Dental Battalion and Company		
	LESS: 2ND DENBN	2	
45FF	Radio Battalion	2	
45HH	Landing Support Battalion		
	LESS: THIRD LDGSPTBN	2	
	ONLY: THIRD LDGSPTBN	1	
45JJ	Low Altitude Air Defense		
	ONLY: 2ND LAAD BN	1	
46B	Aircraft Wing		

U. S. Navy Distribution (continued)

	ONLY: 3RD MAW	2	1
	ONLY: 2ND MAW	2	3
	ONLY: CG FIRST MAW	2	2
46C1	Marine Aircraft Group and Detachments		
	LESS: MAG 46 DET A, MAG FORTY NINE, MAG FOUR ONE, MAG FOUR SIX DET B, MAG FOUR TWO DET B, MAG THREE SIX, MAG TWO FOUR, MAG TWO SIX	2	2
	ONLY: MAG TWO FOUR, MAG FOUR ONE, MAG TWO SIX, MAG THREE SIX	2	
46C3	Air Control Group	1	1
46D2	All Weather Attack Squadron (VMA) (VMA(AW))		
	LESS: VMA AW THREE THREE TWO, VMA THREE ONE ONE, VMA TWO ONE ONE, VMFA AW ONE TWO ONE	1	1
	ONLY: VMA TWO ONE ONE, VMA THREE ONE ONE	1	
	ONLY: VMA AW THREE THREE TWO		1
46D3	Fighter-Attack Squadron (VMFA)	1	1
46E	Observation Squadron (VMO)		
	ONLY: VMO ONE	1	
46F	Marine Wing Communications Squadron and Detachment		
	ONLY: MWCS EIGHTEEN, MWCS 28	1	1
	ONLY: MWCS 38	1	
46G	Wing Headquarters Squadron	1	
46H	Transport Squadron (VMGR)		
	LESS: VMGR TWO FIVE TWO	1	1
46J	Marine Air Control Squadron		
	LESS: MACS 7, MACS FOUR, MACS TWO	1	
	ONLY: MACS FOUR, MACS TWO	1	1
	ONLY: MACS 7		1
46K	Marine Air Support Squadron	1	1
46M	Headquarters Squadrons and Logistics Squadron	1	
46P2	Helicopter Squadron (HMM) (HMH) (HML) (HMA)		
	LESS: HMLA 267 DET B, HMLA ONE SIX SEVEN, HMLA THREE SIX NINE, HMM ONE SIX SIX, HMM TWO SIX SIX	1	
	ONLY: HMLA ONE SIX SEVEN	1	1
46P4	Helicopter Training Squadrons		
	LESS: HMT THREE ZERO TWO	1	
46Q	Wing Support Group		
	LESS: MWSG FOUR SEVEN	1	1
	ONLY: MWSG FOUR SEVEN	1	
46R	Marine Wing Support Squadron		
	ONLY: MWSS FOUR SEVEN FOUR	1	
46S1	Air Traffic Control Squadron LANT	1	
46S2	Air Traffic Control Squadron Detachment PAC		
	LESS: MATCS FOUR EIGHT DET BRAVO	1	

U. S. Navy Distribution (continued)

46U	Aviation Weapons and Tactics Squadron	1	
46V	Tactical Electronic Warfare Squadron (VMAQ) and Detachments		
	LESS: VMAQ FOUR, VMAQ ONE	1	
50A	Unified Commands		
	ONLY: USCINCSO QUARRY HEIGHTS PM	1	
	ONLY: USCINCCENT MACDILL AFB FL	4	
50C	Subordinate Unified Commands		
	ONLY: COMICEDEFOR KEFLAVIK IC	1	
51B3	Southern Europe Area		
	ONLY: COMSTRIKFORSOUTH	1	
T-100Y	(T-AH) Hospital Ship		
	ONLY: COMFORT (T-AH 20)	1	
SNDL PART II			Paper/Micro
A3	Chief of Naval Operations		
	ONLY: (N3/N5), (N88), (N42), (N931)	1	
	ONLY: (N85)		1
A5	Chief of Naval Personnel		1
A6	Commandant of the Marine Corps	3	
B2	Defense Agencies		
	ONLY: JVS CFAD WASHINGTON DC		1
B2A	Special Agencies Staffs Boards and Committees		
	ONLY: JCS J7	1	
B2I	Joint Doctrine Center	1	
B3	College and University		
	ONLY: COMDT AFSC NORFOLK VA	1	
B5	Coast Guard		
	ONLY: COMUSCG WASHINGTON DC (G-TTO-3V)	1	
C1A	Naval Personnel at Army Activities		
	ONLY: COMGENSTAFCOL FT LEAVENWORTH, U.S. ARMY C&G STAFF COLLEGE	1	
	ONLY: CDRUSAJFKSPWAR CENSCH FT BRAGG NC	2	
C2C	Navy Liaison Officers at Air Force Activities		
	ONLY: NAVLIAOFF HURLBURT FIELD	1	
C4P	Marine Corps Communication-Electronics School	1	
C4EE	Center for Naval Analyses	1	
C5B	Navy Section Military Assistance Advisory Groups		
	ONLY: CHNAVSECMAGG PORTUGAL LISBON PO		1
	ONLY: CHNAVSEC JUSMAGTHAI BANGKOK TH	1	
C21	Assistant for Administration to the Under Secretary of the Navy Dets	1	
C25A	Support Activity Detachments		
	ONLY: OPNAVSUPPACT DET FT RITCHIE MD		2

U. S. Navy Distribution (continued)

C60D	Fleet Surveillance Support Command Detachment	1	
E3A	Laboratory Research		
	ONLY: NRL WASHINGTON DC	3	1
FA4	Aviation Activities		
	ONLY: COMNAVAVNACTS BRUNSWICK ME	1	
FA7	Station LANT		
	ONLY: NAVSTA PANAMA CANAL RODMAN PM	1	
FA30	Weapons Training Facility	1	
FB7	Air Station PAC		
	ONLY: NAS ALAMEDA, NAS ADAK AK, MAS LEMOORE, NAS MIRAMAR	1	
	ONLY: NAS AGANA GQ	2	
FB34	Fleet Activities		
	ONLY: COMFLEACT SASEBO JA, COMFLEACT OKINAWA JA	1	
FC14	Air Station NAVEUR	1	
FE4	Security Group Activity		
	ONLY: NAVSECGRUACT MISAWA JA		1
	ONLY: NAVSECGRUACT NORTHWEST (CHESAPEAKE VA)		2
FF5	Safety Center	1	
FF18	Tactical Support Activity	5	
FF38	Naval Academy	1	
FF42	Postgraduate School	1	1
FF44	War College	5	
FG2	Computer and Telecommunications Stations		
	ONLY: NAVCOMTELSTRA ROTA SP	1	
FG4	Computer and Telecommunications Activity		
	ONLY: NAVCOMTELSTRA SAN DIEGO CA	1	
FG6	Computer and Telecommunications Area Master Stations		
	LESS: NCTAMS MED NAPLES IT	1	
FH1	Medical and Surgery		
	ONLY: BUMED WASHINGTON DC	1	
FH36	Healthcare Support Office EUR		1
FJA10	Manpower Analysis Center	1	
FKA1A	Air Systems Command	1	
FKA1B	Space and Naval Warfare Systems Command	1	
FKA1C	Facilities Engineering Command	1	
FKA1G	Sea Systems Command	2	
FKN2	Construction Battalion Center		
	ONLY: CBC GULFPORT MS	1	
FKP4A	Coastal Systems Station Dahlgren Division	1	
FKP4E	Surface Warfare Center and Division		
	ONLY: NAVSURFWARCENDIV PORT HUENEME CA, NAVSURFWARCEN CARDERROCKDIV BETHESDA MD	1	
	ONLY: NAVSURFWARCENDIV DAHLGREN VA	4	
FKP7	Shipyard		
	ONLY: NAVSHIPYD PUGET SOUND (BREMERTON)	1	

U. S. Navy Distribution (continued)

FKP14	Fleet Combat Direction Systems Support Activity	1
FKP20	AEGIS Training Center	
	LESS: AEGIS TRASUPPGRU SAN DIEGO CA	1
FKQ6C	Command Control and Ocean Surveillance Center RDTE Division	2
FKR3E	Weapons Evaluations Facility	1
FKR6A	Air Warfare Center Aircraft Division	
	ONLY: NAVAIRWARCENACDIV WARMINSTER PA	1
FKR6B	Air Warfare Center Weapons Division	
	ONLY: NAVAIRWARCENWPNDIV CHINA LAKE CA	2
FKR6C	Air Weapons Station	
	ONLY: NAVAIRWPNSTA PT MUGU CA	1
FP1	Naval Doctrine Command	1
FR4	Air Facility COMNAVRESFOR	
	ONLY: NAF DETROIT	1
FR10	Reserve Center	
	ONLY: NAVMARCORESCEN ATLANTA,	1
	NAVMARCORESCEN BESSEMER,	
	NAVMARCORESCEN BROOKLYN,	
	NAVMARCORESCEN BUFFALO,	
	NAVRESCEN COLUMBUS GA,	
	NAVRESCEN CLEVELAND OH,	
	NAVMARCORESCEN COLUMBUS OHIO,	
	NAVMARCORESCEN DALLAS TX,	
	NAVMARCORESCEN DENVER,	
	NAVMARCORESCEN EL PASO,	
	NAVMARCORESCEN ENCINO,	
	NAVMARCORESCEN LOUISVILLE,	
	NAVRESCEN SYRACUSE,	
	NAVRESCEN OKLAHOMA CITY,	
	NAVMARCORESCEN ORLANDO,	
	NAVMARCORESCEN PITTSBURGH,	
	NAVMARCORESCEN PORTLAND OR,	
	NAVRESCEN RICHMOND,	
	NAVMARCORESCEN ROCK ISLAND,	
	NAVMARCORESCEN ST LOUIS,	
	NAVMARCORESCEN ST PAUL,	
	NAVMARCORESCEN SALT LAKE CITY,	
	NAVMARCORESCEN TREASURE ISLAND CA,	
	NAVMARCORESCEN SPRINGFIELD MO,	
	ONLY: NAVRESCEN MISSOULA MT,	1
	NAVMARCORESCEN TOPEKA, NAVRESCEN WICHITA	
	ONLY: NAVMARCORESCEN MONTGOMERY	6
FR23	Reserve Readiness Centers	
	LESS: NAVMARCORESREDCEN NORFOLK VA,	1
	NAVMARCORESREDCEN PHOENIX AZ,	
	NAVMARCORESREDCEN SAN DIEGO CA,	

U. S. Navy Distribution (continued)

	NAVRESCEN CHARLESTON, NAVRESREDCEN PORTLAND ME		
FS1	Office of Naval Intelligence ONLY: ONI WASHINGTON DC		1
FT1	Chief of Education and Training		1
FT6	Air Station CNET ONLY: NAS PENSACOLA FL ONLY: NAS CORPUS CHRISTI TX		1 2
FT13	Air Technical Training Center	1	
FT22	Fleet Combat Training Center ONLY: FCTCLANT VIRGINIA BEACH VA ONLY: FCTCPAC	1 2	
FT24	Fleet Training Center ONLY: FLETRACEN MAYPORT ONLY: FLETRACEN NORFOLK ONLY: FLETRACEN SAN DIEGO CA	1 1 25	1
FT28	Education and Training Center	1	
FT30	Service School Comand ONLY: SERVSCOLCOM GREAT LAKES	2	
FT35	Amphibious School ONLY: NAVPHIBSCOL CORONADO SAN DIEGO CA ONLY: NAVPHIBSCOL LITTLE CREEK VA	1 35	
FT43	Surface Warfare Officers School Command	10	
FT46	Fleet Anti-Submarine Warfare Training Center ONLY: FLEASWTRACENLANT	1	
FT51	Fleet and Mine Warfare Training Center	2	
FT60	Education and Training Support Center ONLY: NETSCPAC SAN DIEGO CA	1	
FT72	Department of Naval Science ONLY: DPTNAVSCI TXMARICAD GALVESTON TX, DPTNAVSCI USMERMARCAD KINGS POINT	1	
FT78	Education & Training Program Management Support Activity	1	
FT97	Navy and Marine Corps Intelligence Training Center	1	
FW1	National Naval Medical Center	1	
V2	Marine Barracks		1
V5	Marine Corps Air Station ONLY: MCAS CHERRY POINT NC, MCAS KANEOHE BAY, HI, MCAS EL TORO (SANTA ANA CA)	1	
V6	Aircraft Wing Marine Corps	2	3
V8	Marine Corps Research, Development and Acquisition Command	1	
V11	Marine Corps Institute	1	
V12	Marine Corps Combat Development Command	12	
V16	Marine Corps Base		

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PUBLICATION NOTICE

ROUTING

1. CHANGE 1 to NWP 22-3 (REV. B)/FMFM 1-8, SHIP-TO-SHORE MOVEMENT, is available in the Naval Warfare Publications Library and is effective upon receipt.

2. Summary:

a. A terminology update was done to change Marine Expeditionary Brigade (MEB) to Marine Expeditionary Force(Forward) (MEF(FWD)) and Brigade Service Support Group (BSSG) to Force Service Support Group(Forward) (FSSG(FWD)).

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Ship-to-Shore Movement

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PREFACE

NWP 22-3 (Rev. B)/FMFM 1-8, SHIP-TO-SHORE MOVEMENT, amplifies Joint Pub 3-02, Joint Doctrine for Amphibious Operations. Together with related naval warfare publications (NWPs) and Fleet Marine Force manuals (FMFMs), NWP 22-3/FMFM 1-8 is used as a guide for the planning and execution of the ship-to-shore movement.

NWP 22-3/FMFM 1-8 is not intended to stereotype ship-to-shore operations nor prevent an officer exercising tactical command from initiating and issuing special instructions. Its primary purpose is to obtain basic uniformity while permitting the development and flexibility required by each tactical situation.

Throughout this publication, references to other publications imply the effective edition.

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CHAPTER 1

Concept

1.1 PURPOSE

To discuss the doctrine, command relationships, techniques, and procedures for planning and executing the ship-to-shore movement during the assault phase of amphibious operations. This publication describes:

1. The organization of Navy and landing forces (LFs) to conduct Marine Expeditionary Force (MEF)-sized amphibious operations
2. Command relationships within and between these forces
3. The planning process required to develop the amphibious task force (ATF) landing plan
4. The conduct of the waterborne and helicopterborne ship-to-shore movements
5. Protective measures in the amphibious objective area (AOA) to minimize danger to the ATF.

NWP 22-3 serves as a guide for operational staffs, unit commanders, and school commands.

1.2 BACKGROUND

An amphibious operation is an attack launched from the sea by naval and LFs embarked in ships or craft involving a landing on a hostile or potentially hostile shore. Amphibious operations are conducted in several phases: planning, embarkation, rehearsal, movement, and assault (PERMA). These phases are described in Figure 1-1. A detailed description of each phase is contained in Joint Pub 3-02, "Joint Doctrine for Amphibious Operations."

The initiating directive is an order to CATF to conduct an amphibious operation. The format and contents of the initiating directive is discussed in Joint Pub 3-02. When the initiating directive is received, planning begins with the development of the LF concept of operations ashore. This concept outlines the commander, landing force's (CLF's) intent on how operations ashore will be conducted. It includes the organization

required for the landing and the scheme of maneuver ashore. The scheme of maneuver ashore is CLF's tactical plan for the LF to accomplish the assigned mission. It determines which LF units are required at the various landing locations within the landing area. Further, the scheme of maneuver ashore is used to assign LF units to landing craft, landing ships, and helicopters for the ship-to-shore movement. This concept is examined by all commanders for supportability and is approved by commander, amphibious task force (CATF) prior to commencement of detailed planning.

With an approved concept of operations ashore, LF and naval requirements to accomplish the mission are consolidated and compared with the means available to CATF (forces, lift, logistics, etc.). If the means available do not satisfy these requirements, additional means are requested from higher authority. If additional means are not available, the concept of operations ashore is adjusted accordingly or another concept is developed.

The ATF landing plan is prepared after the final allocation of means is made. This plan is composed of naval and LF documents which present in detail the instructions to execute the waterborne and helicopterborne ship-to-shore movement. These documents are explained in Chapter 3. With the ATF landing plan completed, embarkation planning begins.

The assignment of personnel, equipment, and supplies to shipping with their sequence for embarkation constitutes the loading plan. The loading plan is derived from and totally supports the ATF landing plan.

The ATF is a task organization of naval forces and a LF with organic aviation, formed to conduct an amphibious operation. The ATF is composed of amphibious assault ships and military sealift command (MSC)-owned or chartered ships, collectively referred to as assault shipping, and other supporting forces described in Joint Pub 3-02, which are organized into transport group(s) to carry the LF to designated landing area(s).

Following embarkation, the ATF moves from points of embarkation to the AOA. A rehearsal to test the ATF landing plan is normally conducted during the movement phase.

Planning	— A continuous process from the receipt of the initiating directive to the termination of the operation. Results in: <ul style="list-style-type: none"> • LF concept of operations ashore • ATF landing plan • Loading plan • ATF organization.
Embarkation	— The period during which the LF is embarked in shipping. <ul style="list-style-type: none"> • LF organized into assault echelon and assault follow-on echelon.
Rehearsal	— Normally conducted during the movement phase to test the adequacy of the landing plan, timing of detailed operations, combat readiness of participating forces, and test communications.
Movement	— The ATF departs embarkation/rehearsal area and proceeds to the AOA. Organized into movement groups. — Operations occurring during movement are: <ul style="list-style-type: none"> • Supporting operations • Advance force operations.
Assault	— Begins when enough of the ATF is in position in the landing area to initiate the ship-to-shore movement and terminates with accomplishment of the mission. Includes: <ul style="list-style-type: none"> • Supporting arms • Ship-to-shore movement (Note 1) • Logistics/combat service support (CSS) (Note 1) • Medical regulating (Note 1).
Note 1. These areas will be discussed in detail in subsequent chapters and appendixes.	

Figure 1-1. PERMA: Phases of an Amphibious Operation

For movement the ATF may be organized into movement groups. Movement groups consist of assault shipping with escorts and combat logistics forces required for protection and sustainability. Paragraphs 2.3.1 and 2.3.2 discuss transport and movement groups further. The LF is organized into echelons: the assault echelon (AE) and assault follow-on echelon (AFOE). Paragraph 2.4.11 describes the AE and AFOE further.

The AOA is a geographical area, delineated in the initiating directive, for the purposes of command and control within which is located the objective(s) to be secured by the ATF. This area must be of sufficient size to ensure accomplishment of the ATF's mission and must provide sufficient area for conducting necessary sea, air, and land operations.

Supporting and preassault operations are conducted while the assault echelon of the ATF is en route.

The assault phase begins when enough of the ATF is in position in the landing area to permit CATF to commence the ship-to-shore movement. The landing area is that part of the objective area within which are conducted the landing operations of an amphibious force. It includes the beach, approaches to the beach, transport areas, fire support areas (FSAs), air occupied by close supporting aircraft, and land included in the advance inland to the initial objective.

1.3 SHIP-TO-SHORE MOVEMENT CONCEPT

Ship-to-shore movement during the assault phase of an amphibious operation is the deployment of the

LF from assault shipping to designated areas ashore. Its objective is to land troops, equipment, and supplies at prescribed times and places and in the organization for landing necessary to support the LF scheme of maneuver ashore. The ship-to-shore movement is waterborne, helicopterborne, or a combination of both. It is initiated from beyond the enemy's visual and ground based radar range (hereafter referred to as over-the-horizon (OTH)), near shore, or a combination of both. It commences when CATF orders the execution by signaling, "Land the landing force." It concludes when the unloading of all assault shipping is complete. Unloading operations take place in two periods. The initial unloading period is tactical and provides for the rapid buildup of combat power ashore and quick response to LF tactical and logistical requirements. The general unloading period is primarily logistical and emphasizes the rapid unloading of personnel and material remaining in AE and AFOE shipping required to support LF operations ashore.

1.4 SHIP-TO-SHORE MOVEMENT PLANNING CONSIDERATIONS

The LF scheme of maneuver ashore determines the major aspects of the ship-to-shore movement. Specific ship-to-shore movement planning considerations are:

1. OTH or near shore launch
2. Helicopterborne, waterborne, or a combination
3. Location of landing beaches, landing craft air cushion landing zones (CLZs), and helicopter landing zones (HLZs)
4. Assault shipping dispersal
5. Composition and timing of assault waves
6. Tactical integrity of the LF.

Selection of these considerations is affected by:

1. Hydrographic features of beach approaches
2. Beach size and trafficability to support the landing
3. Characteristics of CLZs and HLZs and their approaches.

1.4.1 Embarkation Flexibility. The organization for embarkation must be compatible with the LF landing plan. To achieve a landing in proper formation to initiate combat, the LF is organized for the tactical

integrity of helicopterborne and waterborne units participating in the ship-to-shore movement. This is accomplished by combat loading troops, equipment, and supplies in assault shipping. The tactical integrity of a given unit does not always require an entire unit to embark in a single ship. The main focus of the loading plan and organization for embarkation is to facilitate a smooth flow of units and supplies ashore during the ship-to-shore movement. Cross decking units from one ship to another prior to commencement of the ship-to-shore movement, referred to as pre-H-hour transfers, can enhance the efficiency of the ship-to-shore movement, particularly when the LF was embarked prior to the completion of detailed planning. However, extensive cross decking can have an adverse impact on helicopter and landing craft availability for the ship-to-shore movement. The ability to discharge troops and supplies from MSC or MSC-chartered assault shipping is a critical consideration in the organization for embarkation that requires detailed planning.

The organization for embarkation also provides for maximum flexibility to support alternate plans that may be adopted. The LF landing plan and scheme of maneuver ashore are based on conditions and enemy capabilities that existed in the AOA prior to embarkation of the LF. A change in conditions of friendly or enemy forces during the movement phase may cause major changes in the LF landing plan with no opportunity for reloading the LF. In a situation such as this the phases of an amphibious operation change from PERMA to embarkation, movement, planning, rehearsal, and assault (EMPRA). The extent to which changes in the LF landing plan can be accomplished depends upon the organization for embarkation. Joint Pub 3-02.2, "Joint Doctrine for Amphibious Embarkation," discusses embarkation in detail.

1.4.2 Oceanographic Considerations. Oceanographic considerations influence the type of ship-to-shore movement adopted. Principal oceanographic considerations are:

1. Hydrographic features of offshore areas, particularly out to the 3 1/2 fathom curve
2. Extent of mineable waters
3. Capacity of beaches for landing troops, equipment, and supplies
4. Suitability of beaches for beaching landing ships, landing craft, and employing causeways and amphibious assault vehicles (AAVs) under expected weather and tidal conditions

1.4.3 Supporting Operations. Supporting operations are those requested by CATF and conducted outside the area. CATF is responsible for by forces other than those assigned to the ATF. They are ordered by the commander who issued the initiating directive. Supporting operations conducted in the AOA prior to or during the amphibious operation are coordinated with CATF. Examples of supporting operations are:

1. Tactical and strategic military deception operations to influence enemy actions
2. Interdiction operations to isolate the landing area
3. Destruction of specific targets
4. Antiair, antisubmarine, and antisurface warfare (AAW, ASW, and ASUW) operations to gain air superiority and naval supremacy in the AOA
5. Special operations to secure information
6. Psychological or unconventional warfare
7. Minesweeping and minelaying.

1.4.4 Preassault Operations. Preassault operations are conducted in the AOA by elements of the ATF prior to commencement of the assault. These operations are conducted by the advance force commander and are designed to gain current information about the enemy and prepare the landing area for assault landings. Joint Pub 3-02 discusses the advance force organization. Examples of preassault operations are:

1. Destruction of targets by tactical air and naval surface fire support
2. Reconnaissance
3. Raids
4. Hydrographic surveys, surf observations, and weather reporting
5. Electronic warfare (including cryptologic support to amphibious warfare)
6. Military deception operations
7. Minesweeping
8. Underwater demolition.

1.4.5 Prelanding Operations. Prelanding operations take place between the commencement of the assault phase and the commencement of ship-to-shore movement. They encompass a continuation of the preparation conducted by the advanced force but prelanding operations focus on the landing area and concentrate specifically on the landing beaches, HLZs, and CLZs to be used by the LF. The transition between preassault and prelanding operations may not be discernible as there is no break in activity.

1.4.6 In-Stride Operations. In-stride operations are similar to prelanding operations, but are conducted as an integral component of the ship-to-shore movement. They immediately precede the arrival of troops at landing beaches or landing zones (LZs).

1.4.7 Relative Strength Requirements. To achieve success, the ATF should be assured of air superiority, naval supremacy against enemy surface and subsurface forces, and a substantial numerical superiority over enemy forces in the landing area. In the face of compelling necessity, an amphibious operation may be undertaken on the basis of a reasonable total superiority of forces. For example, air superiority and naval supremacy may justify a landing even though the ATF does not possess the desired numerical superiority in ground forces, provided friendly surface and air units can be used effectively against enemy forces to negate their numerical advantage.

1.4.8 Control. Ship-to-shore movement is the most critical part of an amphibious assault. Close coordination between the helicopterborne and waterborne movements and supporting, preassault, prelanding, and in-stride operations with the flexibility to change the ATF landing plan is required to ensure maximum tactical effectiveness during the landing and subsequent rapid buildup of combat power ashore. Positive centralized control of the ship-to-shore movement is maintained by CATF and CLF through control groups and temporary organizations with the execution of the waterborne and helicopterborne ship-to-shore movements delegated to subordinate commanders. The Navy control organization for the waterborne and helicopterborne ship-to-shore movement is described in Chapters 4 and 5 respectively. The LF establishes three temporary organizations to facilitate the ship-to-shore movement and provide tactical and logistical support to LF units ashore. These organizations are the tactical logistics (TACLOG) group, landing force support party (LFSP), and helicopter support team (HST). These organizations are described in Appendixes J, K, and L respectively.

1.4.9 Considerations for Displacement Landing Craft Employment. The principal considerations for employing displacement landing craft are:

1. The role of the waterborne operation in the LF concept of operations
2. Location, size, hydrographic features, and trafficability of beaches
3. Availability of hydrographic surveys of beach approaches
4. Suitability of sea state and surf conditions for landing craft operations
5. Enemy capabilities and disposition, especially location, type, and density of antisurface weapons
6. Requirement for supporting arms and combat service support (CSS)
7. Displacement landing craft, with landing craft air cushioned (LCAC), comprise the principal heavy lift offload capability for LF equipment and supplies.

1.4.10 Displacement Landing Craft Support Requirements. All amphibious ships have the capability to refuel landing craft and accomplish general maintenance. Weldeck ships, designated as boat havens, provide dry docking facilities for structural repairs and a safe haven during inclement weather, consistent with offload requirements as the assault progresses.

Provisions for salvage operations should be included in CATF's ship-to-shore movement plan. The primary control officer (PCO) is responsible for landing craft and amphibious vehicle salvage operations at a colored beach. The assistant boat group commander (ABGC) is responsible for conducting salvage operations seaward of the surf zone and the beach party performs these functions inside the surf zone. Appendix I provides additional information on salvage operations.

1.4.10.1 Beach Party. A beach party, the naval element of the LFSP, is established ashore to facilitate:

1. Command and control for the flow of troops, equipment, and supplies onto the beach
2. Displacement landing craft beaching and retracting

3. Causeway operations
4. Limited construction
5. Landing craft and amphibious vehicle salvage operations
6. Amphibious assault bulk fuel system (AABFS) operations
7. Evacuation of casualties and prisoners of war
8. CLZ control.

Appendix K describes in detail how the beach party supports the waterborne ship-to-shore movement and its command relationship with the LFSP.

1.4.11 Considerations for Helicopter Employment. Objectives that cannot be attained by waterborne amphibious operations often may be achieved by helicopterborne operations. The principal considerations for the employment of helicopters are:

1. The role of the helicopter in the LF concept of operations. Helicopters can be employed from OTH to achieve tactical surprise.
2. Quantity and types of helicopters available.
3. Numbers of helicopter-capable ships available that can operate and maintain helicopters and that can only operate helicopters.
4. Location, nature, number, and size of HLZs and their approach and retirement lanes.
5. Enemy capabilities and dispositions, especially location, type, and density of anti-aircraft weapons.
6. Oceanographic/weather influences on the helicopterborne ship-to-shore movement:
 - a. Suitability of sea state for launch and recovery of helicopters
 - b. Weather conditions to be encountered at launch/recovery, en route, and at the HLZ. This includes ceiling, visibility, icing, and turbulence.
7. Requirements for supporting arms, linkup, and CSS.

8. Availability of alternate plans for landing serials scheduled for helicopterborne waves aborted during the landing.

1.4.12 Helicopter Support Requirements. All ships that have helicopter refueling and rearming capabilities should be considered when establishing a refueling/rearming cycle. When practicable, helicopter decks should not be smaller than two landing spots to maintain helicopter section integrity. For sustained helicopter operations, repositioning skid-configured helicopters to LPDs and LSTs should be considered to ease deck handling and spotting problems on the LHD, LHA, and LPH. As the assault progresses, helicopter forward arming and refueling points (FARPs) are established ashore by the LF.

Provisions for the recovery of aircraft downed in the landing area should be included in CLF's OPORD and arrangements should be made to provide maintenance teams, and temporary storage of these aircraft.

1.4.12.1 Helicopter Support Team (HST). The HST is employed in an HLZ to facilitate the landing and movement of helicopterborne troops, equipment, supplies, and the evacuation of casualties and prisoners of war. Appendix L describes in detail how the HST supports the helicopterborne ship-to-shore movement and its command and organizational relationship with the helicopterborne unit commander and LFSP.

1.4.13 Considerations for Landing Craft Air Cushion (LCAC) Employment. The principal considerations for the employment of LCAC are:

1. LCAC can be employed from OTH to achieve tactical surprise
2. LCACs are not constrained by tidal conditions and most hydrographic features
3. LCAC complements the vertical assault in an OTH amphibious assault by providing combat support that is not helicopter deliverable
4. Alternate beaches can be included to tactically employ LCACs speed and mobility
5. LCAC operations beyond the high water mark could influence the scheme of maneuver ashore
6. A beach separation of 500 yards from displacement landing craft is required

7. Employing LCAC will decrease the overall number of landing craft the ATF is capable of transporting and decrease the quantity of preloaded equipment.

1.4.14 LCAC Support Requirements. The LSD 41 class ship is designed specifically to operate and support LCACs. The LHD, LHA, LPD, and LSD 36 class ships have been designed or modified to conduct LCAC operations but do not have the organic administrative and logistics support LCAC requires. These ships can provide boat haven facilities and limited maintenance support. The LHD, LHA, and LSD 36 class can be fitted with military vans (MILVANS) to provide an acceptable level of logistic support if sufficient LSD 41 class ships are not available. MILVANS are not moveable and using them must be weighted against the reduction of LF embarkation area that occurs.

Provisions for the salvage and recovery of inoperable LCACs should be included in CATF's OPORD. Appendix I discusses the responsibility of the PCO and beach party for conducting LCAC salvage operations.

1.4.14.1 LCAC Landing Zone (CLZ) Control Team (CCT) and CLZ Support Team (CST). The CCT and CST provide LCAC terminal guidance from seaward of the LCAC penetration point (CPP) to the CLZ, unload or load LCACs, and direct the movement of personnel, equipment, and supplies out of the CLZ. Appendix K describes in detail how these teams support the waterborne ship-to-shore movement and their command and organizational relationship with the LFSP.

1.5 LANDING MEANS

The ship-to-shore movement of troops, equipment, and supplies ultimately depends on the landing means available. These include amphibious ships, MSC ships, amphibious vehicles, landing craft, and helicopters. The general characteristics of these are described in NWP 11-1, "Characteristics and Capabilities of U.S. Navy Combatant Ships," NWP 11-2, "Characteristics and Capabilities of U.S. Navy Auxiliaries and MSC Ships," NWP 22-5/FMFM 4-2, "The Naval Beach Group," and NWP 22-8/FMFM 1-15, "MSC Support of Amphibious Operations." Figure 1-2 provides a comparison of amphibious ship troop, helicopter, landing craft, and assault craft capabilities within the ATF.

1.5.1 Amphibious Ships. Navy ships specifically designed to embark, transport, land, and support the LF in assault operations and capable of being loaded or unloaded by naval personnel without

Ship Class	Troops	Helo (Note 1)	LCAC or	LCU or	LCM 8 or	LCM 6 or	AAV
LCC 19	0	1	NA	NA	NA	NA	NA
LHD	1,873	42	3	2	8	12	-- (Note 2)
LHA	1,903	38	1	4	10	14	-- (Note 2)
LPH	1,745	27	NA	NA	NA	NA	NA
LPD 4	915	6	1	1	4	9	26
LSD 36	333	1	2 (Note 4)	3	9	20	49
LSD 41	362	6	4 (Note 5)	3	10	21	64
LSD 41 Var	362	6	2	1	4	6	45
LST	365	1 (Note 3)	NA	NA	NA	NA	33
LKA	229	1	NA	NA	4 (Note 6)	5 (Note 6)	NA

Notes:

1. CH46E equivalents.
2. Tactical employment of AAVs is not normally conducted from the LHD or LHA.
3. When causeways are not side loaded.
4. Three LCACs can be carried with mezzanine deck removed.
5. Five LCACs can be carried with vehicle ramp raised.
6. Organic landing craft.

Figure 1-2. Amphibious Ship Troop, Helicopter, Landing Craft, and Assault Craft Capabilities

external assistance in the AOA are amphibious ships. The following paragraphs describe amphibious ship classes available for use as assault shipping.

1.5.1.1 Amphibious Command Ship (LCC).

The LCC serves as a command ship for CATF, CLF, and tactical air commanders during amphibious operations. It is equipped with the naval tactical data system (NTDS), joint operational tactical system (JOTS), and officer in tactical command information exchange system (OTCIXS) and provides facilities for a joint communications center (JCC), joint intelligence center (JIC), tactical air control center afloat (TACC afloat), supporting arms coordinating center (SACC), TACLOG detachment, and naval and LF command centers for coordination of both the waterborne and helicopterborne ship-to-shore movement. The LCC may also provide facilities for the

ATF medical regulating control center (ATF MRCC) but has limited organic medical facilities and is unsuitable as a casualty receiving and treatment ship (CRTS).

1.5.1.2 General Purpose Amphibious Assault Ship (LHA).

The LHA combines the operational capabilities of the LPH, LPD, LSD, and LKA. It has helicopter, vertical/short take-off and landing (V/STOL), and vertical take-off and landing (VTOL) operating facilities greater than the LPH, welldeck capacity greater than the LPD and LSD (including LCAC and boat haven capability), and vehicle and cargo capacity comparable to the LKA. The LHA also provides facilities for Navy and Marine Corps command and control as it is NTDS, JOTS, and OTCIXS-equipped with facilities for a JCC, JIC, TACC afloat, SACC, TACLOG, helicopter direction

center (HDC), helicopter logistics support center (HLSC), and central control of the waterborne and helicopterborne ship-to-shore movement. When augmented with a fleet surgical team (FST), the LHAs serve as primary CRTSs and provide medical regulating and triage functions for early definitive medical and surgical care for combat casualties. The LHA has a secondary mission of power projection and a tertiary mission of sea control when employing AV 8 and SH 60 aircraft in these roles.

1.5.1.3 Multipurpose Amphibious Assault Ship (LHD). The LHD is the Navy's largest amphibious ship. While similar in mission and capabilities to the LHA, it has expanded medical facilities; expanded command and control capabilities, including the integrated tactical amphibious warfare data system (ITAWDS) and the Marine Corps position locating and reporting system (PLRS); and expanded LCAC capabilities. However, the vehicle stowage capacity of the LHD is less than the LHA.

1.5.1.4 Amphibious Assault Ship (LPH). The LPH supports the helicopterborne ship-to-shore movement. It embarks, transports, and lands troops and their helicopter-transportable equipment and supplies. Additionally, it can operate V/STOL aircraft. Most LPHs provide facilities for Navy and Marine Corps command and control, including a JCC, JIC, TACC afloat, SACC, TACLOG, HDC, and HLSC. When augmented with an FST, the LPHs serve as primary CRTSs.

1.5.1.5 Amphibious Transport Dock (LPD). The LPD transports and lands troops and their equipment and supplies by means of landing craft, AAVs, and helicopters. It can function as a primary control ship (PCS) for the waterborne ship-to-shore movement. It has extensive ammunition, cargo, and vehicle storage facilities. LPD's have limited helicopter storage and control facilities and are V/STOL capable. Some ships of this class are configured with Navy and Marine Corps command and control facilities including a JCC, JIC, TACC afloat, SACC, and TACLOG. The LPD has limited medical facilities but is suitable as a secondary CRTS when medical augmentation is provided.

1.5.1.6 Dock Landing Ship (LSD). The LSD transports and lands AAVs or landing craft and their accompanying troops and equipment. It can be employed as a helicopter landing platform, PCS, and boat haven. The LSD has limited medical facilities but is suitable as a secondary CRTS when medical augmentation is provided. The LSD 41 class is the primary support and operating platform for LCAC and may be used as the LCAC control ship (LCS).

1.5.1.7 Tank Landing Ship (LST). The LST lands personnel and vehicles directly on the beach by beaching or over causeways, by offloading to landing craft, or by discharging AAVs from its tank deck offshore. It normally transports side-loaded causeways self-propelled (CSP)/pontoon causeway sections to the landing area. The LST can function as a PCS and operate helicopters if the main deck is clear of cargo and side-loaded causeways are not embarked (helicopters can hover when causeways are embarked). When augmented with appropriate medical personnel, equipment, and supplies, the LST may, after offloading its assault cargo, function as a casualty collecting and sorting station for casualties who cannot be immediately moved to a CRTS. The LST may also transport casualties to rear area medical facilities.

1.5.1.8 Amphibious Cargo Ship (LKA). The LKA lifts and lands heavy vehicles, equipment, and large quantities of ammunition and supplies using displacement landing craft and helicopters. Offloading the LKA by organic displacement landing craft is time consuming when compared to launching preloaded landing craft, which limits the LKA's participation in scheduled waterborne waves. It has limited medical facilities but is suitable as a secondary CRTS when medical augmentation is provided.

1.5.2 Military Sealift Command (MSC) Ships. The MSC owns or charters a number of ships which have an application in amphibious operations. These ships provide the following capabilities: hospital (TAH), troop transport, tanker, heavy lift, cargo (breakbulk, container, and roll-on roll-off (RORO)), and special purpose (aviation logistic support (TAVB) and auxiliary crane ship (TACS)).

Also three forward deployed squadrons, each consisting of four to five ships, with equipment and supplies associated with a Marine Expeditionary Force(Forward) (MEF(FWD)) prepositioned aboard each squadron have been formed. MEF(FWD) personnel are airlifted to the AOA to assemble with their equipment brought by the maritime prepositioning ship squadron (MPSRON). MPSRONS can offload equipment instream with organic cargo handling equipment and landing craft if port facilities are not available. In either situation, a permissive environment is required. In addition, a TAH and TAVB may be assigned to support MPS operations. NWP 22-10/FMFM 1-5, "Maritime Prepositioning Force (MPF) Operations" provides details of MPF operations.

Employment of MPSRON or MSC-owned/chartered shipping as assault shipping in support of

amphibious operations presents unique discharge and control problems that must be thoroughly considered in planning the ship-to-shore movement of supplies and material. The Navy cargo handling and port group (NAVCHAPGRU) and naval reserve cargo handling battalion (NRCHB) augment the naval beach group and provide advisors, supervisors, and skilled stevedores for planning and executing cargo handling operations from MSC-chartered assault shipping. NWP 22-8/FMFM 1-15 provides details on MSC capabilities and organization.

1.5.3 Helicopters. Helicopters employed in the ship-to-shore movement are organic to the LF and their employment is determined by the CLF. They are used for troop and equipment transport, escort, and command and control during the helicopterborne ship-to-shore movement. LF helicopters may be transported in and operated from all amphibious ships. Flight deck certification status for each ship class specifying helicopter types, restrictions on day or night operations, and support facilities available is contained in LHA/LPH/LHD naval air training and operating procedures standardization programs (NATOPS) manual or APP 2, "Helicopter Operations From Ships Other Than Aircraft Carriers (HOSTAC)." The types of helicopters employed by a Marine air-ground task force (MAGTF) when embarked as the LF are:

1. CH53D/E (Sea Stallion): Primarily heavy cargo/equipment lift and troop movement
2. CH46E (Sea Knight): Primarily troop movement and medium cargo/equipment lift
3. UH1N (Huey): Command and control and troop movement
4. AH1T/W (Cobra): Escort and close-in fire (CIF) support.

For details refer to NWP 55-9/FMFM 5-3-ASH series, "Assault Support Helicopter Tactical Manuals" and NWP 55-3/FMFM 5-36-AH1 series, "Tactical Manual for AH1 Aircraft."

1.5.3.1 Advantages. Tactical advantages of the helicopter are:

1. Ascend and descend vertically into small unprepared areas for loading and unloading troops/supplies
2. Deliver fresh troops in organized units to the objective

3. Increase the LF's flexibility and mobility
4. Increase the depth of the battle field
5. Provide speed significantly greater than that of ground transportation in movement about the battle area
6. Provide rapid medical emergency evacuation (MEDEVAC) with minimum additional shock or trauma to casualties.

1.5.3.2 Disadvantages. Disadvantages in employing helicopters in the ship-to-shore movement include:

1. Weather can limit or eliminate helicopter flights, in particular: low visibility, high winds, or icing
2. Helicopters are maintenance intensive
3. Helicopter operations require precise command and control for deconfliction with other air operations and supporting arms.

1.5.4 Landing Craft. The types of landing craft used to land troops, equipment, and supplies and for command and control are:

1. Landing craft, utility (LCU)
2. Landing craft, mechanized (LCM 6 and LCM 8)
3. Landing craft, vehicle, personnel (LCVP) (Atlantic only)
4. Landing craft air cushion (LCAC)
5. Landing craft, personnel, large (LCPL).

Displacement landing craft include LCUs, LCMs, and LCVPs. They beach where hydrographic conditions permit and have bow ramps for rapidly discharging personnel and equipment directly onto the beach. LCM 8, LCM 6, and LCVP craft are organic to various amphibious ships. In addition, naval beach groups maintain a pool of steel hull displacement landing craft and LCACs for deployment. These craft are usually preloaded and lifted to the landing area in the welldecks of LHAs, LHDs, LSDs, and LPDs.

1.5.5 Amphibious Assault Vehicles (AAVs). These vehicles, employed from LSTs and welldeck ships, are organic to the LF. They include:

1. Amphibious assault vehicle personnel carrier (AAVP7)
2. Amphibious assault vehicle command and control (AAVC7)
3. Amphibious assault vehicle recovery (AAVR7).

AAVs operate on land and water and can negotiate some coral reefs and obstacles that would prevent displacement landing craft from beaching. The AAVP7 carries 17 to 20 combat loaded troops.

AAVs are part of CLF's mechanized assets for continuing the waterborne assault to inland objectives. As such, AAVs should not be designated to continue with the initial unloading phase.

1.5.6 Special Purpose Craft. Special purpose craft used to transport troops or special operations capable (SOC) forces for raids, reconnaissance, and special operations in support of the assault are:

1. Combat rubber raiding craft (CRRC)
2. Rigid raiding craft (RRC)
3. Rigid hull inflatable boat (RHIB)
4. Zodiac
5. Special weapons craft light (SWCL).

Special purpose craft are employed by LF reconnaissance teams; sea-air-land (SEAL) teams; and troop units to conduct advance force operations, clandestine assault support, and raids. These small rubber or fiberglass boats are very sensitive to surf conditions and operating areas should be carefully selected and environmental conditions continuously monitored.

1.5.7 Miscellaneous Vehicles and Support Components. Miscellaneous craft, boats, and special purpose systems used to support the assault and logistics buildup ashore are described in the following paragraphs. For details see NWP 22-5/FMFM 4-2.

1.5.7.1 Lighter, Amphibious Resupply, Cargo-5 Ton (LARC V). LARC Vs are amphibious vehicles used for logistics support operations over the beach and for salvage operations inside the surf zone.

1.5.7.2 Pontoon Causeway Sections. Where beach gradient does not permit the direct beaching of

landing ships, pontoon causeway sections may be used to bridge the gap from the ship to the beach. Causeways in barge ferry configurations can be used to move equipment from ships to the beach where the gradient does not allow the LST marriage to a causeway pier. Causeway sections are side-loaded on LSTs, carried in welldeck ships, or by MSC ships to the landing area where they are assembled into a causeway pier or barge ferry.

1.5.7.3 Causeway Section, Powered (CSP). CSPs are pontoon causeway sections configured with propulsion and steering equipment. When used for barge ferry operations, a CSP section and pontoon causeway sections are married together and can conduct stern gate marriages, enter welldecks, or be loaded by crane while moored alongside to transfer cargo from ships in the transport areas to the beach. They are transported to the landing area side-loaded on LSTs or in well deck or MSC ships.

1.5.7.4 Side-Loadable Warping Tugs (SLWTs). SLWTs are CSPs specially configured to maneuver, connect, beach, and retrieve other causeway sections; place and retrieve anchors; install offshore bulk fuel systems; act as pushers for barge ferries; and be salvage boats. They are transported to the landing area side-loaded on LSTs or in welldeck or MSC ships.

1.5.7.5 Causeway Tender Boats (Atlantic Only). Causeway tender boats are LCM 6s that have been modified and structurally reinforced to maneuver causeway sections. They are carried in well deck ships.

1.5.7.6 Amphibious Assault Bulk Fuel System (AABFS). The AABFS is a buoyant system that provides rapid transfer of fuel ashore before docking facilities are available. The AABFS is installed by an element of the naval beach group. It permits the transfer of fuel from an AO, LST, or MSC tanker offshore to landing force fuel bladders ashore.

1.5.7.7 Salvage Boats. Salvage boats are specially configured LCMs or LCVPs (Atlantic only) used to conduct landing craft salvage operations. Appendix I discusses the manning, equipment, and operational employment of these boats.

1.5.7.8 Free Boats. Free boats are AAVs or landing craft that are available to carry commanders, command and control groups, or LF personnel ashore. Free boat requirements are established by CLF. Requirements are weighed against landing craft and AAV availability, since craft dedicated to this purpose are not available for troop lift, except on a second-trip

basis. Operation of free boats in the vicinity of the line of departure (LOD) and boat lanes, prior to the landing of all scheduled waves, is coordinated with the PCO.

1.6 AMPHIBIOUS WARFARE (AMW) PUBLICATIONS

In addition to this manual, other AMW relevant publications include joint doctrine, battle group (BG) level naval warfare publications (NWP), AMW specific NWP and allied tactical publications (ATPs), other publications, platform specific NWP, other tactical publications, and type commander standard operating procedures (SOP).

1.6.1 Joint Doctrine. These are fundamental principles which guide the actions of military forces. Significant publications include:

Joint Pub 3-02, “Joint Doctrine for Amphibious Operations ”

Joint Pub 3-02.1, “Joint Doctrine for Landing Force Operations”

Joint Pub 3-02.2, “Joint Doctrine for Amphibious Embarkation”

Joint Pub 3-09, “Doctrine for Joint Fire Support ”

Joint Pub 3-06(16), “Riverine Operations (U)”

Joint Pub 4-01.2, “Sealift Support ”

Joint Pub 4-01.6, “Joint Logistics Over the Shore (JLOTS).”

1.6.2 Battle Group (BG) Level Naval Warfare Publications (NWPs). NWP 10 series publications are the authoritative sources for the conduct of BG operations. Significant NWP in this series include:

NWP 10-1, “Composite Warfare Commander’s Manual (U)”

NWP 10-1-10, “Operational Reports (U)”

NWP 10-1-21, “Antiair Warfare Commander’s Manual (U)”

NWP 10-1-22, “Antisurface Warfare Commander’s Manual (U)”

NWP 10-1-40, “Electronic Warfare Coordination (U)”

NWP 10-1-41, “Navy Operational Deception and Counterdeception (U)”

NWP 10-1-50, “Battle Group Communications (U).”

1.6.3 AMW NWPs and Allied Tactical Publications (ATPs). These are the authoritative sources for planning and conducting amphibious operations. NWP and ATP in this series are:

NWP 22-2/FMFM 1-7, “Supporting Arms in Amphibious Operations”

NWP 22-4, “Navy Special Warfare in Amphibious Operations”

NWP 22-5/FMFM 4-2, “The Naval Beach Group”

NWP 22-8/FMFM 1-15, “MSC Support of Amphibious Operations”

NWP 22-9/FMFM 13-4, “Naval Construction Force Support of MAGTF Operations”

NWP 22-10/FMFM 1-5, “Maritime Prepositioning Force (MPF) Operations”

ATP 8, “Doctrine for Amphibious Operations”

ATP 36, “Amphibious Operations — Ship-to-Shore Movement”

ATP 37, “Supporting Arms in Amphibious Operations”

ATP 38, “Amphibious Reconnaissance”

ATP 39, “Amphibious Embarkation.”

1.6.4 Other Publications. These publications contribute significantly towards planning and conducting amphibious operations. Significant publications in this category include:

FMFM 1, “Warfighting”

NWP 6, “Operational Medical and Dental Support”

NWP 8, “Command and Control (U)”

NWP 11-1, “Characteristics and Capabilities of U.S. Navy Combatant Ships (U)”

NWP 11-2, “Characteristics and Capabilities of U.S. Navy Auxiliaries and MSC Ships (U)”

NWP 11-3, “Characteristics and Capabilities of U.S. Navy Aircraft (U)”

NWP 11-4, “Characteristics and Capabilities of U.S. Navy Weapons, Sensors, and Communication Systems (U)”

NWP 12 series publications provide information on the threat and naval tactical intelligence

NWP 15 series publications provide information on naval special warfare forces

NWP 27 series publications provide information on mine warfare

NWP 28, “Nuclear Warfare Operations (U)”

NWP 32, “Antiair Warfare (U)”

NWP 40, “Inshore Undersea Warfare (U)”

NWP 42, “Shipboard Helicopter Operating Procedures”

NWP 55-3/FMFM 5-36-AH1 Series, “Tactical Manual for AH1 Aircraft”

NWP 55-9/FMFM 5-3-ASH Series, “Assault Support Helicopter Tactical Manuals”

NWP 62-1, “CBRD Handbook for Training”

NWP 67-1, “Shipboard V/STOL Aircraft Operating Procedures”

NWP 80, “Strategic Sealift Planning and Operations Doctrine of the U.S. Navy”

APP 2, “Helo Operations for Ships Other Than Aircraft Carriers (HOSTAC)”

APP 4, Vol I, “Allied Maritime Structured Messages (U)”

MCM 3-1, Volume 2, “Threat Reference Guide and Countertactics (U)”

NAVMED P5133/FMFM 4-51, “Task Force Medical Regulating Manual”

Safe Engineering and Operations (SEAOPS) Manual for Landing Craft Air Cushion (LCAC), Volumes I through V

LHA/LPH/LHD Naval Air Training and Operating Procedures Standardization (NATOPS) Manual.

1.6.5 Platform-Specific NWPs. NWP 55, NWP 60, NWP 65, and NWP 70 series publications describe responsibilities, procedures, and tactics used by air, surface ship, and submarine commanders in single unit operations. Amphibious publications in the NWP 65 Series, “Class Tactical Manual,” are:

NWP 65-15, “LHA Class Tactical Manual (U)”

NWP 65-18, “LPH Class Tactical Manual (U)”

NWP 65-19, “LPD/AGF Class Tactical Manual (U)”

NWP 65-20, “LSD 36 Class Tactical Manual (U)”

NWP 65-21, “LST 1179 Class Tactical Manual (U)”

NWP 65-23, “LSD 41 Class Tactical Manual (U)”

NWP 65-25, “LCC 19 Class Tactical Manual (U)”

NWP 65-30, “LHD Class Tactical Manual (U)”

1.6.6 Other Tactical Publications. Tactical memorandums (TACMEMOs), tactical notices (TACNOTEs) and experimental tactics (EXTACs) contain newly developed AMW tactics for evaluation.

1.6.7 Type Commander Standard Operating Procedures (SOPs). Instructions issued by type commanders providing platform specific SOPs. Specific guidance for conducting amphibious evolutions are contained in:

COMNAVSURFLANT/COMNAVSURFPAC-INST 3340.3 Series, “Wet Well Operations”

COMNAVSURFLANT/COMNAVSURFPAC-INST 3840.1 Series, “Joint Surf Manual”

COMNAVSURFPACINST 3120.6 Series/FMFPACO 3120.6 Series, “SOP for AAV Operations”

COMNAVSURFLANT/COMNAVSURFPAC-INST 3000.15/FMFPAC/FMFLANTO 3000.15, “SOP for Raiding Craft”

COMNAVSURFLANT/COMNAVSURFPAC-
INST C3516.22 Series, “LHA Combat System
Capabilities”

COMNAVSURFLANT/COMNAVSURFPAC-
INST C3516.23 Series, “LPH Combat System
Capabilities”

COMNAVSURFLANT/COMNAVSURFPAC-
INST C3516.24 Series, “LPD Combat System
Capabilities”

COMNAVSURFLANT/COMNAVSURFPAC-
INST C3516.27 Series, “LSD 36 Combat Sys-
tem Capabilities”

COMNAVSURFLANT/COMNAVSURFPAC-
INST C3516.28 Series, “LST 1179 Combat Sys-
tem Capabilities”

COMNAVSURFLANT/COMNAVSURFPAC-
INST C3516.29 Series, “LKA Combat System
Capabilities”

COMNAVSURFLANT/COMNAVSURFPAC-
INST C3516.36 Series, “LSD 41 Combat Sys-
tem Capabilities”

COMNAVSURFLANT/COMNAVSURFPAC-
INST C3516.41 Series, “LHD Combat System
Capabilities.”

CHAPTER 2

Organization and Command

2.1 PURPOSE

This chapter provides the organization and command relationships for planning and conducting the ship-to-shore movement.

2.2 ORGANIZATION

The task organization for conducting amphibious operations is determined by the mission and collectively is called the amphibious task force (ATF). The ATF includes naval and landing forces (LFs) with organic aviation and logistic support. The organization of naval forces is discussed in Joint Pub 3-02, "Joint Doctrine for Amphibious Operations" and paragraph 2.3. The organization of Marine Corps forces when used as the LF is discussed in paragraph 2.4. When developing this task organization, special emphasis is given to task grouping for economy of force and coordination between Navy and LF parallel chains of command. Specifically,

1. Limited amphibious shipping dictates that the LF be task organized into echelons. Only the LF units and equipment required to execute the initial assault will be embarked in amphibious shipping.
2. A transport group is formed for each landing area to maintain LF unit integrity to execute the landing plan. It can be subdivided into movement groups/units based on ports of embarkation, individual ship's speed, for mutual protection en route the amphibious objective area (AOA), and when they are required in the landing area.
3. The interrelationship of Navy and LF tasks during the planning and execution of amphibious operations requires the establishment of parallel chains of command with corresponding Navy and LF commanders designated at various echelons for planning, command, control, and coordination. Matters that affect both the Navy and LF are dealt with by the parallel chains of command. Corresponding commanders maintain a close relationship to ensure that, except in an emergency, no commander makes a decision that ultimately affects the corresponding commander without consultation.

4. Establishment of parallel Navy and LF chains of command normally follow the below sequence:

- a. CLF develops the concept of operations ashore and obtains CATF's approval of that concept.
- b. The LF is task organized into tactical combat organizations (RLTs/BLTs) to support CLF's concept of operations ashore.
- c. The sequence of movement ashore of the LF's tactical combat organizations is developed (organization for landing).
- d. CATF establishes a Navy chain of command to parallel each LF tactical combat organization that executes the ship-to-shore movement (surface- and helicopter-borne.)
- e. Each LF tactical combat organization commander establishes a TACLOG Detachment to represent the commander and be collocated with the corresponding Navy commander in the parallel chain of command.

The initial stage of the ship-to-shore movement is characterized by decentralized execution of the landing plan by subordinate commanders with commander, amphibious task force (CATF) and commander, landing force (CLF) maintaining centralized control through their respective control groups. The composition of the ATF and the command relationships established to execute the ship-to-shore movement will be discussed in this chapter. Control groups (the tactical air control group (TACGRU) and Navy control group) and the tactical logistics (TACLOG) group are covered in this chapter to show their organizational relationship within the ATF. Chapters 4, 5, and Appendix J provide a detailed description of each control group and the TACLOG group and their function in the ship-to-shore movement.

2.3 NAVAL FORCES

The Navy officer responsible for the operation and, except during the planning phase, exercising command authority over the ATF to ensure success of the amphibious operation is CATF. CATF maintains overall control of the assault through control groups.

Figure 2-1 shows how the ATF is organized to control the ship-to-shore movement.

2.3.1 Transport Group. The transport group is a subdivision of the ATF, composed of assault shipping which provides support for embarkation, movement, and landing of the LF. If more than one landing area is contained in the AOA a transport group will be formed for each landing area. Transport groups are combat loaded to support the landing plan.

2.3.1.1 Transport Unit. A transport unit is task organized to land troops and equipment for a specific colored beach/landing zone (LZs).

2.3.2 Movement Groups. The ATF may be task organized into movement groups based on ports of embarkation, individual ship's speed, mission, and when they are required to arrive in the landing area. A movement group will include all required screen and logistic support.

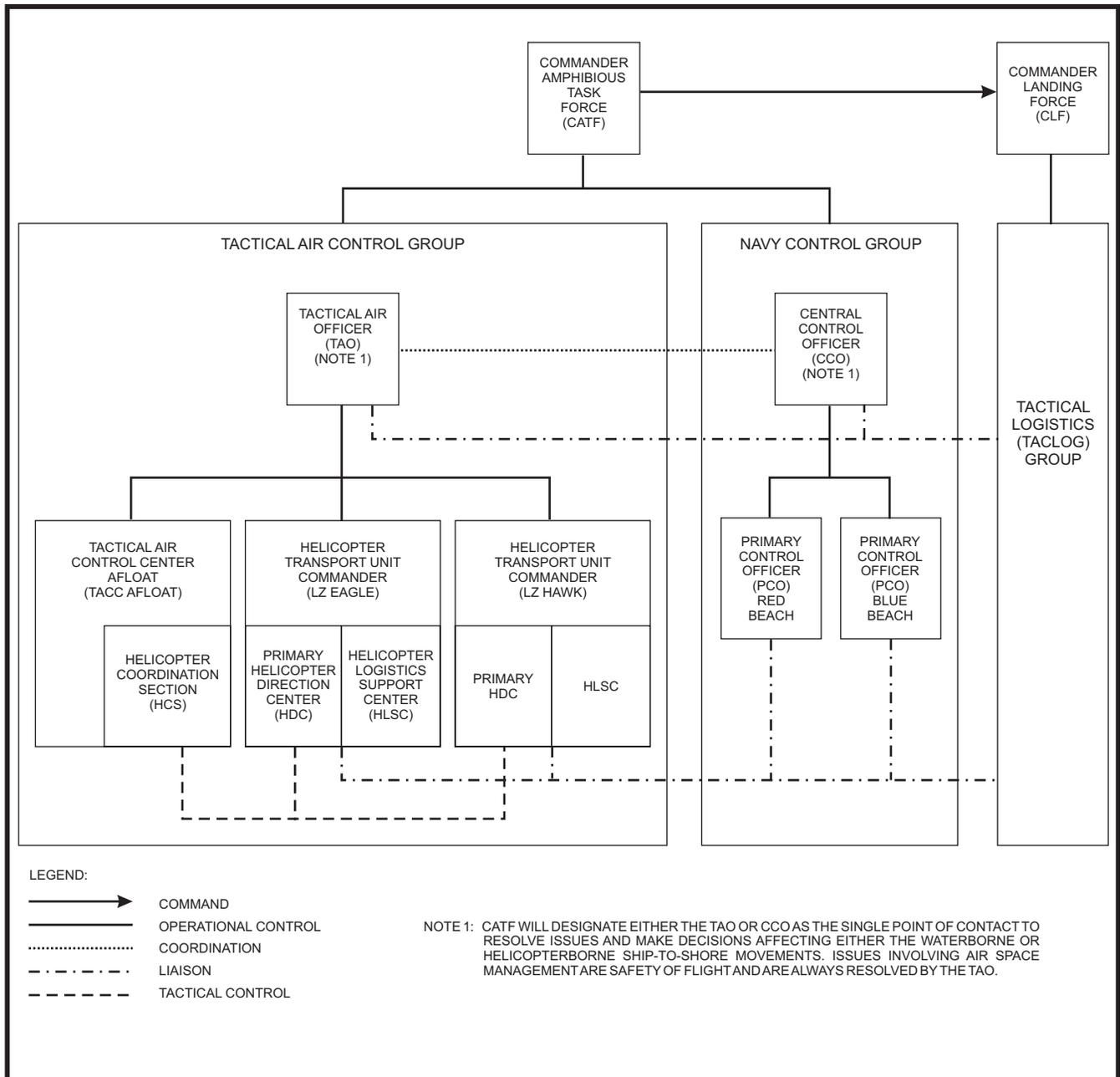


Figure 2-1. Control Organization During the Ship-to-Shore Movement

2.3.3 Control Groups. CATF maintains centralized control of the ship-to-shore movement through the Navy control group and TACGRU. The ship-to-shore movement of a large LF may involve multiple colored beaches and LZs. Depending on the size of the amphibious operation and location of beaches and LZs, several control units may be organized to provide precise control functions. A central control officer (CCO) and tactical air officer (TAO) plan and conduct the waterborne and helicopterborne assaults. If several colored beaches are specified in the landing plan, the CCO will designate a primary control officer (PCO) at each colored beach for coordination and control of the waterborne assault. For planning the air assault the TAO is assisted by the helicopter coordination section officer (HCSO). The HCSO is generally the officer-in-charge of the helicopter coordination section (HCS) of the tactical air control center afloat (TACC afloat). If several LZs are specified in the landing plan, the TAO will designate a primary helicopter direction center (HDC) to provide air traffic control of the helicopterborne assault into each LZ.

2.3.3.1 Control of Waterborne Assault. The waterborne ship-to-shore movement from assault shipping to colored beaches is controlled by the Navy control group. Organization of this group is based on the location and number of beaches. Chapter 4 provides a detailed discussion of the waterborne ship-to-shore movement and its control organization, the Navy control group.

2.3.3.2 Control of Helicopterborne Assault. The helicopterborne ship-to-shore movement from assault shipping into LZs is controlled by the TACGRU. CATF controls all air operations in the AOA through the TACC afloat. Air traffic control functions for the helicopterborne ship-to-shore movement are delegated from the HCS of the TACC afloat to primary HDCs, the air traffic control agency for helicopter transport group/unit commanders. Chapter 5 provides a detailed discussion of the helicopterborne ship-to-shore movement and its control organization, the TACGRU.

2.3.3.3 Concept of Control. CATF exercises centralized control of the ship-to-shore movement through control groups and by decentralizing the execution to subordinate commanders. Each control group provides the positive control functions and coordination with supporting arms that is necessary to conduct their part of the ship-to-shore movement. CLF establishes three temporary LF organizations, the TACLOG group, landing force support party (LFSP), and helicopter support team (HST) to facilitate and influence the ship-to-shore movement

and keep advised of the progress of the assault. Liaison is maintained between the Navy control organization and TACLOG group to resolve any conflicts involving the waterborne and helicopterborne ship-to-shore movements. Appendix J, K, and L provide a detailed discussion of the TACLOG group, LFSP, and HST respectively.

2.3.4 Naval Beach Group (NBG). The NBG is a permanently organized command which provides beachmaster units (BMUs), amphibious construction battalions (PHIBCBs), and displacement/air cushion assault craft units (ACUs) to the ATF to support the landing of a Marine Expeditionary Force (MEF). It provides Navy elements to CATF and CLF in support of the waterborne ship-to-shore movement and LFSP operations. During maritime prepositioning force (MPF) operations, commander NBG becomes commander naval support element (NSE) and directs the naval cargo handling and port group (NAVCHAPGRU) element. Detailed information on the NBG is provided in NWP 22-5, "The Naval Beach Group."

2.3.4.1 Beachmaster Unit (BMU). The BMU conducts beach party operations to facilitate the landing and movement of troops, equipment, and supplies across the beach and the evacuation of casualties and prisoners of war. Beach party functions are discussed in Appendix K.

2.3.4.2 Amphibious Construction Battalion (PHIBCB). The PHIBCB provides causeways, fuel systems, and limited construction, such as beach improvements and egress routes, in support of beach party operations.

2.3.4.3 Assault Craft Unit (ACU). The ACU provides displacement landing craft and landing craft air cushion (LCAC) to the ATF for the ship-to-shore movement, general off load, MPF or military sealift command (MSC) operations, withdrawal, and backload operations.

2.4 LANDING FORCE (LF)

The LF is the highest troop echelon in the ATF and encompasses the entire Marine air-ground task force (MAGTF). The MAGTF is structured and equipped to conduct expeditionary operations and defend advance naval and air bases. It is composed of: the command element (CE), ground combat element (GCE), aviation combat element (ACE), and combat service support element (CSSE) under a single commander who has the command and control assets to direct the force. MAGTFs can be task organized to any size, but normally are a MEF, Marine

Expeditionary Force(Forward) (MEF(FWD)), Marine Expeditionary Unit (MEU), or special purpose force (SPF). These tailored forces are able to exploit the combat power inherent in closely integrated air-ground operations. CLF has operational command of the LF. Marine Corps forces used in amphibious

operations are provided from the Fleet Marine Force (FMF) which is a balanced force of combined arms comprising land, air, and service support elements. Figure 2-2 shows the MAGTF organization. These elements and organizations will be explained further in this chapter.

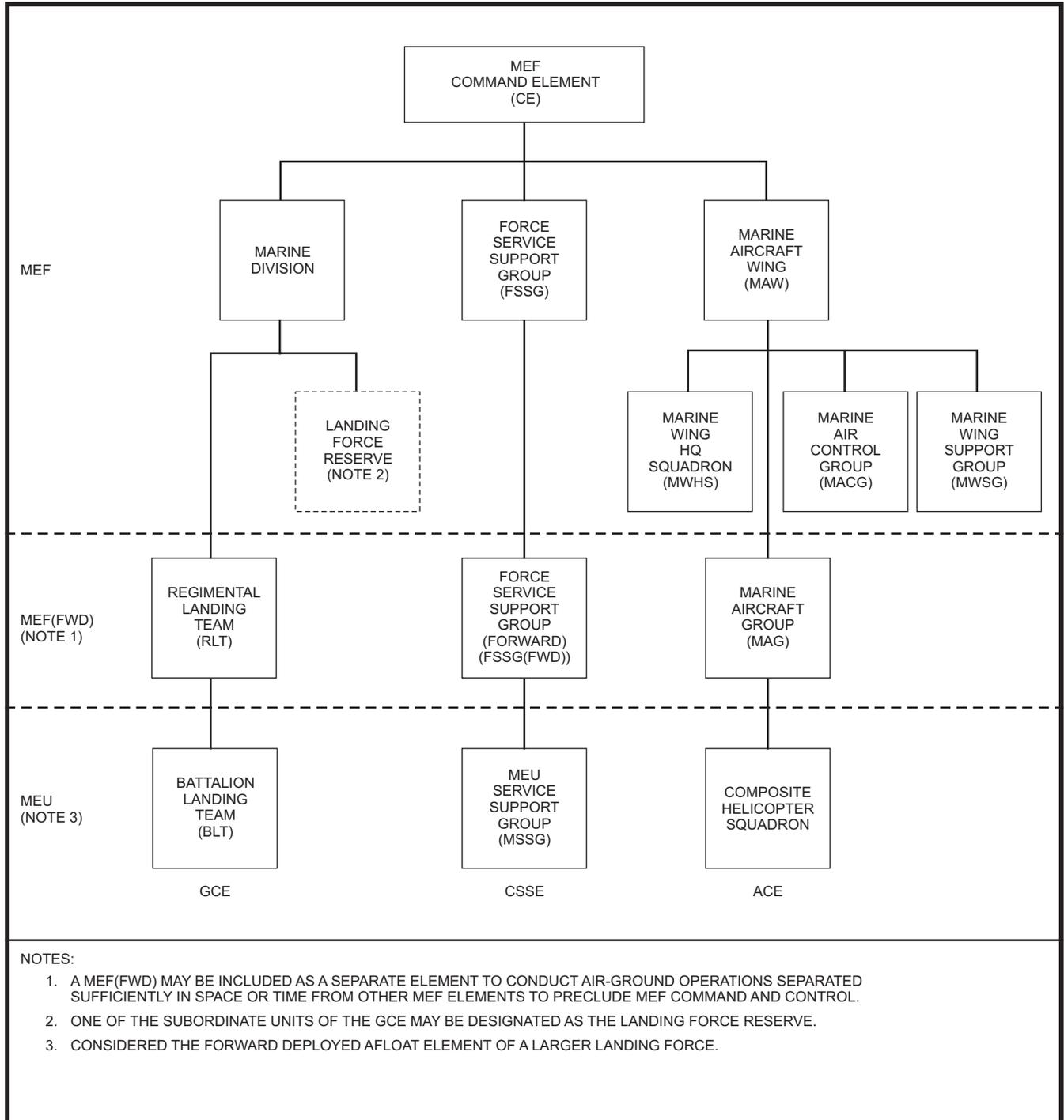


Figure 2-2. Marine Air-Ground Task Force (MAGTF) Organization

2.4.1 Command Element (CE). The CE is the MAGTF headquarters. It is a permanent organization composed of the commander, general or executive and special staff sections, the headquarters section, and the requisite communications and service support facilities. The CE provides the command, control, and coordination that is essential for effective planning and execution of operations by the other three elements of the MAGTF. The CE staff liaisons with higher, adjacent, and supporting commands.

2.4.2 Ground Combat Element (GCE). The GCE is task organized to conduct ground combat operations. It is constructed around an infantry combat unit and varies in size from a reinforce infantry battalion to one or more Marine divisions. The GCE also includes appropriate combat support and combat service support (CSS) units. It is generally through the GCE that the MAGTF generates combat power through the use of firepower and mobility. Normally, there is only one GCE in a MAGTF. However, in large scale operations (more than one MEF) multiple GCEs may be employed.

2.4.2.1 Division. The Marine division is a balanced force of combat and combat support units organized and equipped to conduct sustained combat operations with or without reinforcement.

2.4.2.2 Regimental Landing Team (RLT). The RLT is a task organization composed of an infantry regiment reinforced by combat support and CSS units. The RLT may be employed as an integral part of a division or as a semi-independent or independent maneuver unit.

2.4.2.3 Battalion Landing Team (BLT). The BLT is a task organization composed of an infantry battalion reinforced by combat support and CSS units. The BLT may be employed as an integral part of the RLT or as a semi-independent or independent maneuver unit.

2.4.3 Aviation Combat Element (ACE). The ACE is task organized to provide all or a portion of the functions of Marine Corps aviation based on the tactical situation and the MAGTF's mission and size. These functions are air reconnaissance, antiair warfare (AAW), assault support, offensive air support, electronic warfare (EW), and control of aircraft and missiles. The ACE is organized around an aviation headquarters and varies in size from a reinforced helicopter squadron to one or more Marine aircraft wings (MAWs). It includes command and air control agencies, combat, combat support, and CSS units. Normally, there is only one ACE in a MAGTF.

As the ship-to-shore movement progresses and CLF assumes responsibility for air operations, he exercises control through facilities established ashore by the ACE. Chapter 5 discusses these facilities in detail.

2.4.4 Combat Service Support Element (CSSE). The CSSE is task organized to provide the full range of CSS necessary to accomplish the MAGTF mission. This CSS includes supply, maintenance, deliberate engineering, transportation, and health services. The CSSE can vary in size from a MEU service support group (MSSG), force service support group (forward) (FSSG(FWD)), or one or more force service support group (FSSG). Normally, there is only one CSSE in a MAGTF. The development of CSS areas (CSSAs) ashore to support the LF during the initial stage of an amphibious assault is accomplished by the LFSP.

2.4.5 Landing Force Support Party (LFSP). The LFSP is a temporary LF organization established to provide the LF with initial combat support and CSS during the ship-to-shore movement until relieved by the CSSE. Its mission is to:

1. Facilitate the landing and movement of troops, equipment, and supplies across beaches and into landing zones (LZs), ports, and airfields
2. Assist in the evacuation of casualties and prisoners of war
3. Assist in the beaching and retraction of landing ships, landing craft, amphibious vehicles, and salvage of landing craft and amphibious vehicles
4. Facilitate the establishment of the CSSE, ACE, and NBG ashore.

Appendix K discusses the organization and functions of the LFSP.

2.4.6 Tactical Logistics (TACLOG) Group. The TACLOG group is a temporary LF organization which advises the CLF and Navy control organization of LF requirements during the ship-to-shore movement and assists in expediting the landing of personnel, equipment, and supplies in accordance with the ATF landing plan. TACLOG detachments are collocated with CATF and CLF, the TAO or CCO, PCOs, and helicopter transport group unit commander(s). Appendix J discusses the organization and functions of the TACLOG group.

2.4.7 Marine Expeditionary Force (MEF). The MEF is a MAGTF built around a division, MAW, and FSSG with 60 days of sustainability. It is tailored for any intensity of combat and any geographic environment. The MEF is the largest (50,000 marines and sailors) and most powerful MAGTF and is commanded by a general officer.

2.4.7.1 GCE. The GCE of a MEF is normally a Marine division reinforced with appropriate combat support and CSS units. In a MEF, however, the GCE may consist of multiple reinforced infantry divisions under a single GCE commander. A MEF may include an organic MEF(FWD) or MEU for employment as a landing group to conduct operations separated sufficiently in time or distance from other MEF elements or to temporarily commit a MEF(FWD) or MEU when the MEF is the follow-on force. These operations would normally be of limited duration.

2.4.7.2 ACE. The ACE of a MEF is a MAW task organized for command and control, helicopter transport, tactical air, and AAW operations. In a MEF, however, the ACE may consist of multiple MAWs under a single ACE commander. It is organized for the early establishment ashore of its control agencies.

2.4.7.3 CSSE. The CSSE of a MEF is the FSSG. It is structured to support a one-division and one-wing MAGTF. The FSSG will itself be task organized as all organic units may not be required or augmentation from another FSSG may be required to meet the CSS requirements for an additional division or wing.

2.4.8 Marine Expeditionary Force(Forward) (MEF(FWD)). A MEF(FWD) is a MAGTF built around a reinforced infantry regiment, a Marine aircraft group (MAG), and a FSSG(FWD) with 30 days of sustainability. During crisis situations, a MEF(FWD) can be forward deployed afloat for extended periods to provide immediate response. The MEF(FWD) conducts amphibious assault operations of limited scope and is normally the precursor of a MEF. It consists of 8,000-18,000 marines and sailors and is commanded by a general officer.

2.4.8.1 GCE. The GCE of a MEF(FWD) is normally an RLt.

2.4.8.2 ACE. The ACE of a MEF(FWD) is normally a MAG. It has substantially more aviation capabilities than a MEU. It contains command and control facilities, AAW capabilities, including light antiaircraft missile (LAAM) battalions, and is organized for the early establishment ashore of its control agencies.

2.4.8.3 CSSE. The CSSE of a MEF(FWD) is the FSSG(FWD) which is task organized from the FSSG.

2.4.9 Marine Expeditionary Unit (MEU). A MEU is a MAGTF built around a BLT, a composite helicopter squadron, and an MSSG with 15 days of sustainability. It is not envisioned that a MEU will routinely conduct amphibious assault operations. It is considered the forward deployed afloat element of a larger LF, such as a MEF(FWD). It is special operations capable (SOC) and conducts limited combat or immediate reaction operations such as noncombatant evacuation operations (NEO), limited objective attacks, and raids. It consists of 1,800 - 4,000 Marines and sailors and is commanded by a colonel.

2.4.9.1 GCE. The GCE of a MEU is normally a BLT.

2.4.9.2 ACE. The ACE of a MEU is normally a composite helicopter squadron reinforced with fixed-wing (V/STOL and observation) aircraft. The ACE does not normally contain aviation resources to conduct active air defense of the landing area. However, it does possess a low altitude air defense (LAAD) stinger surface-to-air missile (SAM) capability for area defense.

2.4.9.3 CSSE. The CSSE of a MEU is the MSSG which is task organized from the FSSG.

2.4.10 Special Purpose Force (SPF). The SPF is a MAGTF that deploys by air or sea in self-contained and self-sustained increments tailored for specific contingencies. It provides a rapid employment of combat forces into an area of operations with five days of sustainability. The air contingency and air alert battalions are an example of an SPF.

2.4.11 Marine Air-Ground Task Force (MAGTF) Movement. Strategic lift constraints and tactical considerations dictate that some MAGTFs be echeloned into the landing area. For embarkation and movement, MEUs are employed as single units, except that fixed-wing aviation, when included, may be deployed by air. The MEF and MEF(FWD) are divided into two echelons:

1. Assault echelon (AE)
2. Assault follow-on echelon (AFOE).

2.4.11.1 Assault Echelon (AE). The AE is the element of a force that is scheduled for initial assault in the landing area. It includes those units that arrive in the landing area on or before D-day in assault

shipping, air transported units such as airborne forces, self deploying aircraft, and air transported support units.

2.4.11.2 Assault Follow-on Echelon (AFOE).

In amphibious operations, that echelon of the assault troops, vehicles, aircraft, equipment, and supplies which, though not needed to initiate the assault, is required to support and sustain the assault. In order to accomplish its purpose, it is normally required in the landing area no later than five days (D+4) after commencement of the assault landing. Because sufficient amphibious shipping is not available, a portion or all of the AFOE may be transported in MSC shipping designated as assault shipping. The AFOE may arrive on a time schedule, with some elements required as early as D-day, or remain in a specified operating area until called forward by CATF as requested by CLF. A portion of the AFOE may include air-deployable personnel to assemble with their equipment carried on MPF ships. Assault shipping assigned to the AFOE reports to CATF for operational control on arrival at ports of embarkation.

2.4.12 Follow-up Forces. Although not a part of the LF, planning for follow-up forces must be accomplished by CATF and CLF. Follow-up personnel, equipment, and supplies may be transported by sea, air, or a combination of these means to provide forces for reinforcement, subsequent operations ashore, or base development. On arrival in the AOA, follow-up forces and shipping report to CATF for operational control.

2.5 COMMAND RELATIONSHIPS

Command relationships described in this section pertain to the planning and execution of the ship-to-shore movement.

2.5.1 Amphibious Task Force (ATF) and LF Commanders. Once the LF is embarked in the ATF, CATF assumes full responsibility for the ATF and the operation. CLF, subject to CATF's command authority, is responsible for the conduct of operations ashore. To carry out these responsibilities, parallel chains of command are established by CATF and CLF with corresponding Navy and LF commanders designated at each tactical echelon which create special requirements for consultation. No significant decision by either commander that affects the plans, disposition, or intentions of the other should be made without consulting the commander concerned. Changes to the ATF landing plan will be made only after consultation between and concurrence by both commanders.

2.5.2 Attack Group and Landing Group. It may be necessary to form attack groups and landing

groups as subordinate parallel task groups within the ATF when:

1. Simultaneous or nearly simultaneous assaults are conducted in landing areas so widely separated as to preclude effective control by a single tactical commander.
2. The size of the force involved precludes effective centralized control.

2.5.2.1 Attack Group. The attack group is a subordinate task organization of the naval force. It contains assault shipping and supporting naval units organized to transport, protect, land, and support a landing group.

2.5.2.2 Landing Group. The landing group is a subordinate task organization of the LF capable of conducting landing operations, under a single tactical commander, against a position or group of positions.

2.5.2.3 Command Authority. Under certain conditions an attack group commander may be delegated command authority over a corresponding landing group commander. This authority will be delegated by CATF during the planning phase after consultation with CLF. The command relationship between an attack group commander and landing group commander is then essentially the same as between CATF and CLF. Figure 2-3 shows the command relationships when CLF retains command of a landing group and Figure 2-4 shows the command relationship when command of a landing group is delegated to the attack group commander by CATF.

2.5.3 Ship's Commanding Officer (CO) and CO of Troops. The CO of a ship transporting troops exercises command authority over all persons embarked as prescribed by Navy Regulations. While embarked, troop administration is a function of the CO of troops, subject to regulations from the ship's CO.

2.5.4 Relationship Between Ship's CO and Embarked Helicopter Units. Paragraph 5.3.1 discusses this relationship.

2.5.5 Command of LFSP. CLF exercises command over the LFSP. CATF directs NBG elements to form the beach party and to report to CLF for planning. Operational control of the beach party may be passed to the CLF at this time. CLF, in turn, passes operational control of the beach party to the LFSP commander. Navy beach party commanders, as subordinates of the LFSP, retain command of Navy units ashore. For further information, see NWP 22-5 and Appendix K.

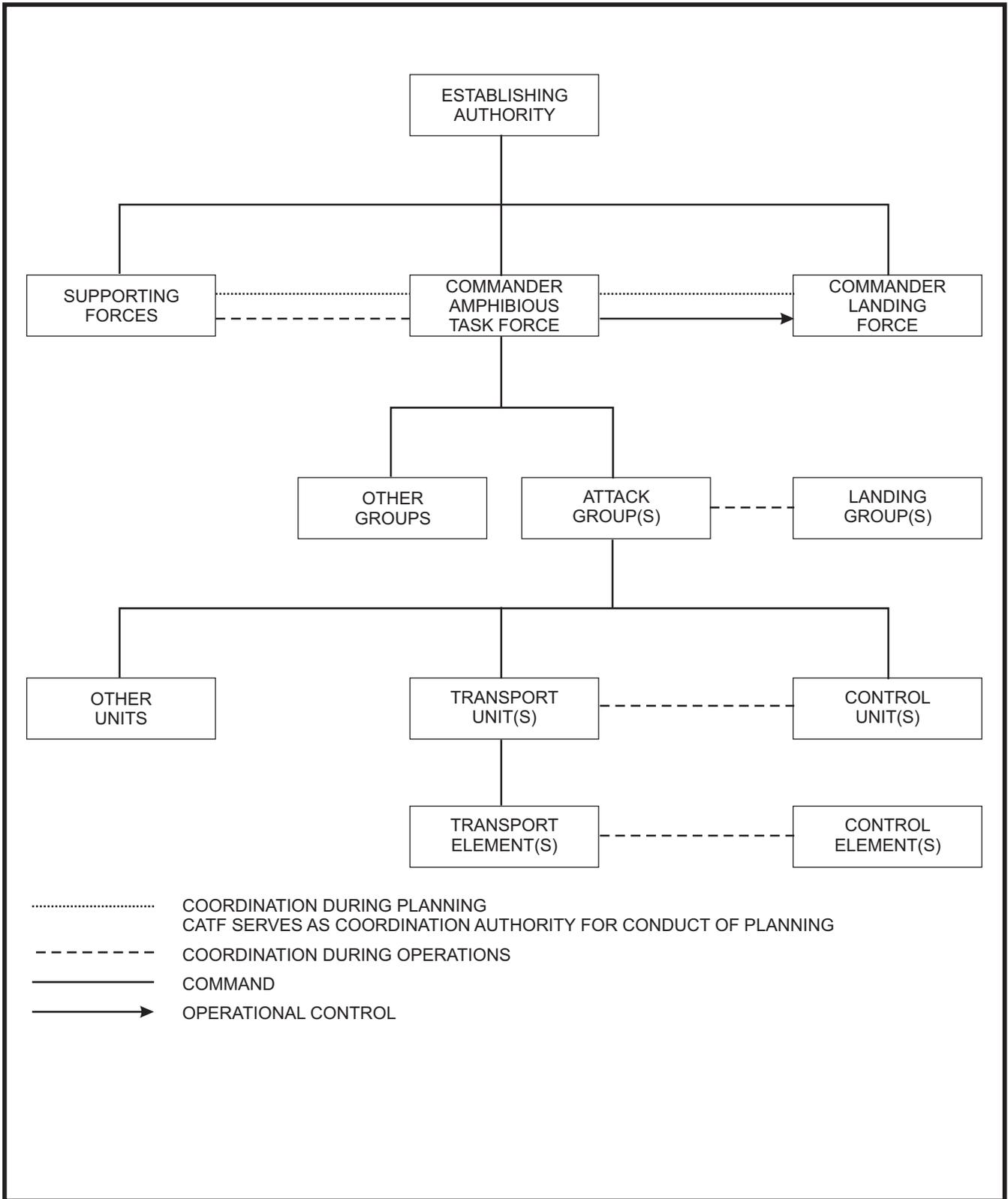


Figure 2-3. Attack Group and Landing Group Relationships When Commander, Landing Force (CLF) Retains Command

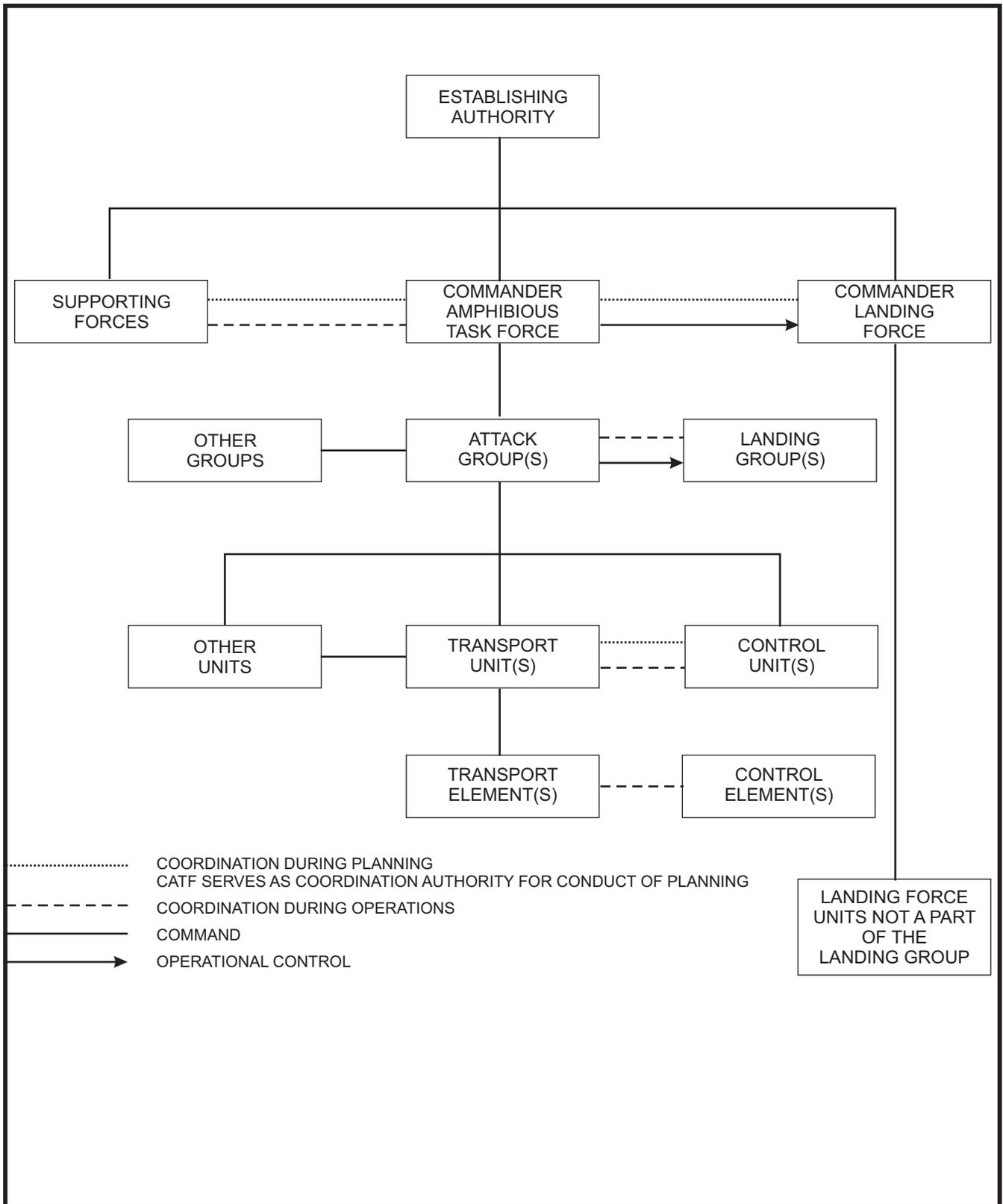


Figure 2-4. Attack Group and Landing Group Relationships When Command is Delegated

CHAPTER 3

Planning

3.1 PURPOSE

This chapter covers the planning process for the ship-to-shore movement and how the amphibious objective area (AOA) and landing area are organized to facilitate amphibious operations.

3.2 BACKGROUND

Detailed planning for the ship-to-shore movement begins after the landing force (LF) concept of operations ashore is approved by commander, amphibious task force (CATF). The ship-to-shore movement plan is the integrated sum of detailed plans, tables, diagrams, and schedules that are prepared by Navy and LF commanders. These documents provide the instructions for conducting the ship-to-shore movement and they are issued by CATF and commander, landing force (CLF) as an appendix to the amphibious operations annex of the operation order (OPORD), message OPORD supplements, or an APP-4, "Allied Tactical Messages (U)," formatted message such as the operational tasking amphibious (OPTASK AMPHIB). The ship-to-shore movement plan is integrated with the plan for supporting fire and provides for the requisite combat service support (CSS) to the LF during the early stages of the assault. Altogether the documents composing the ship-to-shore movement, supporting fire, and CSS constitute the amphibious task force (ATF) landing plan. This chapter details the planning sequence CATF and CLF follow in order to land troops, equipment, and supplies at prescribed times and places and in the organization for landing required to support the LF scheme of maneuver ashore. The naval landing plan (contained in CATF's OPORD) and the LF landing plan (contained in CLF's OPORD) will be developed and each document will be explained relative to its contribution in developing the ship-to-shore movement plan. The organization of the landing area is discussed to show the inter-relationship between the planning process and the establishment of operating areas and control stations to systematically and efficiently conduct amphibious operations. Doctrine and terminology in this chapter provide the basic building blocks for planning amphibious operations involving over-the-horizon (OTH) assaults, underway launches of waterborne and helicopterborne assault waves, and offloading the LF from anchorages in a near shore assault.

3.3 PLANNING PROCESS

Developing the ship-to-shore movement plan is a synergistic effort that relies on a systematic approach to planning and adherence to doctrine. The planning process involves coordination between all levels of the parallel chains of command established to support CATF and CLF. Commander's guidance, based on the LF concept of operations ashore, is provided to subordinate commanders. The means to land the LF are tabulated and apportioned. Subordinate commanders prepare individual plans, tables, schedules, and diagrams for approval and consolidation into the naval and LF landing plans.

3.3.1 Planning Sequence. The ATF landing plan is developed in the following sequence:

1. CATF approves the LF concept of operations ashore.
2. CATF issues a planning directive specifying the principal plans that are to be developed and a plan of action and milestones. It includes:
 - a. Mission statement
 - b. Commander's analysis
 - c. Assumptions
 - d. Means available
 - e. Proposed courses of action
 - f. Operational security (OPSEC) guidance
 - g. Coordinating instructions.
3. CLF provides commander's guidance and publishes an outline plan; subordinate commanders issue outline plans using those of the next higher command as a guide.
4. Subordinate commanders submit LF requirements and recommendations to the next higher command.
5. Subordinate commanders determine naval requirements.
6. CATF consolidates LF and naval requirements.
 - a. Using consolidated requirements, the number of amphibious ships, military sealift

command (MSC) ships, helicopters, landing craft, and amphibious vehicles required to support the operation is determined.

b. Available means are assigned and LF requirements are incorporated.

c. If the means available do not satisfy the requirements, the commander concerned requests additional means. If not provided, the commander adjusts the plan accordingly or another concept of operations ashore is developed.

7. Subordinate commanders prepare naval and LF ship-to-shore movement documents after the final allocation of means. These documents are coordinated and approved by CATF and CLF and become the naval and LF landing plans.

8. CATF and CLF coordinate CSS and supporting fire planning with ship-to-shore movement planning.

9. The ATF landing plan is the naval and LF landing plans integrated with CSS and supporting fire.

3.3.1.1 Naval Planning. Naval planning for the ship-to-shore movement focuses on developing the unloading, landing control, and medical regulating (MEDREG) plans. These plans are summarized in paragraphs 3.3.1.1.1 through 3.3.1.1.3 and are explained in detail later in this chapter.

3.3.1.1.1 Unloading Plan. The unloading plan establishes the sequence and designates the means for offloading the LF from assault shipping to achieve the proper formation for landing. The debarkation schedule and heliteam wave and serial assignment table are the principal documents developed to achieve this.

3.3.1.1.2 Landing Control Plan. The landing control plan organizes the landing area into operating and control areas to:

1. Regulate and deconflict assault shipping movements
2. Launch landing craft, amphibious assault vehicles (AAVs), and helicopters
3. Establish control areas, points, and stations for directing the waterborne and helicopterborne ship-to-shore movements

4. Provide operating areas for supporting forces protecting the landing area and involved in the assault.

Principal documents comprising this plan are listed in paragraph 3.4.1.13.

3.3.1.1.3 Medical Regulating (MEDREG) Plan. The MEDREG plan allocates ATF assets to transport and provide triage, medical, and surgical care for combat casualties. Appendix G discussed the MEDREG process in detail.

3.3.1.2 Landing Force (LF) Planning. LF planning for the ship-to-shore movement focuses on developing the sequence and organization for landing. This is a synergistic process as the LF landing plan is the integration of naval and LF waterborne and helicopterborne ship-to-shore movement plans into a single coordinated plan that provides for the rapid build up of combat power ashore with the requisite CSS for sustained combat operations. To achieve this goal the LF develops the sequence and organization for landing by:

1. Allocating or specifying landing means to subordinate commanders based on availability and in accordance with the LF concept of operations ashore.
2. Allocating blocks of serial numbers to subordinate commanders.
3. Determining the relative landing priorities of the LF.
4. Tasking the ground combat element (GCE) commander to prepare landing plans based on assigned tasks and priorities.
5. Correlating and consolidating subordinate landing plans into the LF landing plan.

3.3.1.2.1 Planning Coordination. Appropriate plans, tables, diagrams, and schedules are included in the LF landing plan. These documents are coordinated with naval plans for coordination of movement in the landing area.

3.3.2 Troop and Equipment Categories. For planning the ship-to-shore movement, LF troops and supplies are arranged in five movement categories:

1. Scheduled waves
2. On-call waves

3. Nonscheduled units
4. Prepositioned emergency supplies
5. Remaining LF supplies.

3.3.2.1 Scheduled Waves. Scheduled waves have their time, place, and formation for landing predetermined. They consist of helicopters, landing craft, or AAVs carrying serialized assault troops and their initial CSS ashore.

After waterborne waves cross the line of departure (LOD)/landing craft air cushion (LCAC) departure point (CDP) and helicopterborne waves leave the departure point, the landing of scheduled waves normally proceeds without change in order to maintain the momentum of the assault and provide for the rapid build up of combat power ashore. Waterborne waves land in accordance with the assault schedule (paragraph 3.4.2.8). Helicopterborne waves proceed in accordance with the helicopter employment and assault landing table (HEALT) (paragraph 3.4.2.13).

3.3.2.2 On-Call Waves. On-call waves are those elements of the LF whose need ashore early in the landing is expected, but the time and place of landing cannot be accurately predetermined. They are subject to immediate or emergency call and are positioned to be readily available after H-hour. On-call waves consist of serialized combat units, combat support units, and CSS and are requested by tactical commanders ashore through the tactical logistics (TACLOG) group. Helicopterborne on-call waves are positioned aboard ship. Waterborne on-call waves remain aboard ship for delivery by static or underway launch or are positioned at the LOD in landing craft. If adequate numbers of landing craft are not available, on-call serials may wait aboard ship for a subsequent trip by landing craft. When the tactical situation ashore and hydrographic conditions permit, landing ships, landing craft, and AAVs may land on-call waves.

To preserve the high-priority status of on-call waves, their number is kept to a minimum. Waterborne on-call waves are listed in the assault schedule. Helicopter on-call waves are listed in the HEALT.

3.3.2.3 Nonscheduled Units. Nonscheduled units are the remaining serialized units of the LF assault echelon (AE), with their CSS, whose landing is expected before general unloading begins. The need for nonscheduled units ashore is usually not an immediate or emergency requirement. They are

landed when requested by tactical commanders through the TACLOG group and they may be landed before on-call waves are completed, if required.

Each subordinate LF commander prepares a landing sequence table for nonscheduled units. These tables prioritize nonscheduled units order of landing. If it is planned to land CSS, Navy, or aviation elements across a beach before the nonscheduled units landing is completed, CLF will inform the GCE commander of these units with their priority so they can be listed in the GCE commander's landing sequence table.

The GCE commander's landing sequence table is forwarded to CLF for consolidation. CLF prepares a LF landing sequence table which consolidates all nonscheduled units, including combat support, CSS, and aviation units.

3.3.2.4 Prepositioned Emergency Supplies. Prepositioned emergency supplies are designated by CLF to meet expected critical needs for CSS replenishment early in the ship-to-shore movement. These serialized supplies, available for immediate delivery ashore, are organized into floating dumps and prestaged helicopter-lifted supplies.

3.3.2.4.1 Floating Dumps. Because of the limited amount of CSS landed with assault units, it is necessary to begin replenishing supplies ashore early in the assault. Tactical CSS requirements are met by establishing floating dumps in the proximity of the LOD. Floating dumps consist of preplanned, balanced loads of supplies, such as ammunition, water, lubricants, etc., that are boated in landing craft. They minimize the time that critically needed supplies can be brought to the beach and when used they can be reconstituted. Floating dumps are landed when requested by a tactical commander through the TACLOG group, and are listed in the landing craft employment plan (paragraph 3.4.1.3) and landing craft and amphibious vehicle assignment table (paragraph 3.4.2.3).

3.3.2.4.2 Prestaged Helicopter-Lifted Supplies. Similar in purpose to floating dumps, prestaged helicopter-lifted supplies are positioned aboard helicopter capable ships. These serialized supplies can be delivered to either helicopterborne or surfaceborne units. They are requested by a tactical commander ashore through the TACLOG group and are listed in the heliteam wave and serial assignment table (paragraph 3.4.2.11).

3.3.2.5 Remaining LF Supplies. Remaining LF supplies are serialized and consist of replenishment

supplies and equipment not included in a unit commander's prescribed loads, floating dumps, or prestaged helicopter-lifted supplies. These supplies are listed in embarkation documents and constitute the major portion of CSS transported into the landing area with the AE and assault follow-on echelon (AFOE). Certain supplies are selectively offloaded to maintain dump levels ashore, however, the bulk of remaining LF supplies are landed during general unloading.

3.4 PREPARATION OF DOCUMENTS

A number of documents are prepared by Navy and LF commanders to plan the ship-to-shore movement. Figure 3-1 lists these documents. Figure 3-2 illustrates the preparation sequence and relationship between each document prepared by Navy and Figures 3-3 and 3-4 show LF documents for waterborne and helicopterborne assaults respectively. These documents are described in the following paragraphs.

3.4.1 Documents Prepared by Navy. Some or all of these documents may be included in the OPOD/OPTASK AMPHIB.

3.4.1.1 Naval Landing Plan. The naval landing plan organizes the landing area for the ATF to conduct and control the ship-to-shore movement, offload the LF, and provide for MEDREG. It consists of the unloading, landing control, and MEDREG plans and other naval documents prepared to support LF planning. Figure 3-5 contains the format for the naval landing plan.

3.4.1.2 Landing Craft Availability Table. The landing craft availability table lists the type and number of landing craft available from each ship of the transport group, categorized by total landing craft required for naval and LF use. This table is the basis for landing craft assignment to the ship-to-shore movement. It is prepared by the central control officer (CCO). An example of a landing craft availability table is depicted in Figure 3-6.

Prepared by Navy	
Naval Landing Plan (Figure 3-5)	Approach Schedule (Figure 3-10)
Landing Craft Availability Table (Figure 3-6)	Assault Wave Diagram (Figure 3-11)
Landing Craft Employment Plan (Figure 3-7)	Landing Area Diagram (Figure 3-12)
Debarkation Schedule (prepared jointly by ship's CO and CO of troops) (Figure 3-8)	Transport Area Diagram (Figure 3-13)
Ship's Diagram (Figure 3-9)	Beach Approach Diagram (Figure 3-14)
Pontoon Causeway Plan	Sea Echelon Area (Figure 3-15)
Unloading Plan	Landing Control Plan
	Medical Regulating Plan
Prepared by Landing Force	
LF Landing Plan (Figure 3-16)	Helicopter Availability Table (Figure 3-26)
Amphibious Vehicle Availability Table (Figure 3-17)	Heliteam Wave and Serial Assignment Table (Figure 3-27)
Landing Craft and Amphibious Vehicle Assignment Table (Figure 3-18)	Helicopter Enplaning Schedule
Landing Diagram (Figure 3-19)	Helicopter Landing Diagram (Figure 3-28)
LF Serial Assignment Table (Figure 3-20)	Helicopter Employment and Assault Landing Table (HEALT) (Figure 3-29)
Landing Priority Table (Figure 3-22)	GCE Landing Plan (Figure 3-30)
LF Landing Sequence Table (Figure 3-23)	Consolidated Landing and Approach Plan (Figure 3-31)
Assault Schedule (Figure 3-24)	ACE/LF Aviation Landing Plan (Figure 3-32)
Amphibious Vehicle Employment Plan (Figure 3-25)	

Figure 3-1. Listing of Ship-to-Shore Movement Documents

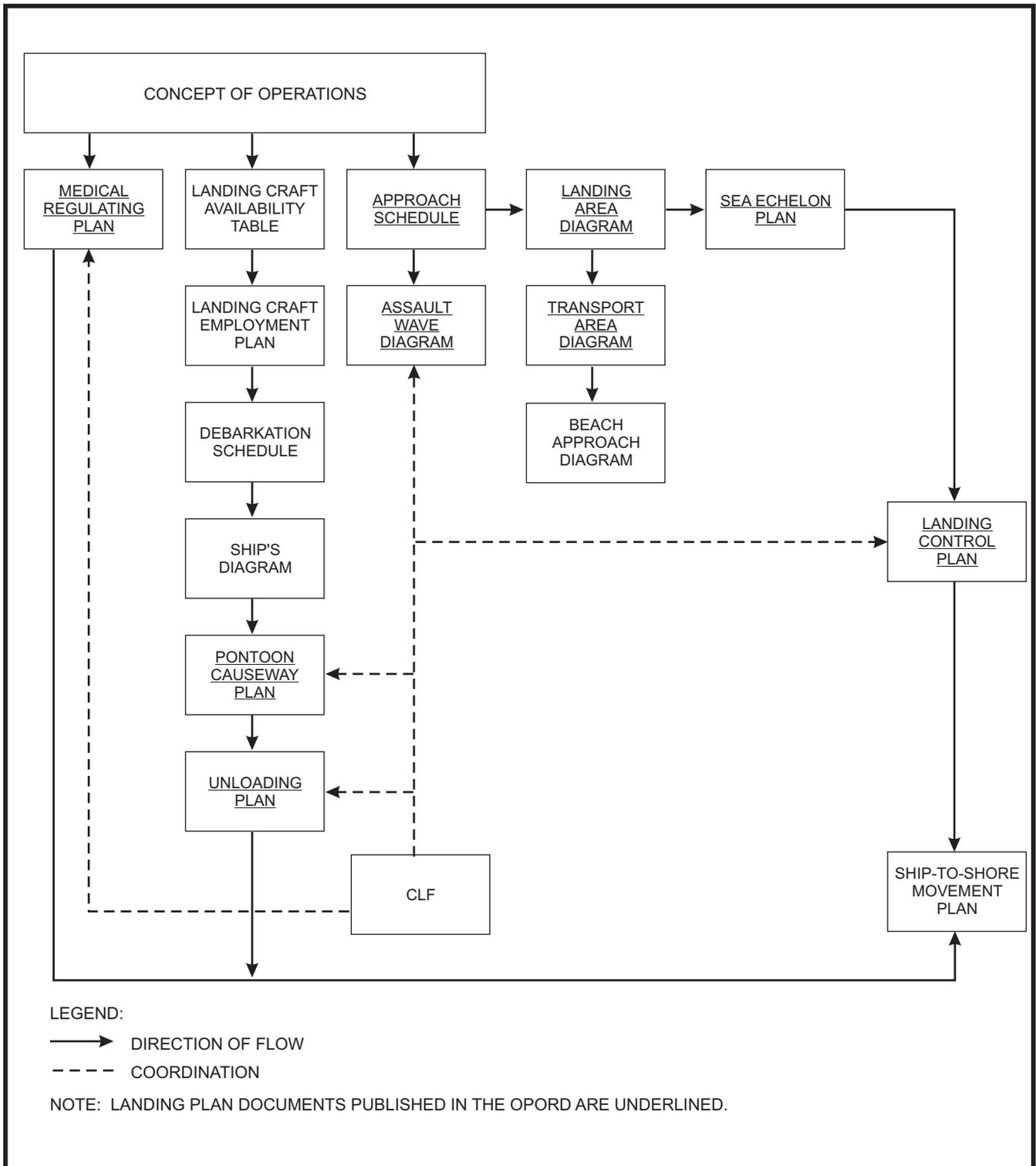


Figure 3-2. Navy Planning Responsibilities and Sequence

3.4.1.3 Landing Craft Employment Plan. The landing craft employment plan specifies the movement of landing craft to satisfy naval and LF requirements. It indicates: number of landing craft, type, parent ship, ships they will report to, time they will report, and the

period attached. It allocates landing craft for pre-H-hour transfers, scheduled and on-call waves (in accordance with the landing diagram), and naval use. This plan is prepared by the CCO. An example of a landing craft employment plan is depicted in Figure 3-7.

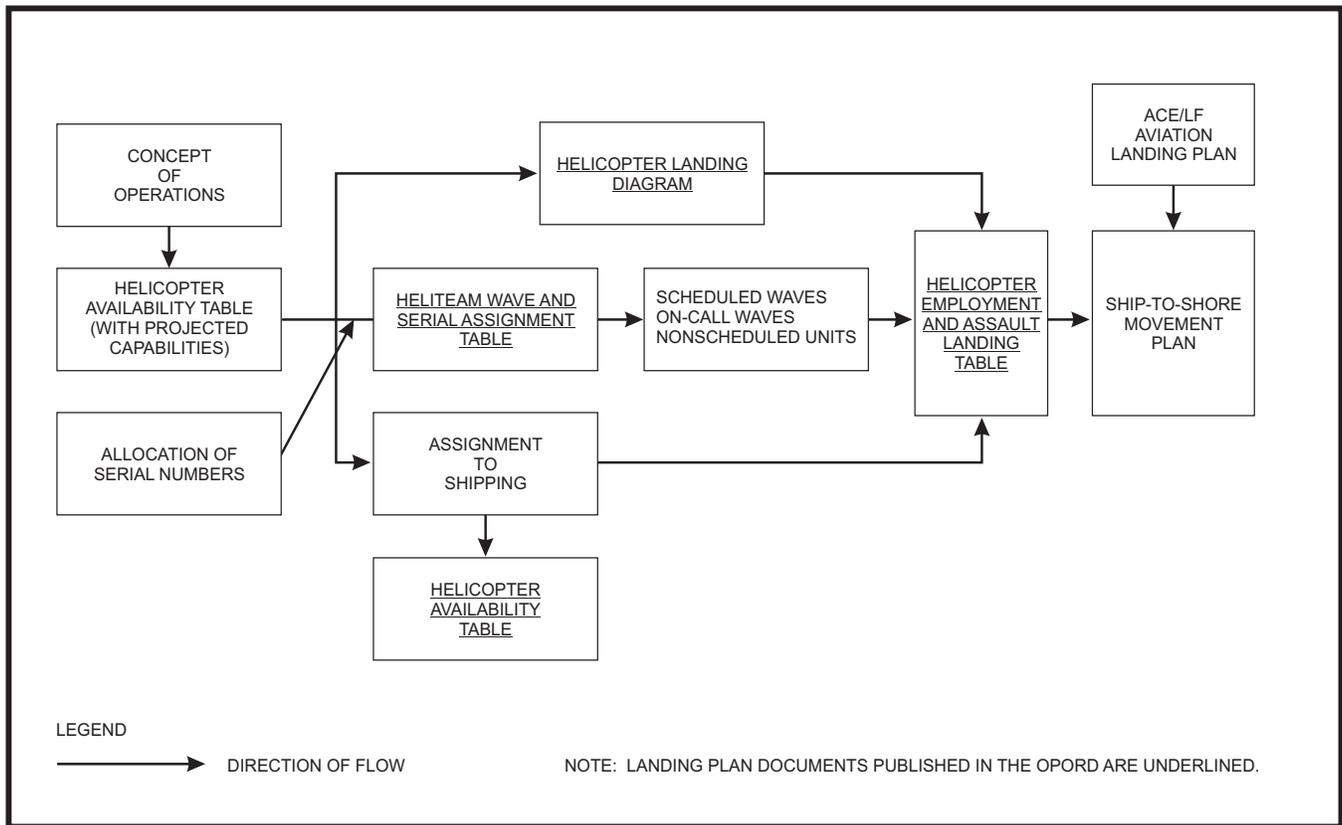


Figure 3-4. LF Planning Responsibilities and Sequence (Helicopterborne)

documents are prepared after embarkation and are used by debarkation station control personnel. Examples of a debarkation schedule and ship's diagram are depicted in Figures 3-8 and 3-9.

3.4.1.5 Unloading Plan. The unloading plan shows the means and sequence to debark the LF. It consists of the landing craft availability table and landing craft employment plan, coordinated with the amphibious vehicle availability table (paragraph 3.4.2.2) and amphibious vehicle employment plan (paragraph 3.4.2.9), the debarkation schedule, and heliteam wave and serial assignment table.

3.4.1.6 Approach Schedule. The approach schedule indicates, for each scheduled wave, the times of arrival/departure from various points, including: parent ship, rendezvous area, LOD, control points, and the beach. It gives wave numbers, courses and speeds landing craft follow, names of control officers, hull numbers of control ships, and other necessary information. It is used by all levels in conducting the waterborne ship-to-shore movement, from the central control officer (CCO) to landing craft coxswains/craftmasters.

The approach schedule is prepared by the primary control officer (PCO) for each battalion (or

equivalent) landing team (BLT). Approach schedules are submitted via the CCO to CATF and CLF for consolidation and to coordinate the overall ship-to-shore movement. An example of an approach schedule is depicted in Figure 3-10.

3.4.1.7 Assault Wave Diagram. The assault wave diagram graphically displays scheduled waves, landing craft, control ships, on-call waves, and floating dumps as they appear at H-hour. This diagram is prepared by the PCO based on wave compositions in the landing diagram (paragraph 3.4.2.4). The assault wave diagram presents a picture of the boat and LCAC groups and control ship's positions for a colored beach and LCAC landing zone (CLZ) and is used by the same personnel as the approach schedule. An example of an assault wave diagram is depicted in Figure 3-11.

3.4.1.8 Pontoon Causeway Plan. The pontoon causeway plan includes details on transportation, timing, launching, beaching location, and initial operational assignment. It also contains instructions for causeway security, maintenance, heavy-weather procedures, and salvage. CATF, in coordination with CLF, prepares the plan.

Naval Landing Plan

CLASSIFICATION

Copy ___ of ___ copies
Commander Amphibious Group Two
CTF 25 OPORD 1-[]
FPO _____
101200 March 19 __

Appendix 3 (Ship-to-Shore Movement) to Annex R (Amphibious Operations) to CTF 25 OPORD 1-[] .

Ref: (a) USCINCLANT 031430Z MAR XX (Initiating directive)
(b) CTF 26OPORD 1-[]
(c) NWP 22-3

Time Zone: H

1. Amphibious operations will be conducted as directed by ref (a). D-Day is 4 June 19XX. H and L-hours are 040430H June 19XX. The landing force's landing plan is in ref (b).
2. Advance force operations will be conducted IAW appendix 1. The ATF will enter the AOA at 032100H and proceed to the transport area.
3. Waterborne and helicopterborne assaults will be conducted at RED and GREEN beaches and landing zones Hawk and Dove. ATF movement to the transport area and conduct of amphibious operations to achieve ATF objectives will be IAW this appendix and ref (b). Tab A provides detailed instructions for the Navy control and offload plans. Ref (b) is the landing force's landing plan and when combined with these instructions constitutes the ATF landing plan.
4. Protective measures in the AOA will be IAW Appendix 2.
5. Reembarkation plan is in Appendix 5.
6. Supporting arms will be conducted IAW Appendix 7.
7. Medical regulating will be IAW Annex H.

David Jones
Captain, U.S. Navy
Chief of Staff

Tabs:

- A. Waterborne ship-to-shore movement
- B. Helicopterborne ship-to-shore movement

Distribution: IAW Annex Z.

Page Number

CLASSIFICATION

Figure 3-5. Example of a Naval Landing Plan Format (Sheet 1 of 2)

Representative Enclosures to Tabs A and B	
Tab A	
Enclosure	(1) Unloading Plan (2) Approach Schedule (3) Assault Wave Diagram (4) Pontoon Causeway Plan (5) Assault Area Diagram (6) Transport Area Diagram (7) Beach Approach Diagram (8) Sea Echelon Plan (9) Landing Control Plan (10) Alternate Landing Plan
Tab B	
Enclosure	(1) Helicopter Landing Diagram (2) Helicopter Employment and Assault Landing Table

Figure 3-5. Example of a Naval Landing Plan Format (Sheet 2 of 2)

3.4.1.9 Landing Area Diagram. The landing area diagram is an overlay for an appropriate scale chart. It graphically shows the landing area's most important details, such as: beach designations, boat lanes, LOD, amphibious vehicle and LCAC launching areas (CLAs), causeway operating areas, transport areas, and fire support areas (FSAs) in the immediate vicinity of the boat and LCAC transit lanes. This diagram provides the overall picture of the seaward approaches in the landing area and is prepared by the CCO. An example of a landing area diagram is depicted in Figure 3-12.

3.4.1.10 Transport Area Diagram. The transport area diagram is an overlay for an appropriate scale chart showing the area from the beach to 1,000 yards seaward of the outermost transport area anchorage or underway sector. Figure 3-13 depicts an example of a transport area diagram. The diagram provides a detailed picture of the transport area and is prepared by the CCO and includes the following:

1. Transport area(s) and assignment of all ships to anchorages or underway sectors
2. Helicopter transport areas
3. Control ships' positions
4. Boat and approach lanes
5. CLA, CDP, transit lanes, control points, and LCAC penetration points (CPPs)

6. LODs
7. Amphibious vehicle launching area/AAV underway launch track
8. Causeway operating areas
9. Designation of landing beaches
10. Distances:
 - a. From beach to center of transport area
 - b. From beach to LOD
 - c. From approach lane marker ships to LOD
 - d. Width of beaches.
11. Courses (true and magnetic):
 - a. From LOD to beaches
 - b. From approach lane marker ships to LOD.

3.4.1.11 Beach Approach Diagram. The beach approach diagram is an overlay for a large-scale chart extending from each colored beach seaward to 500 yards beyond the LOD. It shows the position of control ships, landing craft, and boats from the boat group in the vicinity of the LOD and boat lanes after the last scheduled wave has landed. It provides a

Landing Craft Availability Table							
Ship	LCAC	LCVP	LCM 6	LCM 8	LCPL	LCU	Remarks
Total Landing Craft on Board							
WHIDBEY ISLAND (LSD 41)	4						One LCM 8 rigged for heavy salvage.
WASP (LHD 1)	3						
TRENTON (LPD 14)		2		4	2		
CHARLESTON (LKA 113)			5	4	2		
PORTLAND (LSD 37)		1	3	2	2	3	
Other ships (listed separately)	8	12	12	24	14	8	
Total	16	15	20	34	20	11	
Less 10% for spares	2	1	2	3	2	1	
Total available for employment	14	14	18	31	18	10	
Landing Craft for Naval Use							
Safety boats/wave guides		4					
Boat group commander/assistant boat group commander					4		
Causeway tender boats			4				
Salvage boats			2				
Medical boats	1			2			
Total for naval use	1	4	6	2	4		
Total available for landing force use	13	10	12	29	14	10	

Figure 3-6. Example of a Landing Craft Availability Table

picture of the boat lanes for on-call waves and subsequent serials. An example of a beach approach diagram is depicted in Figure 3-14. It is prepared by the PCO and includes the following:

1. Designation (color and number) and dimensions of the colored beach

2. LOD

3. Distance from beach to LOD

4. Position of:

a. Primary and secondary control ships (PCS and SCS)

Landing Craft Employment Plan						
PART I — BEACH RED ONE				A. PRE-H-HOUR TRANSFERS		
No. of Craft	Type	From Parent Ship	Report To	Time of Arrival	Period Attached	Remarks
3	LCM 6	LSD 38	LPD 12	H-90	One trip	Transfer serials 1081, 1082, and 1088 to LST 1186.
2	LCM 6	LSD 39	LSD 39	LTLF	One trip	Transfer serials 1074, 1076 and 1078 to LPD 13.
1	LCM 8	LPD 4	LPD 4	LTLF	One trip	Transfer serials 1100 and 1102 to LST 1181.
Notes:						
1. Pre-H-hour transfers should be avoided whenever possible.						
2. Pre-H-hour transfers to well deck ships should be executed in the well deck. If LCVPs must be used, they should be received alongside.						
3. LTLF as used here means "Land the landing force."						
PART I — BEACH RED ONE				B. SCHEDULED AND ON-CALL WAVES		
No. of Craft	Type	From Parent Ship	Report To	Time of Arrival	Period Attached	Remarks
4	LCAC	LSD 41	LSD 41	H-30	Until released	BEACH RED ONE CLZ
6	LCM 6	LSD 36	LSD 37	H-60	Until released	Wave 3. Two boat officers embarked.
2	LCU	LSD 39	LSD 37	H-50	One trip	Wave 4. One boat officer embarked.
3	LCM 8	LKA 117	LSD 37	H-60	One trip	Wave 3. One boat officer embarked.
2	LCM 8	LKA 116	LSD 37	H-Hour	One trip	Serials 1090, 1091 on-call.

Figure 3-7. Example of a Landing Craft Employment Plan (Sheet 1 of 2)

- b. Control boats
- c. Medical boats
- d. Salvage boats
- e. Traffic control boats
- f. Boat group commander (BGC)
- g. Assistant boat group commander (ABGC)
- 5. Return boat lanes.

3.4.1.12 Sea Echelon Plan. A sea echelon is a portion of the assault shipping which withdraws from, or remains out of, the transport area during an amphibious landing and operates in designated areas to seaward in an on-call or unscheduled status. The sea echelon plan provides for the dispersion of assault

PART I — BEACH RED ONE				C. NAVAL USE		
No. of Craft	Type	From Parent Ship	Report To	Time of Arrival	Period Attached	Remarks
1	LCPL	LSD 37	LSD 37	LTLF	Until released	Boat group commander BEACH RED ONE embarked.
1	LCVP	LST 1196	LST 1196	LTLF	Until released	Wave guide officer for wave one BEACH RED ONE embarked.
1	LCM 6	LPD 7	LSD 37	H-90	Until released	Salvage crew and full salvage equipment allowance embarked.
1	LCVP	LST 1180	LSD 1180	LTLF	Until released	Wave guide officer for wave two BEACH RED ONE embarked.
1	LCM 6	LPD 12	LSD 37	H-90	Until released	Assistant salvage boat officer embarked.
1	LCVP	LST 1186	LSD 1196	H-50	Until released	Assistant wave guide officer wave one BEACH RED ONE embarked.
1	LCVP	LPD 4	LSD 37	H-Hour	Until released	Medical boat BEACH RED ONE. Medical officer embarked.
1	LCVP	LST 1190	LST 1190	LTLF	Until released	Assistant wave guide officer wave two BEACH RED ONE embarked.
2	LCM 6	LKA 116	PCO	LTLF	Until released	Floating dumps
2	LCM 6	LKA 117	PCO	LTLF	Until released	Floating dumps
PART II — BEACH RED TWO (Same format as above)						
PART III — BEACH BLUE TWO (Same format as above)						

Figure 3-7. Example of a Landing Craft Employment Plan (Sheet 2 of 2)

shipping, establishes the sea echelon area, organizes the landing area to reduce the minesweeping effort, and promulgates the priority sequence table. The decision to employ a sea echelon is reached jointly by CATF and CLF early in the planning phase because of its influence on embarkation and the ATF landing plan. The sea echelon plan is prepared by CATF. An example of a sea echelon area is depicted in Figure 3-15.

3.4.1.12.1 Considerations for using a Sea Echelon. CATF must balance the desirable aspects

of dispersion and mobility against the limitations they may impose on the ATF landing plan and scheme of maneuver ashore in the decision to use a sea echelon. Many factors tend to drive the ATF further offshore and to a highly dispersed formation. They include:

1. Standoff range of enemy shore weapons
2. Enemy capability to use chemical, biological, or radiation (CBR) weapons
3. Enemy mining of near shore waters

Debarkation Schedule							
Boat Order Alongside	Debarkation Stations						
	RED 1	WHITE 3	BLUE 5	YELLOW 7	GREEN 9		Well Deck (Note 3)
1st	LCM 2-3 BT 2-3	LCM 2-5 BT 2-5	LCM 2-7 BT 2-7	LCM 2-1 BT 2-1	LCM 2-9 BT 2-9		LCU 3-1 BT 3-1
2nd (Note 1)	LCM 2-2 BT 2-2	LCM 2-4 BT 2-4	LCM 2-6 BT 2-6	LCM 00-1 BT 00-1 (Note 2)	LCM 2-8 BT 2-8		LCU 3-2 BT 3-2
3rd	LCM 3-3 BT 3-3	LCM 3-5 BT 3-5	LCM 3-7 BT 3-7	LCM 3-1 BT 3-1	LCM 3-9 BT 3-9		LCU 3-3 BT 3-3
4th (Note 1)	LCM 3-2 BT 3-2	LCM 3-4 BT 3-4	LCM 3-6 BT 3-6	LCM 4-2 BT 4-2	LCM 3-8 BT 3-8		LCU 3-4 BT 3-4
5th	LCM 4-1 BT 4-1	LCM 4-3 BT 4-3	LCM 4-5 BT 4-5	LCM 4-4 BT 4-4	LCM 5-1 BT 5-1		LCU 3-5 BT 3-5
6th (Note 1)	LCM 5-2 BT 5-2	LCM 5-3 BT 5-3	LCM 5-4 BT 5-4	LCM 5-5 BT 5-5	LCM 6-2 BT 6-2		
7th	LCM 6-1 BT 6-1	LCM 6-3 BT 6-3	LCM 6-5 BT 6-5	LCM 6-4 BT 6-4	LCM 6-6 BT 6-6		
8th (Note 1)	LCM 7-3 BT 7-3	LCM 7-2 BT 7-2	LCM 7-1 BT 7-1	LCM 7-5 BT 7-5	LCM 7-4 BT 7-4		
9th		LCM 00-2 BT 00-2 (Note 2)	LCM 7-6 BT 7-6				
	RED 2 (Note 1)	WHITE 4 (Note 1)	BLUE 6 (Note 1)	YELLOW 8 (Note 1)	GREEN 10 (Note 1)		

Notes:

1. If sea conditions permit unloading from both sides of the ship, boat teams listed on lines 2, 4, 6, and 8 debark over port side, even numbered debarkation stations.
2. On-call serials.
3. For ships with well deck.

Figure 3-8. Example of a Debarkation Schedule

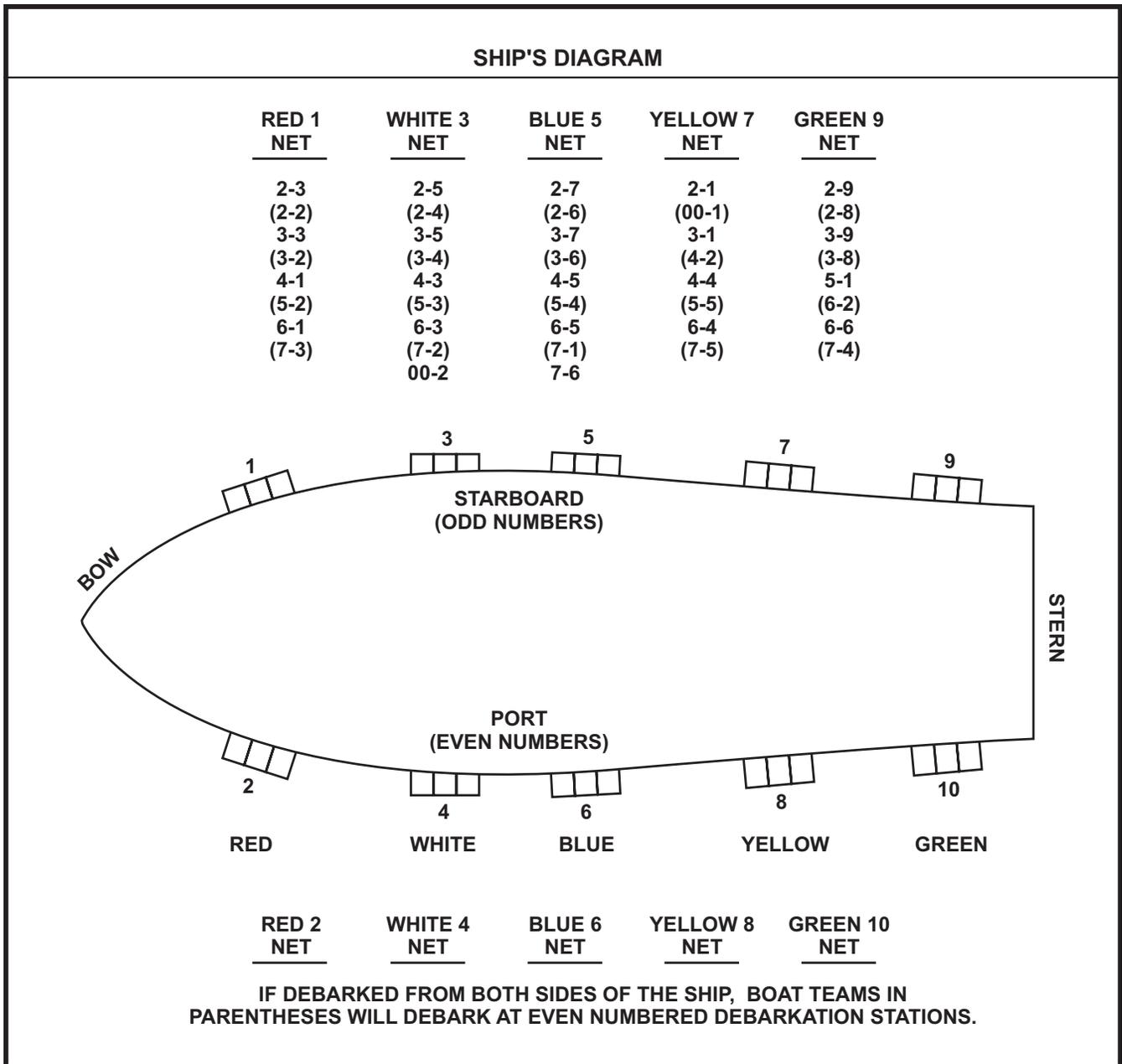


Figure 3-9. Example of a Ship's Diagram

4. Likelihood of sneak attack by swimmers, small craft, or light aircraft

5. Increase in the element of surprise due to being outside enemy sensor range.

These factors must be balanced against other factors which dictate moving the ATF closer to the beach areas. They include:

1. Total air supremacy and surface and subsurface superiority achieved in the AOA

2. The delay involved in long transit distances slowing the rapid buildup of combat power ashore, called the "time constant of delay"

3. A paucity of supporting forces dictating concentrating the ATF to reduce screen requirements

4. Reduced effectiveness of command and control capability as distance off shore is increased.

Approach Schedule					
H – Hour 0530 Local BEACH RED 1					
Wave	Leave Rendezvous/ Launch Area	Cross Line of Departure		Land	
1	H - 23 min	H - 20 min		H - Hour	
2	H - 20 min	H - 17 min		H + 3 min	
3	H - 17 min	H - 14 min		H + 6 min	
4	H -14 min	H - 11 min		H + 9 min	
5	H + 2 min	H + 5 min		H + 16 min	
6	H + 9 min	H + 12 min		H + 26 min	
7	H + 13 min	H + 19 min		H + 33 min	
8	H + 23 min	H + 26 min		H + 40 min	
9	H + 30 min	H + 33 min		H + 47 min	
H – Hour 0530 Local BEACH RED CLZ					
Wave	Leave CDP	CCP 1	CCP 2	CPP	CLZ
1	H - 24 min	H - 12 min	H - 6 min	H - 3 min	H - Hour
2	H - 14 min	H - 2 min	H + 4 min	H + 7 min	H + 10 min
3	H - 4 min	H + 8 min	H + 14 min	H + 17 min	H + 20 min
4	H + 6 min	H + 18 min	H + 24 min	H + 27 min	H + 30 min

Figure 3-10. Example of an Approach Schedule (Sheet 1 of 2)

H – Hour 0530 Local				
BEACH RED 2				
Courses:	a. Rendezvous area to LOD:	140° True, 144° Magnetic		
	b. LOD to beach:	174° True, 178° Magnetic		
Boat Group Commander:	LT Hewwood, USN			
Asst Boat Group Commander:	LTJG George, USNR			
Primary Control Officer:	CAPT Queeg, USN, embarked in LPD 4			
LCAC Group Commander	LT O.P. Hatch, USN			
Notes:				
1. Wave composition is shown in figure 3-11.				
2. Distances used to compute times shown:				
a. AAVs are launched 300 yards seaward of LOD				
b. Rendezvous area to LOD is 1,000 yards				
c. LOD to beach is 4,000 yards.				
3. Speeds used to compute times shown:				
	AAVP	LCU	LCM 6	LCAC
a. Launch/rendezvous area to LOD	4	10	8	
b. LOD to 1,000 yards from beach	5	10	8	
c. From 1,000 yards to beach (battle speed)	6	12	10	
d. LCAC from CDP to CPP.				40
4. Adjustment to supporting fire plan is required for LCACs to cross the beach prior to H-hour.				

Figure 3-10. Example of an Approach Schedule (Sheet 2 of 2)

3.4.1.12.2 Responsibilities. Employing a sea echelon does not alter CATF's doctrinal or tactical responsibility to land and support the LF. The sea echelon plan should not be so restrictive that it reduces the LF's tactical effectiveness and jeopardizes mission accomplishment.

3.4.1.12.2.1 Commander Amphibious Task Force (CATF). CATF is responsible for developing the sea echelon plan. Plan development includes:

1. Selecting the sea echelon area
2. Organizing the sea echelon area into operating areas
3. Phasing assault shipping into the transport area to provide for the rapid buildup of combat power ashore
4. Providing command, control, and communications for the ship-to-shore movement
5. Incorporating defensive measures
6. Providing an alternate plan to land and reinforce the LF.

A sea echelon plan is developed to regulate and efficiently control the ATF's movements and minimize message communication requirements. This plan includes:

1. The composition of the sea echelon
2. A sea echelon area overlay
3. A priority sequence table listing the order that ships from the sea echelon will enter the transport area for landing scheduled waves and to conduct the initial and general unloading phases
4. The procedure for requesting ships out of priority sequence
5. General instructions, such as defining traffic patterns for entering and leaving the transport area, unloading instructions, regulating points, and so forth.

3.4.1.12.2.2 Commander Landing Force (CLF). CLF is responsible for developing a scheme of maneuver ashore that is compatible with the ATF employed in a sea echelon. During the ship-to-shore movement, CLF advises CATF of any tactical or

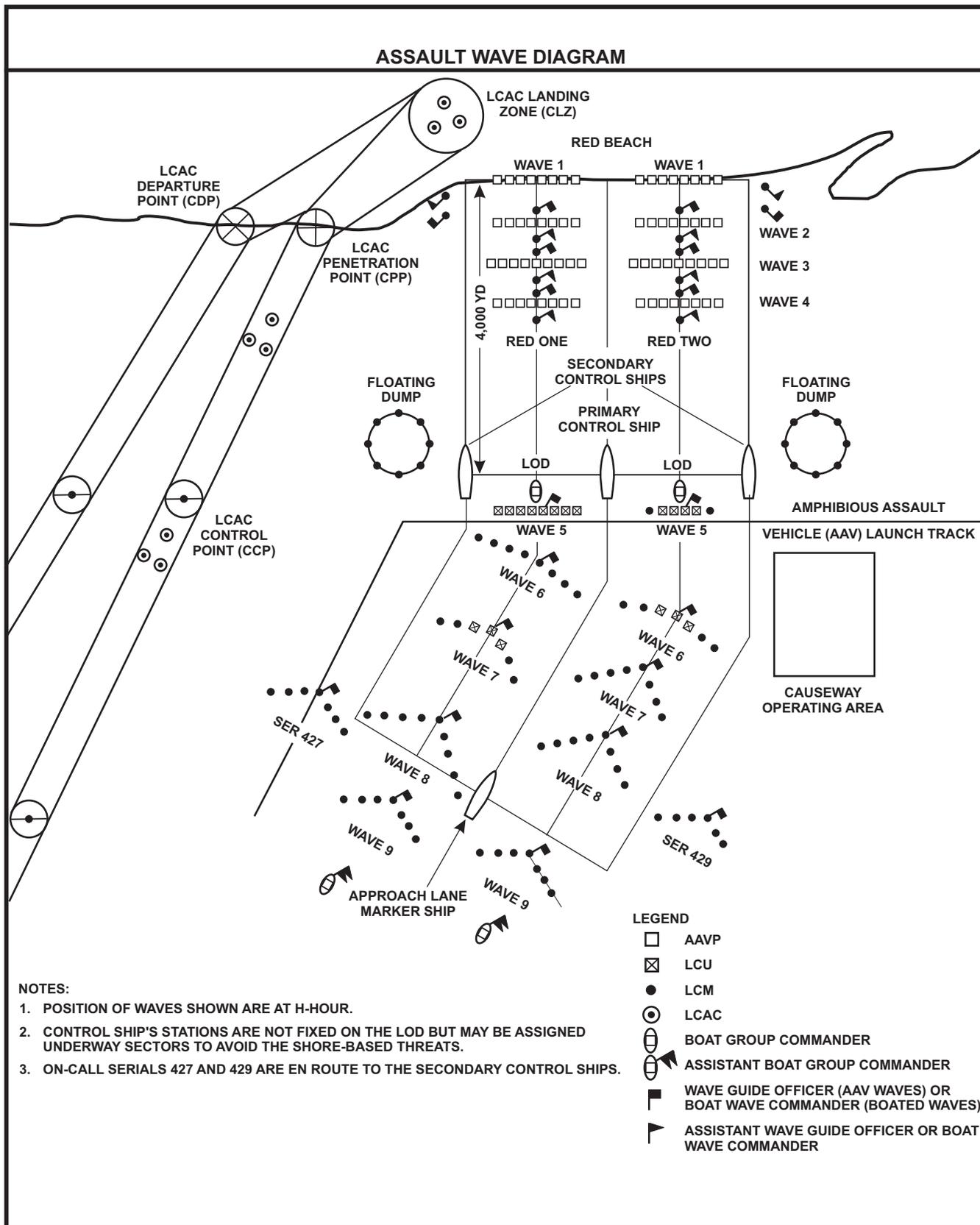


Figure 3-11. Example of an Assault Wave Diagram

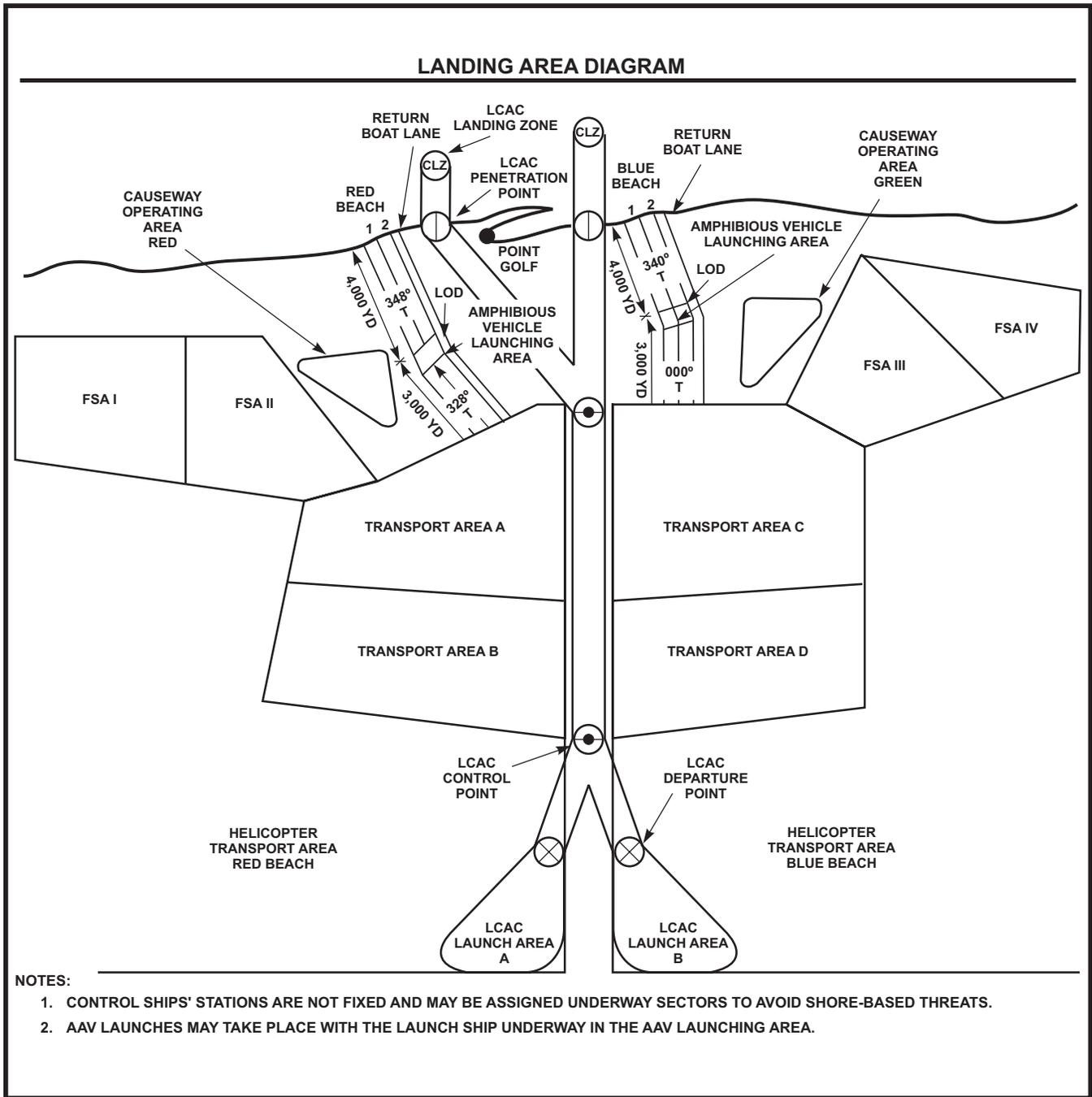


Figure 3-12. Example of a Landing Area Diagram

logistical problems associated with the “time constant of delay” that is inherent with the sea echelon concept. The “time constant of delay” is the time involved from the moment a request for a ship out of sequence is received until that ship arrives in the transport area.

3.4.1.12.2.3 The Sea Echelon Commander. When the ATF is employed in a sea echelon, CATF normally delegates control of the sea echelon to a

subordinate commander. The sea echelon commander exercises movement control over all shipping in the sea echelon area. This commander maintains coordination with the CCO and TACLOG group in order that ship movements in the sea echelon area conform to the priority sequence table and ships in an on-call status or with nonscheduled units embarked can be moved into the transport area as scheduled in the shortest possible time.

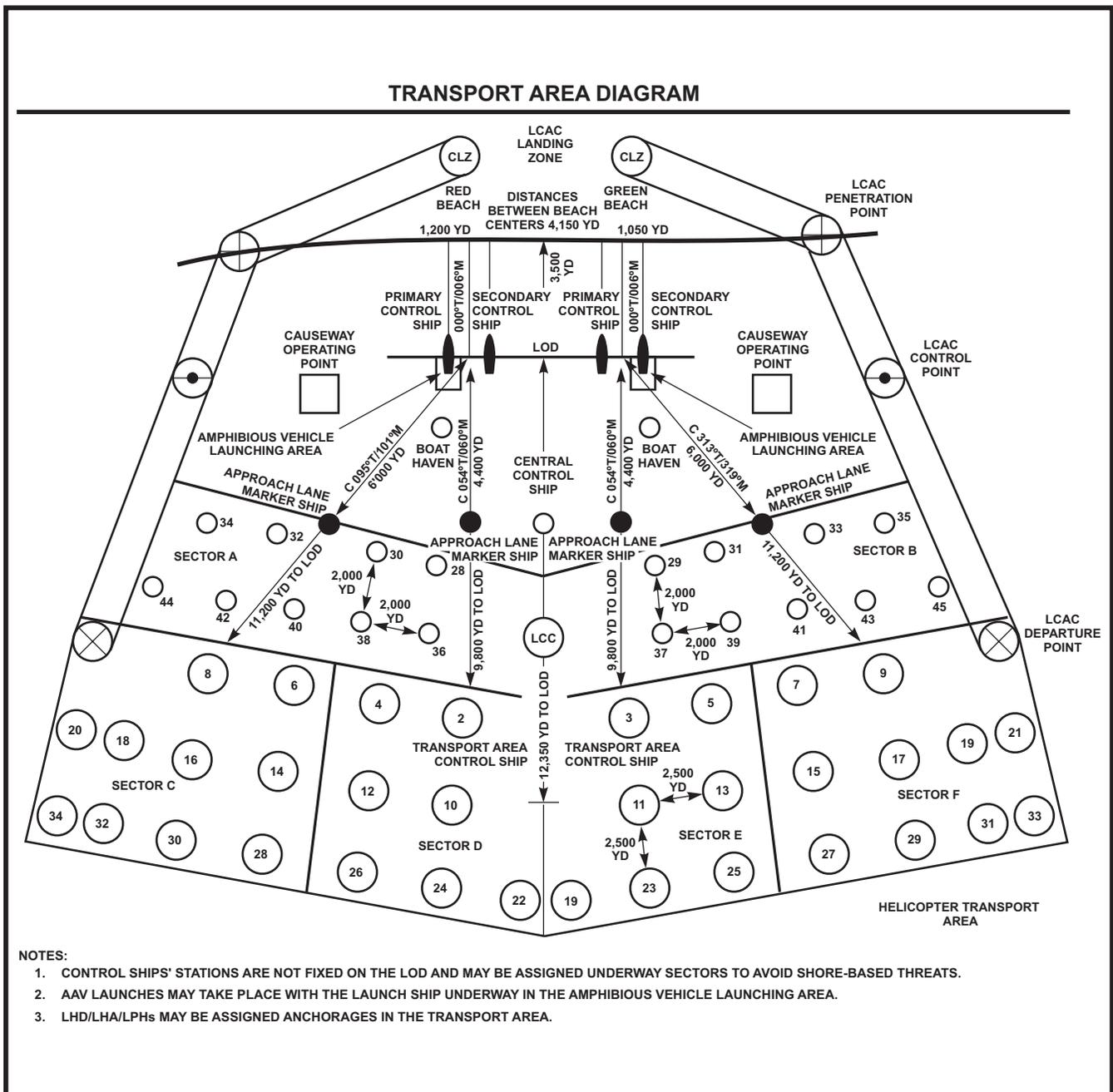


Figure 3-13. Example of a Transport Area Diagram

3.4.1.12.2.4 Ship-to-Shore Movement Control Procedures. Control of the waterborne and helicopterborne ship-to-shore movements is exercised by the Navy control group and tactical air control group (TACGRU), respectively. Control procedures are discussed in Chapters 4 and 5.

3.4.1.13 Landing Control Plan. The landing control plan consists of the approach schedule, assault wave diagram, pontoon causeway plan, landing area

diagram, transport area diagram, beach approach diagram, HEALT, and sea echelon plan (if applicable). These documents provide the Navy control group and TACGRU with the necessary instructions to control the waterborne and helicopterborne ship-to-shore movement.

3.4.1.14 MEDREG Plan. The MEDREG plan contains policy for the evacuation of casualties to casualty receiving and treatment ships (CRTSs) by

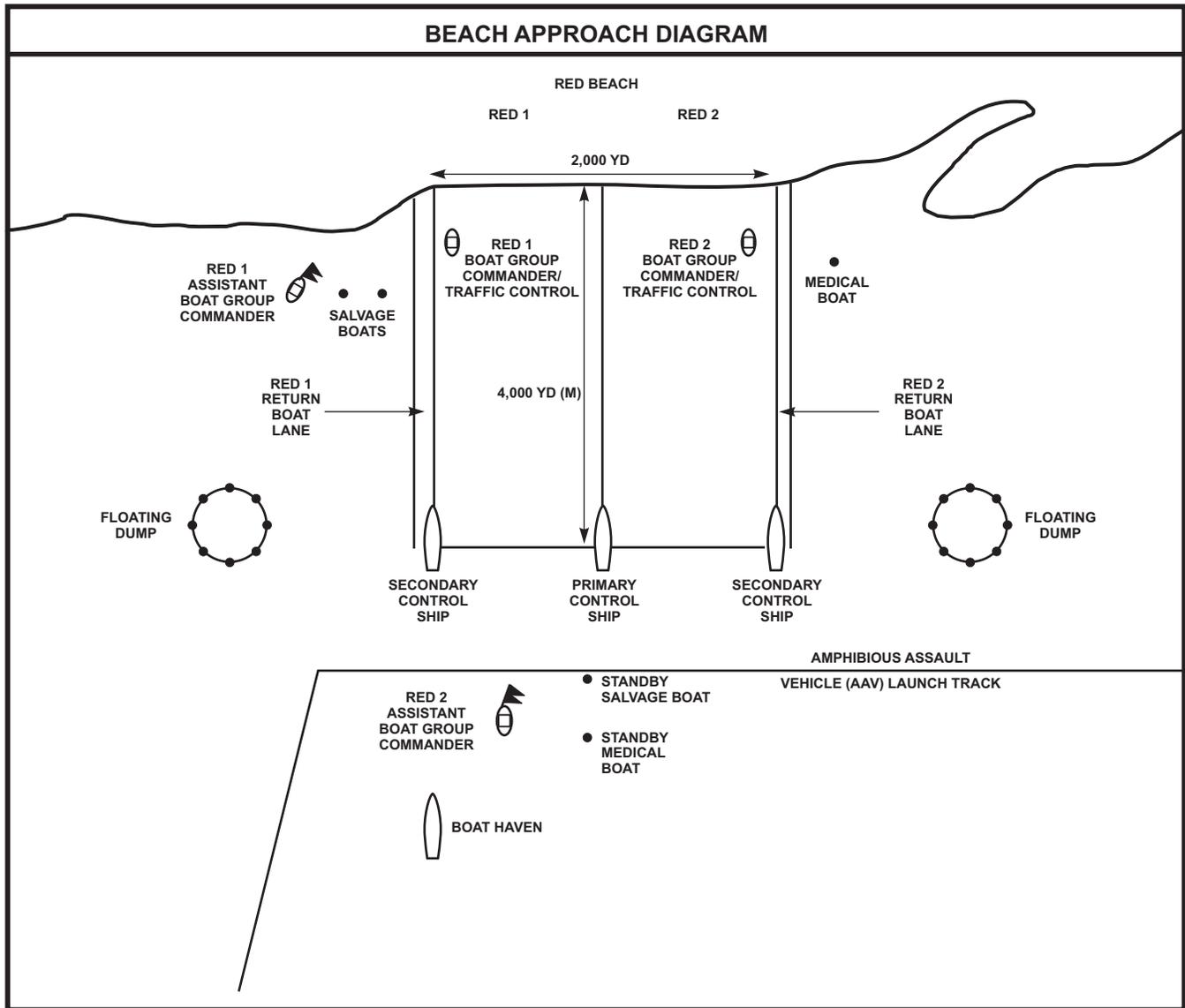


Figure 3-14. Example of a Beach Approach Diagram

helicopter or landing craft. It establishes the ATF and LF medical regulating control centers (ATF MRCC and LF MRCC), provides for primary medical regulating and triage, and for the secondary medical regulating and evacuation of casualties by air/surface means to rear area medical facilities following early definitive medical/surgical treatment on board CRTSs. It is prepared by CATF and discussed further in Appendix G.

3.4.2 Documents Prepared by the Landing Force (LF). LF prepared documents are included in CLF's OPORD or issued as message supplements to the OPORD.

3.4.2.1 LF Landing Plan. The LF landing plan designates the forces that will be going ashore and

promulgates the means, organization, sequence, and landing priorities. It is the integrated sum of detailed plans prepared by the LF. Figures 3-3 and 3-4 show the preparation sequence and relationship between each document. Figure 3-16 contains a format for the LF landing plan. In addition the LF landing plan will:

1. Allocate blocks of serial numbers to subordinate commands
2. Correlate the landing sequence for units not landed with the GCE but landing prior to general unloading
3. Coordinate GCE landing plans.

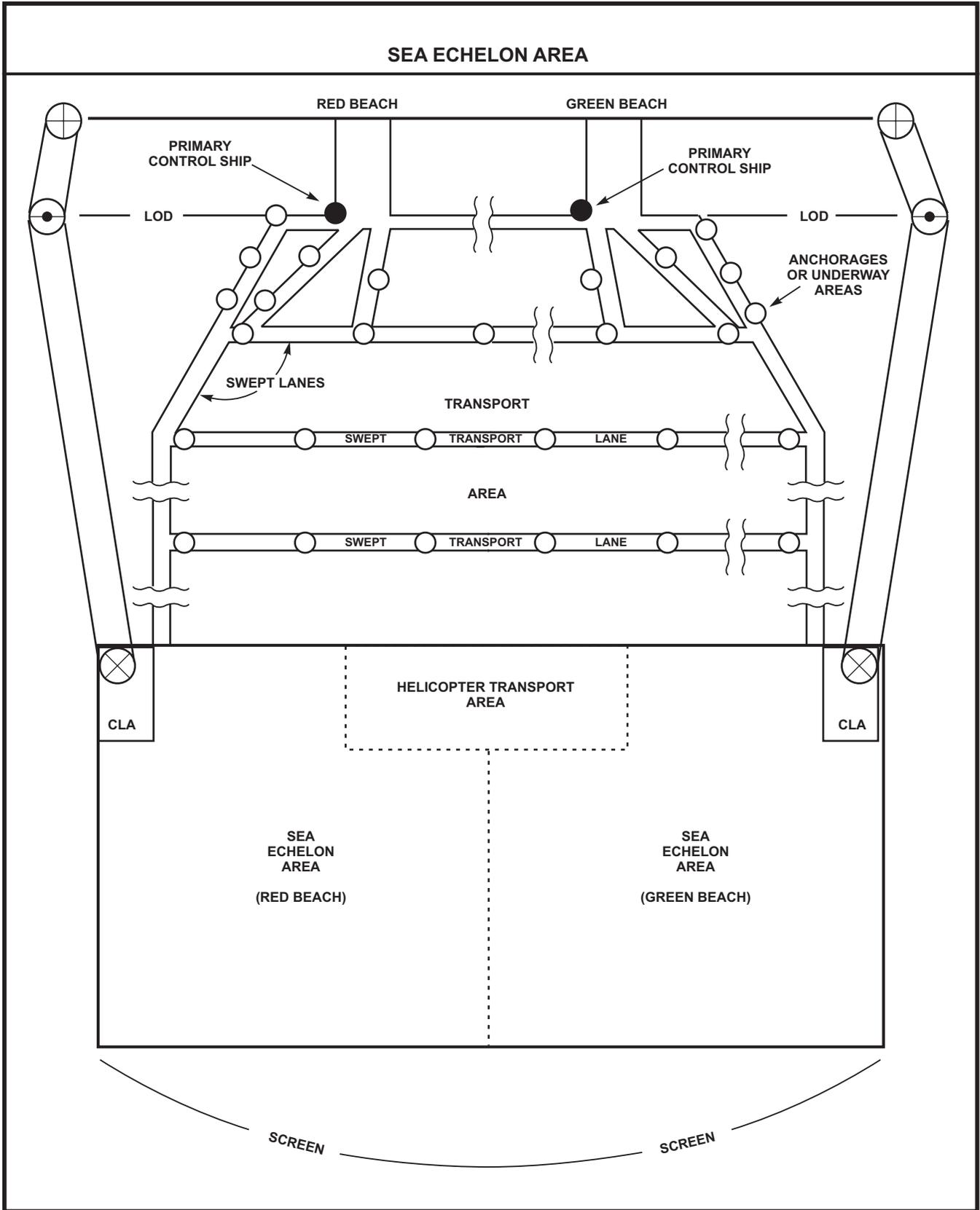


Figure 3-15. Example of a Sea Echelon Area

LF Landing Plan

CLASSIFICATION

Copy ____ of ____ copies
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(CTF 26) OPORD 1-[]
c/o FPO
151200 March 19

Appendix 3 (Ship-to-Shore Movement) to Annex R (Amphibious Operations) to Operation Order - [] .

Ref: (a) NWP 22-3
(b) FMFM 1-8
(c) CTF 25 Operation Order 1-[]
(d) FMF Order [] (Combat Service Support SOP)

Time Zone: H

1. Ship-to-shore assault operations will be conducted IAW Annex C to CTF 25 OPORD 1-[] . Tabs A and B of this appendix, and references (a) through (d) provide detailed procedures or amplifying instructions.
2. Advance force operations are IAW appendix 1 to Annex R of ref (c).
3. Protective measures in the amphibious objective area (AOA) are IAW appendix 2 to Annex R of ref (c).
4. Reembarkation plan is IAW appendix 5 to Annex R of ref (c).
5. LF scheme of maneuver ashore is IAW appendix 6 to Annex R of this OPORD.
6. Supporting arms are IAW appendix 7 to Annex R of ref (c).

BY COMMAND OF LIEUTENANT GENERAL ALFA

B.C. DELTA
Brigadier General,
U.S. Marine Corps

Tabs:

- A. Waterborne ship-to-shore movement
- B. Helicopterborne ship-to-shore movement

Distribution: IAW Annex Z to CTF 25 OPORD 1-[] .

Page Number

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Figure 3-16. Example of a LF Landing Plan Format (Sheet 1 of 2)

Representative Enclosures to Tabs A and B

Tab A

- | | |
|-----------|---|
| Enclosure | (1) Landing Craft and Amphibious Vehicle Assignment Table |
| | (2) Landing Diagram |
| | (3) Amphibious Vehicle Availability Table |
| | (4) Assault Schedule |
| | (5) Landing Priority Table |
| | (6) Landing Sequence Table |
| | (7) Landing Craft and Amphibious Vehicle Employment Plan |
| | (8) Division/Regimental/Battalion Landing Plan |
| | (9) Shore Party Plan |
| | (10) Alternate Landing Plan |

Tab B

- | | |
|-----------|---|
| Enclosure | (1) Heliteam Wave and Serial Assignment Table |
| | (2) Helicopter Availability Table |
| | (3) Helicopter Landing Diagram |
| | (4) Helicopter Employment and Assault Landing Table |
| | (5) ACE/LF Aviation Landing Plan |

Figure 3-16. Example of a LF Landing Plan Format (Sheet 2 of 2)

3.4.2.2 Amphibious Vehicle Availability Table.

The amphibious vehicle availability table is prepared by a representative from the GCE and lists the number and type of amphibious vehicles available for landings, the LF units embarked in them, the ships carrying them, and any remarks. An example of an amphibious vehicle availability table is depicted in Figure 3-17.

3.4.2.3 Landing Craft and Amphibious Vehicle Assignment Table. The landing craft and amphibious vehicle assignment table organizes the LF AE into boat teams; assigns boat teams to scheduled waves, on-call waves, or nonscheduled units; lists the LF units assigned to boat teams; shows the precise position of the boat teams in the assault waves; and includes instructions for floating dumps. This table and the debarkation schedule provide the ship's CO with the information needed for debarking troops and floating dump supplies. The table is prepared by a representative from the GCE and promulgated concurrently with the landing diagram. An example of a landing craft and amphibious vehicle assignment table is depicted in Figure 3-18.

3.4.2.3.1 Boat Space Allowances. A boat space allowance is a variable that accounts for the space and weight factor of personnel/equipment being assigned to a landing craft or amphibious vehicle. It is used so that the maximum loading capacity of the craft will not be exceeded.

3.4.2.3.2 Tactical Integrity. Boat teams are assigned positions in assault waves to maintain tactical integrity. For example, a rifle squad and its equipment is assigned in the assault wave formation in proper relation to other squads of the platoon to facilitate unit employment on landing. Nonscheduled units are also boated tactically.

3.4.2.3.3 Guidelines for Assignment to Boat Teams. The assignment of headquarters units and attached or supporting troops, such as forward observers, naval gunfire spotters, and communications personnel, is made to the landing craft or amphibious vehicle carrying the unit to which they are attached or will directly support. If these units are assigned to separate craft, the craft will be given a position in the assault wave formation that will facilitate tactical integrity on landing.

The risk of debilitating losses in command echelons is reduced by distributing these personnel among several landing craft/amphibious vehicles. For example, the BLT commander with a skeleton headquarters group and the BLT executive officer and his skeleton headquarters group are boated in different landing craft. Each skeleton staff is capable of conducting BLT operations if the other is lost. Similarly, the risk of heavy loss in one arm of service is reduced by distribution of personnel among several landing craft. For example, a communications platoon is boated in several landing craft and given positions

Amphibious Vehicle Availability Table					
Ship	Amphibious Vehicle Unit	Number and Type Amphibious Vehicles			Remarks
		AAVP7	AAVC7	AAVR7	
LST 1179	1st Plat, Co A, 2nd Asit Amphib Bn	10	1		
	2nd Plat, Co A, 2nd Asit Amphib Bn	10	1		
LST 1180	3rd Plat, Co A, 2nd Asit Amphib Bn	10			
	Hq Plat, Co A, 2nd Asit Amphib Bn	3	2	1	
LST 1181	4th Plat, Co A, 2nd Asit Amphib Bn	10			
LSD 36	Co B, 2nd Asit Amphib Bn	43	2	1	
LSD 37	4th Plat, Co D, 2nd Asit Amphib Bn	10			
LSD 37	Hq Plat, Co D, 2nd Asit Amphib Bn	3	2	1	
Total		187	15	6	

Figure 3-17. Example of an Amphibious Vehicle Availability Table

in the assault wave formation that will facilitate tactical integrity on landing.

The priority for landing craft and amphibious vehicle assignment is: assault units, support units, and reserve units.

3.4.2.4 Landing Diagram. The landing diagram graphically shows the tactical deployment of boat teams in scheduled waves. It provides the wave composition, showing AAVs/landing craft and boat teams, and touchdown times for a colored or numbered beach and CLZ. The landing diagram is prepared by a representative from the GCE and promulgated concurrently with the landing craft and amphibious vehicle assignment table. It is distributed to all Navy control group personnel. An example of a landing diagram is depicted in Figure 3-19.

3.4.2.5 LF Serial Assignment Table. The LF serial assignment table lists in numerical order the serial numbers of all units that are landed prior to general unloading. The table is a ready reference for the composition of each unit assigned a serial number and an example is depicted in Figure 3-20.

3.4.2.5.1 Serial Numbers. A serial is a grouping of LF personnel and equipment which originates from the same ship and, for tactical or logistical reasons, will land on a specified beach, CLZ, or helicopter landing

zone (HLZ) at the same time. An abstract number is assigned to each serial for reference. A serial number does not preclude the use of code names, designations, or unit titles when that is expedient, and it does not prescribe any priority in landing. PCS, SCS, LCAC control ship (LCS), TACLOG detachments, and each helicopter direction center (HDC) maintain a serial log to include: serial number, time requested, time dispatched, and time of arrival at the beach or landing zone (LZ).

3.4.2.5.2 Allocation and Assignment of Serial Numbers. Early in the planning phase, CLF allocates a block of consecutive serial numbers, based on administrative organization, to each LF and naval unit to be landed. Allocation begins at the highest echelon. Each unit then allocates a consecutive portion of its block to subordinate units, and allocation continues until each element within the LF has a block of consecutive numbers. An example of block serial number allocation is depicted in Figure 3-21.

The allocation of block serial numbers to units is based on the administrative organization and the assignment of individual serial numbers is based on the tactical organization for landing. This allows serial numbers to be issued early in the planning phase before the tactical organization has been determined. Changes can also be made at the appropriate level as planning progresses.

Landing Craft and Amphibious Vehicle Assignment Table			
Craft No.	Personnel and Material	Boat Spaces	BEACH RED 1 Formation
First Wave			
1-1 AAVP7	1st Sqd. 1st Plt. Co B Corpsman MG Tm. 1st MG Sqd 81mm FO Tm/w 1 Radio Operator	11	
		1	X 1-1
		3	
		<u>2</u>	X 1-2
		17	
1-2 AAVP7	Plt Cmdr. 1st Plt. Co B Msgr Radio Operator 2d Sqd Corpsman 1st and 2d Tm, 3d AArm Sec. Weapons Co	1	X 1-3
		1	X 1-4
		11	
		1	X 1-5
		<u>4</u>	X 1-6
		18	
1-3 AAVP7	Sqd Ldr. 3d Sqd. 1st Plt. Co B 1st Fire Tm. 3d Sqd. Co C Corpsman MG Tm & Sqd Ldr. 1st MG Sqd 60mm Sec Ldr 1st Sqd. 60mm Sec 1st Aslt Tm	1	X 1-7
		5	X 1-8
		1	X 1-9
		4	X 1-10
		1	
		<u>2</u>	
		17	
Third Wave			
3-1 LCM 8	Sec Ldr. 1st TK sec. Tank Crew, 1st TK sec 1 M60A1	1	-0-
		3	3-1
		<u>68</u>	-0- -0-
		72	3-2 3-3
On-Call			
Serial LCM 8	VTR Det. 1st Plat (Rem). Co A, 2d TK Bn	68	
		<u>5</u>	
		73	
00-1 AAVC7	BLT Cmd Group Bn Cmdr S-3 Asst S-3, ALO NGF LNO Wpns Co Cmdr Arty LNO Radio Op	1	
		1	
		1	
		1	
		1	
		1	
		1	
		<u>4</u>	
		10	
Floating Dump			
LCM 8	Floating dump		
Note: Prepared and promulgated concurrently with the landing diagram.		Legend: X = AAVP7 O = LCM 8	

Figure 3-18. Example of a Landing Craft and Amphibious Vehicle Assignment Table

Landing Diagram								
BEACH RED 1								
<i>H-Hour 0530 Local</i>								
Scheduled Waves	Wave Composition							
	Asit Plats, Co A and Co B							
Wave 1 H-Hour	1-1 (X)	1-2 X	1-3 X	1-4 X	1-5 X	1-6 X	1-7 X	1-8 X
	Co A (-) and Co B (-)							
Wave 2 H + 3 min	2-1 (X)	2-2 X	2-3 X	2-4 X	2-5 X	2-6 X	2-7 X	2-8 X
	Leading Plats, Co C and 81 Mort Plat							
Wave 3 H + 6 min	3-1 (X)	3-2 X	3-3 X	3-4 X	3-5 X	3-6 X	3-7 X	3-8 X
	Co C (-)							
Wave 4 H + 9 min	4-1 (X)	4-2 X	4-3 X	4-4 X	4-5 X	4-6 X	4-7 X	4-8 X
	Wpn Co							
Wave 5 H + 16 min		5-6 U	5-4 U	5-2 U	5-1 (U)	5-3 U	5-5 U	
	H and S Co (-)							
Wave 6 H + 26 min	6-8 M	6-6 M	6-4 M	6-2 M	6-1 (M)	6-3 M	6-5 M	6-7 M
Note: Prepared and promulgated concurrently with the Landing Craft and Amphibious Vehicle Assignment Table.					Legend: X — AAVP U — LCU M — LCM () — Wave Commander			

Figure 3-19. Example of a Landing Diagram

LF Serial Assignment Table						
Serial No.	Unit	Personnel	Material Equipment Vehicles	Number of Craft and Type	Parent Ship	Remarks
1401	Asit Plats, Co A (rein)	98	Normal Combat	4-AAVP	LST 1179	1st Wave Beach RED 1
1402	Co A (-) (rein)	91	Normal Combat	4-AAVP	LST 1196	2nd Wave Beach RED 1
1403	Asit Plats, Co B (rein)	96	Normal Combat	4-AAVP	LST 1179	1st Wave Beach RED 1
1404	Co B (-) (rein)	95	Normal Combat	4-AAVP	LST 1196	2nd Wave Beach RED 1
1500	Asit Plats, Co D	15	Normal Combat	1-CH46	LHA 1	1st Wave LZ HAWK
2101	1st Plt, Co A 1st Tks Bn	12	3-M6OA1 Tks	1-LCU	LSD 40	3rd Wave Beach RED 1
2251	B Btry	34	2-M198 4-M923 2-M105 4-HMMWV	1-LCU	LHA 1	On Call Beach Red 1

Figure 3-20. Example of an LF Serial Assignment Table

After subordinate units have prepared serial assignment tables, they are forwarded to the next higher echelon for consolidation. The serial tables are ultimately forwarded to CLF where the LF serial assignment table is prepared.

Information contained in the LF serial assignment table is duplicated in other LF documents which lists serials in priority order for landing, rather than in numerical sequence.

3.4.2.6 Landing Priority Table. The landing priority table is a worksheet used by CLF to show the planned buildup of forces ashore. It is based on the LF concept of operations ashore and provides the basis for the phased deployment of LF units ashore. It lists major units to be landed in priority order, the landing day, and

the designated beaches/LZs, if known. An example of a landing priority table is depicted in Figure 3-22.

3.4.2.7 LF Landing Sequence Table. The LF landing sequence table is a complete listing of the estimated landing sequence of nonscheduled units (including combat support, CSS, and aviation units). It is the principal document used by control agencies in directing the ship-to-shore movement of these units. CLF prepares the LF landing sequence table. Subordinate commanders extract pertinent parts of the table for their use. An example of a LF landing sequence table is depicted in Figure 3-23.

This table is the basis for developing embarkation and loading plans for nonscheduled units. It also provides the sequence to beach LSTs with nonscheduled units.

Allocation of Blocks by LF	
H & S Co, 1 MAF	0 to 500
1st FSSG	501 to 1200
NMCB	1200 to 1300
1st MARDIV	1301 to 2200
2nd MARDIV	2201 to 3100
1st MAW	3101 to 4000
Allocation of Blocks by Division	
HQBN	1301 to 1350
1st MAR	1401 to 1500
Allocation of Blocks by Wing	
MWHS	3101 to 3200
MAG-13	3201 to 3300
Allocation of Blocks by Regiment	
HQ CO 1st MAR	1401 to 1425
1st BN 1st MAR	1426 to 1475

Figure 3-21. Serial Number Allocation

3.4.2.8 Assault Schedule. The assault schedule provides the formation, composition, and timing of scheduled and on-call waves. The GCE commander considers subordinate commanders' recommendations regarding numbers of waves on to designated beaches and numbers and types of amphibious vehicles and landing craft in each wave when preparing this schedule. An example of an assault schedule is depicted in Figure 3-24.

3.4.2.9 Amphibious Vehicle Employment Plan. The amphibious vehicle employment plan shows the planned employment of AAVs and lighter, amphibious resupply, cargo-5 ton (LARC Vs) in the assault, including their employment after arrival at the beach. The GCE commander considers subordinate commanders' recommendations when preparing the plan in addition to information contained in the landing diagram and assault schedule. An example of an amphibious vehicle employment plan is depicted in Figure 3-25.

3.4.2.10 Helicopter Availability Table. The helicopter availability table shows the number of helicopters available for the helicopterborne ship-to-

shore movement. It lists helicopter units and their call sign, number of helicopters available for first and subsequent trips, helicopter model, parent helicopter transport, maximum deck launch spots available on each helicopter transport, and tentative helicopter load capacity. The table is prepared by a representative from the air combat element (ACE) and pertains only to D-day operations. An example of a helicopter availability table is depicted in Figure 3-26.

3.4.2.11 Heliteam Wave and Serial Assignment Table. The heliteam wave and serial assignment table specifies the troop units, supplies, and equipment that are to be loaded into each helicopter. It identifies each heliteam (analogous to a boat team) by serial number with the wave number and helicopter position in the wave. An example of a heliteam wave and serial assignment table is depicted in Figure 3-27. The weight column provides a check that maximum helicopter lift capability is not exceeded by the serial. A helicopter enplaning schedule (similar to the ship's diagram) is also prepared to show each enplaning station on the flight deck, the sequence and location for spotting helicopters, and the heliteam serials assigned to that enplaning station. This table and schedule is prepared on each helicopter transport by the helicopterborne unit commander, assisted by the helicopter unit commander, and it is coordinated with the ship's CO.

3.4.2.12 Helicopter Landing Diagram. The helicopter landing diagram graphically displays routes to and from HLZs. An example of the helicopter landing diagram is depicted in Figure 3-28. It shows the helicopter transport area, rendezvous point (RP), departure point (DP), approach and retirement routes, other control points, LZs, and remarks for clarity. The diagram is prepared by a representative from the ACE in coordination with the helicopter coordination section (HCS) and helicopter transport group/unit commander and is submitted to CATF for approval and coordination with the waterborne assault and supporting fire planning.

3.4.2.13 Helicopter Employment and Assault Landing Table (HEALT). The HEALT is a detailed plan for the movement of helicopterborne troops, equipment, and supplies. It is the landing timetable for the helicopterborne ship-to-shore movement and specifies the assignment of serials to helicopters for scheduled and on-call waves.

This document is the basis for preparing flight schedules and is used by the primary HDC to control helicopter movements. The HEALT is prepared by a representative from the ACE in coordination with the

LF Landing Sequence Table						
Unit	Element	Serial No.	Carrier No. Type	Ship	Beach	Remarks
1st & 2nd Plat ACo 2nd Tk Bn (FMF)		905	3 LCU	LSD	RED	
ACo(-) 2nd Tk Bn (FMF)		906	3 LCU	LSD	RED	
1st & 2nd Plat BCo 2nd Tk Bn		907	3 LCU	LSD	BLUE	
BCo(-) 2nd Tk Bn		908	3 LCU	LSD	BLUE	
1/10	ABtry	1013	7 LCM	LPD	RED	
1/10	BBtry	1014	7 LCM	LPD	RED	
	CBtry	1015	7 LCM	LPD	RED	
	HqBtry	1016	3 LCM	LPD	RED	
	DBtry	1023	8 LCM	LPD	BLUE	
Div TacCP		401	4 LCM	LHA	BLUE	
ACo(-) 2nd Eng.		105	4 LCM	LSD	RED	

Figure 3-23. Example of an LF Landing Sequence Table

3.4.2.14.3 LF Reserve. Reserve units prepare a landing plan in the same manner as an assault unit. However, if the entire LF reserve is a nonscheduled unit, its deployment is prescribed in the LF landing sequence table. Serial assignment tables are prepared for all units landing prior to general unloading.

3.4.2.15 Regimental Landing Plan. The regimental landing team (RLT) commander considers the tactical recommendations of BLT commanders and submits his recommended landing plan to the GCE commander. After the GCE landing plan is published, the RLT commander extracts pertinent information and publishes it as the RLT landing plan. The documents comprising the RLT landing plan are the same as those for the GCE landing plan.

3.4.2.15.1 Other Regiments. Reserve RLTs prepare landing plans according to the landing category

they are assigned. Units to be landed prior to general unloading prepare serial assignment tables. Landing of nonscheduled units is prescribed in the LF landing sequence table. Elements of regiments and reserve RLTs to be landed in on-call waves appear in the assault schedule, landing diagram, or HEALT.

3.4.2.16 Battalion Landing Plan. BLT commanders prepare the following documents as appropriate:

1. HEALT
2. Heliteam wave and serial assignment table
3. Landing craft and amphibious vehicle assignment table
4. Landing diagram

Assault Schedule					
Wave	Time	Beach			
		RED		BLUE	
		1	2	1	2
		Craft/VEH Unit Serial	Craft/VEH Unit Serial	Craft/VEH Unit Serial	Craft/VEH Unit Serial
1	H-hour	8 AAVP Asit Plats E&F Cos (+), BLT 2/6 604/704	8 AAVP Asit Plats A&B Cos, BLT 1/6 203/303	8 AAVP Asit Plats A&B Cos, BLT 2/2 606/706	8 AAVP Asit Plats A&B Cos, BLT 1/2 1801/1802
2	H+3 min	6 AAVP E&F Cos (+) 605/705	6 AAVP A&B Cos (+) 204/304	6 AAVP E&F Cos (+) 607/707	6 AAVP A&B Cos (+) 1802/1803
3	H+7 min	4 AAVP Leading Plats G Co 803	4 AAVP Leading Plats C Co 405	4 AAVP Leading Plats G Co 804	4 AAVP Leading Plats C Co 406
Rept PCS at H+90 min		2 AAVP Recon Party 2/10 10 AAVP I&K Cos (+), BLT 3/6 1302/1502/2001		2 AAVP Recon Party 1/10 8 LCM I&K Cos (+), BLT 3/2 2201/2301/1602	
Rept PCS at H+50 min		10 AAVP Leading Plats L & Wpn Cos, BLT 3/6 1701/1803		10 LCM Leading Plats L & Wpn Cos, BLT 3/2 1703/1804	
Rept PCS at H+55 min		10 AAVP L & Wpn Cos (+) BLT 3/6 1702/1805		2 LCM L & Wpn Cos (+), BLT 3/2 2401/2501	
Rept PCS at H+60 min		6 AAVP BLT Hq 3/6 2101		6 LCM BLT Hq 3/2 2601	
Rept ACCS at H+90 min				10 LCM Division Adv CP 1901	
Rept ACCS at H+120 min				3 LST 2nd Tk Bn (+) rein 907	

Figure 3-24. Example of an Assault Schedule

Amphibious Vehicle Employment Plan							
Ship	Number and Type Amphibious Vehicles				Wave	Destination	Remarks
	AAVP7	AAVC7	AAVR7	LARC			
LST 1179	5		1		1	BEACH RED 1	Aslt Plats, Co B
LST 1180	5						Asit Plats, Co F
LSD 36	5		1		1	BEACH RED 2	Aslt Plats, Co A
LSD 37	5						Asit Plats, Co B
LST 1179	5				2	BEACH RED 1	Co E (-), BLT 2/6
LST 1180	5	1					Co F (-), BLT 2/6
LSD 36	5				2	BEACH RED 2	Co A (-), BLT 1/6
LSD 37	5						Co B (-), BLT 1/6
LST 1181	10	1			3	BEACH RED 1	Co G, BLT 2/6
LSD 38	10	1			3	BEACH RED 2	Co C, BLT 1/6
(etc. for the entire first trip of vehicles)							
LPD 4				2		Primary control ship RED beach	Land Beach Party Team
LSD 37				2		Primary control ship RED beach	Land Beach Party Team
(etc. for subsequent employment)							

Figure 3-25. Example of an Amphibious Vehicle Employment Plan

5. Consolidated landing and approach plan (prepared jointly by the BLT and PCO, in lieu of using separate employment plans and approach schedules). An example of a consolidated landing and approach plan is depicted in Figure 3-31.

6. Debarkation schedule (prepared jointly by ship's CO and CO of troops).

3.4.2.16.1 Battalions Other Than Infantry.

Combat support unit commanders prepare the same documents as the BLT for orderly debarkation and movement ashore.

3.4.2.17 Air Combat Element (ACE)/LF Aviation Landing Plan. The ACE/LF aviation landing plan outlines the ACE commander's plans for establishing aviation units ashore by air and surface means. It provides detailed plans for landing air elements embarked in assault shipping with scheduled or on-call waves or as nonscheduled units. This plan serves as the LF aviation landing plan when the wing is the ACE. An example of an ACE/LF aviation plan format is depicted in Figure 3-32.

3.4.2.17.1 Contents. The plan provides for the echelonment and landing sequence of aviation units established ashore. It contains:

Helicopter Availability Table									
Helicopter Unit and Call Sign	Number of Helicopters	Number of Helicopters Available		Model	Parent Helicopter Transport	Maximum Deck Launch Spots Available	Tentative Load Capacity		Remarks (as appropriate)
		First Trip 90% (Note 1)	Other Trips 75% (Note 1)				Troops	Cargo (lb)	
HMM-163 (ANVIL)	12	10	9	CH-46E	LHA 1	9	16	4,080	All external lift capable.
HMM-164 (RIPPER)	12	10	9	CH-46E	LPH 7	7	16	4,080	All external lift capable.
HMA-266 (SCARFACE)	12	10	9	AH-1W	LPH 2	7	NA	NA	Escort and CAS
HMA-267 (HOBO)	12	10	9	UH-1N	LHA 1	9	8	3,000 (Note 2)	Ten armed with 50-cal MG.
HMH-465 (HAULER)	16	14	12	CH-53E	LHA 3	9	32	32,000	Equipped with aircraft recovery sling.
HMH-466 (ELVIS)	16	14	12	CH-53D	LHA 2	9	32	14,000	All external lift capable.

Notes:

1. These percentages may vary from operation to operation.
2. The UH-1N has only 220 cubic feet of cargo space and would normally exceed available volume before exceeding weight limitations.
3. Sea level at 90°F.

Figure 3-26. Example of a Helicopter Availability Table

1. Detailed landing documents for air elements which move ashore prior to general unloading
2. Ship-to-shore control provisions
3. Confirmation on pontoon causeways, fuel handling systems, and landing naval construction regiment (NCR) elements to support aviation facilities ashore.

3.4.2.17.2 Composition of Echelons. Elements of air control support and fixed wing STOVL squadrons and helicopter groups comprise the first echelon and are

landed by helicopter and landing craft as part of the LFSP (see Appendix K). The second echelon of these units is landed across beaches normally as nonscheduled units and consists of heavy equipment and personnel required for sustained operations.

The initial echelon of the remainder of fixed wing aircraft groups is personnel and heavy equipment for base operations and maintenance. This echelon is surface-lifted into the AOA and landed across beaches. The second echelon comprising aircraft, pilots, and crews is flown into the AOA when facilities are ready.

Heliteam Wave and Serial Assignment Table							
Wave	Heliteam Flight Serial (Note 1)	Personnel	Number	Supplies and Equipment	Lift Capacity XXXX (Note 2)		
		Troop Unit			Personnel	Equipment	Total Weight
	ANVIL 101 100-1	1st Sqd, 1st Plat, Co A Aslt Tm, 1st Aslt Sqd, Wpns Plat	13 <u>3</u> 16	1M Dragon (31 lb) 2 Dragon Rds (50 lb)	3,840	81	3,921
	ANVIL 102 100-2	2nd Sqd, 1st Plat, Co A Aslt Tm, Aslt Sqd, Wpns Plat	13 <u>3</u> 16	1M Dragon (31 lb) 2 Dragon Rds (50 lb)	3,840	81	3,921
	ANVIL 103 100-3	Plat Cdr, 1st Plat, Co A Msgr 3d Sqd (-) Corpsman Sqd Ldr, 1st MG Sqd MG Tm, 1st MG Sqd, Wpns Plat	1 1 9 1 1 <u>4</u> 17	1AN/PRC-77 (22 lb)	4,080	22	4,102
	ANVIL 110 100-10	Elms 3d Sqd, 1st Plat, Co A MG Tm, 1st MG Sqd, Wpns Plat LZ Cntl Tm (RED) Plat Sgt, 1st Plat, Co A Msgr Plat Guide, 1st Plat, Co A Corpsman Sqd Ldr, 1st Aslt Sqd, Wpns Plat	5 4 3 1 1 1 1 <u>1</u> 17	1 MG (24 lb)	4,080	24	4,104

Notes:

- The heliteam flight serial is: ANVIL Heliteam squadron radio call sign
1 Heliteam wave number
01 Heliteam position in the wave
100 Troop unit serial assignment
-1 Troop unit heliteam number
- Lift capability is computed by the ACE based on helicopter model and expected environmental conditions.

Figure 3-27. Example of a Heliteam Wave and Serial Assignment Table

The LF aviation organization for landing will differ greatly from their task organization for combat operations because of the division of air groups and squadrons into landing elements and the wide variation in time and method of landing these elements. The ACE/LF aviation landing plan provides for a regroupment of these elements into echelons which is described in the general paragraph of the OPORD.

3.4.2.17.3 Scheduled, On-Call, and Non-scheduled Elements. The ACE/LF aviation plan lists air elements landed in scheduled and on-call waves or as nonscheduled units. It also contains landing documents extracted from GCE landing plans to describe the method and sequence for landing. These documents are:

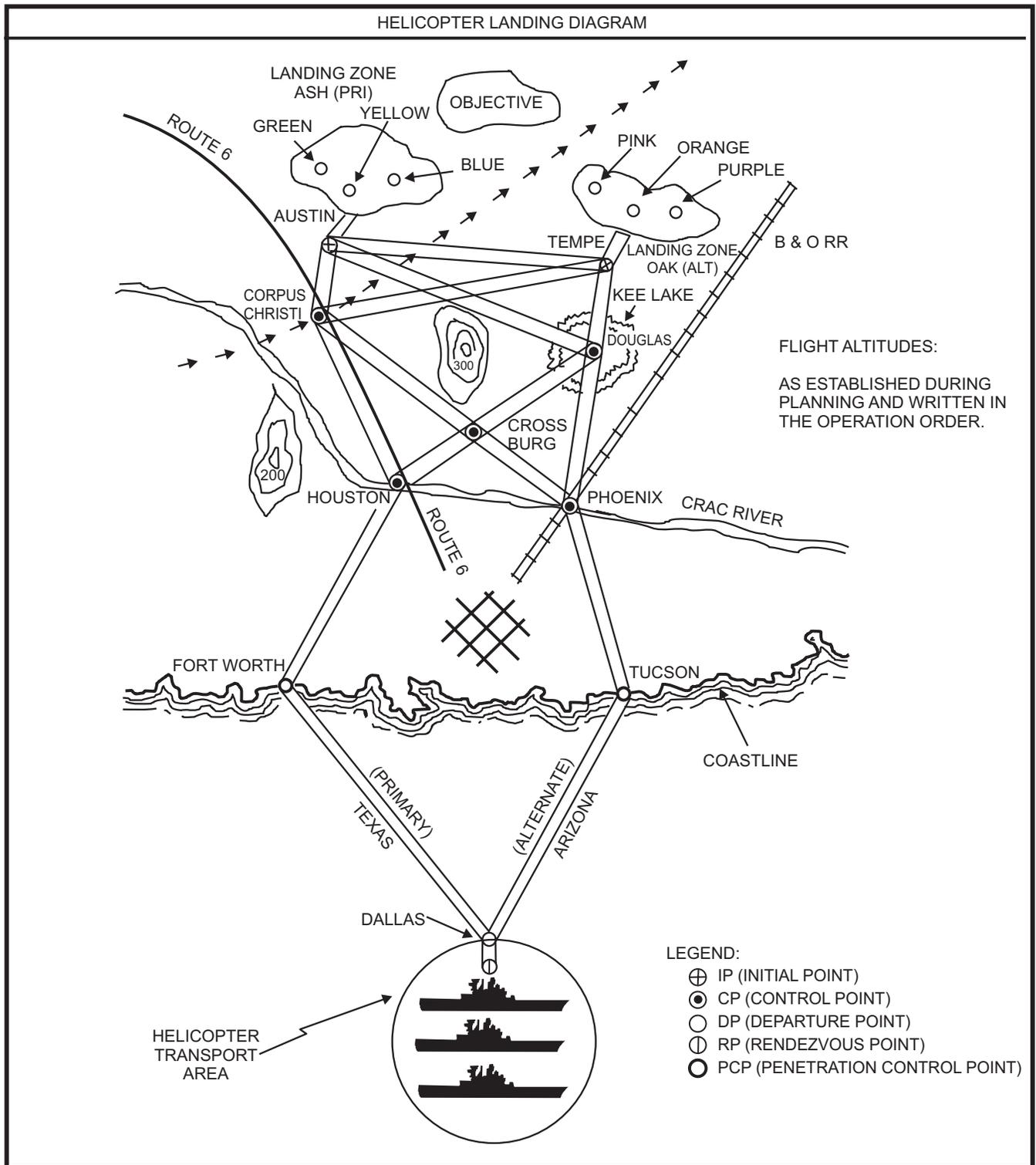


Figure 3-28. Example of a Helicopter Landing Diagram

Helicopter Employment and Assault Landing Table										
Wave	Helicopter Unit and Flight No.	Number and Model of Helicopter	From	To	Time			Destination		Troop Unit Serial Remarks
			Helicopter Transport	Helicopter Transport	Load	Launch	Land	LZ	LS	
1st	ANVIL-1	10 CH-46E	LHA 1	LHA 1	Preload	H - 21	H - Hr	Hawk	Blue	Co A (-) (Rein) Ser 101
	RIPPER-1	7 CH-46E	LPH 7	LPH 7	Preload	H - 21	H - Hr	Hawk	Green	Co B (-) (Rein) Ser 105
	SCARFACE-1	4 AH-1W	LPH 2	LPH 2	Preload	H - 21	NA	NA	NA	Escort
	HOBO-1	1 UH-1N	LHA 1	LHA 1	Preload	H - 21	NA	NA	NA	HCA (refuel as necessary)
2d	ANVIL-2	9 CH-46E	LHA 1	LHA 1	Preload	H - 11	H + 10	Eagle	Red	Elms Co "A" Ser 107
	RIPPER-2	7 CH-46E	LPH 7	LPH 7	Preload	H - 11	H + 10	Eagle	Green	Elms Co "B" Ser 103
	SCARFACE-2	4 AH-1W	LPH 2	LPH 2	Preload	H - 11	NA	NA	NA	Escort
3d	ANVIL-3	9 CH-46E	LHA 1	LPH 5	H + 39	H + 45	H + 71	Robin	Red	CO C (-) (Rein) Ser 211
	RIPPER-3	6 CH-46E	LPH 7	LPH 5	H + 39	H + 45	H + 71	Robin	Blue	Elms Co "C" Ser 212
	SCARFACE-3	4 AH-1W	LPH 2	LPH 5	NA	H + 45	NA	NA	NA	Escort
On-call	HAULER	16 CH-53E	LHA 3	LHA 3	TBA	On order	TBA	TBA	TBA	Resupply
	ELVIS	16 CH-53D	LHA 4	LHA 2	TBA	On order	TBA	TBA	TBA	Resupply

Figure 3-29. Example of a Helicopter Employment and Assault Landing Table (HEALT)

1. Extracts from assault schedules, HEALTs, and heliteam wave and serial assignment tables
2. Serial assignment table
3. Landing sequence table.

Serials, not part of the LFSP, to be landed in scheduled and on-call waves are submitted to CLF for coordination and approval. The GCE commander is then furnished the information to integrate air serials into the assault schedule. Nonscheduled units are serialized and incorporated into the LF landing sequence table.

Air control units, aviation headquarters squadrons, and base and logistics squadrons may be landed prior to commencement of general unloading to establish air facilities ashore. These units are normally landed as nonscheduled units.

Helicopter support teams (HSTs) are landed in scheduled waves. Air support radar teams usually are landed in on-call waves and are shown in the GCE's assault schedule or HEALT. Other air elements landed early in the ship-to-shore movement are serialized and shown in the GCE and LF landing sequence tables as nonscheduled units.

3.4.2.17.4 Airfields, Pontoon Causeways, Fuel Handling Systems, and Engineering Operations. The status of fixed-wing aviation facilities ashore determines when air elements will land. Information on when facilities will be ready is provided in the ACE/LF aviation landing plan and includes:

1. Time NCR elements will land and commence work on airfields
2. Estimated time installation of pontoon causeways for landing heavy aviation equipment will be completed

GCE Landing Plan

CLASSIFICATION

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(CTG 26.1)
c/o FPO
011200 April 19

Appendix 3 (Ship-to-Shore Movement) to Annex R (Amphibious Operations) to Order 1 - [].

Ref: (a) NWP 22-3
 (b) FMFM 1-8
 (c) CTF 25 Operation Order 1-[]
 (d) FMF Order _____ (CSS SOP)

Time Zone: H

1. GENERAL

- a. This plan calls for:
 - (1) Landing 1 RLT in 2 separate landing zones.
 - (2) Landing 1 RLT over beaches, with 2 BLTs abreast.
 - (3) Landing of scheduled waves to be accomplished by helicopter, LCAC, and AAV.
 - (4) The early landing of tanks to be accomplished by the beaching of LSTs as soon as scheduled waves have landed in assigned zones and on assigned beaches, secured dominating terrain, and cleared beach obstacles.
 - (5) The landing of the division reserve by helicopter and landing craft.
- b. For detailed instructions see enclosures in TABS.

2. CONTROL MEASURES

- a. Ship-to-shore control in accordance with reference (a), (b), and (c).
- b. TACLOG detachments organize, embark, and function in accordance with references (c) and (d).

3. PONTOON CAUSEWAYS AND BARGES

- a. TAB A to appendix 3 to reference (c) refers.

BY COMMAND OF MAJOR GENERAL ZULU

W. X. YANKEE
Colonel, U.S. Marine Corps
Chief of Staff

Tabs:

- A. Waterborne ship-to-shore movement
- B. Helicopterborne ship-to-shore movement

Distribution: IAW Annex Z to CTF 26 OPORD 1-[].

Page Number

CLASSIFICATION

Figure 3-30. Example of a GCE Landing Plan Format

Consolidated Landing and Approach Plan							
Approach Schedule							
(1) Scheduled Waves							
Wave No.	Composition	Unit	Source	Leave Launch Area or Ship	Leave LOD	Land	Remarks
1	8 AAVP	Aslt Plats Co A	LST 1179	H-13	H-7	H-hour	Ser 1401, 1405
2	8 AAVP	Aslt Plats Co B	LST 1196	H-11	H-5	H+3	Ser 1402, 1406
3	3 LCM 8	1st Plat Co B, 3rd Tank Bn	LPD 14	H-5	H-2	H+6	Ser 0103, 1403, 1407
4	3 LCM 8	1st Plat Co B, 3rd Tank Bn	LSD 39	H-hour	H+3	H+9	Ser 0104, 1404, 1408
(2) On-Call Waves							
Serial	Composition	Unit	Source	Report To	Time	Remarks	
0905	1 LCU	BPT "A"	LSD 37	PCS	H-hour	Follow wave 4	
0906	1 LCM 8	BPT "A"	LPD 4	PCS	H-hour	Follow wave 4	
1007	2 LARC	BPT "A"	LPD 12	PCS	H-hour	Follow wave 4	

Figure 3-31. Example of a Consolidated Landing and Approach Plan (Sheet 1 of 2)

3. Estimated times airfields will be operational

4. Estimated time fuel handling systems from the beach to aircraft operating sites will be operational.

3.5 ORGANIZATION OF THE LANDING AREA

Sea, beach, and inland operating areas in the landing area are selected to meet tactical requirements and facilitate control of the ship-to-shore movement. Succeeding paragraphs deal with the sea and land organization of the landing area.

3.5.1 Sea Operating Areas. Sea operating areas are established to minimize the possibility of interference with amphibious operations by elements of the ATF or supporting forces. Sea operating areas established to support amphibious operations are ocean operating areas and sea areas in the landing area.

3.5.1.1 Ocean Operating Areas. Ocean operating areas are located outside the landing area and may be located inside or outside of the AOA. They are established by CATF or higher authority. These areas, as depicted in Figure 3-33, are:

Landing Craft and Amphibious Vehicle Employment Plan						
(1) Scheduled Waves						
No.	Type	From	To	Time of Arrival	Period Attached	Remarks
3	LCM 8	LPD 14	LPD 14	LTLF	One Trip	Wave 3 Ser 0103
2	LCM 8	LSD 39	LSD 39	LTFL	One Trip	Wave 4 Ser 0104
(2) On-Call Waves						
1	LCU	LSD 36	LSD 36	H-15	One Trip	Ser 0905
1	LCM 8	LPD 8	LPD 8	H-15	One Trip	Ser 0906
2	LARC V	LPD 13	LPD 13	H-15	Until released	Ser 1007
Landing Craft for Naval Use						
1	LCPL	LSD 37	PCS	LTLF	Until released	BGC lead wave 3
1	LCPL	LSD 37	PCS	LTLF	Until released	ABGC, follow wave 4
3	LCVP	LST 1179	LST 1179	LTLF	Until released	WGO, waves 1 and 2
1	LCVP	LPD 14	LST 1179	LTLF	Until released	AWGO for wave 2
1	LCM 6	LSD 37	PCS	LTLF	Until released	Salvage boat follow wave 4

Figure 3-31. Example of a Consolidated Landing and Approach Plan (Sheet 2 of 2)

1. A close support area. Aircraft carrier battle groups (CVBGs), surface action groups (SAGs), and logistics groups assigned as supporting forces in the initiating directive operate in this area. As supporting forces, their actions are integrated and coordinated with the landing plan.

2. A distant retirement area. This area is divided into a number of operating areas for assault shipping to retire to in the event of heavy weather, enemy action, or for protective dispersion.

3.5.1.2 Sea Areas in the Landing Area. Sea areas in the landing area are established by CATF and promulgated in the OPORD or OPTASK AMPHIB. They are depicted in Figure 3-33.

3.5.1.2.1 Screening Areas. Aircraft, ships, and submarines from the ATF and supporting forces providing anti-air, anti-surface, and anti-submarine warfare (AAW, ASUW, and ASW) protection to the ATF operate in screening areas. Defensive minefields could also be employed to augment the protective screen.

These areas are organized under the composite warfare commander (CWC) concept and provide maximum protection to forces operating in the landing area. These areas are not depicted in Figure 3-33 because tactical, atmospheric, and oceanographic variables must be considered to arrive at proper station assignments.

ACE/LF Aviation Landing Plan

CLASSIFICATION

Appendix 3 (Ship-to-Shore Movement) to Annex R (Amphibious Operations) to OPORD 1- [].

Ref: (a) LFM-02
 (b) FMFM 3-3
 (c) NWP 22-3

Time Zone: H

1. GENERAL

- a. This plan calls for:
- (1) Landing 1 MASS, 2 MACS, and detachments of 2 MABS (VH) with the assault elements of the 1st Division, by helicopter, landing craft, and amphibious vehicles.
 - (2) Landing 1 MACS, MHWS and 2 MABS (VH/VA) (-) and detachments of 2 H&MS(HR) by serials over beaches to be designated.
 - (3) Landing the remainder of the wing less 1 MAG VF/VA in sequence during general unloading by surface means and air.
 - (4) Landing 1 MAG VF/VA after follow-up shipping arrives in the AOA about D + 10.
 - (5) For detailed instructions see appendixes

2. SHIP-TO-SHORE CONTROL

- a. Wing TACLOG officers embark and function with TACLOG detachments in accordance with CTF 26 OPORD 1-[].
- b. Wing units in scheduled, on-call, and nonscheduled waves land under division and FSSG control.

3. AIRFIELDS, PONTOON CAUSEWAYS, FUEL HANDLING SYSTEMS, AND ENGINEER OPERATIONS

- a. Airfields and operating bases
- | Designation | Time Estimated Operational |
|-------------|----------------------------|
| V-1 | D + 4 |
| V-2 | D + 7 |
| V-3 (HR) | D + 3 |
| V-4 (HR) | D + 4 |
| V-5 | D + 5 |
| V-6 | D + 10 |
- b. Pontoon causeways to be installed Red 1 and Blue 2 after D + 2 for landing aviation and engineering equipment.
 - c. 1st FSSG (Bulk Fuel Company) installs AABFS from Red 1 and Blue 1 to airfields and helicopter operating areas commencing D + 2 in accordance with priorities in Wing Administrative Plan 1-[].
 - d. Two naval construction battalions and one force engineer battalion land commencing D + 2 for repair and construction of air fields and operating bases.

BY COMMAND OF MAJOR GENERAL WILD

R.M. BLUE
 Colonel, U.S. Marine Corps
 Chief of Staff

Tabs:

- A. Division Assault Schedule (extract)
- B. Division Landing Sequence Table (extract)
- C. Division Helicopter Employment and Assault Landing Table (extract)
- D. Division Heliteam Wave and Serial Assignment Table (extract)
- E. LF Landing Sequence Table (extract)
- F. LF Serial Assignment Table
- G. Wing Echelons for Landing

Distribution: IAW Annex Z to CTF 26 OPORD 1-[].

CLASSIFICATION

Figure 3-32. Example of an ACE/LF Aviation Landing Plan Format

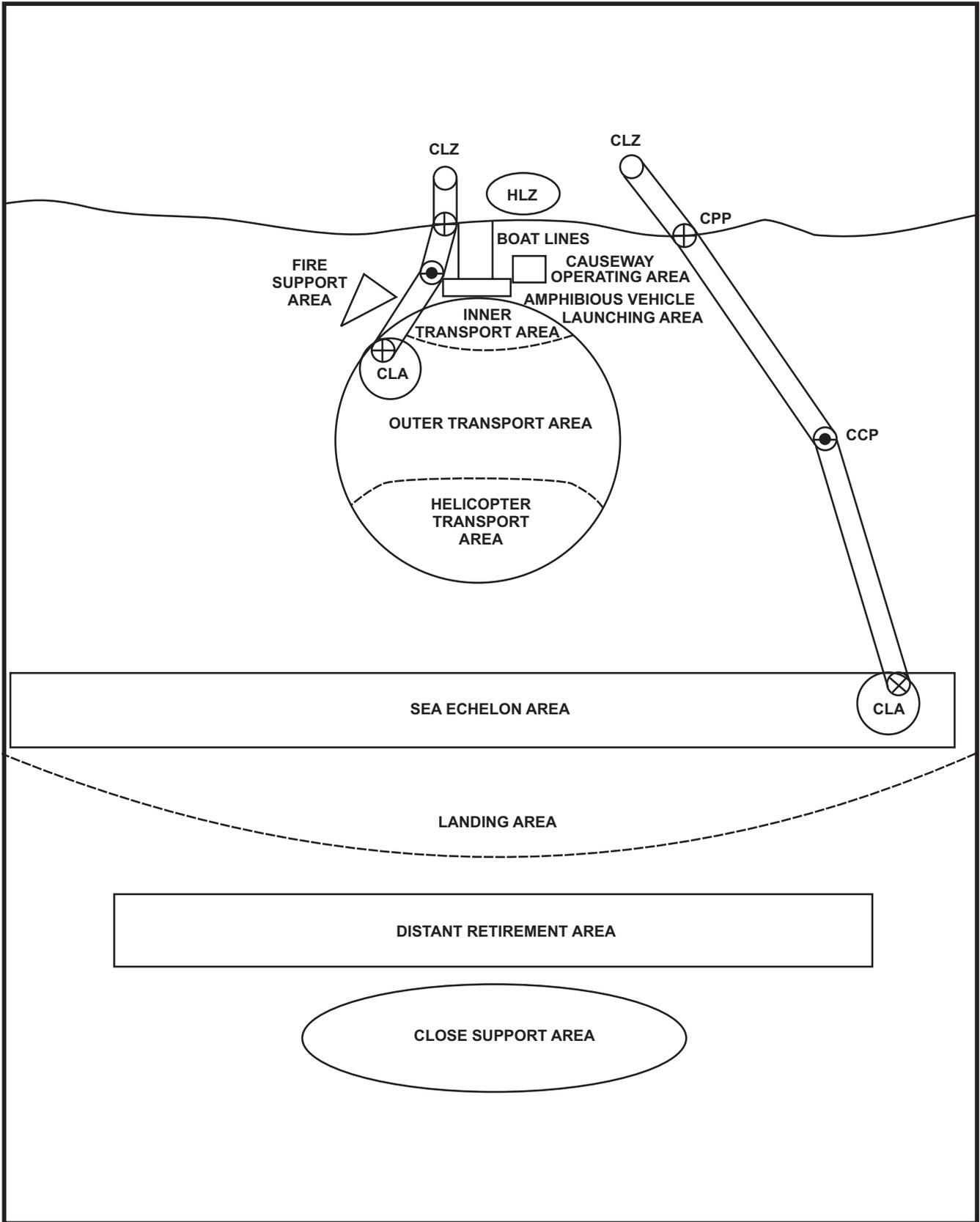


Figure 3-33. Ocean Operating Areas and Sea Areas in the AOA

3.5.1.2.2 Landing Area. The landing area is that part of the objective area within which are conducted the landing operations of an amphibious force. It includes the beach, approaches to the beach, transport areas, FSAs, the air occupied by close supporting aircraft, and the land included in the advance inland to the initial objective.

CATF's mission determines the number of landing areas selected in the AOA. Normally a transport group is formed to conduct landing operations at each landing area.

3.5.1.2.3 Transport Area. The transport area is an area assigned to a transport organization for the purpose of debarking troops and equipment. This area may be divided into an inner and outer area and includes the helicopter transport area. A transport area supports one or more colored beaches or HLZs depending on the distance between them.

3.5.1.2.3.1 Outer Transport Area. The outer transport area is an area located inside the screening area to which assault shipping proceed initially after entering the AOA. This area is located sufficiently seaward of landing beaches to be beyond shore battery range. Assault shipping remains underway in the outer transport area and may initiate an OTH assault or is phased into the inner transport area for a near shore assault.

3.5.1.2.3.2 Inner Transport Area. The inner transport area is an area located as close to the landing beach as depth of water, navigational hazards, boat traffic, and enemy action permit, to which assault shipping may move to expedite unloading. During the initial stages of the ship-to-shore movement, assault shipping is underway or anchored, based on the threat, to debark troops and equipment.

During general unloading assault shipping normally anchors to facilitate the offload and the water depth and bottom characteristics of the inner transport area should support this.

3.5.1.2.3.3 Helicopter Transport Areas. Helicopter transport areas are located in the transport area for launching/recovering helicopters. The area should provide ample maneuvering room to maintain required relative winds during helicopter operations.

3.5.1.2.4 Control Ship Stations. Control ship stations are assigned for guiding and controlling the ship-to-shore movement. These stations are static positions or underway sectors to avoid shore-based threats.

3.5.1.2.5 Amphibious Vehicle Launching Areas. Amphibious vehicle launching areas are located as close to the AAV LOD as possible to minimize AAV transit times. Assault shipping moves into this area to launch AAVs underway, while lying to, or from anchor.

3.5.1.2.6 Landing Craft Air Cushion (LCAC) Launch Area (CLA). CLAs are located in the transport area. The CLA and CLZ are connected by transit lanes. In an OTH assault, CLAs may be located anywhere in the landing area.

3.5.1.2.7 Causeway Operating Areas. The causeway operating area is normally located on the flanks of boat lanes and includes a sea and beach component. The sea component is used for causeway launching and assembly. The beach component supports causeway emplacement for offload operations.

3.5.1.2.8 Fire Support Areas (FSAs). Naval surface fire support (NSFS) ships operate in FSAs to provide supporting fire to the LF. FSAs are located to provide optimum fields of fire; to be as near shore as hazards to navigation permit; and to remain clear of boat, approach, and transit lanes.

3.5.1.2.9 Sea Echelon Area. The sea echelon area is located in the landing area seaward of the transport area. The ATF operates in the sea echelon area for dispersion and mobility. Assault shipping is phased in and out of transport areas in accordance with the priority sequence table as the assault progresses. Paragraph 3.4.1.12 provides additional information on the sea echelon concept of operations.

3.5.2 Beach and Inland Areas. CLF, in coordination with CATF, selects the location of beach and inland operating areas, including the inland routes and control points for helicopter and LCAC movement.

3.5.2.1 Combat Service Support Area (CSSA). The CSSA is a forward logistic support installation inland of the BSA having less than the full spectrum of CSS capabilities. The landing force support party (LFSP) operates the CSSA until relieved by the LSSE (see Appendix K) and provides minimum essential CSS to the LF in supply, maintenance, deliberate engineering, transportation, health services, and administrative services.

3.5.2.2 Beach Support Area (BSA). A BSA is established by the LFSP and contains facilities for unloading troops and material, logistically supporting the LF, and the evacuation of casualties or prisoners

of war. BSAs are disestablished when the CSSA is established. Appendix K describes in detail the CSS functions performed in the BSA.

3.5.2.3 Landing Zone Support Area (LZSA). An LZSA is established by the LFSP when a planned CSS buildup in an LZ commences. A planned CSS buildup is discussed in Appendix L.

3.5.2.4 Helicopter Inland Areas. Paragraph 5.5.3 and Figure 3-28 depicts helicopter routes and HLZs.

3.5.2.5 Landing Craft Air Cushion (LCAC) Inland Areas. Paragraph 4.3.3.2 discusses LCAC inland routes and CLZs.

3.5.2.6 Forward Arming and Refueling Point (FARP). A temporary facility organized, equipped, and deployed by the aviation commander to provide fuel and ammunition to aviation maneuver units in combat.

3.6 NIGHT AND LOW-VISIBILITY SHIP-TO-SHORE PLANNING

Night waterborne and helicopterborne ship-to-shore movements are conducted to exploit the tactical advantages of landing under the cover of darkness. The possibility of low-visibility conditions existing in the landing area, however, could require some modifications to the landing plan. Increased separation between assault shipping, stricter control procedures for the waterborne and helicopterborne ship-to-shore movements, changes to the timing of assault waves, increasing casualty holding capacity ashore, or postponement of helicopter operations may be some factors that CATF and CLF considered in developing an alternate plan to land under low-visibility conditions. Appendix C describes night and low-visibility lighting displays for landing craft.

CHAPTER 4

Conducting the Waterborne Ship-to-Shore Movement

4.1 PURPOSE

This chapter discusses the doctrine, methodology, and command and control for landing force (LF) debarkation and the waterborne ship-to-shore movement.

4.2 BACKGROUND

With air superiority and naval supremacy established, the amphibious task force (ATF) enters the landing area to commence the assault phase. The potential employment of air-to-surface/surface-to-surface missiles (ASM/SSMs) or chemical, biological, or radiation (CBR) weapons against the ATF may dictate that the transport group remain dispersed and mobile within the landing area. Tactics for conducting the waterborne ship-to-shore movement focus on underway launches of preloaded amphibious assault vehicles (AAVs) and landing craft with a minimum number of control ships, craft, and personnel on station. Landing craft air cushion (LCAC) launched from over-the-horizon (OTH) complement the helicopterborne assault. AAVs and displacement landing craft launched underway in the near shore area, close to the line of departure (LOD), continue the momentum of the assault and buildup of combat power ashore. Underway LF debarkation is a natural progression of amphibious ship design. World War II vintage transports carrying troops and equipment that debarked by nets and cargo booms into landing craft at anchorages have been replaced by ships with multispot flight decks, well decks, and tank decks with preloaded helicopters, AAVs, LCACs, and displacement landing craft that debark the LF underway at speeds up to 20 kts. This chapter discusses the range of options available to commander, amphibious task force (CATF) for initiating LF debarkation and the ship-to-shore movement. Doctrine associated with static LF debarkation is covered because it provides additional options and, in some variations, is applicable to underway LF debarkation.

4.2.1 Final Preparations and Approach. Prior to entering the landing area, CATF and commander, landing force (CLF) evaluate the ATF's readiness for amphibious operations. Surf observation (SUROB)

reports, beach survey intelligence reports (BSIRs), and confirmatory beach report (CONBREP) from sea-air-land (SEAL)/Marine reconnaissance (RECON) teams are relayed by the advance force commander to CATF to validate that conditions are suitable for the waterborne ship-to-shore movement. A key factor in determining the suitability of environmental conditions to conduct the waterborne ship-to-shore movement is the calculation of the modified surf index (MSI). COMNAVSURFLANT/COMNAVSURFPACINST 3840.1 Series, "Joint Surf Manual," provides the methodology for calculating the MSI and displacement landing craft MSI operating parameters. Based on this information, CATF confirms the primary or alternate landing plan, H-hour, and initiates the landing by executing the signal, "Land the landing force." H-hour is the time at which the initial assault troops or the landing force land on the beach or in CLZs or HLZs. The time interval between "Land the landing force" and H-hour depends on several variables, such as: size and complexity of the ship-to-shore movement, numbers of pre-H-hour transfers, method of LF debarkation (underway or static), and distances from launch points to the beach.

4.2.1.1 Positioning. The transport group arrives in the landing area and ships complete all required actions without further signal to meet H-hour. CATF's control plan organizes the landing area and specifies the level of control required for the ship-to-shore movement. For underway LF debarkation, the number of control stations may be reduced for the ship-to-shore movement because the launch ship's navigation equipment can accurately position assault craft close to the LOD, thus reducing the requirements for approach ships, primary and secondary control ships (PCSs and SCSs), and boat group commanders (BGCs). The installation of global positioning system (GPS) navigation equipment in assault craft will further reduce the requirement for a PCS and LCAC control ship (LCS) to control scheduled waves. Buoys or radar beacons deployed during advanced force operations also assist in accurately positioning and guiding assault craft during the ship-to-shore movement.

4.2.1.2 Landing Sequence. Waterborne troops and equipment are arranged in the categories

discussed in paragraph 3.3.2. Scheduled and on-call waves land in accordance with the assault schedule. Scheduled waves are controlled to the beach by the Navy control group. On-call waves, nonscheduled units, and prepositioned emergency supplies are landed in accordance with the LF landing sequence table or as requested by ground combat element (GCE) tactical commanders through the tactical logistics (TACLOG) group. A beach support area (BSA) is established ashore to facilitate the movement of troops, combat service support (CSS), and evacuation of casualties. When the tactical situation ashore permits, CLF requests that general unloading begin.

4.3 EXECUTION

Paragraph 1.3 discusses the concept of the ship-to-shore movement which commences when CATF executes the signal, “Land the landing force” and concludes when the unloading of all assault shipping is completed.

4.3.1 Pre-H-Hour Transfers. If pre-H-hour transfers should become necessary because the means available for embarkation were not sufficient to maintain LF integrity, the cross decking of personnel and equipment should be accomplished by helicopter, landing craft, or boat. The most efficient method should be chosen. If waterborne transfers are required, CLF provides the following information for the landing craft employment plan:

1. Boat team or serial number
2. Ship on which the boat team or serial number is embarked
3. Ship to which the boat team or serial will be delivered
4. Number of personnel, equipment, and supplies to be moved.

The means are launched to complete pre-H-hour transfers as specified by CATF or when “Land the landing force” is executed.

4.3.2 Waterborne Ship-to-Shore Movement Control Organization. The waterborne ship-to-shore movement control organization is the Navy control group. The Navy control group consists of personnel, ships, boats, and landing craft that are designated to plan and control the waterborne ship-to-shore movement. Figure 4-1 depicts the organization of the Navy control group for the waterborne ship-to-shore movement. Only the organization for red beach is shown. A similar organization for blue beach

would be established. This organization supports large scale amphibious operations, particularly when a transport group anchors off landing beaches for LF debarkation and the Navy control group provides positive control of all scheduled waves during the waterborne ship-to-shore movement. During smaller scale amphibious operations and in particular when LF debarkation is conducted underway, CATF may reduce the number of control ships, boats, and personnel shown in Figure 4-1.

4.3.2.1 Central Control Officer (CCO). A CCO is designated by CATF to plan and conduct the waterborne ship-to-shore movement. The CCO is normally embarked in a central control ship (CCS) and is responsible for:

1. Planning and supervising the waterborne ship-to-shore movement
2. Organizing the Navy control group to support the ATF landing plan
3. Maintaining liaison with the tactical air officer (TAO)
4. Maintaining liaison with the TACLOG group (see Appendix J).

4.3.2.2 Assistant Central Control Officer (ACCO). An ACCO may be designated when two or more landing areas are used or when the landing area has beaches located where centralized control is impracticable.

4.3.2.3 Primary Control Officer (PCO). A PCO is designated for each colored beach and is responsible for:

1. Providing detailed plans, called PCO instructions, to conduct the ship-to-shore movement for amphibious assaults or withdrawals across a colored beach
2. Maintaining current location and status of all ships, landing craft, and boats assigned to conduct the landing on the assigned beach
3. Monitoring surf conditions and weather predictions and recommending the termination of boating when conditions warrant
4. Maintaining the status of debarkation or embarkation
5. Landing scheduled waves at the correct beach at the specified time

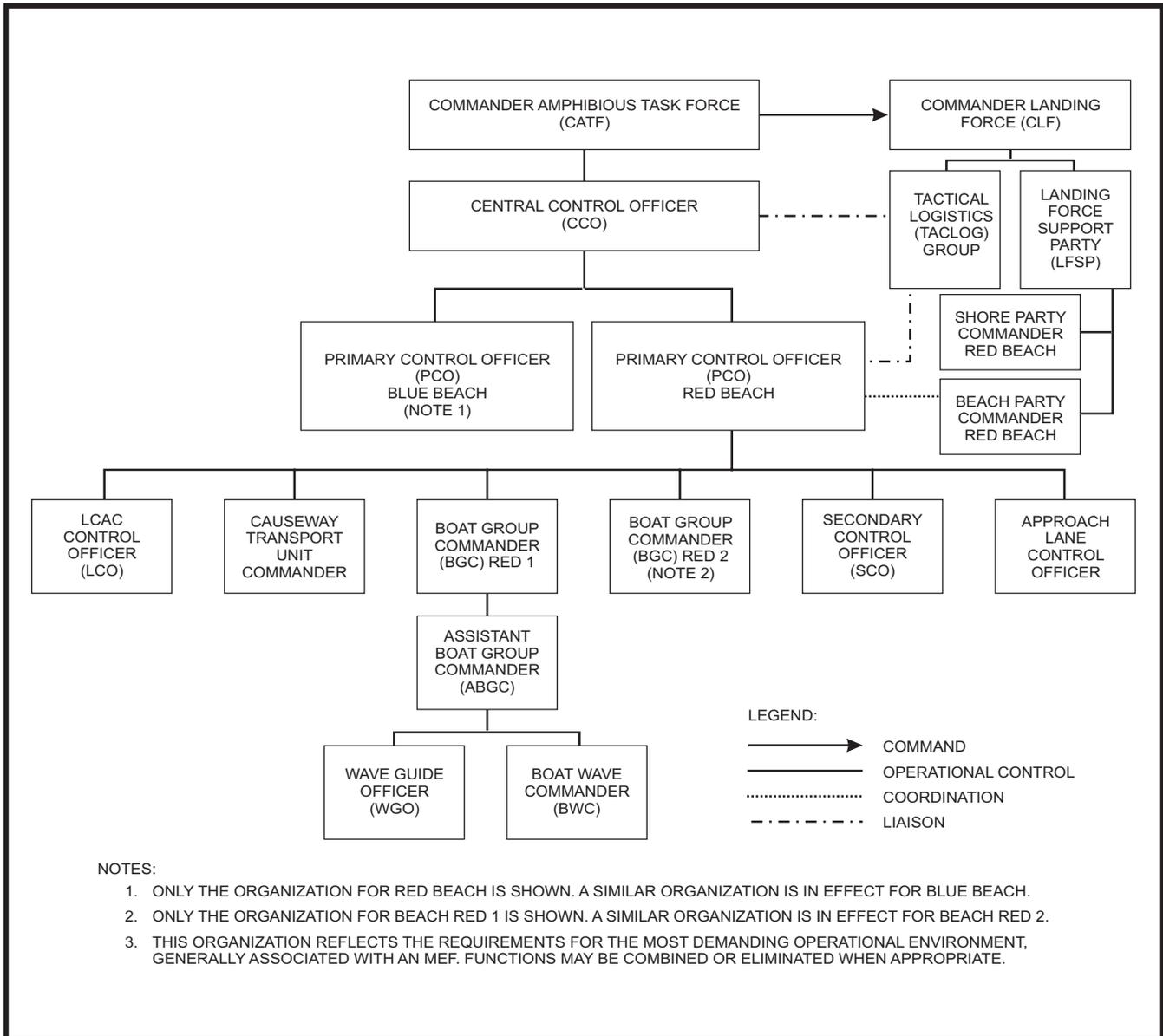


Figure 4-1. Control Organization During the Waterborne Ship-to-Shore Movement

6. Arranging for fueling boats and providing rest and food for boat crews
7. Providing liaison to the surfaceborne RLT TACLOG detachment
8. Conducting assault craft salvage operations
9. Coordinating the employment of landing ships and craft within his area of responsibility following the initial assault.

4.3.2.4 Primary Control Ship (PCS). The PCS provides support for the embarked PCO and a boat

control team to track and control assault craft. PCS responsibilities include controlling scheduled waves to the beach and assisting the PCO in:

1. Maintaining a plot of all ships, assault craft, and boats within the PCO control area
2. Coordinating the movements of on-call waves and nonscheduled units
3. Coordinating landing ship, amphibious vehicle, landing craft, and boat traffic movements during general offload or LF backload.

The PCS may be assigned a fixed point station, normally the left flank of the LOD, or an underway sector in the vicinity of the LOD. PCS controls an RLT landing across a colored beach or a single BLT landing across a numbered beach. When two BLTs land across a numbered colored beach, the PCS will control the scheduled waves of one BLT.

4.3.2.4.1 Boat Control Team. The boat control team plots, tracks, and controls the movements of scheduled waves from the PCS's combat information center (CIC). Team members are:

1. Supervisor
2. Wave controller
3. Grid plotter
4. Radio net operators (ALFA and BRAVO nets)
5. Radar operator
6. Visual bearing taker
7. Signalman for visual communications.

The boat control team uses the signals in Appendix C to alert waves of LOD departure times and the amphibious grid system explained in Appendix D for wave control from the rendezvous or underway launch area to the beach.

4.3.2.5 Secondary Control Officer (SCO) and Secondary Control Ship (SCS). The SCO embarks in the SCS and is a principal assistant to the PCO. The SCS is assigned a fixed point station on the LOD or underway sector in the vicinity of the PCS. SCO/SCS duties include:

1. Maintaining duplicate control records and plots required of the PCO and PCS
2. Monitoring PCO radio circuits
3. Controlling the waterborne ship-to-shore movement over a numbered colored beach when two or more numbered beaches are designated for a colored beach
4. Assuming PCO and PCS duties in an emergency.

When two or more numbered beaches are in operation, an additional SCO and SCS may be assigned as a backup or to control the third or additional colored beaches.

4.3.2.6 Approach Lane Control Officer and Approach Lane Marker Ship. When multiple colored beaches are specified in the ATF landing plan approach lane control officers and marker ships are stationed during static debarkation of the LF to mark LOD approaches to assist boat groups departing the transport area. The approach lane control officer reports to the PCO.

4.3.2.7 Boat Group. A boat group consists of control personnel and boats, amphibious vehicles, and displacement landing craft in scheduled waves for a numbered colored beach. Each boat group has a BGC and an assistant boat group commander (ABGC). Each AAV wave has a wave guide officer (WGO) and each displacement landing craft wave has a boat wave commander (BWC) assigned.

Appendix C discusses identification flags, lights, markers, and signals used in the waterborne ship-to-shore movement. These special designator flags are taken down when displacement landing craft and control boats cross the LOD and are redisplayed after the last scheduled wave has landed.

4.3.2.7.1 The Boat Group Commander (BGC). The BGC embarks in a landing craft, personnel, large (LCPL) displaying the ZERO flag over the beach flag and is under the tactical control of the PCO. The BGC is thoroughly briefed on the approach schedule; assault wave, landing area, and transport area diagrams; and weather conditions and is responsible for:

1. Maintaining discipline within the boat group
2. Maintaining proper wave positions in the rendezvous area
3. Leading the first displacement landing craft wave from the rendezvous or underway launch area to the surf zone
4. Controlling waterborne traffic off the beach.

After all scheduled waves have landed, the BGC becomes the traffic control officer for the beach and reports to the beach party for operations inside the surf line and the PCO for operations seaward of the surf zone. Appendix H lists equipment requirements for the BGC's boat.

4.3.2.7.2 Assistant Boat Group Commander (ABGC). The ABGC embarks in an LCPL displaying the WHISKEY flag over the beach flag and reports to the BGC. The ABGC is responsible for:

1. Assuming BGC duties in an emergency
2. Assisting in organizing waves into proper position in the rendezvous area
3. Assisting in dispatching waves from the rendezvous area to arrive at the LOD on time
4. Checking for stragglers or malfunctioning/damaged assault craft in later waves
5. Following the last scheduled wave to the surf zone
6. Conducting landing craft and amphibious vehicle salvage operations.

After all scheduled waves have landed, the ABGC becomes the senior salvage officer afloat for the beach and reports to the beach party for salvage operations inside the surf zone and the PCO for salvage operations seaward of the surf zone. If salvage operations are not required, the ABGC's loiter position is shown in the beach approach diagram. Appendix H lists equipment requirements for the ABGC's boat.

4.3.2.7.3 Boat Wave Commander (BWC). The BWC embarks in the number one displacement landing craft and displays the beach flag over the wave number numerical flag. The BWC communicates with the BGC, ABGC, and PCS and is responsible for:

1. Forming the wave into the proper organization for landing
2. Maintaining boat discipline in the wave
3. Maintaining proper boat and wave intervals
4. Arriving at the LOD and beach on time.

The BWC boat is normally in the van of a column, apex of a wedge, or center of a line abreast formation. The grid reference system of wave control (see Appendix D) is used to control boat waves. Grid directions are provided from the parent ship or the approach lane marker ship until the BWC reports to the PCS. The PCS provides directions to the BWC during the approach to the beach. The BWC directs the wave returning to the PCS, remaining clear of incoming waves.

4.3.2.7.4 Wave Guide Officer (WGO). A WGO may be assigned to each AAV wave. The WGO leads the wave to the LOD and takes station on the wave's

left flank prior to crossing the LOD. Normally the AAV wave commander, the senior LF officer in the number one AAV in the wave, assumes the role of WGO. In this situation, the wave guides on the AAV wave commander en route to the beach. If the AAV is not the designated WGO, the ship launching the wave provides the WGO embarked in a boat displaying the beach flag over the wave number numerical flag. The WGO/AAV wave commander's responsibilities are the same as the BWC. The grid reference system of wave control (see Appendix D) is used by the PCS to control AAV waves.

AAV safety boats are provided by the ship launching AAVs during training exercises. They assist AAVs with mechanical problems and evacuate embarked LF personnel if required. Safety boats do not display any flags or insignia by day and display normal navigation lights at night.

4.3.2.7.5 Floating Dumps. Paragraph 3.3.2.4.1 describes the requirements for establishing floating dumps. They are listed in the landing craft employment plan and positioned in the vicinity of the LOD, under PCS control, as shown in the approach diagram. Floating dumps display a green flag over a numeral flag from Appendix C corresponding to the cargo being carried.

4.3.2.7.6 Medical Boats. Medical boats are listed in the landing craft employment plan and are positioned off the landing beach, under PCS control, as shown in the approach diagram. Medical personnel and equipment are embarked to transport casualties from the beach to a casualty receiving and treatment ship (CRTS). Medical boats display the MIKE flag over the beach flag.

4.3.2.7.7 Salvage Boats. Salvage boats are listed in the landing craft employment plan and are positioned as shown in the approach diagram. Landing craft configured to conduct salvage operations are not suitable for carrying troops or equipment. Appendix H lists the equipment carried in each salvage boat and Appendix I discusses their operational tasking. Salvage boats display the SIERRA flag over the beach flag.

4.3.2.7.8 Landing Craft Air Cushion (LCAC) Control Officer (LCO). The LCO embarks in the LCS and assists the PCO by providing detailed plans for the ship-to-shore movement of LCACs. The LCAC ship-to-shore movement is planned and conducted under the centralized control of the Navy control group organization. Because of LCAC's unique capabilities compared to displacement landing craft, the PCO delegates various planning aspects and

LCAC control from the LCAC departure point (CDP) to LCAC penetration point (CPP) to the LCO. The LCO reports to the PCO and is responsible for:

1. Providing detailed plans, called LCO instructions, to conduct the LCAC ship-to-shore movement
2. Controlling LCACs from the CDP to the CPP
3. Maintaining the current location and status of all LCACs assigned to conduct the landing
4. Monitoring surf conditions and weather predictions and recommending to the PCO the termination of LCAC operations when conditions warrant
5. Arranging for fueling LCACs and providing rest and food for LCAC crews.

4.3.2.9 LCAC Control Ship (LCS). The LCS provides support for the embarked LCO and an LCAC control team to control LCAC groups from the LCAC launch area (CLA) to the CPP.

4.3.2.9.1 LCAC Control Team. The LCAC control team is analogous to the boat control team. During the ship-to-shore movement the team provides advisory or positive control to LCAC groups en route to the CPP. During general offload the team controls or monitors LCAC movements as directed by the PCO.

4.3.2.10 LCAC Group. An LCAC group consists of two or more LCACs that comprise a scheduled wave. LCACs do not display any amphibious unique visual signals or insignia because of the foreign object damage (FOD) these devices could cause. Appendix C contains LCAC beach markings and maneuvering hand signals.

4.3.2.10.1 LCAC Group Commander (LGC). The LGC is analogous to the BWC in the boat group. The LGC is from the assault craft unit (ACU) LCAC detachment and embarks in an LCAC with either GPS for navigation or the USQ-90 position locating and reporting system (PLRS) (when available) for command and control.

4.3.2.11 Causeway Transport Unit Commander. The causeway transport unit commander is the senior LST commanding officer (CO) carrying causeways at each colored beach that directs the offload and assembly of causeway sections for installation as causeway piers or employment as barge ferries. Paragraph 4.3.9 discusses LST beaching and causeway operations in greater detail.

4.3.3 Control Areas. Displacement craft and LCAC control areas and positions are established in the landing area to deconflict tactical operations, define transit lanes for the LCAC and boat groups, identify geographic positions for timing, and to position control ships/boats to guide the waterborne ship-to-shore movement. Displacement craft control areas are the approach lane, LOD, and boat lane. LCAC control areas are the CLA, CDP, transit lane, LCAC control points (CCPs), CPP, and LCAC landing zone (CLZ). Figure 4-2 depicts displacement craft and LCAC control areas.

4.3.3.1 Displacement Craft Control Areas. AAVs and displacement landing craft begin their timed transit to the beach from the LOD. The timing for each scheduled wave is established in the approach schedule. Signals to alert waves of their LOD departure times are contained in Appendix C.

4.3.3.1.1 Approach Lane. An approach lane is an extension of the boat lane from the LOD toward the transport area. It indicates the exact route displacement landing craft use to approach the LOD from the transport area when static debarkation is employed. It may be identified by a marker ship, boat, or buoy. Adjacent approach lanes may be parallel or diverge seaward to provide for early dispersion of assault waves.

4.3.3.1.2 Line of Departure (LOD). The LOD is an offshore coordinating line to assist displacement craft and AAVs to land on designated beaches at scheduled times. It marks the seaward end of the boat lane. Each colored beach has an LOD and topographic, hydrographic, and tactical considerations determine the specific location. It may be marked by PCS/SCS, boats, or buoys. When scheduled waves are launched underway the LOD may be unmarked. Displacement craft waves are dispatched to the beach from this line. A separate LOD may be provided for AAVs to reduce waterborne transit times.

4.3.3.1.3 Boat Lane. A boat lane extends seaward from the landing beach to the LOD. The width of the landing beach determines the width of the boat lane. A flank of the boat lane is designated as the return boat lane to deconflict traffic patterns of displacement landing craft returning towards the LOD and approaching the beach.

4.3.3.2 LCAC Control Areas. LCAC groups begin their timed transit to the beach from the CDP. The timing for each scheduled wave is established in the approach schedule.

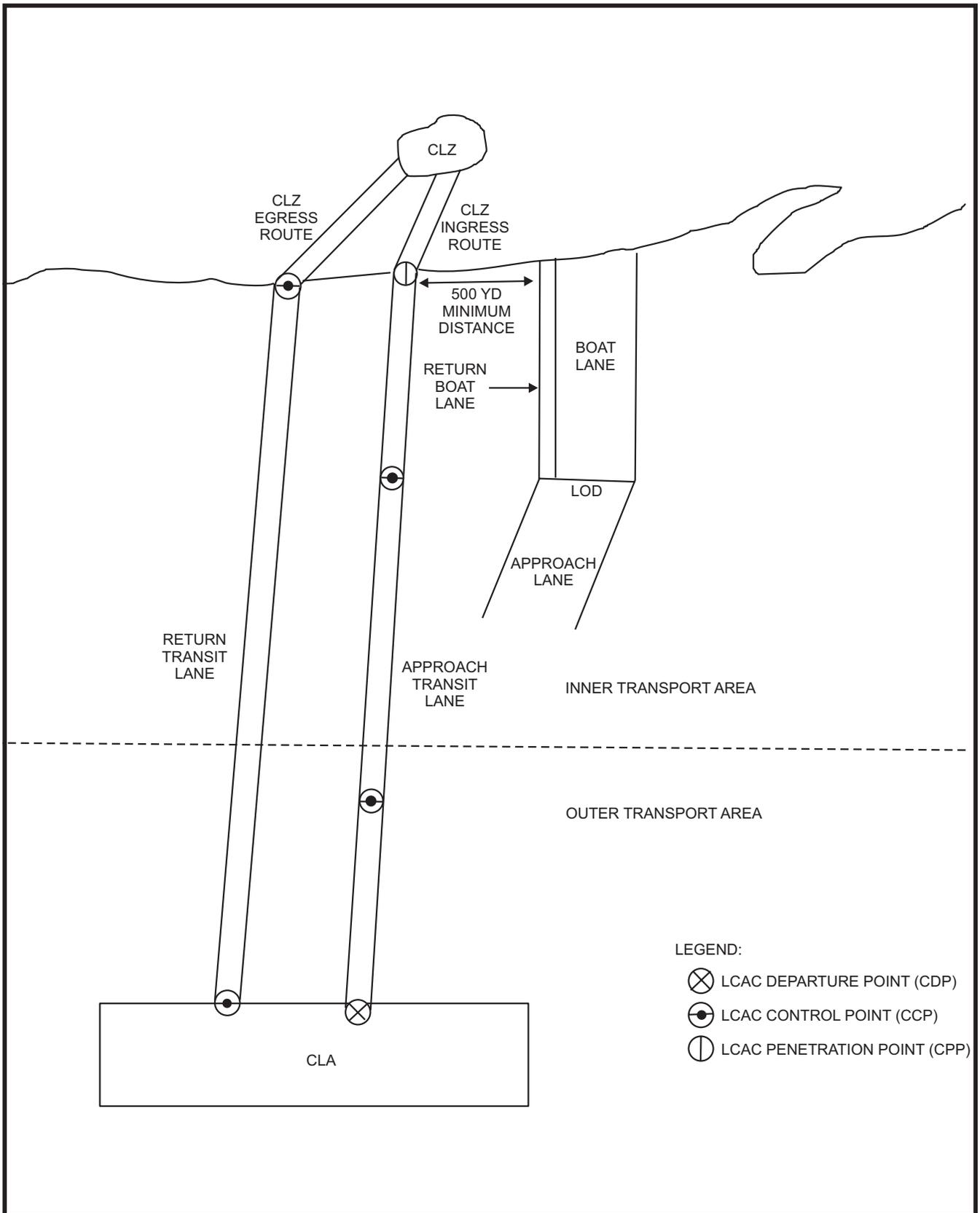


Figure 4-2. Example of Displacement Craft and LCAC Control Areas

4.3.3.2.1 LCAC Launch Area (CLA). The CLA is the area designated by CATF in which LCAC launch operations occur. It may be located several thousand yards to 100 nm offshore and is of sufficient size to permit underway launch operations.

4.3.3.2.2 LCAC Departure Point (CDP). The CDP is the geographic position marking the seaward end of the LCAC transit lane. CDPs are not loiter or rendezvous points. Launch timing should permit LCACs to proceed directly to the CDP and continue to the next control point. The LCO designates CDPs.

4.3.3.2.3 LCAC Transit Lanes. LCAC transit lanes connect CDPs to CPPs and may include CCPs selected for tactical, environmental, or traffic control purposes. Separation between LCAC transit lanes and displacement craft approach and boat lanes is 500 yards or greater. To compensate for LCAC sideslip and allow for beach marking identification, the final leg of the transit lane should be 1 to 5 nm long, depending on the severity of turn from the previous leg. Separate transit lanes for each LCAC sortie may be established or a single transit lane may be established as the ATF closes the beach. It may also be desirable to have separate approach and return transit lanes. The LCO designates transit lanes.

4.3.3.2.4 LCAC Control Point (CCP). A CCP is a geographic position established along the transit lane to control the ship-to-shore movement of LCAC groups. Unlike displacement craft control procedures which generally involve minute-by-minute position updates, LCAC groups proceed to the beach independently or receive only periodic position reports relative to CCPs from the LCS. Paragraph 4.3.6.2 discusses the types of LCAC control methods. The LCO designates CCPs.

4.3.3.2.5 LCAC Penetration Point (CPP). A CPP is the geographic position where the LCAC group crosses the high water mark. The selection of CPPs is influenced by a variety of factors, including ease of identification, tactical scheme of maneuver ashore, local topography, and suitability for nearby CLZs while avoiding LCAC nonnegotiable features such as dunes with sharp dropoffs or excessively wide trenches. CATF selects CPPs.

4.3.3.2.6 LCAC Landing Zone (CLZ). CLZs are selected by CLF. They are selected based on a variety of factors supporting the LF scheme of maneuver ashore, including number of LCACs simultaneously in the CLZ, type of cargo discharged, proximity to helicopter landing zones (HLZs)/colored beaches when troop and equipment assembly is required, general terrain features, trafficability, and avoidance

of bottlenecks leading into and out of CLZs. Ideally, CLZs are surveyed to verify suitability and determine the best route from the CPP to the CLZ. Separate CLZ ingress and egress routes are desirable. Fire, demolition, mine removal, etc., may be required to prepare the CLZ as a result of the survey.

4.3.3.2.7 LCAC Landing Site (CLS). The CLS is an individual landing site within the CLZ. As a planning estimate, a 100 yard diameter area is required for each LCAC. Size is increased further for sloping terrain or other natural or man made features which require greater LCAC maneuvering room.

4.3.4 Debarkation. Debarkation is the unloading of troops, equipment, and supplies from a ship or aircraft. It can be accomplished from a ship that is underway, lying to, or at anchor. Appendix A discusses the use of debarkation stations and procedures for calling landing craft alongside or into welldecks.

4.3.4.1 Debarkation Schedule. The sequence and means for LF waterborne debarkation is established in the landing diagram, landing craft and amphibious vehicle assignment table, and LF landing sequence table. Individual ship's debarkation means, sequence, and procedures are contained in the debarkation schedule and ship's bills. Paragraph 3.4.1.4 discusses the debarkation schedule in detail.

4.3.4.2 Static Debarkation Sequence. This doctrine establishes the methodology for displacement landing craft to load, form into waves, and proceed to the beach in a well-defined and controlled process when the transport group conducts LF debarkation from ships lying to or at anchor. Some of this doctrine is adaptable to underway debarkation.

4.3.4.2.1 Assembly and On-Call Circles. Assembly circles are located off the ship's bow, beam, and quarter. On-call circles are located astern. On-call circles interfere with traffic flow in and out of well decks and are not used by these ships. Displacement landing craft initially proceed to assembly circles. Displacement landing craft are not pre-designated for a specific boat team and are called from assembly circles to debarkation stations to load by flaghoist or flashing light signal as specified in Appendix A. Boat teams normally load into displacement landing craft alongside the ship using debarkation nets. Hand lines lower light equipment and boat team paddles. Boat teams also load using the craft's bow ramp in the well deck. The BWC is embarked in the number one displacement landing craft of each wave and displays the beach flag over the wave number numerical flag. Loaded

displacement landing craft proceed from debarkation stations to wave forming circles. Figure 4-3 depicts the location of assembly and wave forming circles and the sequence landing craft follow.

Displacement landing craft in on-call circles do not have specific assignments. They replace landing craft in assembly circles with mechanical problems.

Preloaded displacement landing craft launched underway may initially proceed to assembly circles and guide on the launch ship. When all landing craft are formed up, the launch ship dispatches the wave to a rendezvous area.

4.3.4.2.2 Wave Forming Circles. Wave forming circles are located off the ship's bow and facilitate

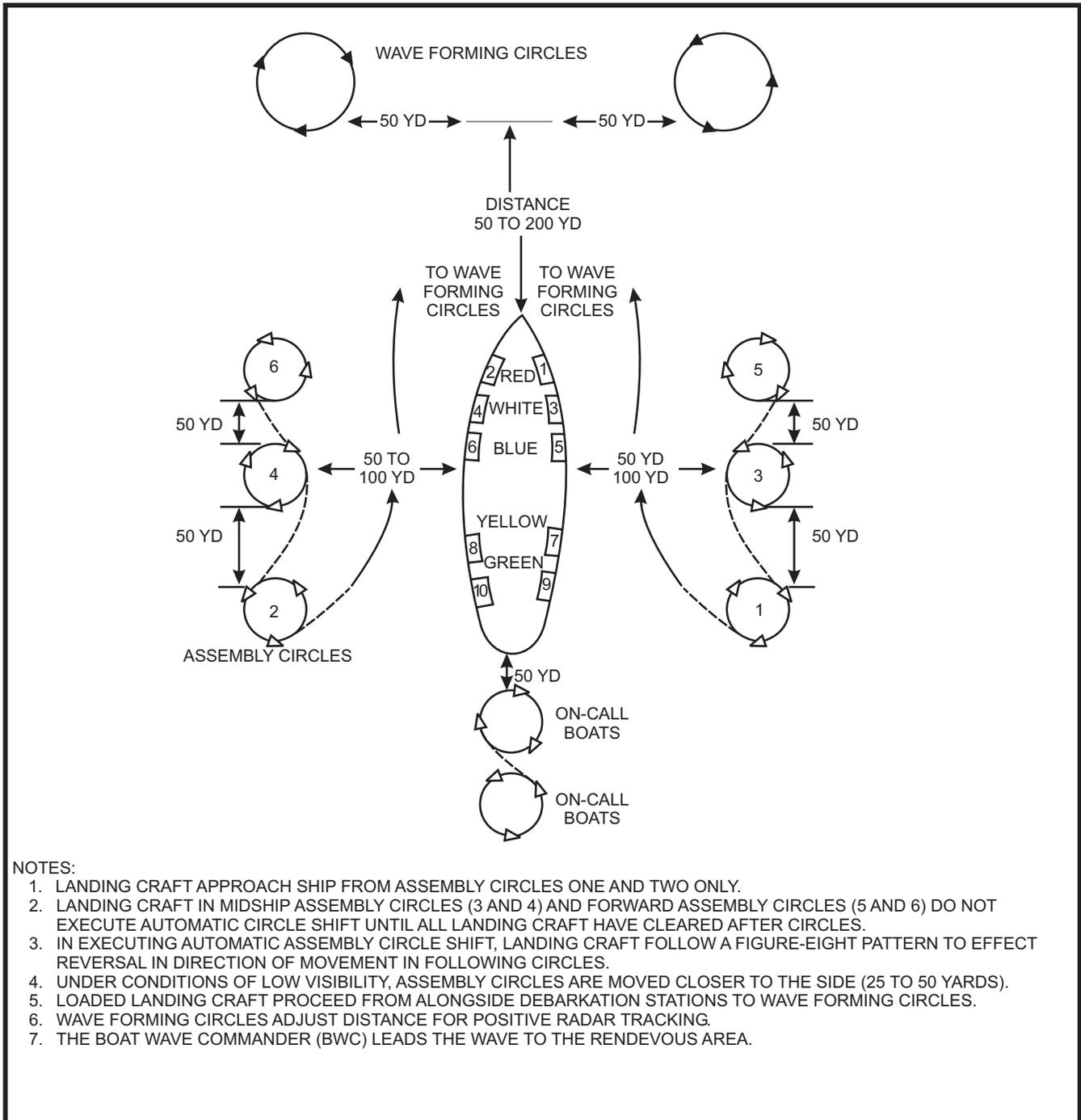


Figure 4-3. Assembly and Wave Forming Circles

wave forming while providing the ship's CIC an opportunity to identify and track the wave. Waves are dispatched from wave forming circles and proceed to the rendezvous area in a column formation, controlled en route by the parent ship. The BWC leads the wave and reports to the PCS for control on entering the rendezvous area. Figure 4-3 depicts the location of wave forming circles.

4.3.4.2.3 Rendezvous Area. The rendezvous area is seaward of the LOD. It is the area where displacement landing craft waves form into proper wave sequence. Boat waves are dispatched from the rendezvous area by visual or radio signals from PCS in accordance with Appendix C, or on signal from the BWC, to cross the LOD at the time specified in the approach schedule.

4.3.4.3 Amphibious Assault Vehicle (AAV) Debarkation. Boat teams are loaded into AAVs in the tank or well deck in accordance with the debarkation schedule. AAVs are launched while the ship is underway, anchored, or lying to in the amphibious vehicle launching area and proceed directly to the beach to minimize transit time and troop fatigue.

4.3.4.4 Underway Launch of AAVs and Landing Craft. AAVs and preloaded displacement landing craft are normally launched underway. This tactic minimizes launch ship time close to the beach, vulnerability to hostile action, and maximizes the element of surprise. AAVs are launched close to the AAV LOD on a time line so each wave can proceed directly to the beach. Displacement landing craft are launched in the inner transport area or close to the LOD according to CATF's control plan. Figure 4-4 depicts an example of an underway launch scenario. Displacement landing craft are launched in a displacement landing craft launching area, designated by the PCO, with the launch ships retiring to the outer transport area. As the wave one AAV launch ship passes this area, displacement landing craft guide on this ship, proceed to a rendezvous area, and follow AAV waves to the beach. The AAV wave commander, the senior LF officer/noncommissioned officer (NCO) in each wave, directs the wave. Each BWC directs subsequent waves to depart the rendezvous area to cross the LOD at prescribed times. Positive wave control may be accomplished by employing one AAV launch ship as a PCS assigned to an underway sector seaward of the LOD. LCAC movements occur simultaneously with the displacement craft ship-to-shore movement with the LGC directing each LCAC wave. Medical and salvage boats are assigned to specific waves and floating dumps remain in the rendezvous area. The SCS, approach lane officer and ship, BGC, ABGC, and WGO are not utilized during this un-

derway launch scenario. The procedures for conducting displacement landing craft underway launches are contained in the type commander's standard operating procedures (SOPs).

4.3.5 Dispatching Scheduled Waves to the Beach. Scheduled waves are dispatched from the rendezvous area or CLA by the PCS or LCS, or depart without signal to meet the times prescribed in the approach schedule. Appendixes B and C discuss landing craft and AAV formations and control signals.

4.3.5.1 AAV Waves. AAVs are normally launched underway in a column formation close to the LOD. They may be launched while the ship is lying to or anchored in the amphibious vehicle launching area.

The column follows the WGO or AAV wave commander until all AAVs are launched and then executes a flanking maneuver toward the beach and maneuvers in a line-abreast formation down the boat lane to touchdown at the prescribed time. AAV standard distance is 25 yards in daylight and 50 yards at night or during low visibility. When 1,000 yards from the beach battle speed is ordered by the PCS, WGO, or AAV wave commander, unless this results in early landing of the first wave.

4.3.5.2 Displacement Landing Craft Waves. Displacement landing craft are normally launched underway and proceed to a rendezvous area or directly to the LOD. When dispatched to the beach, as the last displacement landing craft in the wave clears the rendezvous area a wedge is formed on signal from the BWC en route to the LOD. The BWC directs a line abreast formation prior to crossing the LOD, except during low-visibility when a wedge is maintained up to 1,000 yards from the beach.

Standard distance between displacement landing craft is 50 yards in daylight and 25 yards at night or during low-visibility, with the exception of LCUs, for which standard distance is 50 yards during day and night. When 1,000 yards from the beach, battle speed is ordered by the PCS or BWC.

4.3.5.3 LCAC Groups. LCACs proceed to the beach in groups of two or more craft. Each group is directed by an LGC.

LCACs are launched in the CLA to pass through the CDP at the time prescribed in the approach schedule. The CDP is analogous to the LOD. LCACs proceed down transit lanes with adjustments to course and speed directed by the LCS or LGC, according to the control method used.

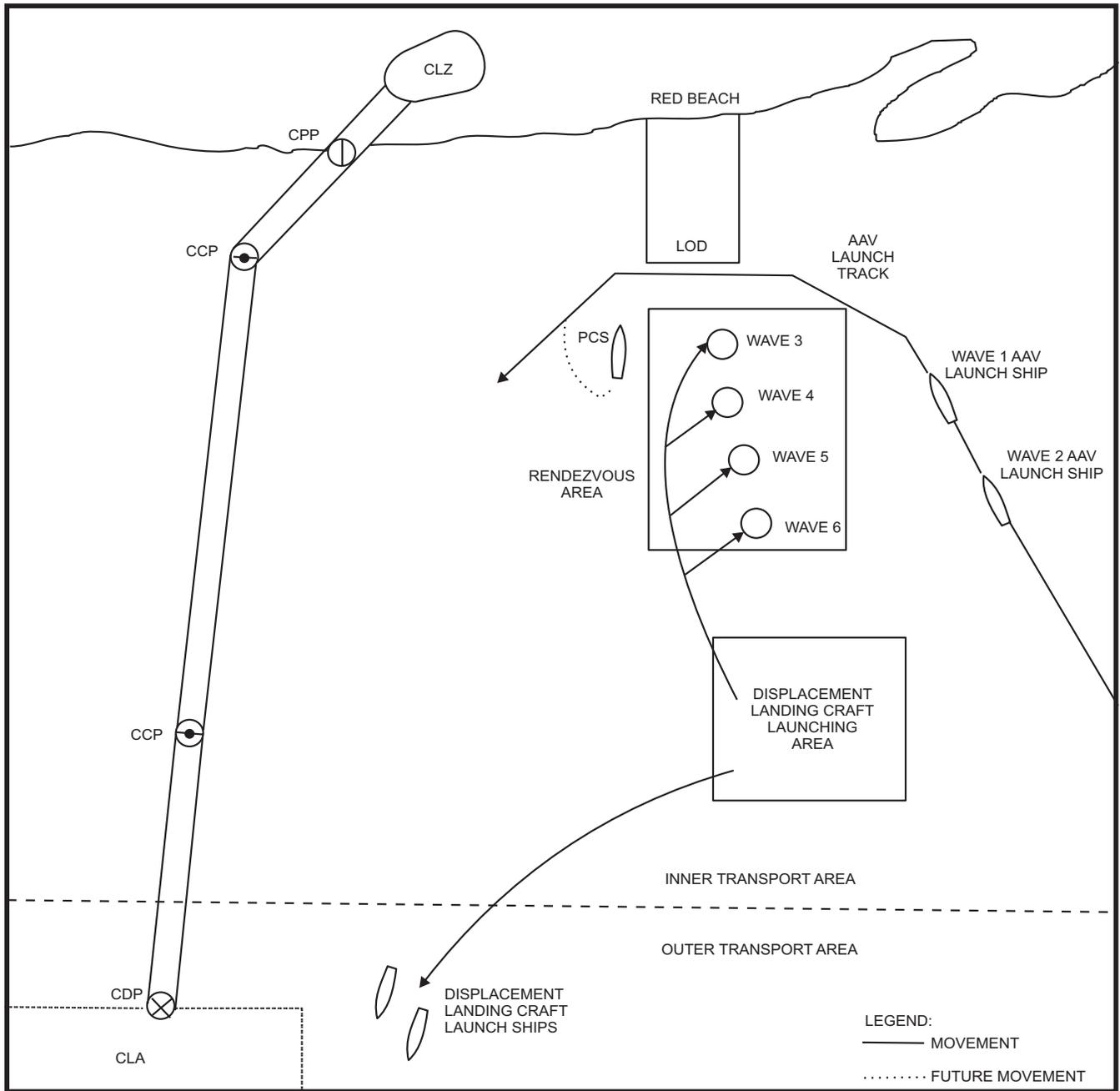


Figure 4-4. Underway Launch Scenario

LCACs proceed to the beach in either a line of bearing or line abreast to starboard, wedge, column, or deceptive (from different directions) formation. Minimum distances between LCACs is 100 yards. The LGC will specify the distance between LCACs after considering the type of formation, speed, sea state, and visibility. The LGC is in the lead craft.

4.3.5.3.1 Navigation. The LCAC navigation suite consists of a GPS/Omega MX 1105, LN-66 radar, gyro compass, and doppler velocity indicator. GPS provides an accurate track to within 50 yards of the CPP for OTH transits. All LCACs are not GPS-equipped and the gyro compass and doppler velocity indicator are used to dead reckon (DR) currents and compensate for advance and transfer. The probable error in DR tracks for OTH transits is 2 nm or greater. When the radar is operated, navigation accuracy is improved. Large surface contacts, like an LSD can be detected at 12 to 15 nm. Low lying beach areas are difficult to detect beyond 6 to 8 nm.

4.3.6 Waterborne Ship-to-Shore Movement Control. Figure 4-1 shows the organization of a Navy control group. Paragraph 2.3.3 discusses the concept of decentralized execution of the waterborne ship-to-shore movement through the Navy control group.

4.3.6.1 Displacement Craft Control. Control of displacement craft in the boat lane varies from advisory to positive control. PCS advisory control functions could be delegated to the boat group, or PCS can provide minute by minute positive control directions to each wave with the complete boat group organization assisting. Control of scheduled waves is accomplished using the grid reference system which is explained in Appendix D. Appendix E discusses quiet landing procedures (QLPs).

4.3.6.2 LCAC Control. There are three types of LCAC control: advisory, independent, and positive. The type of control selected depends on the mission and tactical situation, the LCAC navigation suite installed, and LCS command and control capabilities. The LCAC ship-to-shore movement is conducted using the Navy control group organization. The CCO plans and executes the waterborne ship-to-shore movement, including LCAC operations. The PCO is responsible for LCAC operations at a colored beach and delegates LCAC control functions to the LCO.

4.3.6.2.1 Advisory Control. LCACs are provided the launch position and a vector to the first

control point. The LCS tracks the LCAC group and periodically gives the LGC a current position and time early or late based on the approach schedule. The LGC modifies course and speed to regain the planned CCP. Advisory control is the preferred control procedure.

4.3.6.2.2 Independent Control. Independent control is used when assaults are conducted under emission control (EMCON) conditions. With GPS installed, LCACs are capable of independent movement from OTH to an unmarked CPP.

4.3.6.2.3 Positive Control. During positive control the LCACs navigation information is continuously updated via an external control source which may be electronic, voice communications, or data link.

Radar is the primary sensor for determining an LCAC's position relative to the LCS. Voice communications are used to provide position and vector information to the LGC. The following procedures are employed in LCAC group positive control:

1. LCAC group is launched and crosses the CDP at the designated time. LCACs may maneuver in a zigzag, execute a 360° turn, or increase speed to adjust CDP arrival time. Since the LCAC will be over the hump (18 to 21 kts), speed should not drop below 25 kts.
2. Position information is provided every minute using designations from Appendix D. Speed up and slow down commands are not used. For multiple leg transit lanes, the LCS provides time and distance to turn. A 600 to 700 yard tactical diameter is used for computing turn points. If the LCAC group is significantly off track, a left or right correction in degrees command is given ("vector left 15°"). If the LCAC group is early in excess of 5 minutes, a 360° turn port or starboard may be used to recover the timeline.
3. When running multiple legs to the beach in high sea states, it may be necessary to establish different notional speeds on each leg, or accept a time late or early on the first leg which is made up or lost on subsequent legs.
4. When the distance to the beach is beyond radar range and radar contact cannot be continuously maintained by the LCS, the following procedures are employed:

a. Aircraft Relay. Aircraft are stationed to provide the LCAC group's position to the LCS. This may be done electronically using tactical data systems or physically by placing the aircraft in immediate proximity to the LCAC group. Aircraft also act as a radio relay.

b. Trail Ship Control. A ship or surface craft is positioned to maintain radar contact with the LCAC group en route to the beach. Positioning the trail ship inshore before LCAC launch is necessary to maintain radar contact with the higher speed LCAC. The LCAC group remains under trail ship control until the LGC identifies the CPP and assumes control of the group. The trail ship maintains position until the LCAC group's return and provides radar tracking back to the LCS.

4.3.6.2.4 OTH Command and Control. LCAC OTH command and control systems provide the means for the LCS to electronically control the LCAC group in an OTH ship-to-shore movement. The VSQ-90 PLRS is an example of an electronic system being adapted for positive control of LCACs.

Return to force procedures must be incorporated into OTH planning as identification friend or foe (IFF) equipment is not installed in LCACs. Options to identify returning LCAC are:

1. Establishing fixed return lanes
2. Designating a positive identification radar advisory zone (PIRAZ) station
3. Using challenge and reply procedures
4. Radiating the LCAC's LN-66 radar for electronic warfare (EW) identification.

4.3.7 Beaching, Retracting, and Return. At touchdown each wave reports, "Wave (number) touchdown, touchdown, touchdown" as follows:

1. Displacement craft report on the beach boat control circuit (ALFA net) and then displacement landing craft shift to beach boat operations circuit (BRAVO net) and AAVs shift to the appropriate LF tactical net.
2. LCACs report on the LCAC control net and then shift to the CLZ control net.

4.3.7.1 AAVs. AAVs normally do not stop at the beach. They continue inland with embarked troops in accordance with the scheme of maneuver ashore.

4.3.7.2 Displacement Landing Craft. Displacement landing craft operations at the beach are controlled by the beach party, which is landed as a scheduled or on-call wave. Displacement landing craft beach, lower the ramp, offload troops and equipment, raise the ramp, and retract off the beach on signal from a beach party traffic controlman. If the beach party is not established the wave retracts on signal from the BWC. Displacement landing craft late retracting wait for the next incoming wave to beach in order not to interfere with their approach. The beach party or BGC keeps the PCS advised of the status of debarkation or embarkation and if landing craft are delayed using the BRAVO net. Displacement landing craft back clear of the surf zone and return via the return boat lane. The BGC, as traffic control officer, assists by directing returning displacement landing craft to avoid delaying incoming waves.

4.3.7.3 LCACs. LCACs in scheduled and on-call waves are controlled to the CPP by the LCAC control team. The CPP is separated from the boat lane flank by at least 500 yards to deconflict LCAC's high speed approach from relatively slower displacement landing craft and amphibious vehicles. A CLZ control team (CCT) is landed as early as possible to provide terminal control for the LCAC group from seaward of the CPP to the CLZ using the CLZ control net. LCAC control/coordination may be provided by SEAL or division or force RECON teams until the CCT is established. The distance inland that CLZs are established is governed by the tactical situation. LCACs do not transition to LF control, like AAVs. LCACs land in groups of two or more and proceed to the CLZ by an ingress route. They discharge troops, equipment, and cargo and, when directed by the CCT, return to the beach by a separate egress route. For general unloading, LCACs report directly to the PCS.

4.3.8 Communications. Communications to control scheduled waves and coordinate initial and general offloading at a landing area are shown in Figure 4-5. These communication nets are explained in the following paragraphs and a detailed discussion of the transmissions used on these nets is provided in Appendix D.

4.3.8.1 Control Ship Coordination Net. The control ship coordination net is used for overall coordination of the waterborne ship-to-shore movement.

4.3.8.2 Primary Control Net. The primary control net is used to exchange command and control information and for coordinating the ship-to-shore movement at a colored beach.

NETS SUBSCRIBERS	CONTROL SHIP COORDINATION	PRIMARY CONTROL	BEACH BOAT CONTROL (ALFA NET)	BEACH BOAT OPS (BRAVO NET)	LCAC CONTROL	CLZ CONTROL	CAUSEWAY CONTROL	CAUSEWAY TUG CIRCUIT	LFSP COMMAND	LFSP CONTROL	LF CSS	MEDREG
CCO	C											
PCO	X	C	C	X								
SCO	X	X	X	X								
LCO		X		X	C							
BOAT CONTROL TEAM		X	X	X								
BOAT GROUP			X	X								
LCAC CONTROL TEAM		X			X							
LCAC GROUP				W	X	X						
CLZ CONTROL TEAM					X	C						
LCAC AIRBORNE CONTROL					W							
BEACH PARTY		X		X		W	W					
CAUSEWAY TRANSPORT UNIT CDR		X		X			C					
LSTs				X			X	X				
PHIBCB				X			X	C				
DEBARK CONTROL				X								
LF TACLOG DET									X	X	C	
GCE TACLOG DET									X	X	X	
SURF RLT TACLOG DET									X	X	X	
CSSE									W	W	C/S	
LFSP									C	X	X	
SHORE PARTY									X	C	X	
MRCO												C
MEDREG TEAMS												X

LEGEND:
C — NET CONTROL STATION
X — GUARD
W — WHEN DIRECTED
C/S — NECOS WHEN ESTABLISHED ASHORE

Figure 4-5. Waterborne Ship-to-Shore Movement Communications Matrix

4.3.8.3 Beach Boat Control (ALFA Net). The ALFA net is used during near shore ship-to-shore movements to provide vector information to scheduled waves for a numbered or colored beach. AAVs shift to LF tactical and displacement landing craft shift to beach boat operations (BRAVO net) circuits on beaching.

4.3.8.4 Beach Boat Operations (BRAVO Net). The BRAVO net is used to coordinate the initial and general offload at a numbered or colored beach.

4.3.8.5 LCAC Control Net. The LCAC control net may be a UHF/HF clear voice net or data link system. If PLRS is installed, the PLRS master station to

LCAC user unit link may perform this function. An E2C or SH 60 in an LCAC airborne control role guards this net. It is used to provide vector information to LCAC groups en route to or from CLZs supporting a numbered colored beach.

4.3.8.6 CLZ Control Net. The CLZ control net is used to control LCACs from the CPP into and out of a CLZ.

4.3.8.7 Causeway Control Net. The causeway control net is used to coordinate causeway operations and marriages at a colored beach.

4.3.8.8 Causeway Tug Circuit. The causeway tug circuit is used to direct warping tugs/tender boats during causeway assembly, movement, and marriages at a colored beach.

4.3.8.9 Landing Force Support Party (LFSP) Command Net. The LFSP command net is used by the LFSP to direct CSS operations with TACLOG detachments, the shore party, and helicopter support team (HST).

4.3.8.10 LFSP Control Net. The LFSP control net is used by the shore party to coordinate logistics requests from surfaceborne units with the surfaceborne RLT TACLOG detachment.

4.3.8.11 Landing Force (LF) Combat Service Support (CSS) Net. The LF CSS net provides CSS coordination with TACLOG detachments when the appropriate CSSE is established ashore.

4.3.8.12 Medical Regulating Net. The MEDREG net provides communications between the ATF or LF medical regulating control officer (MRCO) and each medical regulating team (MRT). Appendix G provides additional information on the MEDREG system.

4.3.9 Landing Ship Tank (LST) Beaching and Causeway Operations. Control of LST beaching and causeway operations is the responsibility of the Navy control group organization.

4.3.9.1 Beaching Operations. When directed by the PCO, LSTs proceed from the transport area along approach lanes to the beach. A BISR, prepared by SEAL or division or force RECON teams, is used to select the beaching site and approach track from the three and one-half fathom curve. When offloading is completed, LSTs return to the transport area via retirement lanes. The beach party provides special beach markers which are shown in Appendix C.

4.3.9.2 Causeway Operations. Based on the LF landing sequence table or requests from the surfaceborne RLT TACLOG detachment, the PCO directs the causeway transport unit commander (senior LST CO carrying causeways) to assemble and install causeway piers or initiate barge ferry operations. Special signals and beach markers for causeway operations are shown in Appendix C.

4.3.9.2.1 pontoons as a Causeway Pier. The causeway transport unit commander, when directed by the PCO, is responsible for coordinating the splashing of pontoon causeway sections, pier assembly, and dispatching the pier to the beach. The amphibious construction battalion (PHIBCB) detachment from the naval beach group (NBG) offloads causeway sections, assembles, and maneuvers the pier to the beach. As the causeway pier enters the surf zone, control is passed to the beach party for emplacement and operation of the pier.

When the PCO directs withdrawal of the pier, the beach party directs the retraction clear of the surf zone, passes control to the causeway transport unit commander who, through the PHIBCB detachment, coordinates movement, pier disassembly, and returning pontoon sections to each LST for backloading.

4.3.9.2.2 pontoons as a Barge Ferry. The causeway transport unit commander, when directed by the PCO, coordinates assembling pontoon causeway sections into barge ferries. As each ferry is operational, control is passed to the PCS for ship-to-shore barge ferry operations using the BRAVO net for controlling beaching and offloading operations. As each barge ferry offload is completed, the beach party directs the retraction and when clear of the surf zone passes control to the PCS for additional operations. When the PCO directs barge ferry backloading, control is passed to the causeway transport unit commander for disassembling and returning causeway pontoon sections to LSTs for backloading.

4.3.10 Landing Nonscheduled Units. Nonscheduled units are landed in accordance with the LF landing sequence table or as requested by tactical commanders ashore through the surfaceborne RLT TACLOG detachment. Nonscheduled units are identified by serial numbers in the LF serial assignment table. The PCO is responsible for landing them.

4.3.10.1 Requesting. When a tactical commander ashore requests a nonscheduled unit be landed, the request is made to the shore party on the supported unit tactical or LFSP control net, passed to the

surfaceborne RLT TACLOG detachment on the LFSP control or command net, and action is taken by the PCO who has cognizance over the beach on which the surfaceborne unit landed. The PCO directs the ship carrying the serial on the BRAVO net to prepare it for offload and provides appropriate landing craft for movement to the beach. Paragraph 5.5.7 describes the sequence of events for helicopter tactical or CSS requests from a surfaceborne unit.

4.3.10.2 Movement. When the serial is boated, displacement landing craft are dispatched to the PCS. LCACs are dispatched to either the PCS or LCS. When the PCO has verified shore party readiness to receive the serial, landing craft are dispatched to the beach.

4.3.11 Landing Prepositioned Emergency Supplies. The number and types of landing craft, AAVs, or landing ships used as floating dumps is specified in the landing craft and amphibious vehicle assignment table. Floating dumps report to the PCS and are positioned in accordance with the assault wave diagram. They are dispatched to the beach by the PCS when requested by tactical commanders ashore through the surfaceborne RLT TACLOG detachment.

A control boat, with a floating dump control officer embarked, takes charge to ensure that PCS orders are executed. When there is no further requirement for floating dumps, supplies remaining aboard the dumps are landed and the landing craft, landing ships, and AAVs are released for other duties.

4.3.12 General Unloading. General unloading is the debarkation of LF units, supplies, and equipment from ships as rapidly as conditions ashore permit. CATF initiates general unloading on the recommendation of CLF when:

1. The progress of the attack is favorable and permits discontinuing the structurally controlled movement of tactical units and supplies ashore
2. Sufficient quantities of all classes of supplies are already ashore and segregated into dumps
3. BSAs are established
4. Adequate security exists for supply installations ashore.

4.3.12.1 Landing Craft Employment for General Unloading. When general unloading commences, all landing craft are employed. Landing

craft previously ordered to load nonscheduled units will complete the assignment and floating dumps are directed to the beach to offload.

4.3.12.2 Control. Control during general unloading is delegated to each ship with direct liaison authorized with the PCO for the most efficient use of landing craft. Each ship advises the PCO hourly on offload progress by reporting the percent of personnel, cargo, and vehicles offloaded and the estimated time that offload operations will be completed (PCVT report).

4.3.13 Offloading the Assault Follow-On Echelon (AFOE). CATF is responsible for offloading AFOE shipping and conducts the offload using the Navy control group. Additional information is contained in NWP 22-8, "MSC Support of Amphibious Operations."

4.4 SEABASING

Seabasing is when the majority of CSS is maintained aboard assault shipping. This concept is employed when the ATF mission is such that establishing facilities ashore to perform CSS functions such as supply, transportation, medical, intermediate level maintenance, automated data processing, and engineer support is not required.

Seabasing requires that assault shipping remain in the landing area to provide continuous logistics support. To support this concept, ships are designated for LF maintenance operations with spaces reserved for repair facilities or CSS functions. LF maintenance personnel are embarked aboard these ships for surface or helicopter delivery of maintenance contact teams to support LF units engaged ashore. Seabasing supply, medical, and maintenance functions require that the embarkation configuration be structured to perform these functions for the duration of the operation.

Seabasing is appropriate only for a Marine Expeditionary Unit (MEU)-sized Marine air-ground task force (MAGTF). For larger MAGTFs, consideration should be given to placing some, if not most, CSS support ashore. The transition from seabasing to conventional CSS can be made at any time after the initial landing.

4.5 TACTICAL LOGISTICS (TACLOG) GROUP

TACLOG detachments are collocated with and advise the Navy control group of LF requirements during the ship-to-shore movement. Appendix J provides a detailed description of the organizational and operational relationships of the TACLOG group.

4.6 MEDICAL REGULATING (MEDREG)

MEDREG is a system that moves combat casualties from the injury site through successive echelons of care to treatment facilities that provide the required level of care. The system ensures that casualties move only as

far rearward, in the continuum of care, as treatment needs dictate. The MEDREG plan deals with the movement of casualties to CRTSs using assets organic to the ATF. Appendix G provides a detailed description of the MEDREG organization and handling mass casualties during the assault.

CHAPTER 5

Conducting the Helicopterborne Ship-to-Shore Movement

5.1 PURPOSE

This chapter discusses the doctrine, command relationships, delegation of authority, and the command and control organization for conducting landing force (LF) debarkation and the helicopterborne ship-to-shore movement.

5.2 BACKGROUND

Helicopters add significant flexibility to the amphibious assault. They operate from all amphibious ships and land in almost any cleared site within the landing area. During the build up of combat power ashore helicopters rapidly project the LF into helicopter landing zones (HLZs) to achieve surprise, avoid obstacles or defenses, or provide depth in the assault. Helicopters also quickly respond to tactical requests for their employment.

Helicopterborne forces are of necessity forces without organic heavy armor. Their employment is coordinated with waterborne assault forces for linkup and combat support.

5.2.1 Helicopter Employment. In the ship-to-shore movement, helicopters are used primarily for troop transport and logistics resupply. They are also used in command and control, observation, liaison, medical emergency evacuation (MEDEVAC), reconnaissance (RECON), search and rescue (SAR), tactical recovery of aircrew and pilot (TRAP), and illumination roles in support of the assault. Heavy lift helicopters are employed to transport artillery and light armored vehicles. Attack helicopters provide close-in fire (CIF) support, armed escort, and antiarmor capabilities. Helicopters are also used in the tactical employment of troops already ashore, whether helicopter or surface-landed. Helicopter movements must be closely coordinated with other users of airspace: fixed-wing aircraft and supporting fires. This coordination is provided during the ship-to-shore movement through the commander, amphibious task force's (CATF's) tactical air officer (TAO) and a helicopter coordination section (HCS) in the tactical air control center afloat (TACC afloat).

The HCS provides a central agency for planning and coordinating helicopter operations. Helicopters are LF assets under the operational control of commander, landing force (CLF). They support the scheme of maneuver ashore while also being responsive to tactical requests from the LF. As such, they are responsive to the plans and tactical decisions of CLF, subject to the overall authority of CATF. The LF aviation combat element (ACE) commander, acting for CLF, provides an ACE detachment to the HCS. It is the presence of the ACE detachment which empowers the HCS to direct the employment of LF helicopters. To facilitate helicopter responsiveness to LF requirements, CATF designates a helicopter transport group/unit commander for each helicopter landing zone (HLZ) within the landing area. Within the parallel chain of command, the helicopter transport group/unit commander is the counterpart of the LF helicopterborne unit commander who executes the helicopterborne assault into the designated HLZ. The helicopter transport group/unit command establishes a primary helicopter direction center (HDC) to provide helicopter air traffic control functions and a helicopter logistics support center (HLSC) to coordinate helicopter delivery requirements. An HCS detachment is assigned to the helicopter transport group/unit commander to direct the employment of LF helicopters within the helicopter transport group/unit commander's assigned sector. This sector normally includes the airspace surrounding helicopter capable ships, the helicopter approach and retirement lanes to and from the HLZ, and the airspace around that HLZ. The HCS detachment will include representatives from the ACE detachment which empowers the HCS detachment to direct LF helicopter employment within their assigned sector. The LF helicopterborne unit commander establishes a tactical logistics (TACLOG) detachment which is collocated with the helicopter transport group/unit commander. Requests from the helicopterborne unit ashore are made through the TACLOG detachments. The HLSC locates the requested combat support or combat service support (CSS) afloat and advises the HCS detachment of helicopter requirements. The HCS performs similar functions as the HCS within its sector of responsibility. Air traffic control is exercised through the primary HDC. Paragraphs 5.4.6, 5.4.8, and 5.4.9 discuss the HCS, primary HDC, and HLSC respectively, in particular the designation of a primary HDC to provide air traffic control for the

helicopterborne ship-to-shore movement during multideck helicopter transport operations.

5.2.2 Tactical Organization. Normally, helicopters are placed by CLF in support of the ground combat element (GCE) commander during the assault. This necessitates close coordination between the LF and Navy parallel chains of command. The helicopterborne unit commander's scheme of maneuver ashore dictates helicopter employment. Liaison between representatives from the helicopterborne unit commander, air combat element (ACE), HCS, and helicopter transport group/unit commander is required to develop the helicopter employment and assault landing table (HEALT).

5.2.3 Helicopterborne Ship-to-Shore Movement Control Organization. During the helicopterborne ship-to-shore movement, CATF maintains centralized control of helicopter operations through the tactical air control group (TACGRU) and decentralizes the execution to a helicopter transport group/unit commander(s). The control organization for the helicopterborne ship-to-shore movement is depicted in Figure 5-1. The organization shown is for a single LZ. When multiple LZs are employed in the landing area, a helicopter transport unit commander with a similar air traffic control and logistics support organization will be designated for each LZ.

Complete centralization of control by CATF, however, would limit CLF and subordinate commanders in reacting quickly to changing tactical situations and making minor adjustments to the landing plan. Complete decentralization of control, on the other hand, would compound problems of coordinating supporting arms and air space management, and deprive CLF of the ability to influence the tactical situation by rapidly employing helicopter assets. This is particularly significant in a ship-to-shore movement involving more than one HLZ where CLF must shift helicopter assets, especially heavy lift helicopters, from support of one helicopterborne unit to another. While centralized control is maintained by CATF through the TACGRU and by CLF through the TACLOG group, the execution of the helicopterborne ship-to-shore movement is decentralized to a helicopter transport group/unit commander by delegating the air traffic control of helicopters to a primary HDC and specific authority to change certain aspects of the assault is delegated to subordinate LF commanders.

5.3 Command Relationships

CATF is responsible for the amphibious operation and exercises command authority to ensure mission

success. Helicopter and helicopterborne units are component parts of the LF under the CLF's operational control. Helicopterborne operations in an amphibious operation do not alter the command relationship between CATF and CLF. CATF exercises his command authority over these operations through CLF.

5.3.1 Relationship Between Ship's Commanding Officer (CO) and Embarked Helicopter Unit. Helicopter units are under CLF's operational control. U.S. Navy Regulations establishes the authority of the ship's CO with respect to aircraft embarked in or operating from his ship.

5.3.1.1 Authority of Ship's CO. The ship's CO has certain authority and responsibility over embarked helicopter units. These include, but are not limited to:

1. Indoctrinating pilots and crews in safety-of-flight operations related to shipboard operations
2. Requiring all-weather day/night pilot qualifications for shipboard land/launch operations
3. Providing landing, launching, and air traffic control in the vicinity of the ship
4. Providing landing signal control
5. Maintaining control of flight deck and hangar deck operations and spotting
6. Providing and operating helicopter deck handling and servicing equipment
7. Providing intermediate maintenance facilities for helicopters
8. Loading personnel, equipment, and cargo in helicopters
9. Manifesting personnel
10. Handling and loading ammunition
11. Refueling helicopters
12. Providing heavy weather protection for helicopters

5.3.1.2 Coordination Between Helicopter Unit Commander and Ship's CO. The following matters related to operating LF helicopters from a ship are coordinated between the helicopter unit commander and ship's CO:

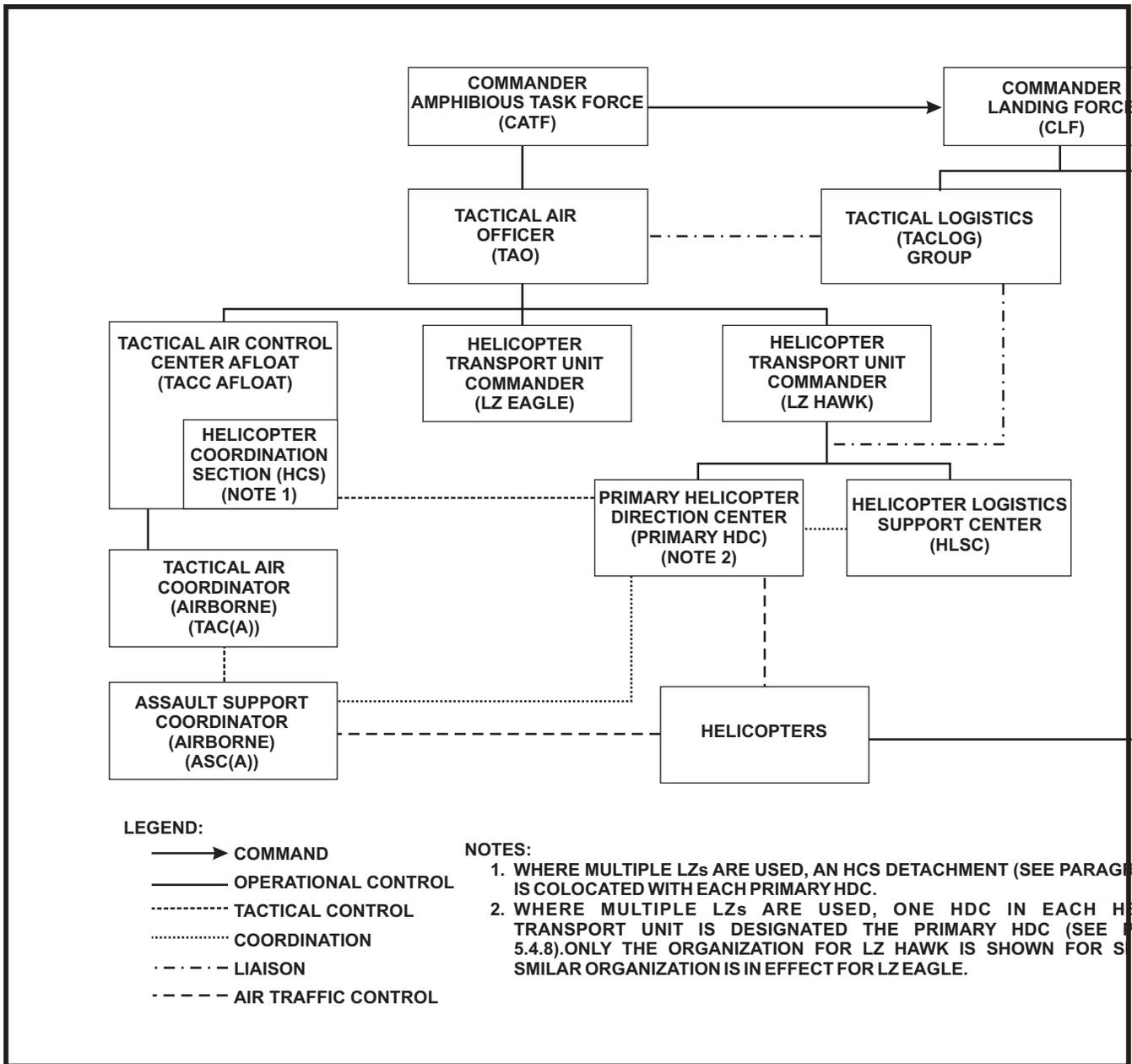


Figure 5-1. Control Organization During the Helicopterborne Ship-to-Shore Movement

1. Pilot qualifications and limitations
2. Aircraft limitations
3. Pilot briefings
4. Arrival, departure, and en route position reporting
5. Fuel, maintenance, and ordnance status reporting.

5.4 ORGANIZATION

CATF employs the TACGRU and helicopter transport group/unit commander to plan and conduct the helicopterborne ship-to-shore movement. CLF employs the TACLOG group to assist Navy control officers. This organization is depicted in Figure 5-1.

5.4.1 Tactical Air Control Group (TACGRU). The TACGRU is a tactical component of an amphibious force which provides aircraft control and warning facilities afloat for offensive and defensive

missions within the amphibious objective area (AOA). The TACGRU operates the TACC afloat, or tactical air direction center (TADC), to control all aircraft in the AOA. A component of the TACGRU, known as the tactical air control squadron (TACRON), provides the manning for the TACC afloat or TADC.

5.4.2 Tactical Air Officer (TAO). The TAO is a naval aviator or naval flight officer responsible for coordinating the planning of all phases of air participation in the amphibious operation and air operations of supporting forces en route to and in the AOA. Until air control is phased ashore, the TAO is charged with control of:

1. All aircraft in the AOA assigned for tactical air operations, including offensive and defensive air
2. All other aircraft entering or passing through the AOA
3. All air warning facilities in the AOA.

For the helicopterborne ship-to-shore movement the TAO is responsible for:

1. Planning and supervising the helicopterborne ship-to-shore movement
2. Organizing the TACGRU to support the amphibious task force (ATF) landing plan
3. Coordinating with the central control officer (CCO)
4. Maintaining liaison with the TACLOG group (see Appendix J).

5.4.3 Tactical Air Controller (TAC). The TAC is the officer in charge of all operations in the TACC afloat. This officer is responsible to the TAO for the control of all aircraft and air warning facilities within the AOA.

5.4.4 Tactical Air Control Center Afloat (TACC Afloat). The TACC afloat is the principal air operations installation from which all aircraft and air warning functions of tactical air operations in the AOA are controlled. All tactical aircraft and helicopter operations are coordinated with supporting arms and other air operations through the TACC afloat.

A TADC, located on the alternate command ship, is designated and assumes TACC afloat duties should CATF's flagship become a casualty.

5.4.4.1 Tactical Air Direction Center (TADC).

The TADC is a subordinate air operations installation of the TACC afloat, or tactical air command center ashore (TACC ashore), from which aircraft and air warning service functions of tactical air operations in an area of responsibility are directed. For example, a TADC is established for an attack group commander, as defined in paragraph 2.5.2, to conduct a simultaneous or nearly simultaneous assault at a landing area widely separated from the main assault; to support the advance force commander conducting preassault operations; or on the alternate flagship.

5.4.5 Helicopter Coordination Section Officer (HCSO).

The HCSO is a naval aviator or naval flight officer responsible for the operation of the HCS of the TACC afloat. The HCSO coordinates the planning and execution of the helicopterborne ship-to-shore movement for the TAO.

5.4.6 Helicopter Coordination Section (HCS).

The HCS is an integral part of the TACC afloat. It coordinates all helicopter operations conducted by subordinate air traffic control agencies. The HCS has two subdivisions: the helicopter coordination unit (HCU) and helicopter advisory unit (HAU). The HCU directs and coordinates helicopter employment; the HAU monitors helicopter status, fuel requirements, available deck space, helicopter locations, helicopter armament, and the progress of the helicopterborne assault. This data is passed to the HCU to assist in helicopter employment decisions and actions. The HCS is augmented with personnel from the ACE during all phases of an amphibious operation.

The ACE also provides advice to the HCS on the employment and availability of helicopters and crews.

An HCS Det, located on the alternate command ship, is designated and assumes HCS duties should CATF's flagship become a casualty.

5.4.6.1 Functions and Mission. Functions and mission of the HCS are:

1. Coordinate helicopter movements with supporting arms and other air traffic in the AOA
2. Assign sectors, routes, and control points to each primary HDC when not covered in the operations order (OPORD), or when changes occur
3. Monitor helicopter operations conducted by primary HDCs, including MEDEVAC missions

4. Maintain readiness data on helicopters and helicopter capable ships
5. Act on requests for additional helicopter support
6. Reallocate and redirect helicopters when required
7. Monitor SAR operations
8. Prepare the daily air plan.

5.4.6.2 Communications. To accomplish these functions and missions, the HCS is the net control station for the helicopter request (HR), helicopter administrative (HA), and helicopter command (HC) nets. These nets are described in paragraph 5.7.2.

5.4.6.3 HCS Dets. When multiple LZs are designated an HCS Det is collocated with each primary HDC. The HCS Det performs functions similar to the HCS within its sector of responsibility which allows the primary HDC to focus on helicopter air traffic control. Functions of the HCS Det are:

1. Advise the helicopter transport unit commander on the most efficient employment of helicopters
2. Coordinate helicopter employment, when required, with the HCS
3. Coordinate changes to the HEALT with the helicopterborne RLT TACLOG detachment, HLSC, and primary HDC
4. Issue instructions to helicopter capable ships to open flight decks and launch or recover aircraft
5. Maintain liaison with the medical regulating team (MRT) to direct MEDEVAC helicopters to the appropriate casualty receiving and treatment ship (CRTS)
6. Guard the HC, HR, and HA nets.

5.4.6.4 Amphibious Task Force (ATF) Medical Regulating Control Center (MRCC). The ATF MRCC is collocated with the HCS and:

1. Maintains current medical capabilities of ships in the AOA
2. Designates which ships are to receive and treat casualties

3. Maintains liaison with MRTs collocated with primary HDCs on the medical regulating (MEDREG) net.

See Appendix G for additional information on MEDREG.

5.4.7 Helicopter Transport Group/Unit Commander. A helicopter transport group/unit commander is designated for each LZ and is responsible for providing helicopter air traffic control and facilitating the movement of serials ashore by helicopter. To accomplish this, the primary HDC and HLSC are collocated with the helicopter transport group/unit commander. The helicopter transport group/unit commander is also responsible for:

1. Taking tactical control of assigned ships
2. Landing scheduled waves in accordance with the HEALT and helicopter landing diagram
3. Maintaining the current location and status of ships and helicopters assigned to conduct the landing
4. Monitoring weather conditions and recommending the termination of flight operations when conditions warrant
5. Maintaining the status of debarkation or embarkation
6. Maintaining liaison with the helicopterborne RLT TACLOG detachment.

The helicopter transport group/unit commander's role in the helicopterborne ship-to-shore movement is analogous to the primary control officer (PCO).

5.4.8 Primary Helicopter Direction Center (HDC). The primary HDC is responsible for the air traffic control of helicopters operating within its assigned sector. In situations where multiple LZs are used, one HDC in each helicopter transport unit is designated by the TAO as the primary HDC. The primary HDC controls its part of the helicopterborne ship-to-shore movement by combining positive radar control with procedural control and providing air traffic control for helicopters from a rendezvous point (RP) to an LZ and from the LZ to a breakup point. It is a subordinate agency under the tactical control of the HCS for helicopter employment matters and operational control of the helicopter transport group/unit commander for helicopter air traffic control matters. It is the single air traffic control agency for helicopter employment orders originating

from the HCS, helicopter transport group/unit commander, and helicopterborne unit commander. Examples of employment orders synthesized by the primary HDC are: helicopter control and coordination orders from the HCS, safety of flight orders from the helicopter transport group/unit commander, and changes to the HEALT ordered by the helicopterborne unit commander. Other HDCs are designated as air operations centers and are responsible only for air traffic control within their local control areas. The primary HDC utilizes the HEALT and helicopter landing diagram as the time schedule and blueprint for the assault and coordinates with the assault support coordinator (airborne) (ASC(A)) (formerly the helicopter coordinator (airborne) (HC(A)) and HCS Det.

Facilities for primary HDCs are located in LHD, LHA, and LPH class ships and personnel that operate these facilities are provided from ship's company.

After helicopter control has been phased ashore, the primary HDC assists the direct air support center (DASC) by controlling helicopters between ships and the shore and being prepared to reassume control, if required. An alternate primary HDC is designated and assumes control should the primary HDC become a casualty.

5.4.8.1 Functions and Mission. The functions and mission of the primary HDC are:

1. Operate under the tactical control of the HCS
2. Control the movement of all helicopters operating in their assigned sector
3. Maintain a continuous radar plot of assigned transport helicopters and escorts
4. Act on requests for helicopter employment from the HCS, helicopter transport unit commander, and helicopterborne unit commander
5. Maintain and report to the HCS Det the status and location of assigned helicopters
6. Advise the HCS Det on helicopter movement requiring coordination with supporting arms
7. Monitor (ASC(A)) operations
8. Control the movement of MEDEVAC helicopters to CRTSs based on the recommendations of the medical regulating control officer (MRCO).

5.4.8.2 Organization. The organization of the primary HDC is described in paragraphs 5.4.8.2.1 to 5.4.8.2.4. HDCs designated as air operations centers are similarly manned; however, air traffic control is limited to local control areas.

5.4.8.2.1 Helicopter Director. The helicopter director is a helicopter qualified naval aviator in charge of all operations in the HDC. The helicopter director is responsible for:

1. Safe movement of helicopters in the assigned control area
2. Maintaining liaison with the HCS Det.

5.4.8.2.2 Helicopter Direction (HD) Net Officer. The HD net officer:

1. Is the HD net controller
2. Maintains communications with airborne helicopters, ASC(A)s, and escort aircraft
3. Keeps the helicopter director informed of helicopter and escort aircraft movements and readiness
4. Issues instructions to helicopters and escort aircraft under HDC air traffic control as directed by the helicopter director.

5.4.8.2.3 Helicopter Air Controller. The helicopter air controller:

1. Maintains a continuous radar plot of helicopters and escort aircraft under primary HDC air traffic control
2. Maintains voice communications with the HD net officer
3. Assumes net control of the HD net when positive radar air traffic control is directed by the helicopter director, issues maneuvering instructions to assigned helicopters and escort aircraft, and informs helicopter capable ships of the transfer of flight control from the primary HDC to individual ships air operations centers
4. Advises the helicopter director of any unusual helicopter movements in approach and retirement routes or identified radar contacts
5. Provides helicopter separation in the assigned control area.

5.4.9 Helicopter Logistics Support Center (HLSC). The HLSC is manned by LHD, LHA, or LPH ship's company personnel and it is located in close proximity to the HCS Det and helicopterborne regimental landing team (RLT) TACLOG detachment. The officer-in-charge of the HLSC is the helicopter logistics coordinator (HLC).

The HLSC coordinates the debarkation of serials in accordance with the HEALT and LF landing sequence table. Debarkation of on-call waves and nonscheduled units, including deviations from the LF landing plan, are coordinated with the applicable ships by the HLSC using the helicopter logistics command net.

After receiving a tactical request for serials, the helicopterborne RLT TACLOG detachment advises the HCS Det and HLSC, so the HCS Det can allocate helicopters and the HLSC can notify the specific ship carrying the serial of an impending requirement. After the allocation of helicopters has been confirmed by the HCS Det, the HLSC provides the details of the planned lift to the debarkation control officer of the ship concerned.

Responsibilities of the HLSC are:

1. Maintain liaison with the helicopterborne RLT TACLOG detachment and HCS Det and issue instructions to ships to prepare serials for helicopter debarkation
2. Maintain the status of serials including:
 - (a) Time of request
 - (b) Verification of the request
 - (c) Time serial departs from delivery deck
 - (d) Identification of helicopter carrying serial.

An alternate HLSC is designated in the same ship as the alternate primary HDC. The alternate HLSC is activated concurrently with the HLSC and is prepared to assume the duties of the HLSC, if required.

5.4.10 Airborne Coordination. Airborne coordination is conducted by the ASC(A) and tactical air coordinator (airborne) (TAC(A)).

5.4.10.1 Assault Support Coordinator (Airborne) (ASC(A)). The ASC(A) (formerly the

HC(A)) is a LF helicopter qualified aviator airborne in the landing area in a command and control helicopter. It is imperative that the ASC(A) is thoroughly knowledgeable in every facet of the operation.

The ASC(A) is responsible for the following functions under the cognizance of the primary HDC:

1. Airborne coordination and air traffic control of helicopters from the penetration control point (PCP) en route to and from the LZ
2. Coordination with TAC(A)s to ensure that fixed-wing preparation strikes controlled by the TAC(A)s are accurately conducted, timely, and sufficient
3. Advising the primary HDC on the status of the landing including changes made in the selection of LZs.

The ASC(A) provides information concerning:

1. Weather along approach and retirement routes and in the LZ
2. Enemy operations observed along approach and retirement routes
3. Alterations to helicopter routes
4. Employment of supporting arms, including TAC(A) activities.

5.4.10.2 Tactical Air Coordinator (Airborne) (TAC(A)). The TAC(A) is an aviator who coordinates, from an aircraft, the action of aircraft engaged in close support of ground or sea forces. The TAC(A), when employed, is the senior coordinator with authority over all aircraft operating within his area of responsibility.

As an on-site airborne extension of the TACC afloat, the TAC(A)'s primary responsibility is airborne deconfliction and coordination of air assets with supporting arms within his assigned area. The TAC(A) coordinates with the ASC(A), tactical air control parties (TACPs), forward air controllers (airborne) (FAC(A)s), and the fire direction centers of artillery (fire support coordination center (FSCC)) and naval surface fire support (NSFS) ships (supporting arms coordination center (SACC)). The TAC(A) reports to the TACC afloat.

TAC(A) responsibilities are:

1. Utilization of assigned assets:
 - (a) Coordinates close air support (CAS) missions
 - (b) Effects handoffs to aircraft terminal controllers
 - (c) Relays threat updates/battle damage assessments
 - (d) Ensures aircraft deconfliction
 - (e) Coordinates helicopter and fixed-wing operations
2. Visual reconnaissance
3. Coordination of fire with NSFS ships and artillery units
4. Assuming FAC(A) when directed
5. Compiling comprehensive debriefs.

5.4.11 Aerial Observer (AO). During the assault phase, AO missions in the objective area provide aerial reconnaissance, NSFS spotting, and CAS direction. AO personnel are provided from the ACE.

CLF coordinates requests from subordinate units for AO missions and forwards them to the TACC afloat to schedule aircraft and execute the missions.

5.4.12 Initial Terminal Guidance (ITG) Team. An ITG team from division or force RECON provides terminal guidance for helicopter waves from the initial point (IP) to the LZ or for vertical takeoff and landing (VTOL) aircraft to an LZ. An ITG team is inserted into an LZ in advance of the helicopter support team (HST) to execute prelanding RECON tasks and establish and operate signal devices.

The ITG team reports enemy activity that may oppose the landing. The use of an ITG team may prevent LZ preparation due to the presence of friendly troops in or around the LZ.

ITG team responsibilities are:

1. Determining if there are obstructions in the LZ, including chemical, biological, and radiation (CBR) hazards.

2. Giving advance notice of enemy position.
3. Establishing homing and guidance devices. (If LZ preparation precludes the use of ITG teams, a homing device may be inserted by aerial drop after LZ preparation is completed.)
4. Recommending action by following helicopter waves.

ITG team command relationships are described in detail in Appendix L.

5.4.13 Helicopter Support Team (HST). HSTs facilitate the landing and movement of personnel, supplies, equipment, and the evacuation of casualties and prisoners of war. HSTs are described in Appendix L.

5.4.14 Tactical Logistics (TACLOG) Group. The TACLOG group is described in Appendix J.

5.4.15 Air Control Ashore. CLF establishes the following organizations ashore to control tactical aircraft and helicopters and coordinate supporting arms.

5.4.15.1 Direct Air Support Center (DASC). The DASC is a subordinate component of a tactical air control system designed for control and direction of CAS and other tactical air support operations. It is collocated with the FSCC and operates under the ACE commander's direction. In addition to tactical air support operations, DASC controls helicopters when control is passed from the TACC afloat to DASC. The LF MRCC is collocated with the DASC for advice on casualty movement. As long as helicopters are based afloat, the primary HDC remains in operation to provide air traffic control for helicopters operating between ships and the shore.

5.4.15.2 Tactical Air Control Party (TACP). A TACP is a subordinate operational component of a tactical air control system designed to provide air liaison to the LF and control aircraft.

5.4.15.2.1 Forward Air Controller (FAC). The FAC is a naval aviator assigned to the TACP who, from a forward ground or airborne position, controls CAS aircraft.

5.4.15.3 Air Support Radar Team (ASRT). The ASRT is a subordinate operational component of the TACC afloat or TACC ashore which provides ground-controlled precision flight path guidance and weapons release direction.

5.4.15.4 Tactical Air Operations Center (TAOC). The TAOC provides for the direction and

control of all en route air traffic and air defense operations, to include manned interceptors and surface-to-air weapons, in an assigned area. It is under the operational control of the TACC ashore and provides sector antiair warfare (AAW) coordination.

5.4.15.5 Tactical Air Command Center Ashore (TACC Ashore). When air control is passed ashore, CLF exercises control of air operations through the ACE commander and the TACC ashore. When the TACC ashore is established and CLF accepts responsibility for all aircraft and air warning functions of tactical air operations in the AOA, the TACC afloat becomes a TADC.

5.5 EXECUTION

The helicopterborne ship-to-shore movement of scheduled waves to helicopter landing zones (HLZs) is conducted in accordance with the HEALT and helicopter landing diagram. After launching, helicopters proceed to the HLZ via specific control points (CPs) and routes as described in paragraph 5.5.4.2. After discharging their loads, helicopter waves rendezvous and proceed via specific CPs and routes to a breakup point. At the breakup point, individual flights return to their respective ships or proceed as directed by the primary HDC.

On return trips helicopters may be used for MEDEVAC. In such cases, they proceed from the HLZ via the retirement route directly to the CRTS, unless otherwise directed by the primary HDC acting on advice from the ATF MRCO.

5.5.1 Enplanement. LF enplanement in helicopters is conducted by shipboard debarkation control personnel assisted by LF personnel.

Troops in the helicopterborne ship-to-shore movement are organized into heliteams in accordance with the heliteam wave and serial assignment table. Passenger manifests are prepared, life preservers are provided by the helicopter squadron, and troops are mustered in an assembly area.

Heliteams are moved, under the control of heliteam leaders, from the assembly area to the flight deck staging area. At the proper time, heliteams are led by guides to helicopter loading points where they enplane under the direction of the helicopter loading supervisor. The guide collects the manifests, marks them with the helicopter's identification number, and passes them to the debarkation control representative.

5.5.2 Troop and Equipment Categories. Helicopterborne troops and supplies are arranged in the

same categories as for the waterborne ship-to-shore movement. These categories are discussed in paragraph 3.3.2.

5.5.2.1 Scheduled Waves. Scheduled waves land in accordance with the HEALT. The scheduled time for the first helicopterborne wave to land is L-hour, which may be concurrent with H-hour or another time may be designated depending on the scheme of maneuver ashore.

5.5.2.2 On-Call Waves. On-call waves are listed in the HEALT and held in readiness aboard ship. They land when requested by tactical commanders through the helicopterborne RLT TACLOG detachment.

5.5.2.3 Nonscheduled Units. Nonscheduled units land in accordance with the LF landing sequence table upon completion of scheduled waves or as requested by tactical commanders through the helicopterborne RLT TACLOG detachment.

Once started, the landing of nonscheduled units may be interrupted to permit the landing of on-call waves or other selected serials, or it may be temporarily suspended because of unforeseen conditions, such as a high-priority mission.

5.5.2.4 Prestaged Helicopter-Lifted Supplies. Paragraph 3.3.2.4.2 covers prestaged helicopter-lifted supplies.

5.5.3 Helicopter Areas, Routes, and Points. The following areas, routes, and points are used to direct and control the movement of helicopters during the ship-to-shore movement. Figure 3-28 depicts an example of a helicopter landing diagram and shows the areas, routes, and points discussed in paragraphs 5.5.3.1 to 5.5.3.11.

5.5.3.1 Landing Zone (LZ). An LZ is a specific area for landing VTOL aircraft or helicopters. LZs are designated by code names.

5.5.3.2 Helicopter Landing Zone (HLZ). An HLZ is a specified ground area for landing helicopters to embark or disembark troops/cargo. An HLZ may contain one or more landing sites and is designated by a code name. The operation and organization of HLZs is discussed in detail in Appendix L.

5.5.3.3 Landing Site. A landing site is an area within an HLZ containing one or more landing points for a single flight or wave of helicopters to land and embark or disembark troops/cargo. Landing sites do not have to be geographically contiguous and are designated by a color.

5.5.3.4 Landing Point. A landing point is an area within a landing site where one helicopter or VTOL aircraft can land. Landing points are designated by the use of two-digit numbers.

5.5.3.5 Helicopter Approach and Retirement Route. Helicopter approach and retirement routes are a track or series of tracks along which helicopters move to and from a departure point (DP) to a specified HLZ. Planned routes facilitate coordinating helicopter movement with fire support plans and are designated by the names of states.

5.5.3.6 Penetration Control Point (PCP). The PCP is the point along a helicopter approach route at which helicopter waves penetrate a coastline. PCPs are designated by names of cities.

5.5.3.7 Initial Point (IP). The IP is an air control point in the vicinity of the HLZ from which individual flights of helicopters are directed to landing sites. IPs are designated by names of cities.

5.5.3.8 Rendezvous Point (RP). The RP is at a given altitude and position relative to the departure point (DP) for assembling helicopters. RPs are not named.

5.5.3.9 Departure Point (DP). The DP is an air control point at the seaward end of the helicopter approach route from which helicopter waves are dispatched to the IP. DPs are designated by names of cities.

5.5.3.10 Control Point (CP). A CP is a position marked by a buoy, ship or craft, electronic device, or conspicuous terrain feature that is used as an aid to navigation or for timing. CPs are designated by names of cities.

5.5.3.11 Breakup Point. The breakup point is where helicopters returning from an HLZ break formation and are released to return to individual ships or dispatched for other employment. The breakup point may be the same as the DP.

5.5.4 Helicopter Operations With Control Afloat. Helicopters are launched at the times and in the order prescribed in the HEALT. Control procedures and requests for on-call waves and non-scheduled units are described in paragraphs 5.5.4.1 to 5.5.4.6.

5.5.4.1 Helicopter Platform Landing/Launch Control. Helicopter air traffic control is maintained by primary flight (PriFly) control on the land/launch net for takeoff, landing, and operations in the ship's

control area (normally a five nm radius). Under instrument flight rules (IFR) conditions, the LHD, LHA, or LPH's HDC controls approaches and departures within the ship's control area. Under visual flight rules (VFR) conditions, air traffic control of aircraft departing the ship's control area is passed from PriFly to HDC. Air traffic control of returning aircraft is passed in the reverse order. The shift of air traffic control is coordinated between HDC and PriFly and aircraft are directed to shift radio frequencies.

5.5.4.1.1 Helicopter Carrier Air Traffic Control Procedures. Helicopter carrier air traffic control procedures are contained in the LHA/LPH/LHD naval air training and operating procedures standardization program (NATOPS) manual.

5.5.4.1.2 Rescue Helicopter Procedures. Rescue helicopter procedures are contained in NWP 42, "Shipboard Helicopter Operating Procedures" and the LHA/LPH/LHD NATOPS manual.

5.5.4.1.3 Helicopter Safety Boat (HSB). For HSB requirements, refer to NWP 42. Appendix H lists special purpose equipment carried in the HSB.

5.5.4.2 En Route Control. An HDC takes control of each flight on the HD net before they arrive at the RP and controls the flight to the RP where air traffic control is shifted to the primary HDC. The HSC Det reports the status of assault waves to the HCS as they proceed inbound on approach routes on the helicopter command (HC) net. The flight leader checks in with the ASC(A) for air traffic control at the PCP. When the ASC(A) determines that terminal guidance is operational in the HLZ, terminal control is passed to the ITG team or helicopter control element (HCE) of the HST.

On leaving the LZ, the flight leader checks in with the primary HDC or ASC(A) for air traffic control to the breakup point where flights are cleared for individual ship's control for landing and reloading.

Shipboard and airborne (if available) radar is used to maintain continuous radar surveillance of all flights/waves, particularly at night or during marginal weather.

5.5.4.3 Terminal Information. When helicopters report to the ASC(A), or TAC(A), for air traffic control, they are briefed on any changes to the prebriefed HLZ situation, including:

1. Wind direction and velocity
2. Physical obstructions in the HLZ

3. Friendly and enemy positions
4. How the HLZ is marked
5. Other matters of interest.

Prior to landing, the pilot informs the heliteam leader of the direction in which the helicopter will be heading after landing.

5.5.4.4 Requests for On-Call Waves. Requests for on-call waves are normally made by tactical commanders on the helicopterborne unit command net to the HST and then transmitted to the helicopterborne RLT TACLOG detachment on the HST control net. The TACLOG detachment monitors the supported unit tactical net to anticipate tactical and logistical requirements.

Upon receipt of a request for on-call waves, the helicopterborne RLT TACLOG detachment notifies the HCS Det and HLSC of the request. The HSC Det provides helicopters for the requested lift and the primary HDC directs their movement to the appropriate ship and HLZ. The HLSC issues instructions to ships concerned to prepare troops, supplies, or equipment for debarkation. The HCS and Marine air-ground task force (MAGTF) command element (CE) monitor these requests and by silence indicate concurrence.

5.5.4.5 Requests for Nonscheduled Units. After scheduled waves are landed, or sooner if requested by tactical commanders ashore, nonscheduled units are landed in accordance with the LF landing sequence table. The method for requesting nonscheduled units early or out of sequence is identical to that for on-call waves.

5.5.4.6 Changes in Landing Sequence. Helicopterborne unit requests for serials out of sequence are identical to those for on call waves. The helicopter transport unit commander first determines that ship loading will support the request. With his concurrence the HLSC directs the appropriate ship to prepare the serials for debarkation. The HCS Det diverts returning helicopters or directs helicopters to launch to accomplish the mission. The HCS and LF TACLOG detachment monitor these requests and by silence indicate concurrence.

5.5.4.7 Medical Emergency Evacuation (MEDEVAC). During the initial phase of the helicopterborne ship-to-shore movement, casualties are moved to casualty evacuation stations. Empty helicopters transport casualties to CRTSs on return flights. As the landing progresses, the air plan designates

MEDEVAC helicopters (modified transport helicopters) to evacuate casualties. Such helicopters will have a hospital corpsman and medical supplies and equipment embarked. Casualties are transported to specific CRTS based on the advice of the ATF MRCO collocated with the HCS. Appendix G describes these procedures and the MEDREG organization in detail.

5.5.5 Downed Helicopter Recovery Operations. Successful helicopter recovery operations, in the event an aircraft is forced down due to mechanical failure or enemy fire, depends upon the expeditious and coordinated actions of the maintenance recovery team, security element, and recovery vehicle.

The OPORD specifies plans for recovering downed helicopters and includes as a minimum:

1. Organization of helicopter maintenance recovery teams by type of aircraft
2. Security elements available for employment
3. Designated equipment requirements by type aircraft
4. Designated recovery vehicles, call signs, and frequencies.

5.5.6 Sequence of Events for Helicopter Tactical or CSS Requests From a Helicopterborne Unit. Refer to Figure 5-2 while reading paragraphs 5.5.6.1 and 5.5.6.2. Paragraph 5.7 explains the communications nets being used.

5.5.6.1 Tactical Support Request. Requests for tactical support are made as follows:

1. Helicopterborne unit ashore requests helicopters for tactical support on the HR net.
2. The MAGTF CE monitors the HR net and negate or give consent by silence.
3. The HCS Det receives the request on the HR net and takes action if helicopters are available. If helicopters are not available or the request generates a conflict with present requirements, the HCS Det refers the request to the HCS on the HC net.
4. The HSC Det directs helicopters be launched on the HC net and provides helicopter routing, if required, to the HCS for coordination with supporting arms.

5. Assigned helicopter platform controls helicopters from the ship to the RP on the land/launch or an HD net. At the RP air traffic control is turned over to the primary HDC.
6. The primary HDC controls helicopters from the RP to the PCP on an HD net.
7. The ASC(A) controls helicopters from the PCP to IP on the HD net.
8. The HCE of the HST controls helicopters from the IP to the HLZ on the HLZ control net.

5.5.6.2 CSS Request. Requests for CSS are made as follows:

1. Helicopterborne unit ashore requests CSS from the HST on the helicopterborne unit command net.
2. HST checks dumps. If supplies are not available ashore, HST requests supplies from the helicopterborne RLT TACLOG detachment on the HST control net.
3. The helicopterborne RLT TACLOG detachment coordinates delivery with the HLSC and HCS Det.
4. HLSC locates supplies afloat and directs appropriate ships to prepare supplies for helicopter lift on the helicopter logistics command net.
5. The HCS Det directs helicopters to be launched on the HC net and provides helicopter routing, if required, to the HCS for coordination with supporting arms.
6. The primary HDC provides air traffic control en route the HLZ as described in paragraph 5.5.6.1.

5.5.7 Sequence of Events for Helicopter Tactical or CSS Request From a Surfaceborne Unit.

Refer to Figure 5-3 while reading paragraphs 5.5.7.1 and 5.5.7.2. Paragraph 5.7 explains the communications nets being used.

5.5.7.1 Tactical Support Request. Requests for tactical support are made as follows:

1. Surfaceborne unit requests helicopters for tactical support from the LFSP on the supported unit tactical net.

2. The LFSP relays the request to the HCS Det on the HR net.
3. The MAGTF CE monitors the HR net and negates or gives consent by silence.
4. The HCS Det directs helicopters be launched on the HC net and provides helicopter routing, if required, to the HCS for coordination with supporting arms.
5. Assigned helicopter platform controls helicopters from the ship to the RP on the land/launch or an HD net. At the RP flight control is turned over to the primary HDC.
6. The primary HDC provides air traffic control en route the HLZ as described in paragraph 5.5.6.1.

5.5.7.2 CSS Request. Requests for CSS are made as follows:

1. Surfaceborne unit makes CSS request on supported unit tactical or landing force support party (LFSP) control net. LFSP checks beach dumps and serials are not available.
2. LFSP requests the surfaceborne RLT TACLOG detachment located on the primary control ship (PCS), on the LF CSS or LFSP command net, provide the serials. The surfaceborne RLT TACLOG detachment locates the serials on ships in the transport group and surface means are not available for delivery or helicopter delivery is determined to be the most expedient delivery method.
3. The surfaceborne RLT TACLOG detachment passes the request to the LF TACLOG detachment to coordinate helicopter employment with the MAGTF CE. With MAGTF CE concurrence the LF TACLOG detachment notifies the helicopterborne RLT TACLOG detachment of the CSS requirement on the LF CSS net and this TACLOG detachment coordinates with the HSC Det and HLSC for delivery of the serials.
4. HLSC directs the appropriate ships to prepare the serials for helicopter lift on the helicopter logistics command net.
5. The HSC Det directs helicopters be launched on the HC net and provides helicopter routing, if required, to the HCS for coordination with supporting arms.

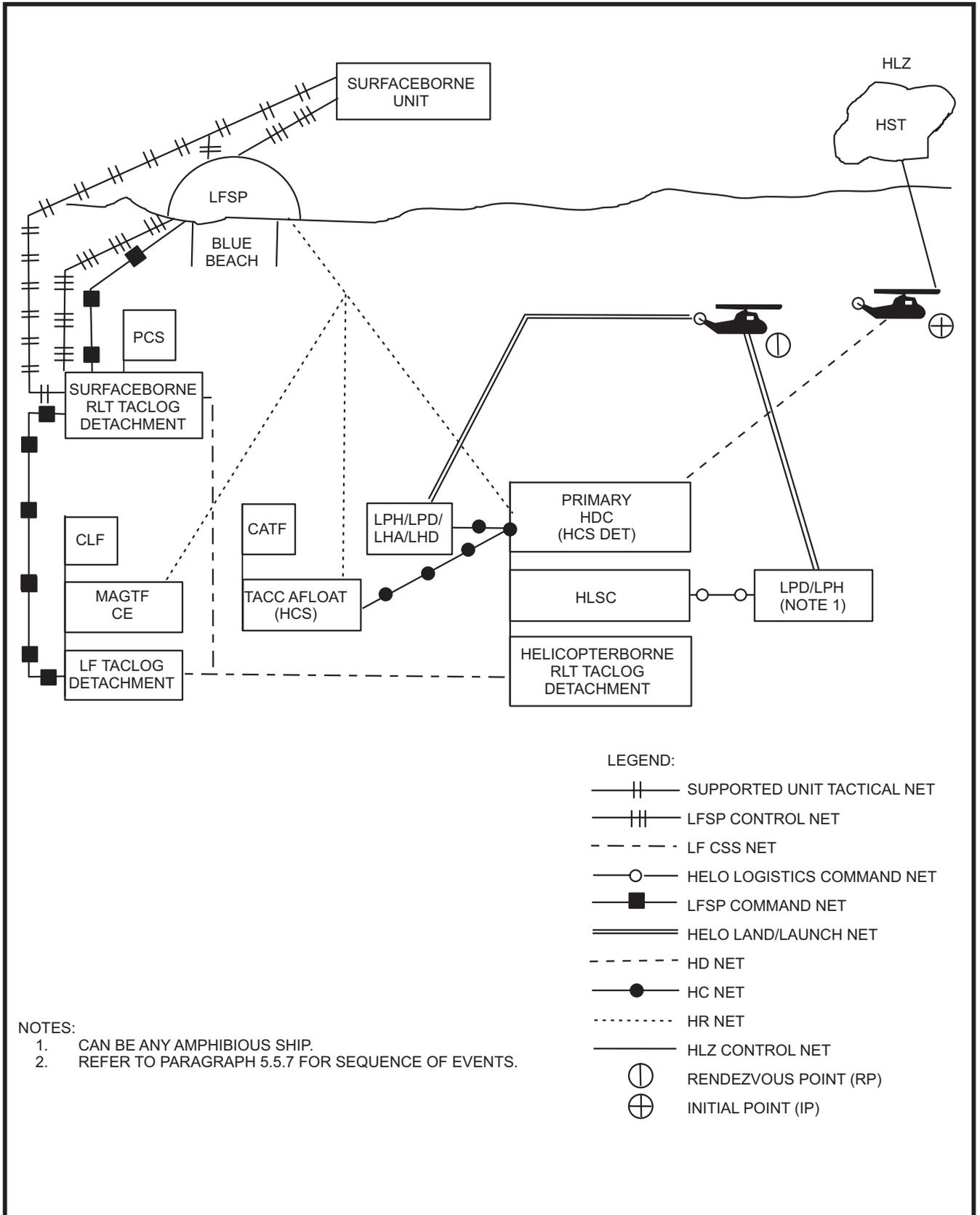


Figure 5-3. Helicopter Tactical or CSS Requests From a Surfaceborne Unit

6. The launch helicopter platform shifts helicopters to the land/launch net of the helicopter platform with the serial embarked.

7. Helicopters load serials, launch, and are directed to the RP on the land/launch or an HD net. At the RP helicopters are directed to shift to the primary HDC for air traffic control.

8. The primary HDC provides air traffic control en route the HLZ as described in paragraph 5.5.6.1.

5.5.8 Helicopter Operations With Control Ashore.

Phasing any portion of air control ashore is formally executed between CATF and CLF. Transfer of air control functions ashore generally occurs when the facilities for coordinating supporting fire and air control are established. To control helicopters and coordinate their operations with supporting fire, the LF establishes the DASC and FSCC ashore.

5.5.8.1 Control of Helicopters is Ashore and Helicopters are Based Afloat. As long as helicopter units are based afloat, primary HDCs continue to function under the direction of the DASC and remain prepared to resume air traffic control of helicopters in the event of a casualty to the DASC.

Preplanned helicopter employment is controlled by the DASC. Emergency requests for on-call helicopter missions from surfaceborne units are made on the TAR net. DASC requests on-call helicopters ashore on the HR net and coordinates the mission with supporting fire through the FSCC and HCS.

If helicopters ashore are not available, DASC requests the HCS provide them on the HC or HR net. The HCS issues orders to launch helicopters for missions assigned by DASC and the primary HDC controls them from the RP to the CP specified by DASC. At the CP, DASC assumes flight control of the helicopters and directs the mission. Close liaison and coordination is maintained between the HCS and DASC in order that each may be cognizant of helicopter availability and employment.

5.5.8.2 Control of Helicopters is Ashore and Helicopters are Based Ashore. Procedures for control of helicopters ashore are in accordance with appropriate LF manuals.

5.6 DELEGATION OF AUTHORITY

Maximum flexibility is given to subordinate commanders during amphibious operations by delegating authority to change and coordinate certain aspects of the assault. For the helicopterborne ship-to-shore

movement delegation of authority to change includes, but is not limited to:

1. Airborne control of helicopters
2. Changing from primary to alternate HLZs
3. Changing approach and retirement routes
4. Changing the landing sequence.

Examples of authority to coordinate that may be delegated are:

1. Coordination of helicopter flights with other aircraft and supporting fire
2. Coordination of maneuvers between adjacent troop units
3. Coordination of supporting fire with troop maneuvers.

The authority delegated must be clearly delineated in the OPORD. OPORDs must also establish:

1. The conditions under which these changes may be made
2. The extent that changes may be made without approval from higher authority
3. The details of reporting changes
4. Other actions required to ensure coordination of helicopter operations with fire support and other air operations.

5.6.1 Airborne Control of Helicopters. The airborne control of helicopters in the AOA during multideck operations may be delegated to an ASC(A). Paragraph 5.4.10 provides additional information on airborne coordination.

5.6.2 Changing from Primary to Alternate Helicopter Landing Zones (HLZs). CLF selects primary and alternate HLZs for each LF objective based on recommendations from the helicopterborne and helicopter unit commanders. When the use of either HLZ will not affect the scheme of maneuver, plan of supporting fire, or adjacent or higher troop units, the helicopterborne unit commander, in coordination with the helicopter unit commander and ASC(A), may be delegated the authority to change from the primary to alternate HLZ to exploit a tactical advantage or improve a ground situation. If the use of

an HLZ will affect adjacent or higher level troop units, this authority cannot be delegated below the highest troop unit affected or the SACC.

5.6.3 Changing Approach and Retirement Routes. Representatives from the ACE in coordination with the HCS and helicopter transport group/unit commander select primary and alternate approach and retirement routes between HLZs and the DP.

When the plan of supporting fire permits both the alternate and primary routes to be designated as an airspace coordination area, even when not in use, the authority to shift from primary to alternate routes may be delegated to the helicopter director or ASC(A).

When the use of other than preselected routes will not affect the scheme of maneuver ashore, plan of supporting fire, or adjacent or higher troop units, the ASC(A) may select routes to accomplish the mission as required. If the use of any route will affect adjacent or higher level troop units, this authority cannot be delegated below the highest level troop unit affected or the SACC.

If the decision to utilize a different route requires establishing an airspace coordination area, the authority to change approach and retirement routes cannot be delegated below the TACC afloat or TACC ashore when all air control functions have been phased ashore.

5.6.4 Changing the Landing Sequence. The helicopterborne unit commander will designate the order for landing in the HEALT. As the landing progresses, it may be advantageous to land certain units earlier than scheduled. The authority to direct a change in the landing sequence is normally delegated to the helicopterborne unit commander.

Transport group/unit loading must be considered when changing the landing sequence of helicopterborne units. Serials not readily available aboard ship will not be changed to an earlier loading time without the concurrence of the helicopter transport group/unit commander.

5.7 HELICOPTER CONTROL COMMUNICATIONS

In helicopter operations, flight control is exercised primarily through voice radio. For quiet landings or when emission control (EMCON) policy dictates, detailed briefings are conducted and visual signals and handwritten message boards are used by flight deck and LZ control personnel. These procedures are explained in Appendix E.

5.7.1 Communications Planning. Representatives from the HCS, primary HDCs, ATF and LF MRCCs, ATF and LF MRCOs, and helicopterborne and helicopter units are involved in communications planning.

Helicopter nets are listed in CATF's communications plan. A separate helicopter communications plan is not published. Figure 5-4 provides a communications matrix for the helicopterborne ship-to-shore movement.

5.7.2 Helicopter Command, Control, and Coordination Nets. Most nets for helicopter command, control, and coordination are in use during the movement phase. These nets are described in the following paragraphs.

5.7.2.1 Helicopter Command (HC) Net. The HC net is used by the HCS, HCS Det, air operation centers (HDCs), and ASC(A)s to coordinate and direct the employment of helicopters. It is used by the HCS Det to direct the launching of helicopters from helicopter capable ships for specific missions.

5.7.2.2 Helicopter Administrative (HA) Net. The HA net is used by the HCS, HCS Det, and helicopter capable ships for administrative and logistics matters pertaining to helicopter operations. It may be combined with the HC net.

5.7.2.3 Helicopter Request (HR) Net. The HR net is used by the HCS, HCS Det, helicopterborne unit TACP and HST, and LFSP to request immediate helicopter support. The LFSP guards this net for surfaceborne units.

5.7.2.4 Helicopter Direction (HD) Net. The HD net is used by the primary HDC or air operations centers (HDCs) for positive or advisory air traffic control of helicopters. The helicopter air controller utilizes the HD net to direct the flight course and altitude of helicopters and holdings, letdowns, and climbouts when required. ASC(A) and TAC(A) use the HD net for air traffic control in the objective area.

5.7.2.5 Land/Launch Net. A land/launch net is used by each PriFly for helicopter air traffic control within their control area under VFR conditions.

5.7.3 Helicopter Support Team (HST) Nets. Nets employed by the HST are described in the following paragraphs.

5.7.3.1 HST Control Net. The HST control net provides for the exchange of logistics information between the HST, TACLOG detachments, and LFSP.

NETS SUBSCRIBERS	COMMAND, CONTROL, COORD					HST				LFSP			MEDREG
	HELO CMD	HELO ADMIN	HELO REQUEST	HELO DIRECTION	LAND/LAUNCH	HST CONTROL	LZ CONTROL	HCE LOCAL (NOTE 3)	HLZ LOCAL	LFSP CMD	LF CSS	HELO LOG CMD (NOTE 3)	
TACC AFLOAT (HCS)	C	C	C	P									
TADC	P	P	P	P									
PRIMARY HDC (HCS DET)	P	P	P	C									
ASC(A)	X			W	W		W						
TAC(A)				W			W						
SHIPS	X	X		X	C							X	
ESCORT HELOS				W	W								
TRANSPORT HELOS				W	W		W	W					
LF TACLOG DET										X	C		
GCE TACLOG DET						X				X	X		
SURF RLT TACLOG DET						P				X	X		
HELO RLT TACLOG DET						X				X	X		
LFSP			X			X	W			C	X		
SHORE PARTY										P	X		
HST			X			C			C				
HCE							W	X					
LZ CONTROL TEAM				X			C	C	X				
ACE	W	W	W	W		X			W				
CSSE									W	W	C/S		
TACP (NOTE 1)			X										
TACP (NOTE 2)			W										
DASC			C/A	C/A									
FSCC			X										
HLSC												C	
MRCO													C
MEDREG TEAMS													X

NOTES:

- HELICOPTER-LIFTED LF UNITS.
- SURFACE-LIFTED LF UNITS
- ACTIVATED ON "AS REQUIRED" BASIS ONLY.
- NETS MAY BE COMBINED WHERE PRACTICABLE.
- REFER TO NWP 22-2 FOR SUPPORTING ARMS COMMUNICATIONS NETS.

LEGEND:

- C — NET CONTROL STATION (NECOS)
- P — BE PREPARED TO ASSUME NECOS
- X — GUARD
- C/A — NECOS WHEN AIR CONTROL IS PHASED ASHORE
- W — GUARD WHEN DIRECTED
- C/S — NECOS WHEN CSSE IS PHASED ASHORE

Figure 5-4. Helicopterborne Ship-to-Shore Movement Communications Matrix

Multiple HST control nets may be required depending on the scope of helicopter operations.

5.7.3.2 LZ Control Net. The LZ control net is used by the HCE for helicopter terminal control from the IP to the HLZ. It also provides communications with the ASC(A).

5.7.3.3 Helicopter Control Element (HCE) Local Net. The HCE local net is used by the HCE commander to contact landing sites within an HLZ.

5.7.3.4 HLZ Local Net. The HLZ local net is used by the HST to control supply dumps, maintenance sites, evacuation points, etc., within an HLZ.

5.7.4 LFSP Nets. Nets employed in logistics operations are described in the following paragraphs.

5.7.4.1 LF Support Party (LFSP) Command Net. The LFSP command net is described in paragraph 4.3.8.9.

5.7.4.2 Landing Force (LF) CSS Net. The LF CSS net is described in paragraph 4.3.8.11.

5.7.4.3 Helicopter Logistic Command Net. The helicopter logistics command net is used by the HLSC for directing ships to prepare serials for offload by helicopters.

CHAPTER 6

Protective Measures in the Amphibious Objective Area (AOA)

6.1 PURPOSE

This chapter discusses protective measures to minimize disruption of the ship-to-shore movement and provide defense in depth for the amphibious task force (ATF).

6.2 BACKGROUND

Active and passive protective measures in the AOA cover the complete warfare spectrum. Protective measures are developed within the combined warfare commander (CWC) concept for antiair, antisurface, antisubmarine, and electronic warfare (AAW, ASUW, ASW, and EW) offensive and defensive operations. The commander, amphibious task force (CATF) may supplement the CWC organization in the AOA with mine countermeasures, inshore undersea warfare (IUW) forces, a sneak attack defense plan, operational deception (OPDEC), individual ship security measures, and dispersion and mobility of forces to increase the ATF's defensive posture. Protective measures are implemented to enhance the ATF's survivability, particularly during the ship-to-shore movement when the ATF is most vulnerable. This chapter discusses the options available to CATF to provide protection to the ATF while maintaining the momentum of the assault and rapid buildup of combat power ashore.

6.3 PROTECTIVE MEASURES

Within the CWC organization the following protective measures may be implemented by CATF to enhance the ATF's survivability in the AOA.

6.3.1 Amphibious Defense Zone Coordinator (ADZC). Figure 6-1 depicts the ADZC concept which provides AAW defense for the ATF while also assisting the tactical air control center afloat (TACC afloat) in managing the high volume of air traffic in the AOA. The ATF AAW defense is based on the battle group or force AAW plan and is fully integrated with the overall battle group or force AAW defense. To achieve this integration a primary AAW platform, normally a CG, is designated as the ADZC. The ADZC functions as CATF's antiair warfare commander (AAWC) and as a sector AAWC for the battle group or force CWC. The AOA is included in the sector AAWC's

area as shown in Figure 6-2. As commander, landing force's (CLF's) air defense capability becomes operational ashore the tactical air operation center (TAOC) reports to the ADZC as a landward sector AAW coordinator for integration into the AOA defense. When air control is phased ashore the ADZC reports to the tactical air command center ashore (TACC ashore) as a seaward sector AAW coordinator. In joint operations under an air component commander, a similar relationship is established to fully integrate the AOA into the force AAW defense.

6.3.2 Inshore Undersea Warfare (IUW) Forces.

The mission of IUW forces is to utilize the capabilities of surveillance and intelligence assets coupled with an organic command, control, and communications capability to detect, localize, and report surface and subsurface activity within a specific area of responsibility. The organic command, control, and communications capability allows IUW forces to interact with the ATF or warfare commanders where the shallow water environment in the AOA precludes the effective use of deep water assets. The purpose of IUW forces is to:

1. Provide surface and subsurface surveillance in AOAs, harbors, approaches, and roadsteads
2. Detect, identify, and track high speed surface craft and hostile submarines
3. Collect and disseminate visual, acoustic, and electromagnetic intelligence data
4. Support surface or airborne mine countermeasures operations
5. Provide command, control, and communications assets to tactical commanders
6. Provide navigation data to afloat units
7. Control ship movements within harbors/ anchorages.

6.3.2.1 IUW Forces. IUW forces are deployed by air, land, or sea means. These forces are organized into tactical elements with an IUW group providing

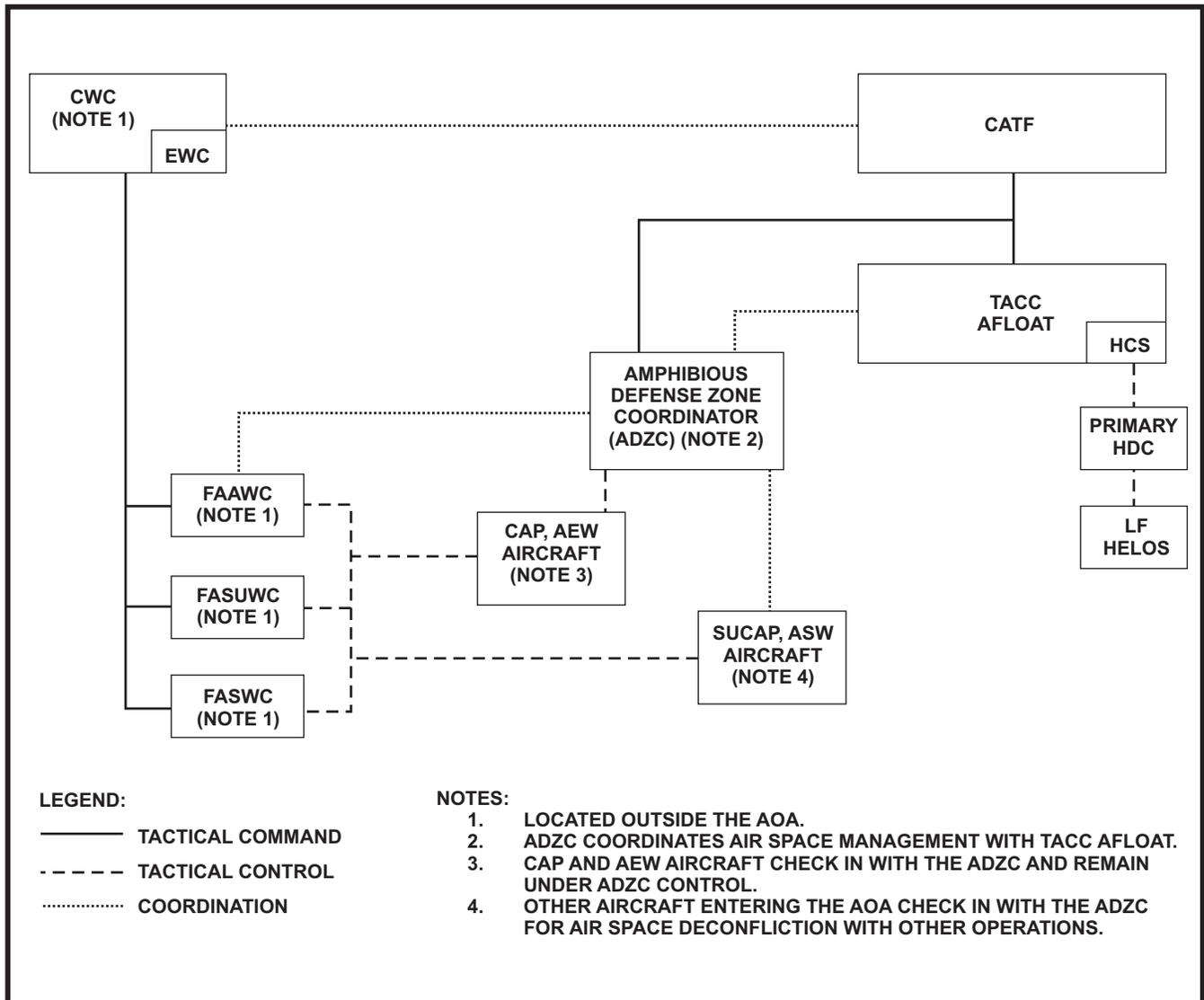


Figure 6-1. AOA CWC Organization With Supporting Force Commander as CWC in Supsit A Using an Amphibious Defense Zone Coordinator (ADZC)

the operational control for IUW units. IUW forces can interface with national or NATO tactical units to identify, localize, and neutralize hostile contacts by employing high speed surface craft or tactical aircraft in offensive roles.

6.3.2.2 Capabilities. IUW units operate afloat or ashore from a self-contained equipment shelter with the following capabilities:

1. Surface search radar with a 24 nm range
2. Passive acoustic detection using sonobuoys
3. Satellite, voice, and teletype encrypted communications.

NWP 40, “Inshore Undersea Warfare (U),” provides additional information on the organization, capabilities, and employment of IUW forces.

6.3.3 Defense Against Sneak Attack. Attacks can be expected from high-speed surface craft, midsize submarines, and swimmers while the ATF is in the landing area. Attack from missile firing surface ships/submarines is also given consideration. Protective measures against these threats include but are not limited to:

1. Effective use of supporting forces/IUW forces/electronic warfare support measures (ESM) to detect submarines and high speed surface craft

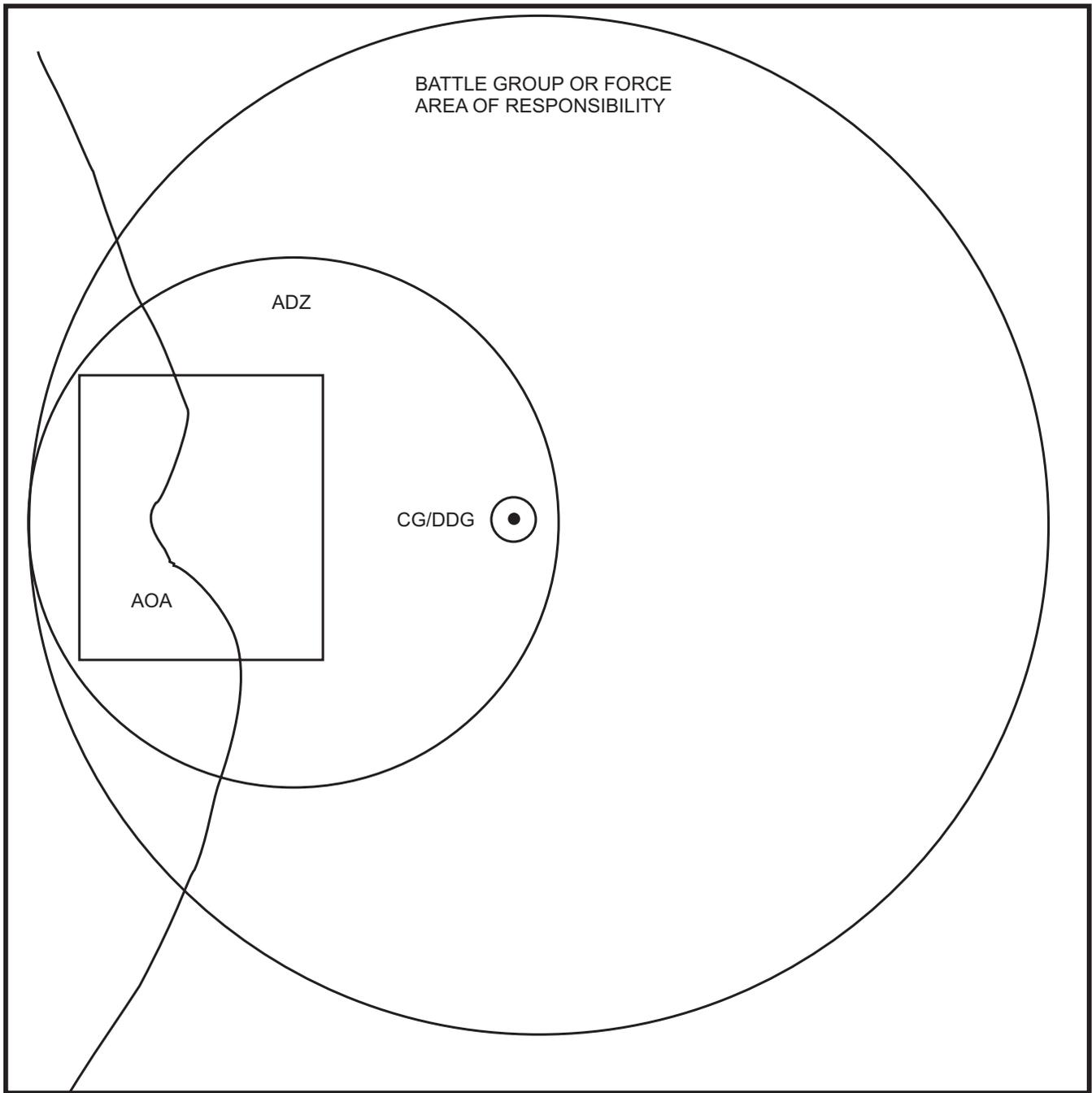


Figure 6-2. The Amphibious Defense Zone (ADZ)

2. Mining the flanks of the AOA from the shore seaward to 100 fathoms
3. Maintaining proper lighting conditions
4. Close-in picket boat patrols
5. Periodically dropping hand grenades or explosive charges
6. Keeping screws slowly turning over if anchored and periodically veering or heaving around anchor chains
7. Helicopter patrols
8. Special boat squadron (SPECBOATRON) patrols for coastal interdiction of small craft and intelligence gathering

9. Search and destroy operations against enemy missile firing platforms
10. Maintaining appropriate readiness conditions, such as condition 1A
11. Stationing additional lookouts equipped with night observation devices (NODs)
12. Operating sonars in the active mode
13. Operating bow thruster (LST/LHA) intermittently
14. Remaining underway or periodically shifting anchorages
15. Deploying the ATF in a sea echelon for force dispersion and to remain over the horizon.

6.3.3.1 Sneak Attack Defense Coordinator (SADC). Defensive measures employed against small, technologically unsophisticated forces conducting a sneak attack against the ATF operating in the landing area requires well defined command and control procedures. Small forces employed in this manner could remain undetected by warfare commanders postured to encounter traditional AAW, ASUW, and ASW threats. CATF designates a SADC in the operational tasking amphibious (OPTASK AMPHIB) message to concentrate on detecting and destroying this type of threat. Responsibilities of the SADC include:

1. Developing plans for detecting and countering sneak attacks by swimmers, surface craft, and aircraft in the assault area
2. Establishing threat thresholds for increasing or decreasing the ATF's sneak attack readiness posture
3. Coordinating search and attack procedures with warfare commanders and IUW forces.

IUW forces are trained and equipped to conduct this mission from shore or sea-based locations and may be designated as the SADC.

6.3.4 Defense Against Enemy Meaconing, Interference, Jamming, Intrusion (MIJI). In order to minimize enemy disruption from MIJI on communication nets used during the ship-to-shore movement, CATF may direct quiet landing procedures (QLPs) be used. Appendix E describes the procedures for conducting a quiet landing.

6.3.5 Operational Deception (OPDEC).

OPDEC measures that CATF may direct are:

1. Emission control (EMCON)
2. Force dispersion
3. Electronic deception
4. Deceptive lighting.

OPDEC plans are prepared by personnel assigned to CATF's staff from fleet tactical deception groups (FLTDECGRUs).

6.3.6 Chemical, Biological, and Radiation (CBR) Countermeasures.

In the event that CBR weapons are employed against the ATF, the ability to sustain operations, particularly during the ship-to-shore movement, presents significant challenges to CATF and CLF. The CBR environment differs from the conventional assault environment in the following areas:

1. The primary challenge to sustained operations is the survivability of people
2. CBR detection requires specialized equipment
3. Optimum personnel protective measures may degrade mission capability.

Enhanced survivability is achieved by timely and complete intelligence data, use of protective equipment and clothing, and employment of countermeasures. The key to successful CBR countermeasures is preparation. This includes verifying that the appropriate equipment is properly maintained, operable, and personnel are trained to use it. Many countermeasures entail some degree of mission degradation which must be evaluated to determine the proper course of action. For example, the countermeasures wash down (CMWD) system is an effective device as a pre-attack CBR countermeasure. Contaminates that strike a ship covered with a flowing water film are normally washed overboard. The extensive deck loading of landing force (LF) equipment on most amphibious ships, however, reduces the effectiveness of the CMWD system. If the CBR threat level is high then jettisoning LF equipment or leaving it behind may be warranted. Or, the ship's employment may be such that an acceptable level of risk can be taken with the equipment deck loaded.

6.3.6.1 Risk Assessment. Risk is the assessed difference between the threat level and the use of appropriate levels of countermeasures. The risk of casualties and contamination is evaluated and weighed against the potential mission degradation from mission oriented protective posture (MOPP) measures implemented, such as personnel heat stress from reduced ventilation or protective clothing. A risk assessment begins with an intelligence assessment describing the threat with a time frame for employment. Intelligence information consists of:

1. Status of enemy CBR warfare capability
2. Assessment of the political will to employ CBR weapons under the current and projected tactical situation
3. Ranges of CBR delivery systems
4. Threat axis and potential attack patterns.

6.3.6.2 CBR Risk Levels. The risk of encountering a CBR attack is categorized into four levels of increasing probability. These levels constitute decision points for implementing corresponding MOPP countermeasures. These risk categories are:

1. Suspected. The enemy possesses a CBR capability. Implementation of MOPP-1 countermeasures is warranted.
2. Possible. The political will to use CBR weapons exists. Implementation of MOPP-2 is warranted.
3. Probable. A statement of intent to employ CBR weapons, changes in political or military posture, or the use of CBR weapons in the objective area has already occurred. Implementation of MOPP-3 is warranted.
4. Imminent. Confirmation of increased activity for immediate employment of CBR weapons. Implementation of MOPP-4 is warranted.

6.3.6.3 Mission Oriented Protective Posture (MOPP). The four MOPP levels and associated countermeasures are briefly described in the following paragraphs. For a detailed explanation, refer to NWP 62-1, "CBRD Handbook for Training."

6.3.6.3.1 MOPP-1. Individual protective equipment and medical supplies are issued to personnel. The CBR defense bill is reviewed, personnel assignments are verified, and equipment is inventoried. CBR countermeasure, detection, and monitoring systems are tested.

6.3.6.3.2 MOPP-2. The protective mask is in the carrier and worn by all personnel. Primary and secondary decontamination stations and routes are designated. Appropriate CBR supplies are prepositioned. Material condition ZEBRA (modified) is set throughout the ATF.

6.3.6.3.3 MOPP-3. Protective overgarments are worn and readiness condition II is set for any unit of the ATF operating within the effective range of CBR delivery systems.

6.3.6.3.4 MOPP-4. Attack is imminent Readiness condition 1 and circle WILLIAM are set. All countermeasure systems are operating.

6.3.6.4 CBR Defense Plan. A CBR defense plan is prepared when the risk level is suspected or higher. Some of the factors considered in developing this plan are:

1. Developing an alternate landing plan to exploit landing craft air cushion (LCAC) and helicopter speed and maneuverability to avoid contaminated areas.
2. Identifying alternate landing areas to take advantage of prevailing wind conditions
3. Utilizing a sea echelon for ATF dispersal
4. Reducing the number of exposed personnel on ships and craft to the minimum number to sustain the assault
5. Establishing decontamination teams for the boat group and shore party to conduct personnel and equipment decontamination and monitoring
6. Promulgating prophylaxis procedures for nerve agent pretreatment medicinals
7. Identifying casualty receiving and treatment ships (CRTS) to receive contaminated helicopters and landing craft
8. Establishing procedures in the medical regulating (MEDREG) plan to decontaminate casualties during triage
9. Establishing permissible levels of CBR contamination
10. Designating areas where the residual contamination prohibits access or access is permitted on a controlled or nonstop basis only.

11. Defining courses of actions for CBR warning conditions white, yellow, and red for the following situations: before scheduled waves have landed, while the ship-to-shore movement is in progress, and during general unloading. Courses of action are developed for each warning condition for:

- a. The transport group
- b. Naval surface fire support (NSFS) ships
- c. Landing craft
- d. Helicopters
- e. Beach party team/shore party team.

Figure 6-3 provides an example of CBR defense instructions that may be implemented when condition warning yellow is set.

6.3.6.4.1 CBR Defense Centers. CATF, CLF, and each ship-to-shore movement control agency establishes a CBR defense center. The CBR defense center contains a display of the transport area where ground zero or initial estimates of chemical or biological contamination can be plotted. Monitoring by CBR teams is directed from the CBR defense center. The results are plotted on the display, evaluated, and disseminated. The evaluated information forms the basis for CATF and CLF's decision to continue with or alter the assault.

The joint intelligence center (JIC) is an integral part of CATF's CBR defense center. The JIC provides intelligence estimates and assessments on the enemy's CBR warfare capability and political will to employ these weapons, and evaluates information from theater and national sensors to provide early warning on the potential employment of CBR systems.

6.3.6.4.2 Decontamination. Provisions for the decontamination of ships, landing craft, essential LF equipment, and casualties is included in the CBR defense plan. Specially equipped and trained personnel in decontamination procedures are established in the boat group and shore party by CATF and CLF. CATF may augment salvage boats to accomplish this. The primary function of these teams is to restore units capable of continuing offensive operations that have been subjected to a CBR attack. Due to the time consuming level of effort required to effectively decontaminate most equipment used in the ship-to-shore movement, CATF and CLF may designate LF elements to continue the assault in a CBR environment and fight "dirty."

The decision to expose the ATF to specific CBR dosage levels is made by CATF. The CBR defense plan specifies the maximum acute and chronic contamination dosage that personnel will receive before being evacuated.

6.3.6.4.3 Mass Casualties. A CBR mass casualty plan is included in the MEDREG plan due to the potential for large numbers of casualties during a CBR attack.

Warning Yellow (CBR Attack Probable)	
Transport Group	Continue operations as scheduled unless otherwise directed
Surface Fire Support Ships	Continue NSFS operations as practicable and as directed by Commander, Gunfire Support Group
Individual Ships	<ol style="list-style-type: none"> 1. Set modified material condition ZEBRA 2. Get underway 3. Reduce exposed topside personnel to a minimum consistent with operations in progress 4. Don protective clothing and gas masks 5. Continue operations as scheduled unless otherwise directed.
Landing Craft	<ol style="list-style-type: none"> 1. Continue operations as scheduled 2. If transports sortie, remain in vicinity of primary control ship.
Control Group	Continue operations as scheduled unless otherwise directed
Helicopters	Continue operations as scheduled unless otherwise directed

Figure 6-3. CBR Defense Instructions

APPENDIX A

Use of Debarkation Stations Including Procedures for Calling Boats Alongside or Into Well Decks

A.1 DEBARKATION STATIONS

Debarkation stations and nets are employed for offloading troops, equipment, and cargo into boats or landing craft alongside an amphibious ship.

A.1.1 Debarkation Station Criteria. Most MSC and all commercial ships are not equipped to meet the requirements of debarkation station criteria. NWP 22-8/FMFM 1-15, "MSC Support of Amphibious Operations," provides amplifying information on the capabilities of these ships. Debarkation station criteria are:

1. The location of debarkation stations is specified in amphibious ship's blueprints. Areas adjacent to debarkation stations will be as free of obstructions as possible.
2. Proper deck fittings are installed for securing debarkation nets and handrails.
3. Handrails are rigged for troops to grasp when climbing onto the nets.
4. Debarkation nets are equipped with wooden spreader bars of sufficient length to completely traverse the net. The first spreader bar is in the first mesh. Subsequent spreader bars are spaced to not exceed eight meshes. The bottom spreader bar is installed so that it will be approximately three feet above the gunwale of an LCM. In addition, there should be an adequate amount of net below the bottom spreader bar to allow for landing craft movement during rough weather.
5. Debarkation nets are marked with white vertical lines for traffic lanes. The number of traffic lanes will depend on the class of ship.
6. Debarkation nets will be folded under and pulled outboard by the boat crew during loading until they are relieved by the first group down the net. After the landing craft is loaded, the net is pulled clear for retrieving.

7. Debarkation net retrieving lines are installed to the outboard ends of the last spreader bar.

A.1.2 Identification of Debarkation Stations.

There is a maximum of 10 debarkation stations, five on the starboard and five on the port sides, with each station identified by a color and a number (odd numbered to starboard; even numbered to port). Figure A-1 lists the colors and their corresponding station numbers.

A.1.3 Procedures for Calling Boats and Displacement Landing Craft Alongside.

Visual signals are used to call boats and displacement landing craft from assembly circles to embark troops, equipment, or supplies at debarkation stations. These signals are explained in Figure A-1.

A.1.3.1 Day. The starboard and port yardarms are used to display the signals for the starboard and port debarkation stations respectively. The type of boat or displacement landing craft is called to the station by displaying the designated flag in Figure A-1 over the colored debarkation station flag. For example, to call an LCM 8 to debarkation station BLUE 6, the signal bridge hoists the numeral 8 flag over the BLUE flag at the port yardarm. The next LCM 8 to reach the six o'clock position in assembly circle two proceeds to debarkation station BLUE 6. When the LCM 8 is alongside the designated station, the flag signal is hauled down.

A.1.3.2 Night. A light box is mounted on a swivel base for aiming at a particular assembly circle on each side of the ship. The box is fitted with three holes in a vertical line and is shielded at the front so that the lights are visible in one assembly circle only. The size of the holes permits installing the standard colored light filters used for a 12-inch searchlight.

The top color in the light box indicates starboard or port side, the middle color indicates type of boat or displacement landing craft desired, and the bottom color designates the debarkation station. These colors are explained in Figure A-1.

Information to Signal		Day Signal Flags	Night Signal Lights																		
Sides	Starboard Port	Use starboard yardarm Use port yardarm	Top GREEN light Top RED light																		
Boats and Displacement Landing Craft	LCPL LCVP LCU AAV LCM 6 LCM 8	L FLAG P FLAG U FLAG T FLAG 6 FLAG 8 FLAG	Middle AMBER light Middle RED light Middle WHITE light Middle AMBER light, flashing Middle BLUE light Middle GREEN light																		
Stations	<table border="1"> <thead> <tr> <th>Color</th> <th>Starboard</th> <th>Port</th> </tr> </thead> <tbody> <tr> <td>RED</td> <td>1</td> <td>2</td> </tr> <tr> <td>WHITE</td> <td>3</td> <td>4</td> </tr> <tr> <td>BLUE</td> <td>5</td> <td>6</td> </tr> <tr> <td>YELLOW</td> <td>7</td> <td>8</td> </tr> <tr> <td>GREEN</td> <td>9</td> <td>10</td> </tr> </tbody> </table>	Color	Starboard	Port	RED	1	2	WHITE	3	4	BLUE	5	6	YELLOW	7	8	GREEN	9	10	RED FLAG WHITE FLAG BLUE FLAG YELLOW FLAG GREEN FLAG	Bottom RED light Bottom WHITE light Bottom BLUE light Bottom AMBER light Bottom GREEN light
Color	Starboard	Port																			
RED	1	2																			
WHITE	3	4																			
BLUE	5	6																			
YELLOW	7	8																			
GREEN	9	10																			
Well Deck/Tank Deck	Note: Paragraph A.1.4 contains special signals for the LHA well deck.	WHISKEY FLAG	Top WHITE light Middle (type landing craft indicated by middle light marry up and enter well deck) Bottom WHITE light Note: Turned off for calling single landing craft into well deck or to tank deck																		

Figure A-1. Day and Night Signals for Calling Boats and Displacement Landing Craft to Debarkation Stations, Well Decks, and Tank Decks

Each debarkation station suspends a small, single-cell flashlight that is the same color as the debarkation station marker. All lights are in the same location as the station marker painted on the hull and identify the stations as the boat or landing craft comes alongside. When the boat or landing craft is alongside, the light box signal is turned off.

Debarkation net night markings consist of a single-cell, red flashlight or red chemlight attached to each side of the net approximately 1 foot above each spreader bar. The seapainter for each debarkation station is also marked with a red light.

A.1.3.3 Day and Night. Displacement landing craft are called alongside when directed by the debarkation officer. Loudspeakers may be used as a supplementary means of communication. Radio communications to the boat group commander, or his assistant, may be used as a backup.

A.1.4 Procedures for Calling Displacement Landing Craft into Well Decks/to Tank Decks.

Visual signals are used to call displacement landing craft into well decks, or to an LST for stern gate mariages, to embark troops or cargo.

A.1.4.1 Day. These visual signals are similar to those used to call boats or displacement landing craft to debarkation stations. For well decks the signal for a displacement landing craft shown in Figure A-1 is hoisted over the WHISKEY flag. To call an LCM 8, for example, the signal bridge hoists (on either yardarm with the exception of LHAs) flag 8 over flag WHISKEY, which means that a single LCM 8 is to enter the well deck. To bring two LCM 8s married together into the well, the signal is flag 8 over flag 8 over flag WHISKEY. This indicates that two LCM 8s are to marry up and enter the well deck. For the LHA well deck, signal flags will be hoisted on the port or

starboard yardarm to indicate which side of the split well deck the displacement landing craft is to make.

To call LCUs or AAVs to the LST tank deck, the signal bridge hoists the appropriate flag from Figure A-1 over the WHISKEY flag from either yardarm.

A.1.4.2 Night. The same light box is used as described in paragraph A.1.3.2, and the same middle light color signals are used as for calling displacement landing craft alongside. The top light for calling displacement landing craft to the well deck is white, vice red or green. The bottom light is left blank when calling single

landing craft. The bottom light is white to have a displacement landing craft marry up. For LHAs a steady top white light indicates a displacement landing craft is to make the starboard side of the split well deck. A flashing white top light indicates the port side of the split well.

A.1.5 Landing Craft Air Cushion (LCAC) Procedures. The physical characteristics of LCACs preclude maintaining an effective visual signal watch. Directions for LCACs to enter a well or proceed to a debarkation station are made over the man-on-the-move (MOM) voice radio system or the LCAC control net.

APPENDIX B

Landing Craft and Amphibious Vehicle Formations and Control Signals

B.1 LANDING CRAFT AND AMPHIBIOUS VEHICLE FORMATIONS

The various types of formations for landing craft and amphibious vehicles are shown in Figure B-1.

B.1.1 Order of Assault Craft in Formation.

Assault craft form in numerical order as follows:

1. In column or echelon formations, landing craft and amphibious vehicles form in numerical order from the van to the rear.
2. Amphibious assault vehicles (AAVs) in a line-abreast formation are numbered from the left flank to the right flank. They are launched in boat team number sequence (1-1, 1-2, 1-3, etc.) in a column to facilitate a subsequent flanking movement to a line-abreast formation.
3. Landing craft in line-abreast, wedge, and “vee” formations station the number one craft in the center of the wave, with odd-numbered craft to starboard and even-numbered craft to port.

B.1.2 Distance and Interval for Displacement Landing Craft. The standard distance between displacement landing craft formed in waves is 50 yards in daylight and 25 yards at night or during low visibility, with the exception of LCUs, for which standard distance is 50 yards during day and night. During periods of reduced visibility, displacement landing craft will close sufficiently to see signals from

the landing craft ahead or abeam and will open the distance to 50 yards when 1,000 yards from the beach.

The boat group commander (BGC) directs the tactical maneuvering of the boat group using the arm and hand control signals shown in Figure B-2. Wave guide officers (WGOs) and boat wave commanders (BWCs) execute the maneuvers for their wave using these same control signals while maintaining the proper wave interval.

B.1.3 Distance and Interval for Landing Craft Air Cushion (LCAC). Minimum distance for LCAC is 100 yards. The LCAC group commander (LGC) will specify the distance between LCACs after considering the type of formation, speed, sea state, and visibility.

The LGC directs the tactical maneuvering of LCACs using the man-on-the-move (MOM) voice radio system or other communications net specified in the communications plan.

B.2 CONTROL SIGNALS

Arm and hand signals for control of displacement landing craft and amphibious vehicles are shown in Figure B-2.

BWCs and WGOs use semaphore flags during daylight and signal wands with lights corresponding to the color of the beach at night for visual signaling.

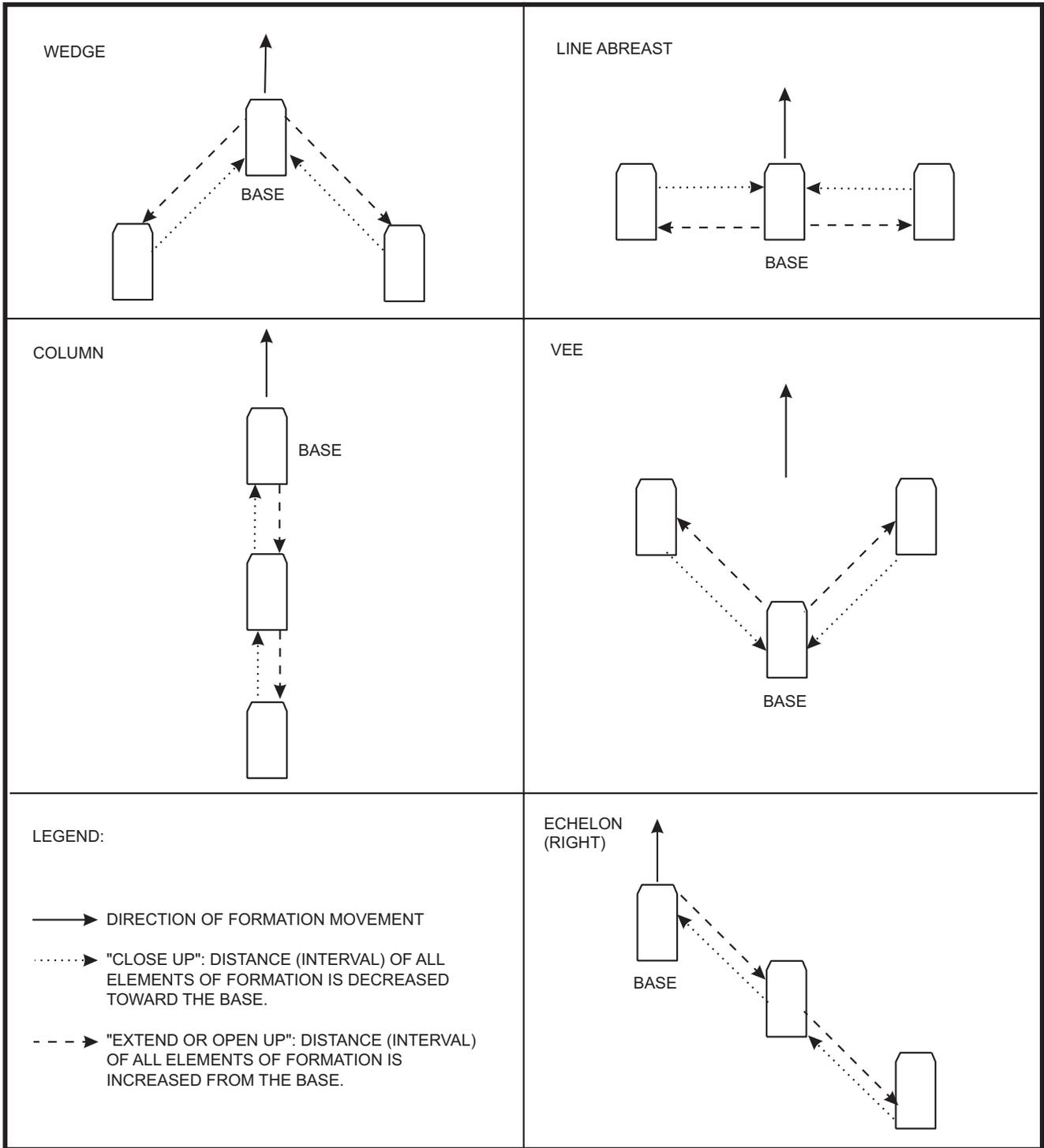


Figure B-1. Landing Craft and Amphibious Vehicle Formations

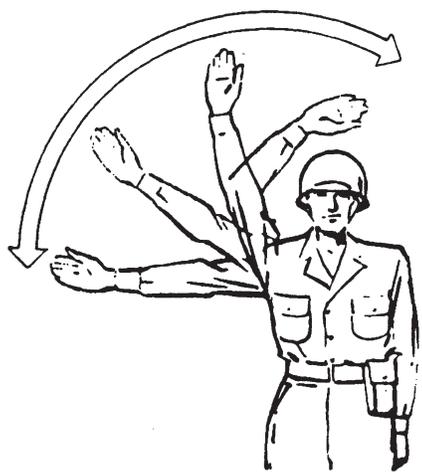
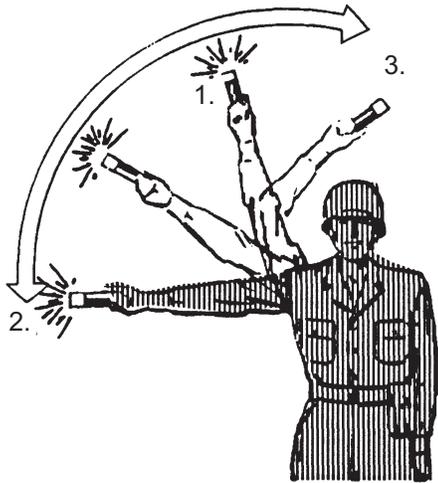
1. ASSEMBLE OR PASS TOW LINE	2. ATTENTION
<p>DAY</p>  <p>Small circle, palm out.</p> <p>NIGHT</p>  <p>Turn light on when right arm is extended overhead; execute large horizontal circle. Turn light off before lowering arm. Repeat as necessary.</p>	  <p>Turn light on when arm is in the starting position. Turn light off when signal is completed. Repeat as necessary.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 1 of 16)

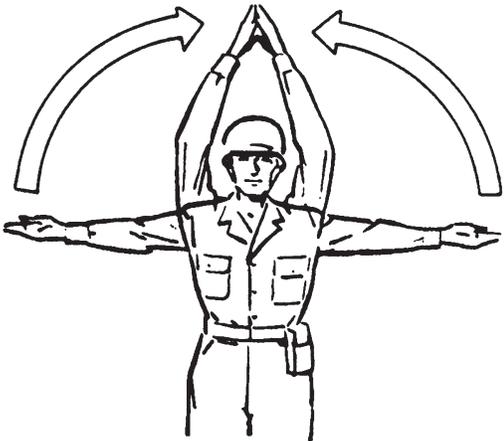
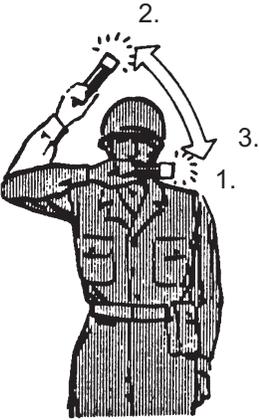
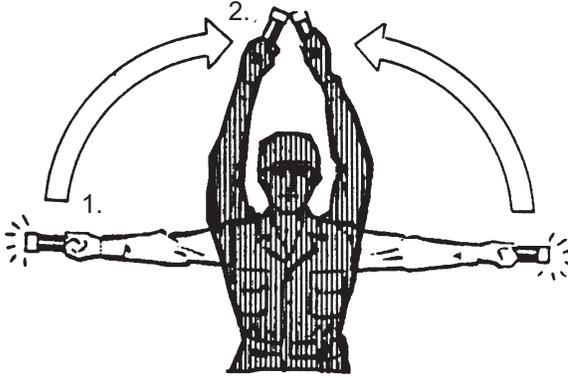
3. CEASE FIRING	4. CLOSE UP
<p>DAY</p> 	
<p>NIGHT</p>  <p>Turn light on when arm is in the starting position. Turn light off when signal is completed. Repeat as necessary</p>	 <p>Turn light on when arms are in starting position; execute signal, turning light off when hands touch overhead. Repeat as necessary.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 2 of 16)

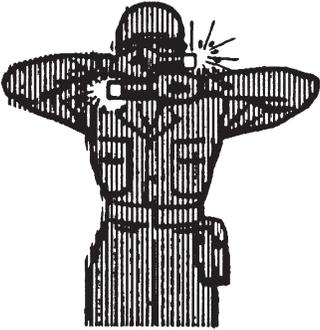
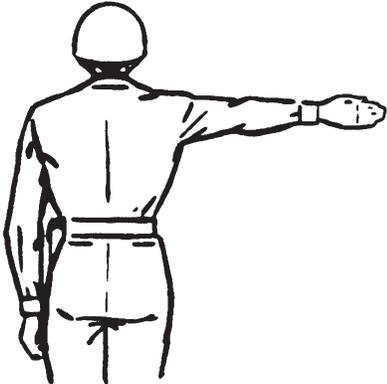
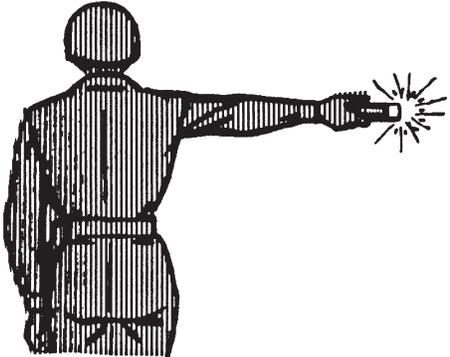
5. I DO NOT UNDERSTAND	6. COLUMN RIGHT (LEFT)
<p>DAY</p>  <p>NIGHT</p>  <p>Turn lights on as hands are brought down across the face; hold in position, parallel, horizontal, until acknowledged, or executed. Turn lights off while still in front of the face.</p>	  <p>Turn light on as arm is extended; hold in position until understood, executed, or acknowledged. Turn light off while arm is still extended. Repeat as necessary.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 3 of 16)

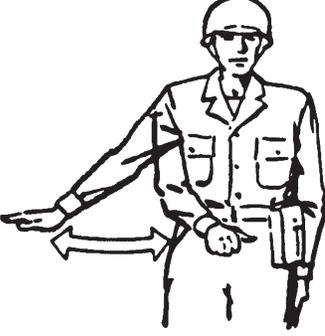
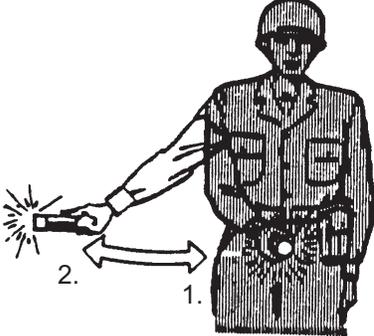
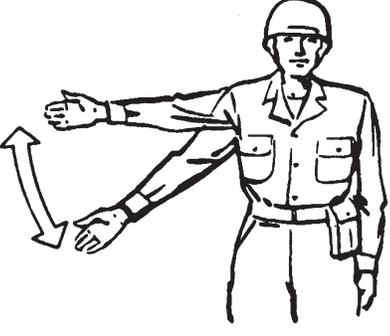
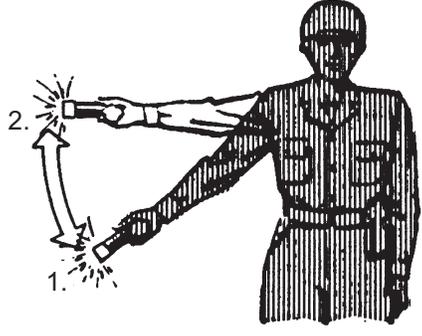
7. COMMENCE FIRING	8. DECREASE SPEED (VEHICLES) OR QUICK TIME (DISMOUNTED TROOPS)
<p>DAY</p>  <p>NIGHT</p>  <p>Turn light on when arm is in the starting position. Turn light off when signal is completed. Repeat as necessary.</p>	  <p>Turn light on when arm is in the starting position. Turn light off when signal is completed. Arm does not move above the horizontal. Repeat as necessary.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 4 of 16)

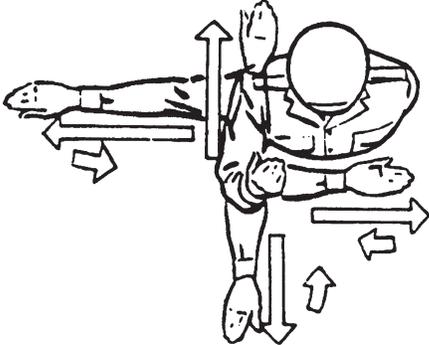
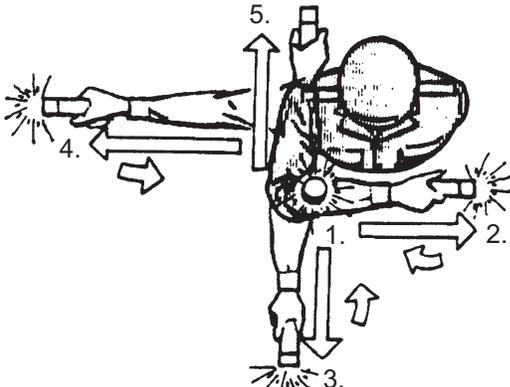
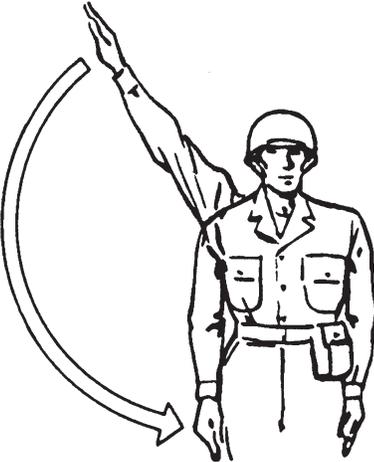
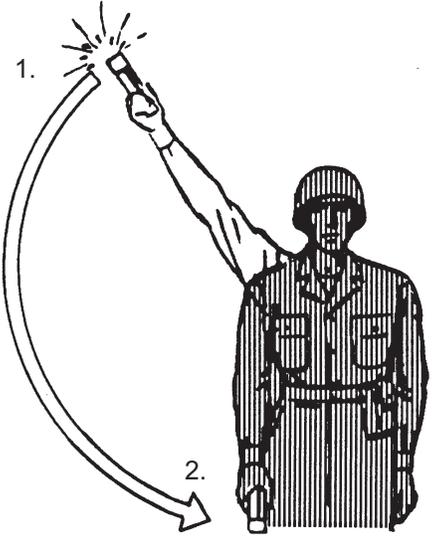
9. DISPERSE	10. DISMOUNT, DOWN, TAKE COVER
<p>DAY</p>  <p>NIGHT</p>  <p>Turn light on when arm is in starting position. Return arm to starting position after each movement in a given direction. Turn light off after arm has been moved to the rear.</p>	  <p>Turn light on when arm is in starting position; turn light off when arm is down at the side. Repeat as necessary.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 5 of 16)

11. ECHELON RIGHT (LEFT)	12. DISREGARD PREVIOUS COMMAND OR AS YOU WERE
<p>DAY</p>  <p>NIGHT</p>  <p>Turn lights on when arms are in correct positions. Turn lights off before taking arms from the signal position. Repeat as necessary.</p>	  <p>Hand wands are crossed instead of the hands. Turn lights on when wands are in position overhead. Turn lights off when understood or acknowledged.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 6 of 16)

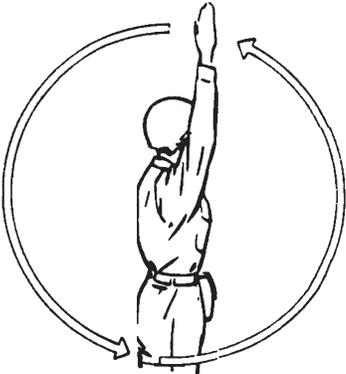
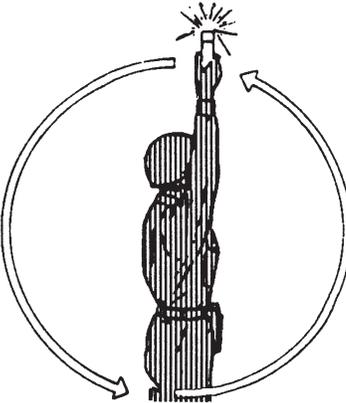
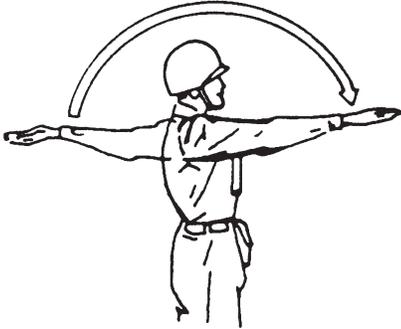
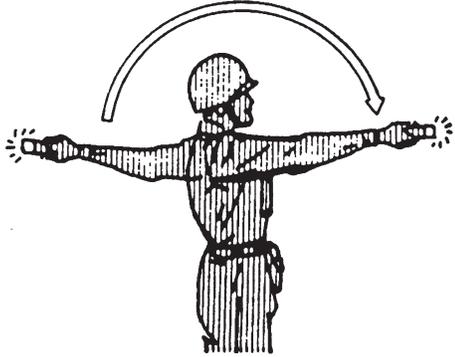
13. FORM COLUMN	14. ADVANCE OR MOVE OUT
<p>DAY</p>  <p>NIGHT</p>  <p>Turn light on when arm movement for signal is started. Turn light off when completed. Repeat as necessary.</p>	  <p>Face the desired direction of movement; turn light on when arm is extended to the rear; then swing arm overhead and forward in the direction of desired movement; turn light off when arm is horizontal. Repeat as necessary.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 7 of 16)

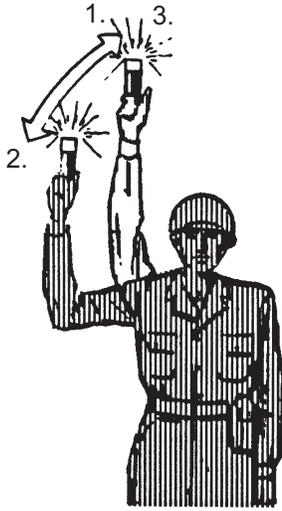
15. HALT, STOP, OR STOP TOWING	16. INCREASE SPEED OR DOUBLE TIME
<p>DAY</p>  <p>Hand raised, palm out.</p>	
<p>NIGHT</p>  <p>Turn light on when arm is in the signal position; blink light several times. Turn light off before lowering arm.</p>	 <p>Turn light on when arm is in the starting position. Turn light off when signal is completed. Repeat as necessary.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 8 of 16)

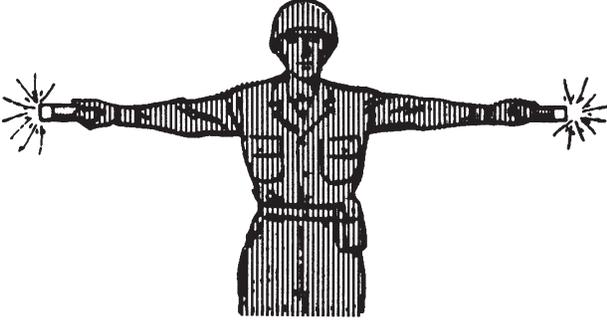
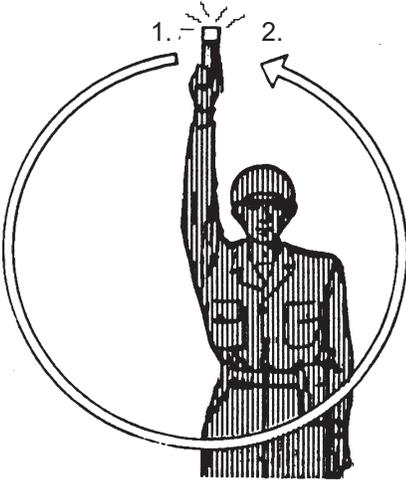
<p>17. FROM LINE FORMATION DEPLOY INTO LINE ABREAST</p>	<p>18. MAN OVERBOARD</p>
<p>DAY</p>  <p>NIGHT</p>  <p>Turn lights on as arms are extended; hold in signal position until understood, executed, or acknowledged. Turn lights off while arms are still in signal position. Repeat as necessary.</p>	  <p>Turn light on when arm is in vertical position, execute complete circle, blinking the light; turn light off when arm is returned to the vertical position. Repeat as necessary.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 9 of 16)

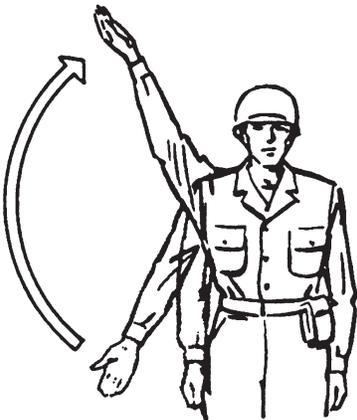
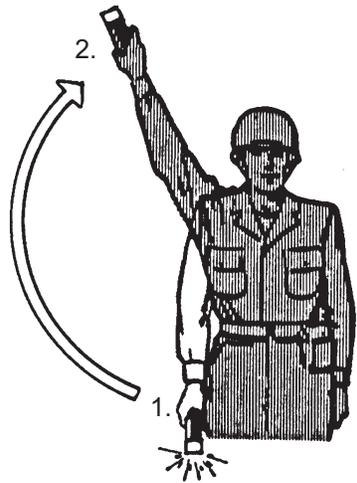
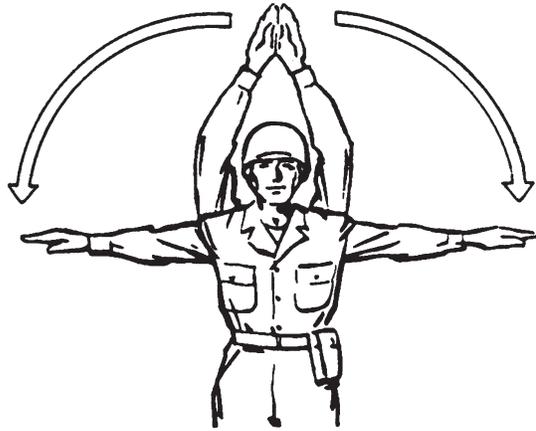
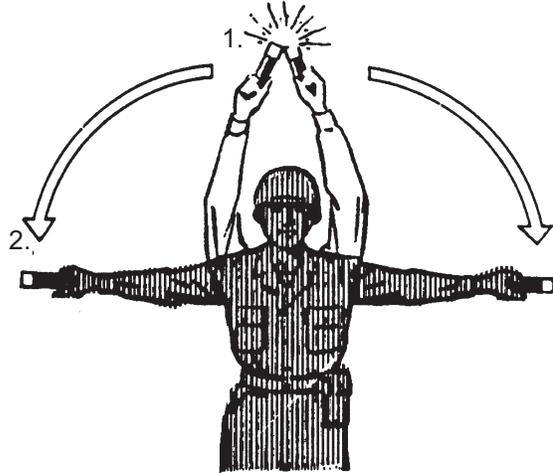
19. MOUNT	20. OPEN UP OR EXTEND
<p>DAY</p>  <p>NIGHT</p>  <p>Turn light on in starting position. Turn light off when arm is at 45° above horizontal. Repeat as necessary.</p>	  <p>Turn lights on when arms are in starting position. Turn lights off when arms are horizontal. Repeat as necessary.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 10 of 16)

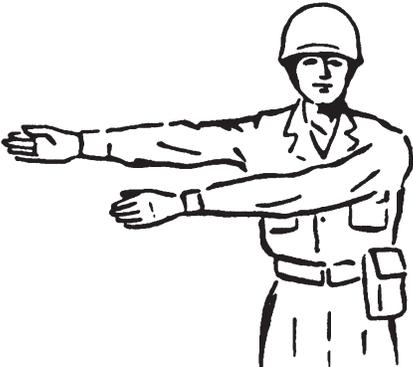
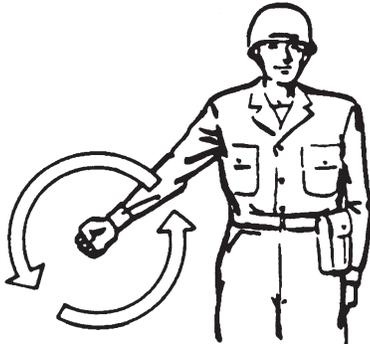
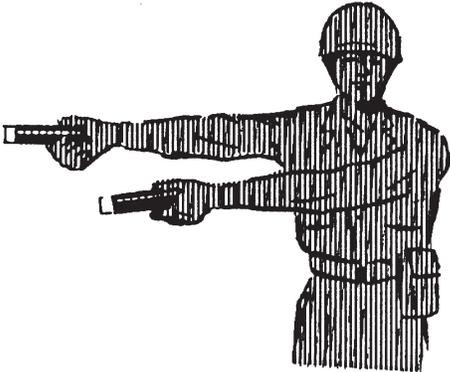
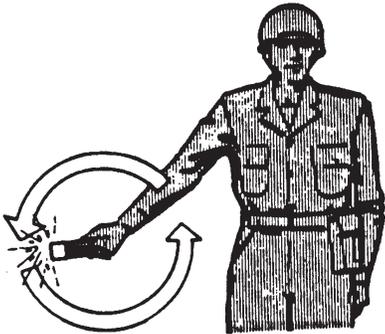
21. BY THE RIGHT (LEFT) FLANK	22. STARTING ENGINES OR PREPARE TO MOVE
<p>DAY</p> 	
<p>NIGHT</p>  <p>Extend both arms in direction of movement; turn lights on; hold in position until understood; to execute the movement, drop the hands smartly to the sides; turn lights off after execute.</p>	 <p>Turn light on when arm is in starting position. Turn light off when signal is completed.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 11 of 16)

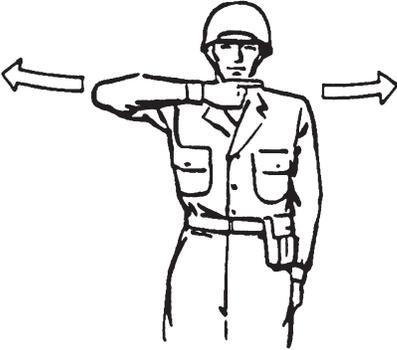
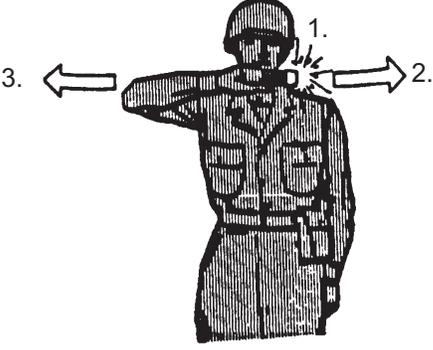
23. STOP ENGINE	24. "VEE" FORMATION
<p>DAY</p>  <p style="text-align: center;">CAUTION</p> <p>This signal should not be used for waterborne AAVs</p> <p>NIGHT</p>  <p>Turn light on when arm is in starting position. Turn light off when signal is completed.</p>	  <p>Turn lights on as arms are extended; hold in signal position until understood, executed, or acknowledged. Turn lights off while arms are still in signal position. Repeat as necessary.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 12 of 16)

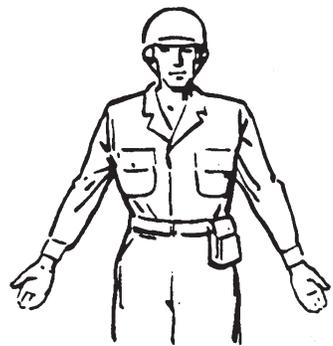
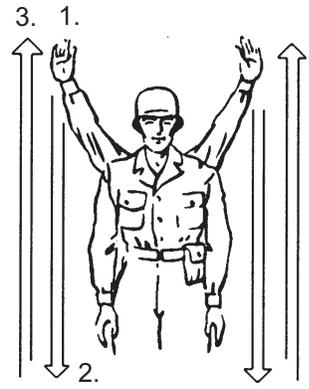
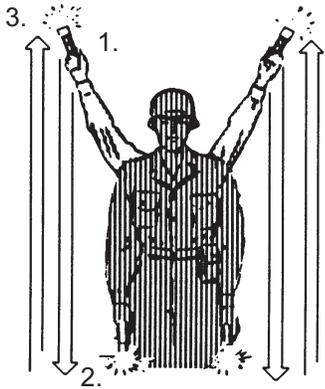
25. WEDGE FORMATION	26. BREAKDOWN
<p>DAY</p>  <p>NIGHT</p>  <p>Turn lights on as arms are extended; hold in signal position until understood, executed, or acknowledged. Turn lights off while arms are still in signal position. Repeat as necessary.</p>	  <p>Turn lights on with arms extended overhead. Swing arms forward and down to knees. Swing arms forward and upward from knees to overhead. Continue motion until signal is understood.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 13 of 16)

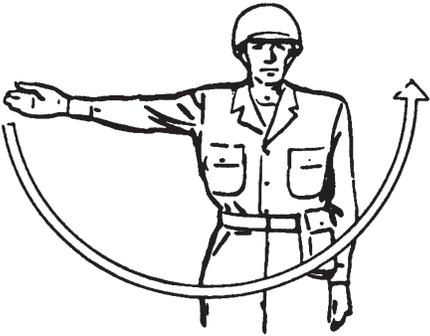
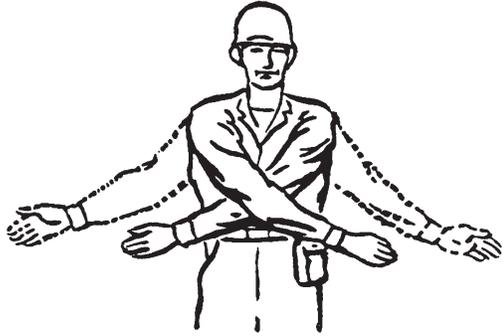
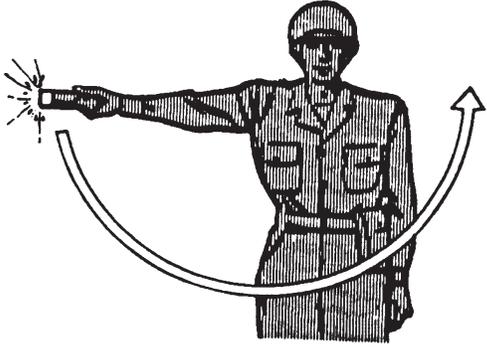
27. COMMENCE TOWING	28. CAST OFF TOW LINE
<p>DAY</p> 	
<p>NIGHT</p>  <p>Turn light on when arm is in the extended starting position. Move arm in semicircle from right horizontal downward to left horizontal. Turn off light when signal is complete. Repeat as necessary.</p>	 <p>Cross arms in front of body several times, using swinging motion with wand in each hand.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 14 of 16)

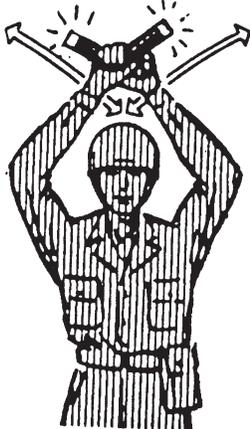
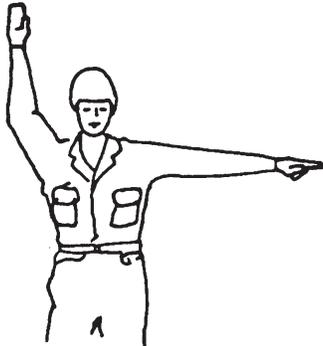
29. AIR ATTACK	30. CBR WARNING
<p>DAY</p> 	
<p>NIGHT</p>  <p>Rapidly cross and uncross arms fully extended above the head with wand in each hand.</p>	 <p>Cover both eyes with wand held in the right hand to warn of the use of CBR weapons.</p>

Figure B-2. Arm and Hand Control Signals—Displacement Landing Craft and Amphibious Vehicles (Sheet 15 of 16)

31. VECTOR LEFT (RIGHT)

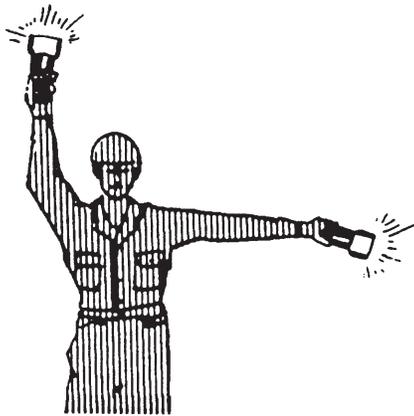
DAY



SIGNALMAN FACING BEACH.

One arm straight out to side on which turn is to be made, other arm raised straight up, palm forward.

NIGHTS



Lighted wand in each hand — one straight out, other straight up.

Figure B-2. Arm and Hand Control Signals—
Displacement Landing Craft and
Amphibious Vehicles (Sheet 16 of 16)

APPENDIX C

Identification Flags, Insignia, Markers, Lights, and Signals

C.1 STANDARD IDENTIFICATION

A variety of identification flags, insignia, markers, and lights are used in the ship-to-shore movement to identify control ships, boats, and waves assigned to a colored beach. They are shown in Figures C-1 through C-9. In addition, displacement landing craft and amphibious vehicle beaching signals, landing ship causeway operations signals, and landing craft air cushion (LCAC) maneuvering hand signals are shown in Figures C-10, C-11, and C-12 respectively. All control boats and assault craft from the boat group assigned to scheduled waves remove from sight all flags and insignia when crossing the line of departure (LOD). Required flags and insignia are displayed again in the boat group following the landing of the last scheduled wave, or earlier if directed by the beach party.

C.1.1 Flags. Flags are displayed from the stern of boats and the starboard bow of displacement landing craft. These flags are discussed in paragraph 4.3.2.7 and are shown in various figures of this appendix. The size of these flags is equivalent to a number eight signal flag or larger.

All wave guide officer (WGO), boat wave commander (BWC), and assistant boat group commander (ABGC) boats will carry the ZERO, WHISKEY, and numeral flags for all waves to facilitate substitution of one boat for another, if required.

C.1.2 Insignia. Boat teams are identified by boat team paddles displayed in the forward section of amphibious vehicles and displacement landing craft prior to crossing the LOD. These paddles facilitate assault craft forming into waves during static debarkation. They are optional when an underway launch is conducted. An example of a boat team paddle and other insignia is shown in Figure C-9.

C.1.2.1 Boat Team Paddles. A boat team paddle is marked with the boat team number obtained from the landing craft and amphibious vehicle assignment table.

The number on the paddle indicates the scheduled wave and position of the assault craft in that wave. The first digit(s) indicates the wave, the last digit(s) the position within the wave. For example, boat team paddle 2-1 indicates the first assault craft in the second wave; boat team paddle 7-3 indicates the third assault craft in the seventh wave.

Boat team paddles are readable from any direction and are made to these specifications:

1. Three rectangular-shaped boards, 14 by 10 inches, nailed together to form a three-sided figure attached to a wooden staff, 6 feet by 2 inches by 2 inches
2. Black numerals, 7 inches high, on a white background.

C.1.3 Beach, Unloading Point, and Oceanographic Markers. Markers are used to indicate positions assault craft proceed to, to mark channels or obstructions off beaches, and provide information. They are positioned by the beach party. Beach marker flags or panels for which no dimensions are given are approximately the size of a number four signal flag. Fluorescent cloth is used whenever possible for easier identification under all weather conditions. Figures C-5 through C-8 depict these markers.

C.1.4 Cargo Identification. Displacement landing craft and amphibious vehicles carrying cargo display distinctive flags or lights so that control and beach party personnel may readily identify the type of cargo embarked. The flags and lights used to identify various types of cargo are listed in Figure C-2. For example, a displacement landing craft assigned to a floating dump and carrying 81-mm ammunition flies a FIVE flag under

a GREEN flag; or, at night shows a single steady AMBER light under a steady GREEN light. A displacement landing craft carrying a nonscheduled unit serial, such as bulk cargo, flies a RED flag under a GREEN flag; or at night shows two steady RED lights under a steady GREEN light.

C.1.5 Beach, Unloading Point, and Oceanographic Lights. At night and during conditions of low visibility, colored lights are used in lieu of flags or markers. These lights and their purpose are shown in Figures C-5 through C-9. Beach marker lights are visible from the LOD. All other lights are visible from at least 1,000 yards. Beach and unloading point lights are directional, with a maximum 10-point arc of visibility to seaward. Oceanographic lights are always all-around lights.

C.1.6 Night and Low Visibility Identification Lights for Amphibious Vehicles and Displacement Landing Craft. Identification lights displayed by the boat group are explained in Figures C-1, C-2, and C-9. Wake lights are in addition to standard navigation lights which may be darkened, dimmed, or displayed at normal brilliance based on the tactical situation. Prior to H-hour identification lights are screened and visible only from astern. After H-hour they are converted to all-around lights by boat crews.

C.1.7 Line of Departure (LOD) Dispatching Signals. The LOD dispatching signals are shown in Figure C-3. Visual flag signals may be paralleled on the beach boat control (ALFA net) circuit or by flashing light by the primary control ship (PCS). All signal lights are shielded and aimed at the approaching wave only.

Numeral flags are flown from the port and starboard halyards by the PCS. Waves with two-digit numbers are dispatched by a hoist using the numeral flag corresponding to the last digit of the wave number.

C.1.8 Beaching Signals. The visual signals used by the beach party to direct displacement landing craft in beach operations are shown in Figure C-10. The beach boat operation (BRAVO net) circuit or loud hailers may be used in lieu of or to parallel these visual signals.

C.1.9 Visual Emergency Signals. Emergency situations will be identified by boats, displacement landing craft, and amphibious vehicles as follows:

1. Man overboard — OSCAR flag
2. Breakdown — Lifejacket on perpendicular boat hook
3. Fire/flooding — BRAVO flag
4. Loss of receive/transmit communications — ZULU flag
5. AAV emergency — NOVEMBER flag
 - a. Aircraft red tracer with red star
 - b. Turning headlights on and off
 - c. Spotlight or battle lantern held vertically.

At night the BRAVO net may be used to identify emergency situations.

C.2 LANDING CRAFT AIR CUSHION (LCAC)

LCACs do not display any amphibious unique flags, lights, or insignia because of the foreign object damage (FOD) these devices could cause. For night operations, LCACs display normal navigation lights, as the tactical situation permits, which include an air cushioned vehicle (ACV) light. The ACV light is an amber, all around, 120 flashes per minute light. LCAC beach markers are shown in Figure C-5 and maneuvering hand signals are shown in Figure C-12.

IDENTIFICATION FLAGS, INSIGNIA, MARKERS, LIGHTS, AND SIGNALS

- Figure C-1. Table of Lights
- Figure C-2. Floating Dump Cargo Identification
- Figure C-3. Departure Time Sequence
- Figure C-4. Standard Flags and Identification Insignia
- Figure C-5. Beach Markers (From Seaward)
- Figure C-6. Oceanographic Markers (From Seaward)
- Figure C-7. Miscellaneous Beach Signs
- Figure C-8. Unloading Point Markers
- Figure C-9. Miscellaneous Flags and Identification Insignia
- Figure C-10. Day and Night Displacement Landing Craft and Amphibious Vehicle Beaching Signals
- Figure C-11. Day and Night Landing Ship Causeway Operations Signals
- Figure C-12. LCAC Maneuvering Hand Signals.

	Lights
a. Ships, Boats, and Landing Craft	
Central Control Ship	2, vertical, blinking WHITE
Assistant Central Control Ship	2, vertical, blinking, color to be designated
Primary Control Ship	1, steady, directed seaward, same color as beach (all-around after 1st wave touches down)
Secondary Control Ship	1, blinking, same color as beach
Approach Lane Marker Ship	1, steady, same color as beach, directed seaward
Boat Group Commander (Traffic Control Officer)	3 wake lights, vertical, 1 foot apart, same color as beach (convertible to all-around)
Assistant Boat Group Commander (Senior Salvage Officer)	3 wake lights, horizontal, 2 feet apart, RED (convertible to all-around)
Boat Wave Commander	2 wake lights, vertical, 1 foot apart, same color as wave
Wave Displacement Landing Craft	1 or 2 wake lights, horizontal, colored (see c)
Salvage Boats	3 wake lights, horizontal, 2 feet apart, RED (convertible to all-around)
Medical Boats	3, vertical, steady, 1 foot apart, GREEN, all-around
Floating Dumps	2 or 3 vertical (1 steady GREEN over 1 to 2 cargo colors, 2 feet apart) (see Figure C-2)
b. Ocean Markers and Navigation Aids	
Obstruction	Blinking WHITE over blinking RED
Channel, port side	Blinking GREEN
Channel, starboard side	Blinking RED
Fairway	Blinking WHITE
c. Screened Wake Lights	
1st Wave	1 RED
2nd Wave	1 BLUE
3rd Wave	1 AMBER
4th Wave	1 GREEN
5th Wave	2 RED (see note)
6th Wave	2 BLUE (see note)
7th Wave	2 AMBER (see note)
8th Wave	2 GREEN (see note)
Successive Waves	Repeat entire sequence
Note: Two lights, horizontal, 3 feet apart.	

Figure C-1. Table of Lights

Floating Dump Supplies	Day	Night
	GREEN Flag Over Cargo Flag	Steady GREEN Light Over Cargo Color Light(s), 2 Feet Apart
Rations	ONE flag	1 steady WHITE light
Medical Supplies	TWO flag	1 steady GREEN light
Water	FOUR flag	1 steady BLUE light
81-mm Ammunition	FIVE flag	1 steady AMBER light
Bulk Cargo	RED flag	2 steady RED lights
Self-Propelled Vehicles	BLUE flag	2 steady BLUE lights
Cargo Requiring Prime Mover	YELLOW flag	2 lights, steady BLUE over steady AMBER

Figure C-2. Floating Dump Cargo Identification

Wave	Departure Time	Day	Night
Wave One	5 minute standby 2 minute standby 1 minute standby Departure time	One flag at dip One flag close-up — — — One flag hauled down to dispatch wave	Steady RED light for 30 seconds Flashing RED light for 30 seconds Flashing RED light for 50 seconds then a 10-second steady RED light Extinguish 10-second steady RED light to dispatch wave
Wave Two	2 minute standby 1 minute standby Departure time	Numeral flag of wave close-up — — — Numeral flag hauled down to dispatch wave	Flashing BLUE light for 30 seconds Flashing BLUE light for 50 seconds, then a 10-second steady BLUE light Extinguish 10-second steady BLUE light to dispatch wave
Wave Three		Same as wave two	AMBER light is used
Wave Four		Same as wave two	GREEN light is used
Wave Five		Same as wave two	RED light is used
Wave Six		Same as wave two	BLUE light is used
Successive Waves		Continue using cycle outlined above for waves three through six	

Figure C-3. Departure Time Sequence

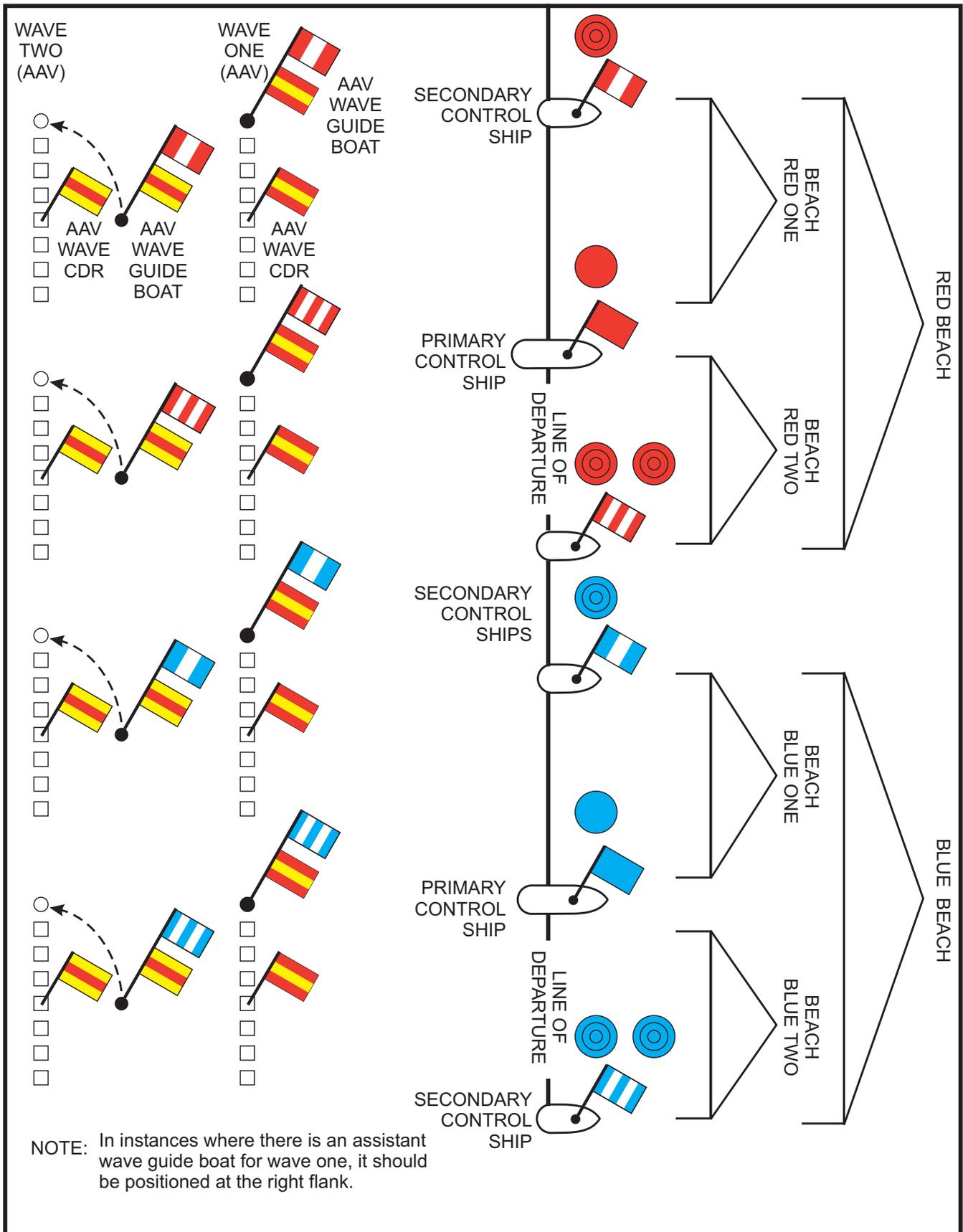


Figure C-4. Standard Flags and Identification Insignia (Sheet 2 of 2)

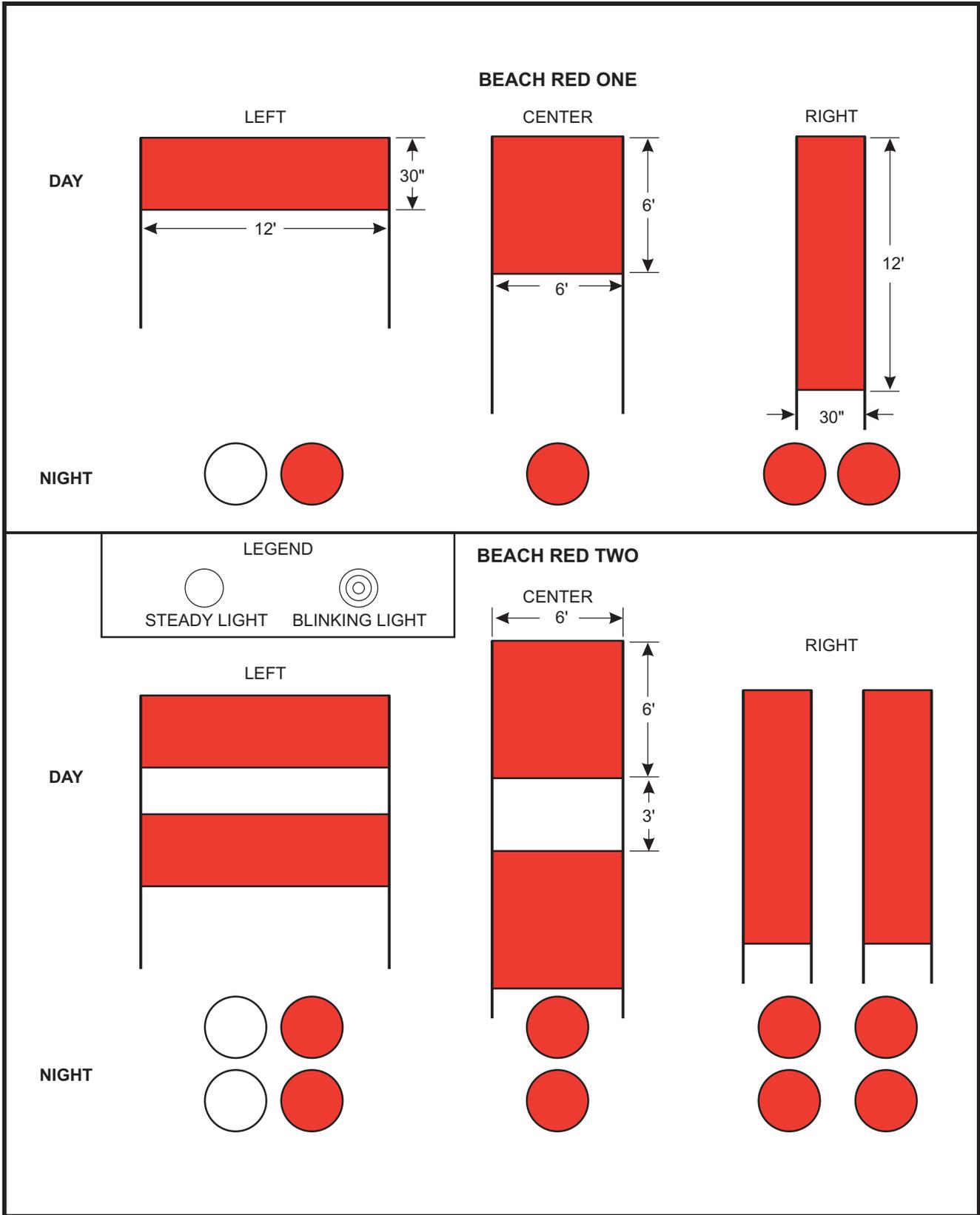


Figure C-5. Beach Markers (From Seaward) (Sheet 1 of 2)

LCAC PENETRATION POINT (CPP)

DAY

BEACH EGRESS



RIGHT FLANK



LEFT FLANK



THREE 6-FOOT BY 6-FOOT MARKERS WHITE BACKGROUND WITH INVERTED INTERNATIONAL ORANGE TRIANGLE. PLACED IN AN INVERTED "Y" TO MARK RIGHT AND LEFT FLANKS AND BEACH EGRESS POINT.

NIGHT



THREE STROBE LIGHTS, ORANGE (OR INFRARED), 3 FEET APART MOUNTED ON A POLE. PLACED IN AN INVERTED "Y" TO MARK RIGHT AND LEFT FLANKS AND BEACH EGRESS POINT.

LEGEND



STEADY LIGHT



BLINKING LIGHT

Figure C-5. Beach Markers (From Seaward) (Sheet 2 of 2)

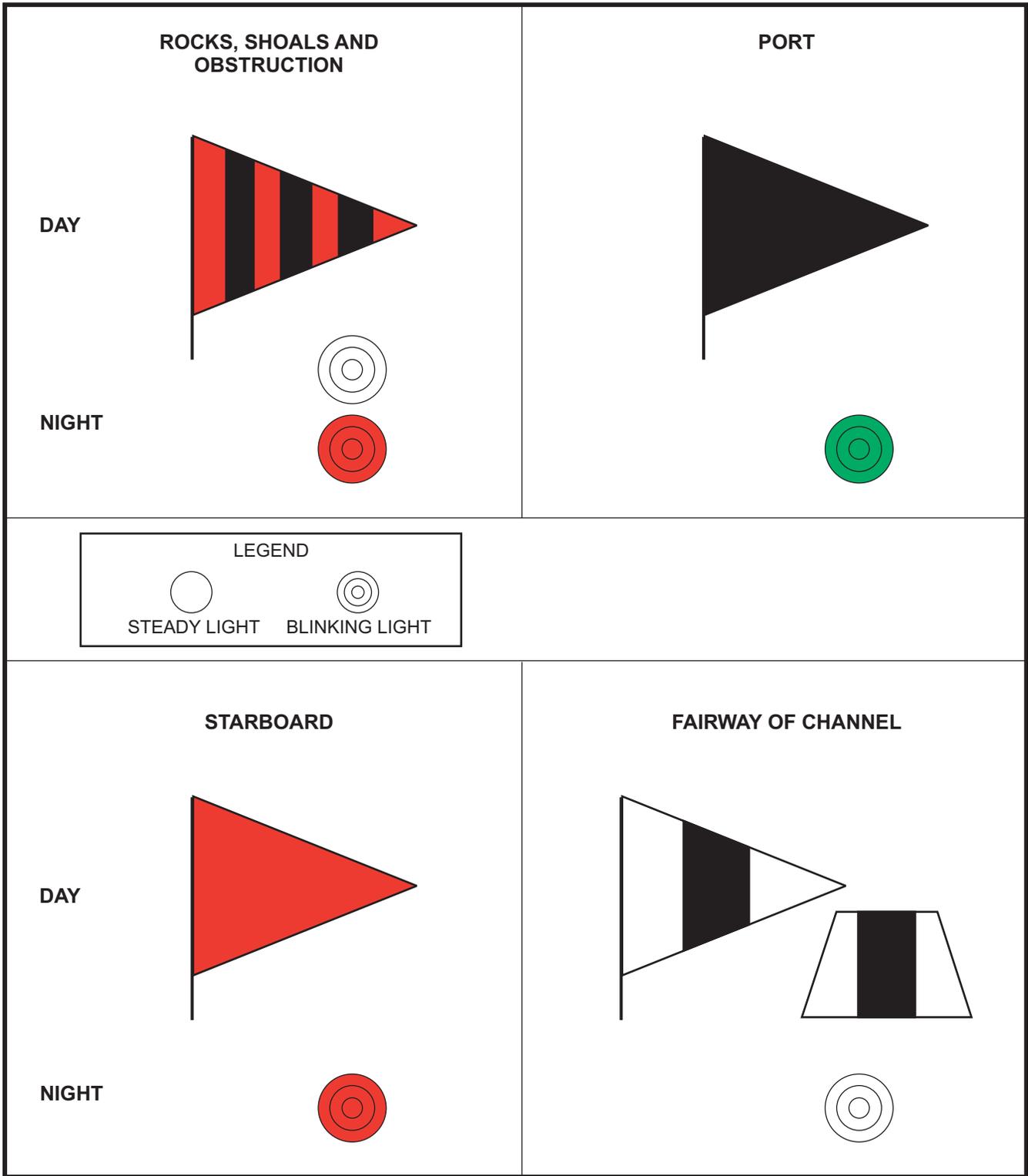


Figure C-6. Oceanographic Markers (From Seaward)

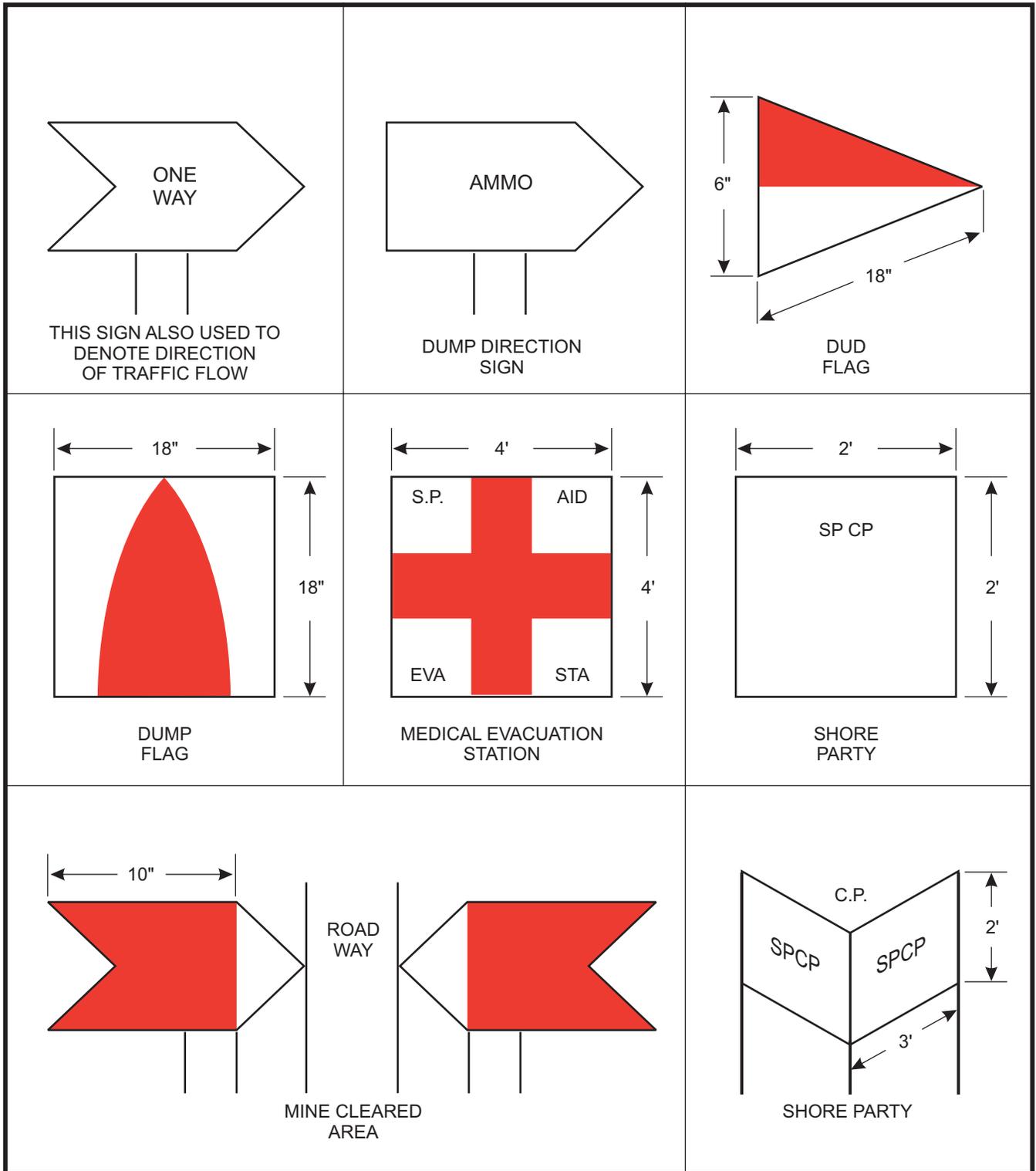


Figure C-7. Miscellaneous Beach Signs

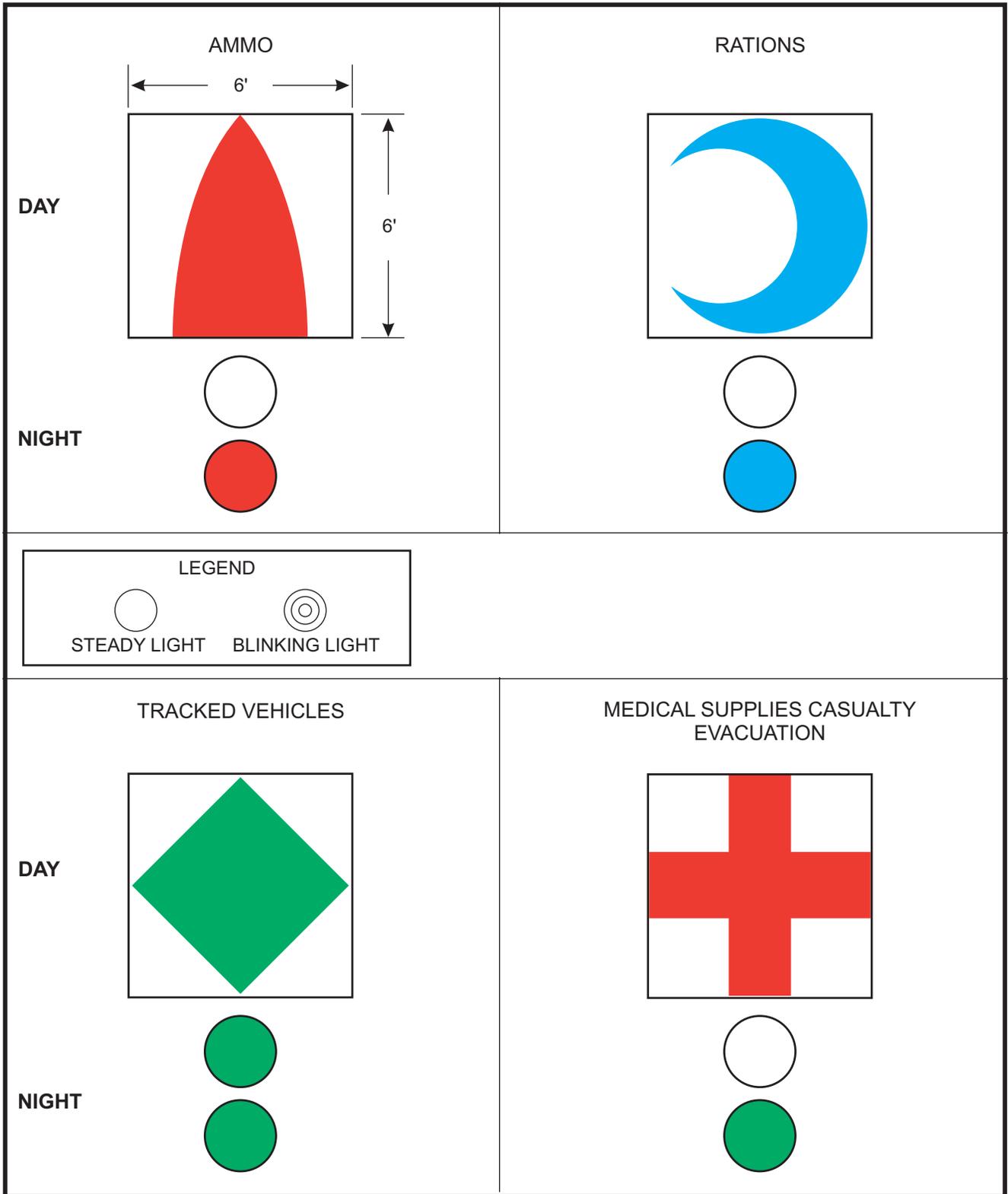


Figure C-8. Unloading Point Markers (Sheet 1 of 3)

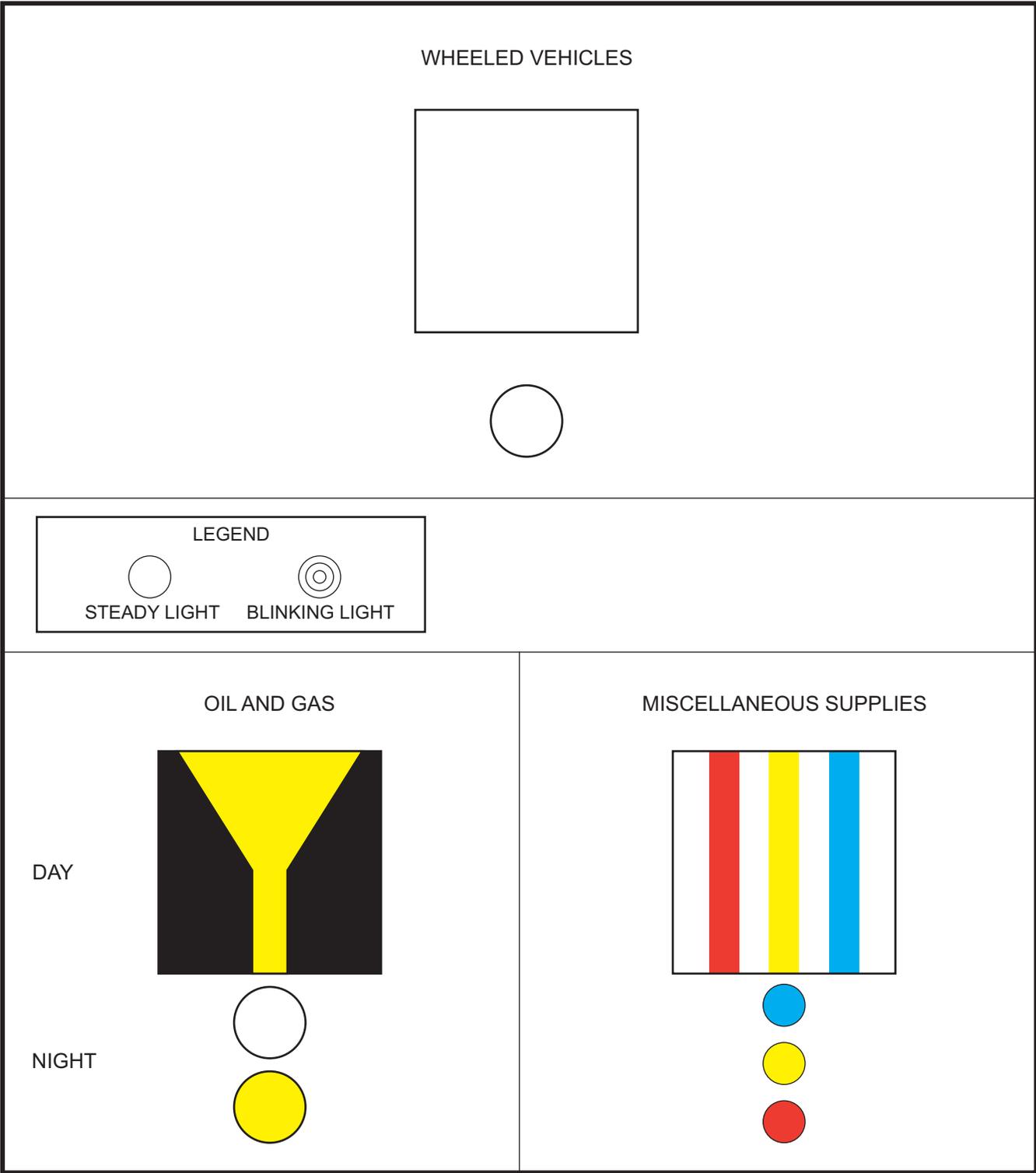


Figure C-8. Unloading Point Markers (Sheet 2 of 3)

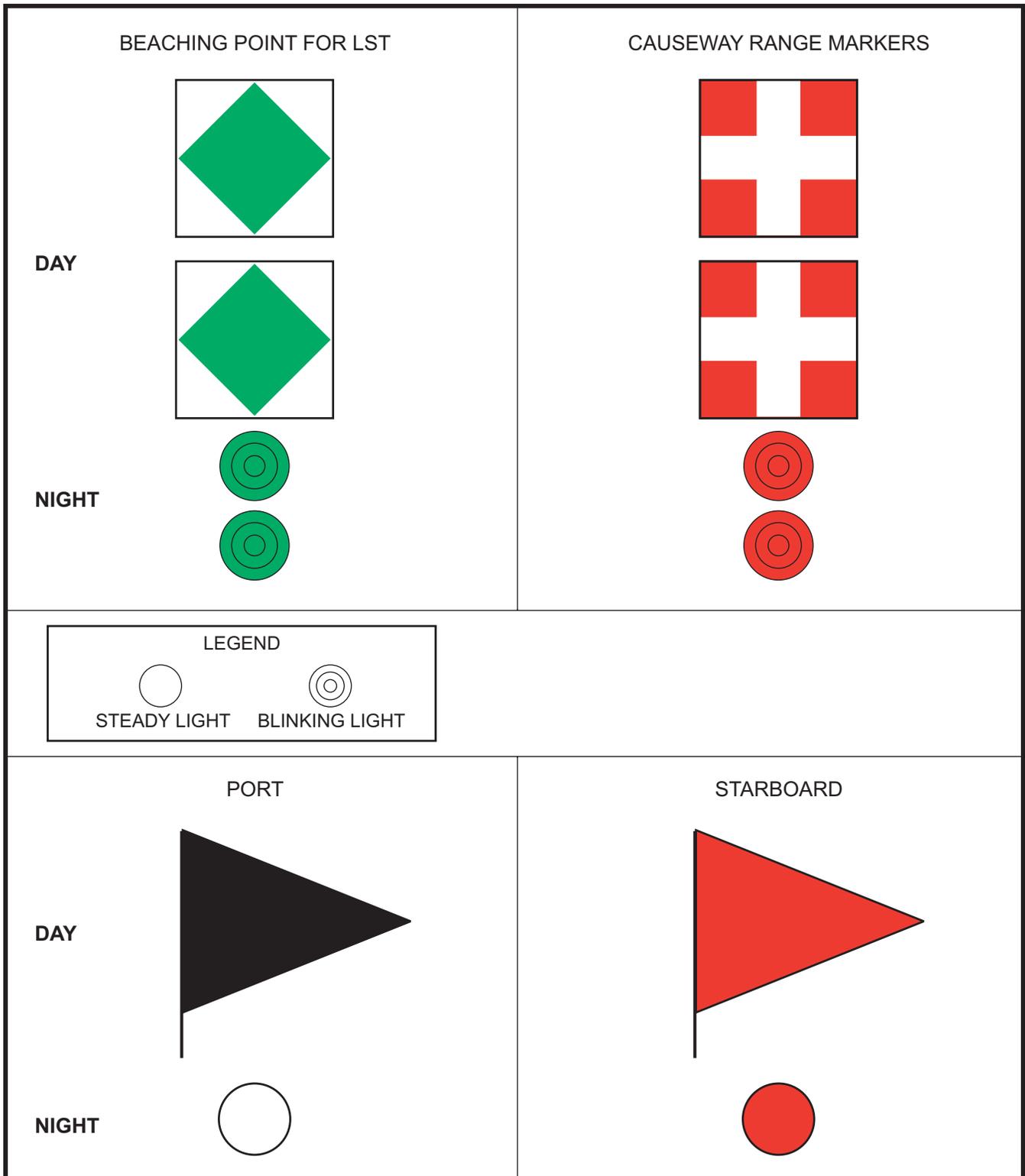


Figure C-8. Unloading Point Markers (Sheet 3 of 3)

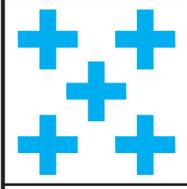
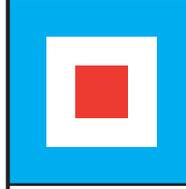
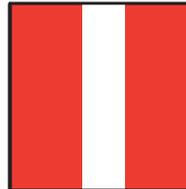
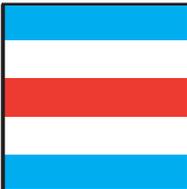
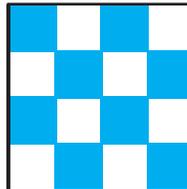
 <p>ZERO</p> <p>BOAT GROUP COMMANDER (TRAFFIC CONTROL OFFICER -- after scheduled waves have landed, BOAT GROUP COMMANNER assumes this duty.)</p>  <p>BEACH FLAG</p>	 <p>W</p> <p>ASST. BOAT GROUP COMMANDER (SENIOR SALVAGE OFFICER EACH BEACH)</p>  <p>BEACH FLAG</p>	
 <p>C</p> <p>CHANNEL CONTROL BOAT</p>	 <p>N</p> <p>AAV EMERGENCY FLAG</p>	 <p>Y</p> <p>AMPHIBIOUS VEHICLE POOL CONTROL OFFICER</p>
 <p>SELF PROPELLED VEHICLES EMBARKED</p>	 <p>BULK CARGO REQUIRING PERSONNEL OR CRANE TO UNLOAD</p>	

Figure C-9. Miscellaneous Flags and Identification Insignia (Sheet 1 of 3)

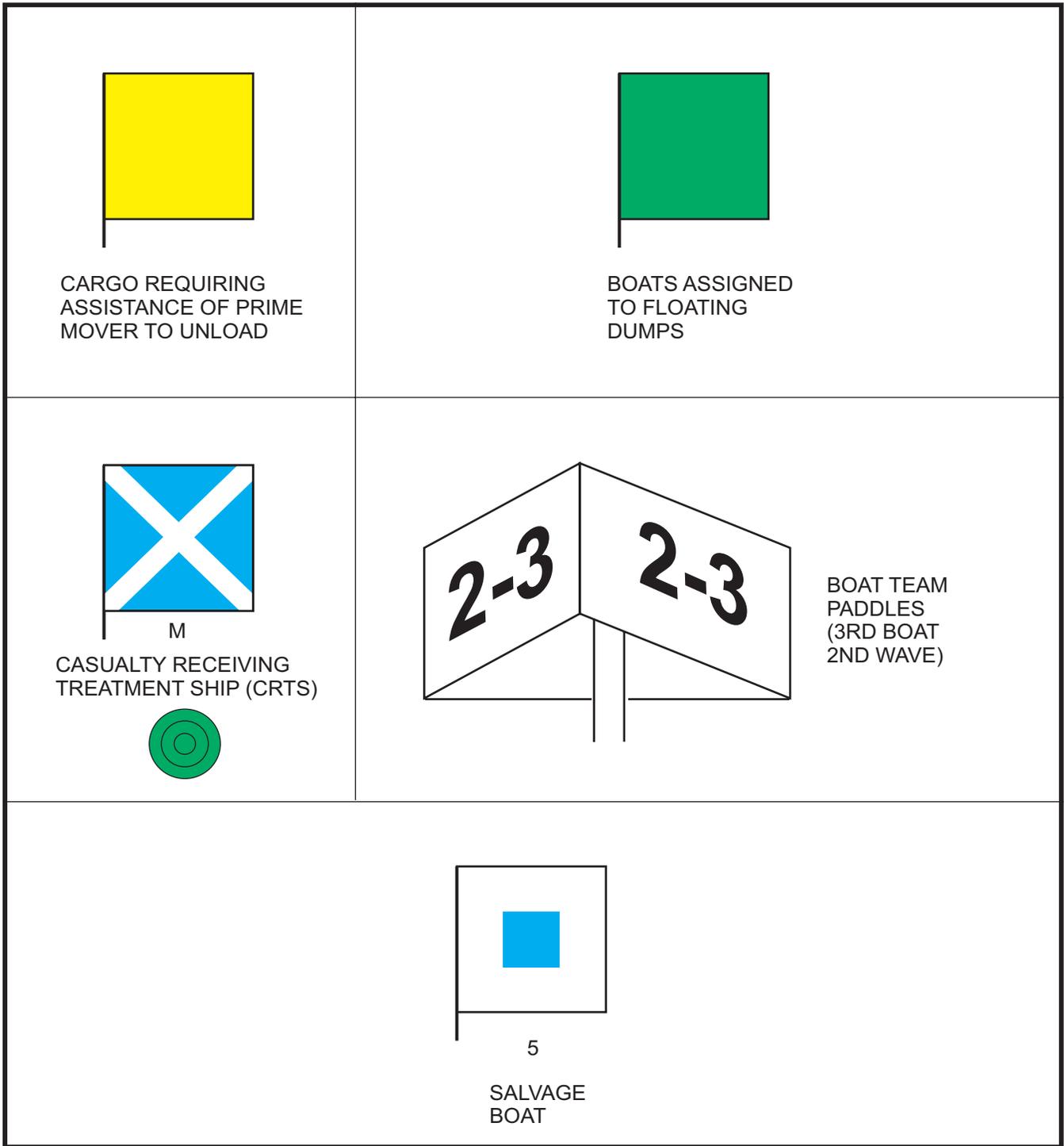


Figure C-9. Miscellaneous Flags and Identification Insignia (Sheet 2 of 3)

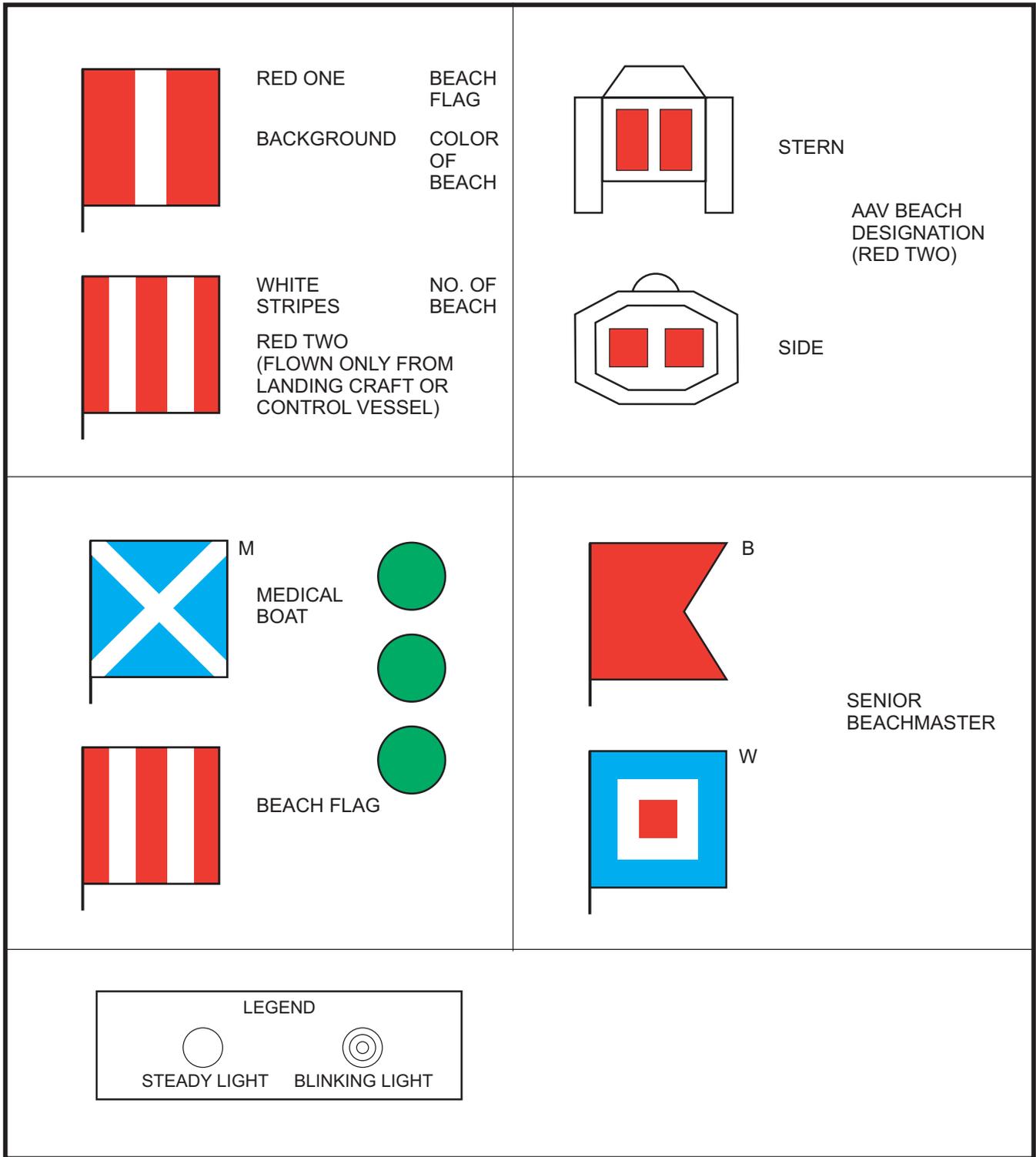


Figure C-9. Miscellaneous Flags and Identification Insignia (Sheet 3 of 3)

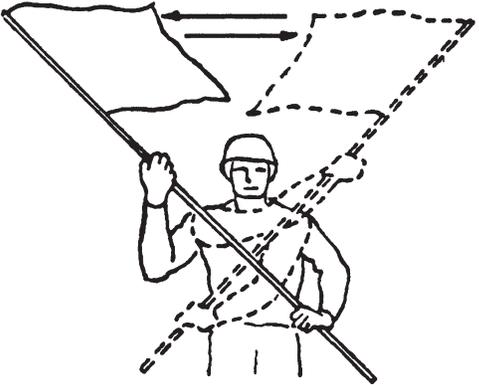
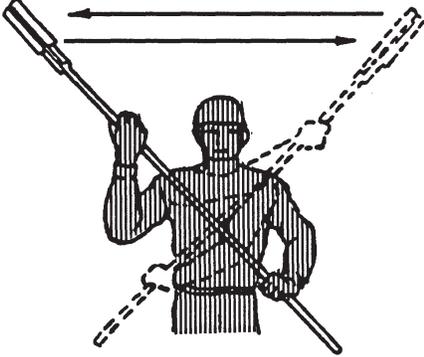
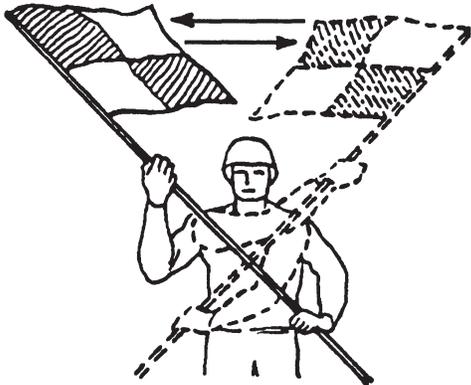
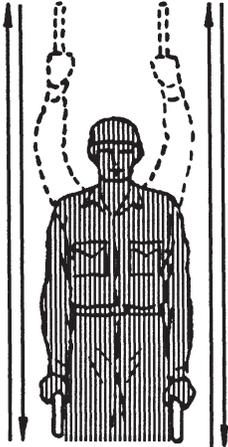
Meaning	Day	Night
<p>Calling boats to the beach</p> <p>For LCM and smaller boats:</p>	 <p>QUEBEC flag held high in front of body and waved parallel to beach at which boat is to land.</p>	 <p>A steady white light (two wands tied together) mounted on a 6-foot pole waved over the head in the same manner as the QUEBEC flag.</p>
<p>For LCU:</p>	 <p>UNIFORM flag held high in front of body and moved as for LCM.</p>	 <p>Two white wands held at the sides of the body, then pointed straight up. Resume position and repeat, extinguishing light before each downward stroke.</p>

Figure C-10. Day and Night Displacement Landing Craft and Amphibious Vehicle Beaching Hand Signals (Sheet 1 of 5)

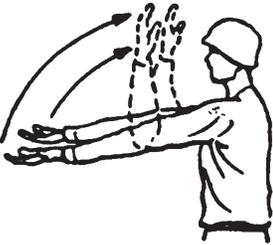
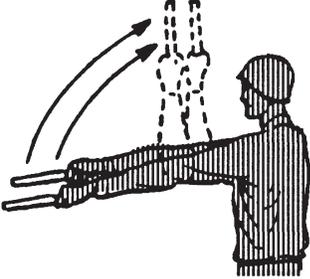
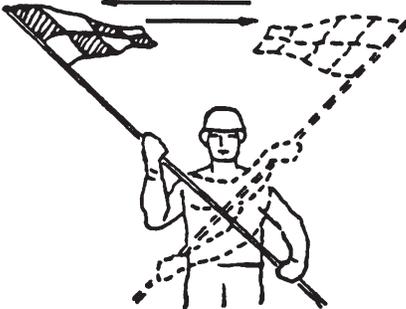
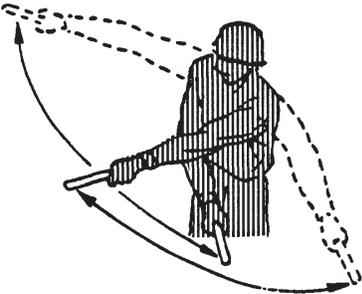
Meaning	Day	Night
Directing boats to the beach	 <p>Arms are extended in front of body at a slight angle toward the deck with palms of hands facing upward; hands are then brought in toward body by bending arms at elbows.</p>	 <p>Arms are used in the same manner as day signal except white wands are used, extinguishing the light before the downward stroke.</p>
Turn away (to keep landing craft and amphibious vehicles from beaching)	 <p>NEGATIVE pennant is waved above head in same manner as QUEBEC flag.</p>	 <p>White wands are held straight out at shoulder height parallel to deck and waved horizontally so that they alternately are crossed and extended at arm's length.</p>

Figure C-10. Day and Night Displacement Landing Craft and Amphibious Vehicle Beaching Hand Signals (Sheet 2 of 5)

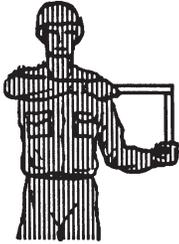
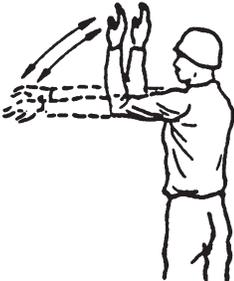
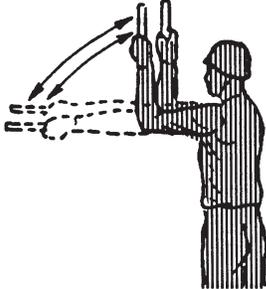
Meaning	Day	Night
Hold	 <p>Left arm extended above head with fist.</p>	 <p>Arms extended with one white wand shining horizontally and the other vertically to form an inverted "L." May be at either side or in front of signalman.</p>
Sending boats out	 <p>Arms are held out, bent up at elbows and palms of hands facing away from body; then extend arms out horizontally. As breaker approaches stern of boat, an increase in engine speed may be indicated by more rapid movement of the arms.</p>	 <p>Arms are used in the same manner as day signal except white wands are used, extinguishing the light before the upward stroke.</p>

Figure C-10. Day and Night Displacement Landing Craft and Amphibious Vehicle Beaching Hand Signals (Sheet 3 of 5)

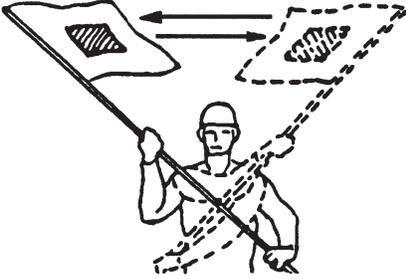
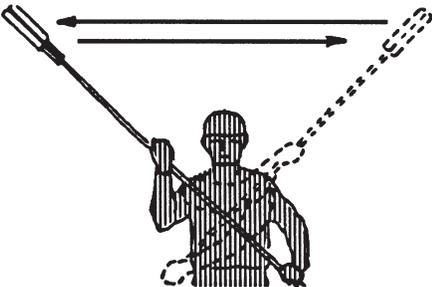
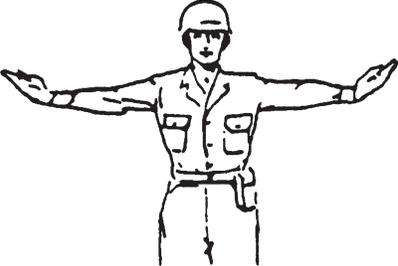
Meaning	Day	Night
Salvage (to call salvage boats to effect salvage)	 <p>SIERRA flag is waved above head. Traffic controlman is seaward at base of disabled boat.</p>	 <p>A steady red light (two wands tied together) mounted on a 6-foot pole waved over the head from left to right.</p>
Ramp up and dogged	 <p>Arms held out parallel to deck with hands held open and pointed up. Coxswains acknowledge with same signal to inform traffic controlman ramp is up and dogged.</p>	 <p>Arms held out parallel to deck with wands pointed straight up (Coxswains acknowledge with same signal to inform traffic controlman ramp is up and dogged.)</p>

Figure C-10. Day and Night Displacement Landing Craft and Amphibious Vehicle Beaching Hand Signals (Sheet 4 of 5)

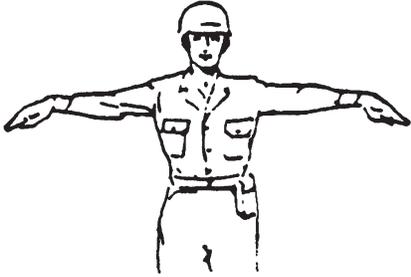
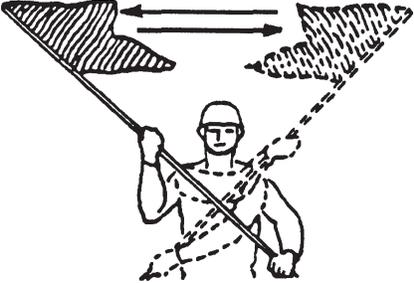
Meaning	Day	Night
Ramp down	 <p>Arms held out parallel to deck with hands held open and pointed down. Coxswain acknowledge with same signal.</p>	 <p>Arms held out parallel to deck with wands pointed straight down. Coxswains acknowledge with same signal.</p>
Stop towing	 <p>BRAVO flag held high in front of body and waved parallel to beach in vicinity of boat being salvaged.</p>	 <p>Flashing red wand held front of body and waved parallel to beach in vicinity of boat being salvaged.</p>

Figure C-10. Day and Night Displacement Landing Craft and Amphibious Vehicle Beaching Hand Signals (Sheet 5 of 5)

	Day	Night
Causeway Team Signals		
Safe to make causeway Unsafe, do not use causeway	Green flag Red flag	Green light Red light
Ship Signals		
Landing ships at causeway will. . .	Hoist PREP at the dip upon commencement of loading or offloading. Closeup PREP at 15 minutes to estimated completion. Haul down PREP when marriage has been broken.	Transmit information to beach party on BRAVO net.

Figure C-11. Day and Night Landing Ship Causeway Operations Signals

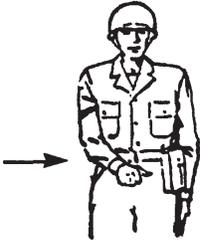
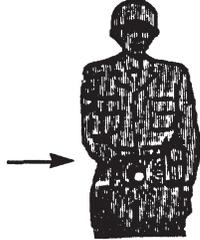
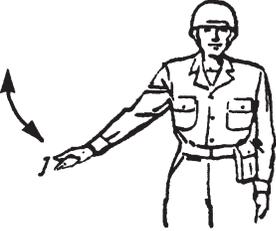
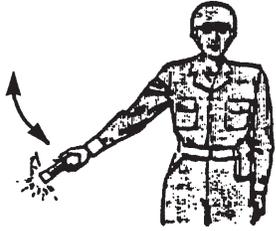
Meaning	Day	Night
This marshal	 <p>Arms above head in vertical with palms facing forward.</p>	 <p>Same as day with addition of wands.</p>
Proceed to next marshal	 <p>Right or left arm down. Other arm moves across the body and extends to indicate direction to next marshal.</p>	 <p>Same as day with addition of wands.</p>
Slow down	 <p>Right arm extended downward. Move up to horizontal position. Repeat as necessary.</p>	 <p>Turn light on when arm is in the starting position. Turn light off when signal is completed. Arm does not move above the horizontal. Repeat as necessary.</p>

Figure C-12. LCAC Maneuvering Hand Signals (Sheet 1 of 7)

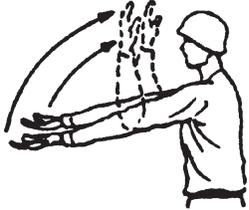
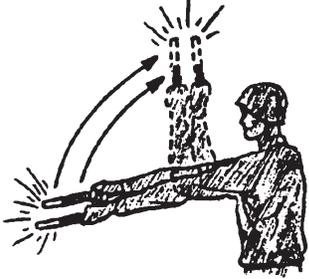
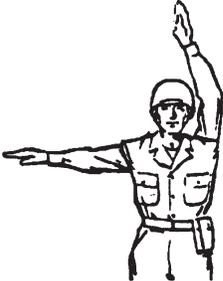
Meaning	Day	Night
Move ahead	 <p>Arms are extended in front of body at a slight angle toward the deck with palms of hands facing upward. Hands are then brought in toward body by bending arms at elbows.</p>	 <p>Arms are used in same manner as day signal except wands are used, extinguishing the light before the downward stroke.</p>
Turn to port	 <p>One arm straight out to side on which turn is to be made. Other arm raised straight up. Palm forward.</p>	 <p>Lighted wand in each hand. One straight out. Other straight up.</p>
Turn to starboard	 <p>One arm straight out to side on which turn is to be made. Other arm raised straight up. Palm forward.</p>	 <p>Lighted wand in each hand. One straight out. Other straight up.</p>

Figure C-12. LCAC Maneuvering Hand Signals (Sheet 2 of 7)

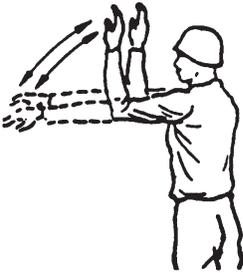
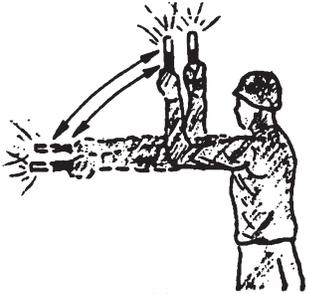
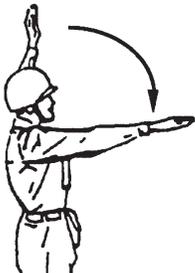
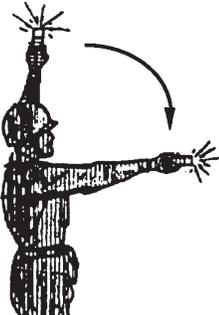
Meaning	Day	Night
Move back	 <p>Arms are held out bent up at elbows and palms of hands facing away from body. Then extend arms out horizontally.</p>	 <p>Arms are used in same manner as day signal except wands are used, extinguishing the light before the upward stroke.</p>
Landing direction	 <p>Marshall turns and faces direction craft is to land. The arms are lowered from a vertical position to a horizontal position.</p>	 <p>Same as day with addition of wands.</p>
Increase cushion	 <p>Arms overhead slightly angled. Wave both arms at the same time in a circular motion.</p>	 <p>Same as day with addition of wands.</p>

Figure C-12. LCAC Maneuvering Hand Signals (Sheet 3 of 7)

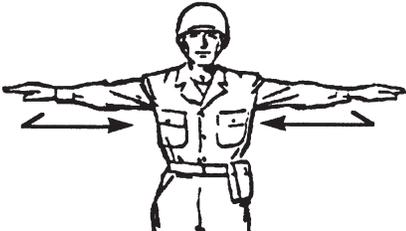
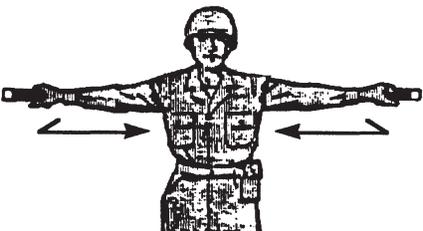
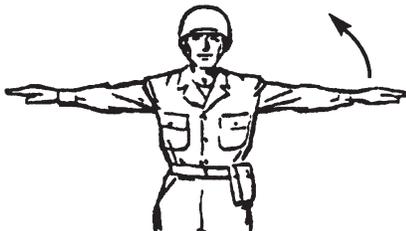
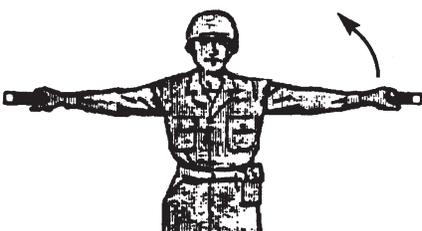
Meaning	Day	Night
Hover and stop	 <p>Arms extended horizontally sideways palms downward and bring arms into chest repeating until craft hovers.</p>	 <p>Same as day with addition of wands.</p>
Decrease cushion	 <p>Arms down slightly angled apart. Move both arms in a circular motion at the same time.</p>	 <p>Same as day with addition of wands.</p>
Translate to port	 <p>Right arm extended horizontally sideways in direction of movement and other arm swung over the head in same direction in a repeating motion.</p>	 <p>Same as day with addition of wands.</p>

Figure C-12. LCAC Maneuvering Hand Signals (Sheet 4 of 7)

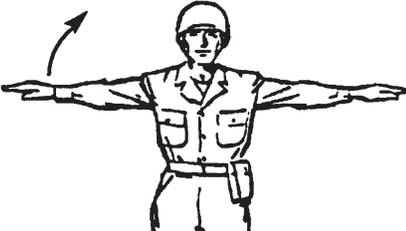
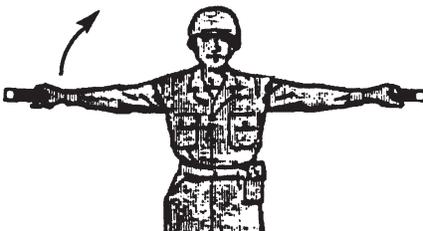
Meaning	Day	Night
Translate to starboard	 <p>Left arm extended horizontally sideways in direction of movement and other arm swung over the head in same direction in a repeating motion.</p>	 <p>Same as day with addition of wands.</p>
Stop emergency	 <p>Arms down and crossed in front and then swung out at an angle repeating until understood.</p>	 <p>Same as day with addition of wands.</p>
Land	 <p>Arms crossed and extended downwards in front of the body.</p>	 <p>Same as day with addition of wands.</p>

Figure C-12. LCAC Maneuvering Hand Signals (Sheet 5 of 7)

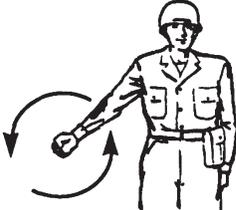
Meaning	Day	Night
Connect power	 <p>Hands above head left fist partially clenched. Right hand moved in direction of left hand with first two fingers inserted into circle made by fingers of the left hand.</p>	 <p>Same as day with addition of wands.</p>
Disconnect power	 <p>Hands above head left fist partially clenched. Right hand moved away from left hand withdrawing first two fingers from circle made by fingers of the left hand.</p>	 <p>Same as day with addition of wands.</p>
Start engines	 <p>Right arm down at angle and moved in a clockwise circle until engines are started.</p>	 <p>Turn light on when arm is in starting position. Turn light off when signal is complete.</p>

Figure C-12. LCAC Maneuvering Hand Signals (Sheet 6 of 7)

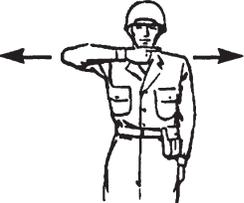
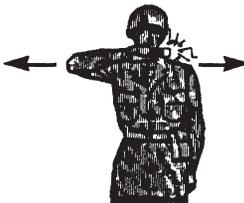
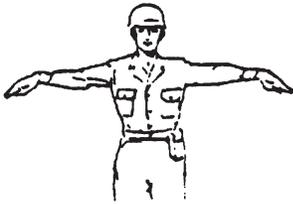
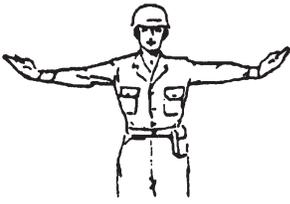
Meaning	Day	Night
Cut engines	 <p>Either arm and hand level with shoulder moving across throat palm downward. The hand is moved sideways with arms remaining bent.</p>	 <p>Same as day with addition of wands.</p>
Ramp down	 <p>Arms held out parallel to deck with hands held open and pointed down.</p>	 <p>Same as day with addition of wands.</p>
Ramp up and dogged	 <p>Arms held out parallel to deck with hands held open and pointed up.</p>	 <p>Same as day with addition of wands.</p>

Figure C-12. LCAC Maneuvering Hand Signals (Sheet 7 of 7)

APPENDIX D

Grid Reference System of Wave Control

D.1 PURPOSE

The grid reference system is used for positive control of scheduled waves from the rendezvous area or underway launch position to the beach. The grid is a dead reckoning tracer (DRT) overlay composed of a series of boat lanes from the line of departure (LOD) to the beach, marked with the times and speeds applying to each wave. A standard radio telephone voice procedure is used that reduces voice transmissions to a minimum while providing accurate positions to the waves.

This system may also be used to control displacement landing craft en route to the rendezvous area or on-call waves or nonscheduled units during darkness or reduced visibility.

D.1.1 Grid Construction. The boat control team develops the grid diagram, constructing one boat lane for each wave to be controlled. This minimizes confusion and provides a clear and concise plot of each wave's movement. An example of this diagram is shown in Figure D-1.

Longitudinal lines in the grid diagram divide the lane into three sections: "L" (left), "C" (center), and "R" (right). Left and right sections are each 40 percent of the total width; the center section is 20 percent of the total width of the grid.

Lateral lines are drawn at 200 yard intervals along the grid diagram and numbered to indicate distance-to-go in hundreds of yards.

Wave positions on the grid diagram are described by a letter ("L," "C," or "R") followed by a number of one or two digits to indicate position in the boat lane and distance to the beach. Positions outside the boat lane are indicated by the double letter "RR" or "LL."

Time lines are plotted on the grid diagram by the following method:

1. Using Figure D-2 determine speed of advance (SOA) and battle speed (BS) for the wave (LCM 6).
2. For the final 1,000 yard transit, waves will be making BS; therefore, count backwards from the

touchdown time to the BS line, accounting for the complete time (whole and fraction of minutes).

3. Divide the time from LOD to BS using the SOA and accounting for the complete time.

4. Label the times on the boat lanes as shown in Figure D-1. This determines the LOD crossing time.

5. When controlling more than one wave, the time clock is divided into four primes:

Prime	Time (Seconds)	Waves Marked
0	52-1/2 to 07-1/2	1, 5, 9
1	07-1/2 to 22-1/2	2, 6, 10
2	22-1/2 to 37-1/2	3, 7, 11
3	37-1/2 to 52-1/2	4, 8, 12

By using the 15 second primes for grid construction (and grid position transmission), the complete time for the transit can be systematically accounted for.

D.1.2 Wave Control. Prior to debarkation, the boat group commander (BGC), boat wave commanders (BWCs), and wave guide officers (WGOs) are issued a grid diagram of the boat lane. Displacement landing craft waves in the rendezvous area are provided navigational assistance by the primary control ship (PCS) to maintain proper distances from the LOD. The boat control team starts marking the position of each wave on the grid diagram as they depart the rendezvous area. As each wave crossed the LOD, the boat control team advises the WGO or BWC of the wave's position as described in paragraph D.1.3, if voice radio is used, or paragraph D.1.4, if flashing light is used. The grid positions may be supplemented with vectors and "early" or "late" information as necessary. The WGO or BWC, on receipt of a grid position that indicates the wave is not in the center of the boat lane/not progressing according to schedule, adjusts the course and speed of the wave to regain schedule. If it is apparent to the boat control team that a WGO or BWC is not taking appropriate action to maintain the

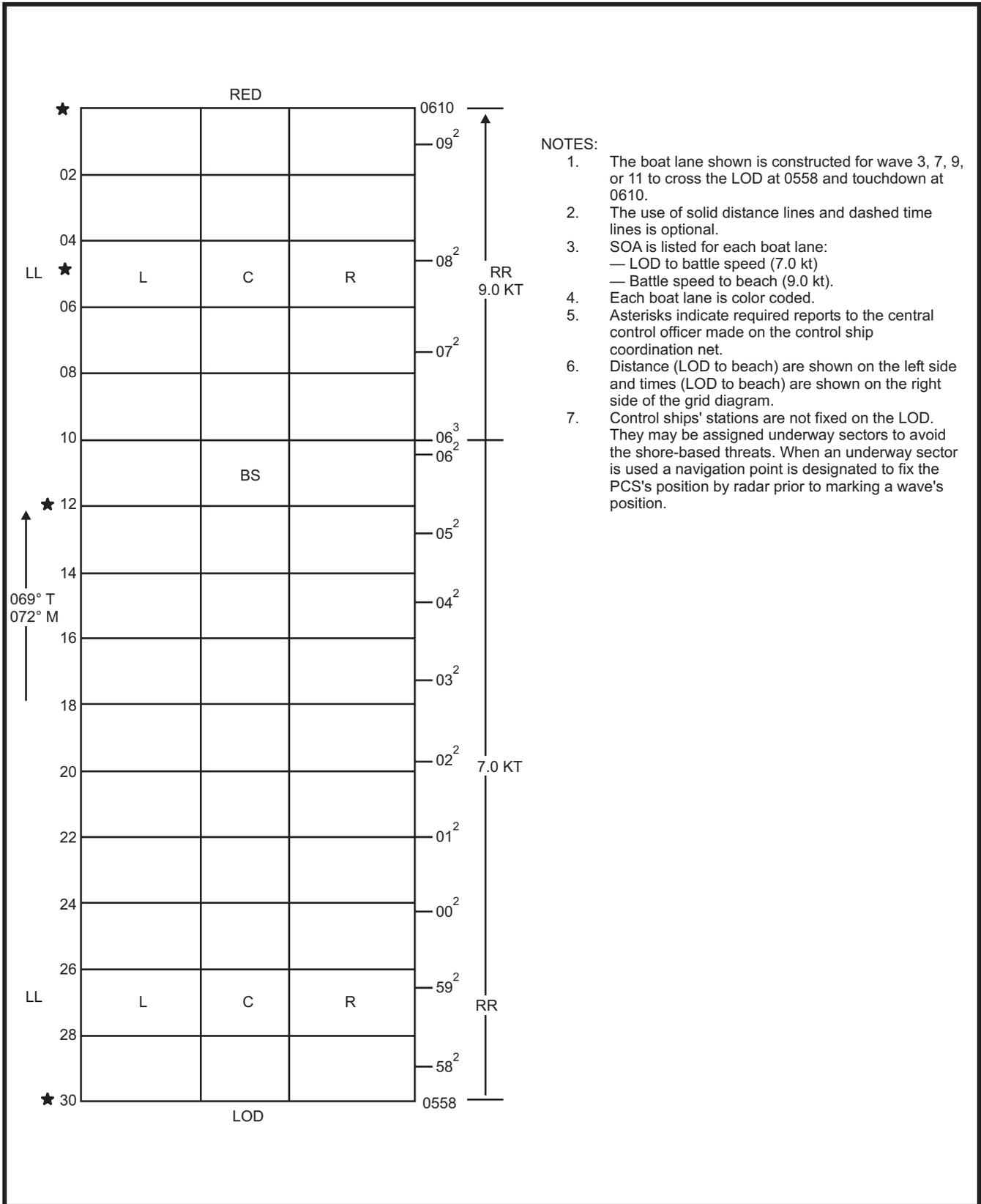


Figure D-1. Example of a Grid Diagram of the Boat Lane

Craft Type	Battle Speed (kt)	SOA	
		Good Weather (Note 1)	Foul Weather (Note 2)
LCVP	9.0	7.0	6.5
LCM (6)	9.0	7.0	6.0
LCM (6) HPE	13.0	8.0	6.0
LCM (8)	11.0	8.0	6.0
LCM (8) (Note 3)	14.0	8.0	4.0
LCU 1627	10.0	8.0	5.0
LCU 1646	11.0	10.0	4.5
AAVP 7	8.0	6.5	5.0

Notes:

1. Modified surf index less than 6.
2. Modified surf index greater than 6.
3. Aluminum hull.

Modified surf index is a single dimensionless number which provides a guide for judging the feasibility of landing operations for each type of displacement landing craft.

Figure D-2. Table of Standard Planning Data for Ship-to-Shore Movement

wave in the center of the boat lane and on schedule, they may direct changes by ordering vector and speed changes to that wave.

Grid positions are transmitted every minute to waves en route from the rendezvous area to 200 yards from the beach, in accordance with the prime schedule from paragraph D.1.1. If corrective action is required by the wave, grid positions may be transmitted more frequently. Grid positions are provided once each minute in periods of low visibility from the rendezvous area to the beach.

To obtain the full benefit from the grid, WGOs and BWCs plot their position each time the PCS transmits it to obtain a track of their wave's progress. The effects of wind and sea, or taking incorrect actions, can then be determined and corrected. Once reliable radio communications are established, grid positions are transmitted without requiring WGOs/BWCs to receipt for each transmission. However, a receipt for vector or speed changes is always required. If the WGO/BWC fails to receipt for orders by radio, the PCS will continue to transmit "in the blind" and request visual acknowledgment.

D.1.3 Voice Communications Procedures.

Communications circuits, sample voice callups, and typical net transmissions for wave control are provided in the following paragraphs.

D.1.3.1 Communications Circuits. The communications circuits used to control the waterborne ship-to-shore movement are described in the following paragraphs.

D.1.3.1.1 Boat Control and Operations Nets.

Two nets are designated for each colored beach. The beach boat control net, ALFA net, is a directed net utilized by the PCS to pass grid positions and vectors to scheduled waves from the rendezvous or underway launch area until touchdown. The beach boat operations net, BRAVO net, is utilized by the PCS and other ships to control boats prior to being dispatched to the beach and following wave touchdown. Touchdown reports and administrative traffic between PCS and landing craft are also passed on this net and judicious use is required to prevent cluttering the net.

D.1.3.1.2 Control Ship Coordination Net. If more than one colored beach is being utilized a control ship coordination net is established for coordinating the assault and providing status reports between primary control officers (PCOs) and the central control officer (CCO). The PCO makes the following reports on this net: When each wave is crossing the LOD, wave one is 1,200 yards and 500 yards from the beach, and touch-down for each wave. Examples of the reports are given in paragraph D.1.3.3. Reports to the PCO on this net will include status of landing craft, ongoing salvage operations, degrading/improving surf conditions (other than SUROB reports), etc.

D.1.3.2 Net Procedures. The control ship coordination net and BRAVO net utilize daily changing call signs. The ALFA net utilizes JANAP 119 call signs. The PCS, BGC, and assistant boat group commander (ABGC) use the JANAP 119 call signs shown below on all nets to avoid confusion.

<u>UNIT</u>	<u>JANAP 119 CALL SIGN</u>
CCO	CATSKILL
PCO/PCS BLUE BEACH	BLUE CATSKILL
BGC FOR BLUE ONE BEACH	CLAPPER BLUE ONE
ABGC FOR BLUE ONE BEACH	CLAPPER JR. BLUE ONE
BWC WAVE ONE, BLUE ONE BEACH	ONE BLUE ONE

D.1.3.3 Sample Voice Transmissions for Blue Beach. Sample voice transmissions for blue beach are provided in the following paragraphs.

Wave Two Blue One turnover from parent ship to PCS (BRAVO net):

“ _____ (wave), this is _____ (parent ship). Report to Blue Catskill for control and vector to the beach. Over.” See note 1.

Wave Two Blue One reporting to PCS (BRAVO net):

“Blue Catskill, this is _____ (wave). Reporting for control and vector to the beach. Over.”

Positive control (BRAVO net):

“ _____ (wave), this is Blue Catskill. Have you under positive radar control. Steer course _____ speed _____ for the LOD. Set and drift at the LOD is (direction) and (speed in knots). Switch to channel ALFA. Over.” See note 2.

“ _____ (AAV wave), this is Blue Catskill. Have you under positive radar control. Maintain present course and speed. Over.”

“ _____ (AAV wave), this is Blue Catskill. Have you under positive radar control. Steer course _____ speed _____ for the LOD. Set and drift at the LOD is (direction) and (speed in knots). My intention is to execute a left (right) flanking movement seaward of the LOD. Shift to channel ALFA. Over.” See note 3.

Wave dispatch from the LOD (ALFA net):

“Two Blue One, this is Blue Catskill. You are dispatched from the LOD to the beach. Steer course _____ speed _____. Over.” See notes 4 and 5.

LOD crossing report (control ship coordination net):

“Catskill (CCO), this is Blue Catskill. Two Blue One crossed LOD late one half. Over.” See note 6.

Grid posits (ALFA net):

“Two Blue One, this is Blue Catskill. Grid posit romeo three eight. Out.” (Wave Two Blue One is on the right side of boat lane, 3,800 yards from the beach, and on time.)

“Two Blue One, this is Blue Catskill. Grid posit romeo three zero early one. Out.” (Wave Two Blue One is on the right side of boat lane, 3,000 yards from beach, and is early 1 minute.)

Vectoring waves (ALFA net):

“Two Blue One, this is Blue Catskill. Grid posit romeo three zero early one. Vector left ten. Over.” See note 7.

“Two Blue One, this is Blue Catskill. Grid posit romeo romeo two seven early one. Vector left twenty. Over.” See note 8.

Speed changes (ALFA net):

“Two Blue One, this is Blue Catskill. Grid posit charlie two four early one. Slow down. Over.”

“Two Blue One, this is Blue Catskill. Grid posit romeo two zero late two. Speed up. Over.” See note 9.

1,200/500 yard reports (wave one only) (control ship coordination net):

“Catskill, this is Blue Catskill. One Blue One at 1,200 (500) yards, on time (early or late). Over.” See note 6.

Battle speed (ALFA net):

“Two Blue One, this is Blue Catskill. Grid posit Charlie one zero. Battle speed, battle speed. Over.” See notes 10 and 11.

Touchdown report (each wave on BRAVO net):

“Blue Catskill, this is ____ ____ ____ (wave). Touchdown. Touchdown. Touchdown. Over.”

Touchdown report (control ship coordination net):

“Catskill, this is Blue Catskill. Two Blue One touchdown. Late one-quarter. Over.” See note 6.

D.1.3.4 Governing Notes

1. ____ ____, where appearing, indicates the daily changing call sign.

2. The shift to boat ALFA can be ordered by PCS when desired, but no later than when waves cross the LOD. If no shift order is given, waves will automatically shift to the ALFA net on crossing the LOD.

3. AAV waves require an “intention” statement from PCS when PCS takes positive radar control.

4. A full callup is required for all transmissions to ensure that the proper wave receives the information. When ordering courses to waves, give them in degrees magnetic.

5. Dispatch orders are not required if waves have shifted to the ALFA net or the automatic shift to the ALFA net upon crossing the LOD is provided for in the operations order (OPORDER), PCO instructions, or prebriefed.

6. All reports to the CCO will include a time status. Fractions of minutes are spoken as one-quarter, one-half, three-quarters, and so forth.

7. Due to the general nature of magnetic boat compasses, after waves cross the LOD change course by vectors in tens of degrees, vice giving a course heading. The BGC, ABGC, and BWCs should still compare their magnetic compass headings with PCS while transiting to the rendezvous area. Vectors may be given at any time and in any amount to maintain a wave’s position in the center of the boat lane. However, vectors should be limited to 10° in the surf zone for boat safety.

8. Waves outside the boat lane must be vectored to regain the boat lane.

9. Prior to the order for battle speed, speed changes may be given at any time to keep waves on time. Speed changes must be ordered when waves are early or late two minutes or more.

10. Battle speed will be ordered at the 1,000 yard mark. Even if a wave is making maximum speed prior to the 1,000 yard mark, the order “battle speed, battle speed” is still mandatory at that time. However, the battle speed order for wave one may be delayed to preclude landing early.

11. Note that all information transmissions end in “out” and those directing waves to perform a duty end in “over.” If at any time it is desired for a wave to receipt for information, end the transmission with “over.”

D.1.4 Visual Procedures for Transmitting Grid Positions.

Grid positions by flashing light or Nancy will normally be preceded only by the wave number. However, if confusion would result from transmitting into different numbered boat lanes or different colored beach lanes, the callup is modified. For example, to call the wave commander of wave three, blue two beach, the normal callup is: numeral 3. If confusion would result the callup is transmitted as: numeral 3 Blue numeral 2. The PCS, after establishing communications with the wave commander, transmits the grid position.

The wave commanders receipt for each group by flashing “T” and receipt for the message with “R.”

Visual grid positions and information are transmitted by PCS using the following procedures.

1. After the wave callup, insert the group “GP.” This acts as a proword and alerts the receiver that a grid position is to follow.

2. Transmit the grid position using “L” for left, “C” for center, “R” for right, and “LL” or “RR” for being outside of the boat lane to the left or right, respectively. The distance from the beach is transmitted in hundreds of yards as a single or double numeral. For example “9” equals 900 yards, “41” equals 4,100 yards from the beach.

3. Transmit “T” followed by two digits to indicate the time, in minutes, of the grid position. Knowing the time of the position, the wave commander knows how early or late the wave is once the position is plotted. Knowledge of grid position time is important because, depending on the proficiency of the boat control team, receipt of the grid position can take up to two minutes from the time it was computed.

4. If necessary to order a speed up or slow down, the group “SS” or “TT,” respectively, is sent.

5. If necessary to order a course change, a vector, “V,” in tens of degrees indicating the direction left, “L,” or right, “R,” is sent. For example, to change course 20° to the right, the group “V2R” is sent. Direction of the vector is always included.

6. The group “BS BS” is an order to go to battle speed.

7. If needed, the group “TA” is an order to turn away.

The following examples are provided:

Signal	Meaning
4GPL40T32	Wave four grid posit is in the left portion of the boat lane 4,000 yards from the beach at time 32.
2GPR32T47SS	Wave two grid posit is in the right portion of the boat lane 3,200 yards from the beach at time 47 and speed up is ordered.
1GPLL29T52V2R	Wave one grid posit is outside of the boat lane to the left 2,900 yards from the beach at time 52 and vector 20° to the right is ordered.
3GPC20T17TT	Wave three grid posit is in the center of the boat lane 2,000 yards from the beach at time 17 and slow down is ordered.

Experienced signalmen capable of receiving eight words per minute are required in each control boat. Upon wave touchdown, the signal “TD TD TD” is sent to PCS.

APPENDIX E

Quiet Landing Procedures (QLPs)

E.1 DEFINITION

A quiet landing is conducting the ship-to-shore movement of scheduled waves without using voice radio communications. Ordering a quiet landing by the commander, amphibious task force (CATF) is a means of countering enemy efforts to disrupt the ship-to-shore movement through meaconing, interference, jamming, intrusion (MIJI) of control circuits. Conducting a quiet landing does not involve the imposition of total emission control (EMCON) but rather a restriction on the use of radio communications to control scheduled waves. The use of radars, ship-to-shore terminations, and other radio circuits necessary to the amphibious operation may be authorized.

E.2 WATERBORNE SHIP-TO-SHORE MOVEMENT CONTROL

QLPs for the waterborne ship-to-shore movement use the grid reference system of wave control, which is explained in Appendix D. QLPs provide a visual method for changing a wave's course and speed which is an alternative to the procedures in paragraph D.1.4.

E.2.1 Procedures. Flashing light, flag hoist, or semaphore are used to send course and speed signals to wave guide officers (WGOs) and boat wave commanders (BWCs) to control scheduled waves. The course and speed signals are formatted as discussed in paragraph E.2.2.

Radio circuits normally used to control the ship-to-shore movement are energized and checked out prior to the assault. These radio circuits then may be used when visual signaling with the surface assault waves is unsuccessful and it is necessary to correct or alter the wave's movement.

When the PCS breaks radio silence to correct a situation, the initial radio transmission is authenticated. Thereafter, authentication procedures are used to validate each transmission. Authentication tables are issued to boat group control personnel including provisions for a two-hour delay in H-hour. As soon as the situation is corrected, control reverts back to QLPs and the primary control ship (PCS) directs a shift to a predesignated alternate control frequency for the circuit on which radio silence was broken.

Touchdown of each surface wave is visually signaled to the PCS by the WGO or BWC by flashing "TD TD TD." QLPs remain in effect for landing craft until touchdown of the last waterborne scheduled wave.

E.2.2 Visual Signals. Visual signals for dispatching waterborne waves from the line of departure (LOD) are discussed in Appendix C. These signals are used to alert scheduled waves of their LOD crossing time. After a scheduled wave has crossed the LOD, PCS sends course and speed signals to the wave at one-minute intervals. The signal is in three parts: wave identification, course change, and speed. Wave identification is indicated by the corresponding wave numeral. Course change is indicated by ROMEO for right and LIMA for left. The amount of course change is indicated by multiple letters, each representing 10°. For example, "R" indicates turn right 10°, "RR" indicates turn right 20°, and so forth. If changing course is unnecessary, the letter CHARLIE is signaled, meaning maintain present course. Speed orders are indicated by numerals indicating the speed desired. For example, "4" means make 4 knots, "1" means make 1 knot or bare steerageway, and so forth. Battle speed is indicated by repeating the letter BRAVO three times. Examples of QLP signals are as follows.

SIGNAL	MEANING
4RR7	Wave 4, turn right 20°, make 7 knots
1L3	Wave 1, turn left 10°, make 3 knots
2C5	Wave 2, maintain course, make 5 knots
3CBBB	Wave 3, maintain course, make battle speed.

E.2.3 Manning. When QLPs are used, the control boat crew should include a signalman capable of receiving eight words per minute.

E.3 HELICOPTERBORNE SHIP-TO-SHORE MOVEMENT CONTROL

QLPs for the helicopterborne ship-to-shore movement are used in conjunction with the helicopter landing diagram and helicopter employment and assault landing table (HEALT).

E.3.1 Procedures. A detailed premission briefing of helicopter commanders, aircrews, flight deck personnel, helicopter controllers, and other personnel involved with the helicopterborne ship-to-shore movement is essential when QLPs are used. A prelaunch briefing update can be given on the flight deck prior to launch if required. The wave rendezvous point (RP) is located over the launch platform. This eliminates any confusion that could occur from multiple helicopters proceeding to an RP with only a visual vector and it allows the flight leader to observe the wave's launch. When wave rendezvous is completed, the flight leader leads the wave to the helicopter landing zone (HLZ) via the primary approach route system, in accordance with the time schedule contained in the HEALT. To assist the wave, a ship or landing craft can mark the departure point (DP). Visual markers at the landing zone are used to indicate the primary or secondary HLZ.

Touchdown of each helicopter wave is reported over the appropriate radio circuit by the flight leader. Upon discharging their load, helicopters rendezvous by flights using QLPs and automatically proceed to the

breakup point where they either return to the parent ship or proceed to embark additional assault elements prescribed in the HEALT.

All radio circuits used during helicopter operations are energized for possible use during an emergency or safety related situation.

QLPs remain in effect for helicopters until touchdown of the last helicopterborne scheduled wave.

E.3.2 Visual Signals. "Ziplip" or EMCON land launch procedures using standard helicopter handling signals contained in the LHD, LHA, or LPH naval air training and operating procedures standardization program (NATOPS) manual or APP 2, "Helo Operations for Ships Other Than Aircraft Carriers (HOSTAC)" are used by landing signal enlisted (LSE) helicopter directors. Sign or chalk boards are used to provide vector, altimeter, and wind envelop information to pilots. Additional visual signals may be specified and included in the premission briefing.

APPENDIX F

Responsibilities for Loading, Stowing, and Offloading of Landing Force (LF) Equipment

F.1 SCOPE

This appendix covers, in general terms, the responsibilities of the Navy and LF for the loading, stowing, and offloading of LF equipment. For detailed information, refer to Joint Pub 3-02.2, "Joint Doctrine for Amphibious Embarkation."

F.1.1 Personnel. Although civilian personnel may perform some cargo loading and stowing functions, this appendix assumes that they are not available. Under such circumstances, responsibilities are as follows.

F.1.1.1 Landing Force (LF). During loading operations the LF provides personnel to:

1. Spot equipment and cargo on the pier or in landing craft
2. Rig slings
3. Hook on equipment and cargo
4. Spot equipment and cargo in holds or other stowage areas in accordance with the loading plan
5. Secure all equipment and cargo for sea to the satisfaction of the ship's commanding officer.

During the movement phase, the LF provides personnel to supplement shipboard security forces and to resecure cargo, as required.

During offloading operations, the LF provides personnel to work in holds or other stowage areas until cargo offloading and cleanup is completed.

The LF personnel are referred to as the ship's platoon.

F.1.1.2 Navy. The Navy provides landing craft crews, winch operators, hatch captains, and safety officers during loading and offloading operations. During the movement phase they ensure that equipment and

cargo remains properly secured for sea by conducting frequent security checks, assisted by LF personnel.

F.1.2 Material. The LF and Navy are responsible for providing specific material to handle or secure equipment and cargo.

F.1.2.1 LF. The LF provides:

1. Dunnage and shoring
2. Waterproofing of equipment and material, as required
3. Full organic allowance of equipment (prime mover and trailer, for example)
4. Special or additional items of material handling equipment (MHE) not included in the ship's loading characteristics pamphlet (SLCP)
5. Banding materials and equipment for reconstituting damaged pallets.

F.1.2.2 Navy. Each SLCP lists cargo handling capabilities and MHE including:

1. Size and number of cargo nets
2. Size and number of gripes
3. Other tiedown equipment available
4. Size and number of slings (including chine hook slings), sheet metal plate hooks, rollers, lifts, pinch bars, and other cargo handling devices.

F.1.2.3 MSC Ships. When MSC ships are used in amphibious operations, special arrangements may be required to obtain sufficient nets, gripes, and tiedown equipment. These provisions are discussed in NWP 22-8, "MSC Support to Amphibious Operations."

The discharge of cargo from MSC-chartered ships in an amphibious objective area (AOA) is discussed in paragraph 1.5.2.

APPENDIX G

Medical Regulating (MEDREG)

G.1 PURPOSE

This appendix describes the amphibious task force's (ATF's) organization which regulates casualty movement during the ship-to-shore movement.

G.2 BACKGROUND

Simultaneous with the ship-to-shore movement, landing force (LF) casualties are transported by surface and air to casualty treatment locations in the amphibious objective area (AOA) for immediate medical treatment. Ensuring that sufficient medical treatment facilities (MTFs) are available and that a MEDREG organization is established is a responsibility of the commander, amphibious task force (CATF). This appendix describes this organization and discusses medical planning considerations.

G.3 ORGANIZATION

MEDREG is the orderly coordinated movement of casualties from the injury site through successive echelons of care to an MTF capable of providing the required treatment. An MTF is any afloat or ashore facility where organized medical care is available. They may range in size and capability from a hospital corpsman to a 1,000 bed hospital ship. CATF is responsible for establishing the MEDREG organization to regulate the movement of casualties during an amphibious operation and arrange for further evacuation of casualties outside the AOA.

MEDREG planning is both a CATF and commander, landing force (CLF) responsibility. Each commander is responsible for:

1. Developing a medical plan as part of each operation order (OPORD).
2. Allocating communication frequencies (preferably secure) and assets for the medical regulating net (MRN).
3. Establishing a MEDREG organization which includes an ATF and LF medical regulating control center (MRCC) and medical regulating teams (MRTs). When required, this organization should include augmentation by a USAF

aeromedical evacuation liaison team (AELT) and a mobile aeromedical staging facility (MASF) to coordinate evacuations out of the AOA.

Figure G-1 depicts the ATF MEDREG organization when CATF has control. As CLF establishes command and control facilities for combat service support (CSS) and air operations ashore, and when agreed to by both CATF and CLF, MEDREG control may be phased ashore. Figure G-2 depicts the LF MEDREG organization when CLF has control.

G.3.1 Amphibious Task Force (ATF) MEDREG Organization. The ATF MEDREG organization, shown in Figure G-1, coordinates the movement of casualties by surface and air means to casualty receiving and treatment ships (CRTSs) in the AOA. The organization and the responsibility of each agency is discussed in the following paragraphs.

G.3.1.1 Commander, Amphibious Task Force (CATF) Surgeon. The CATF surgeon is the senior medical officer on CATF's staff and represents the commander in all matters pertaining to medical support required for an amphibious operation. In developing the MEDREG plan the CATF surgeon is responsible for:

1. Ensuring the OPORD provides guidance for the proper functioning of the MEDREG organization
2. Coordinating medical planning with adjacent and higher headquarters, to include the LF surgeon
3. Coordinating with Navy operations for designating primary and secondary CRTSs (PCRTSs and SCRTSs), locating medical augmentation with Navy ship-to-shore control agencies, and so forth
4. Implementing the MEDREG organization
5. Training personnel assigned MEDREG duties by ensuring that all personnel involved understand the concepts and procedures employed in this system
6. Monitoring the MEDREG process during operation

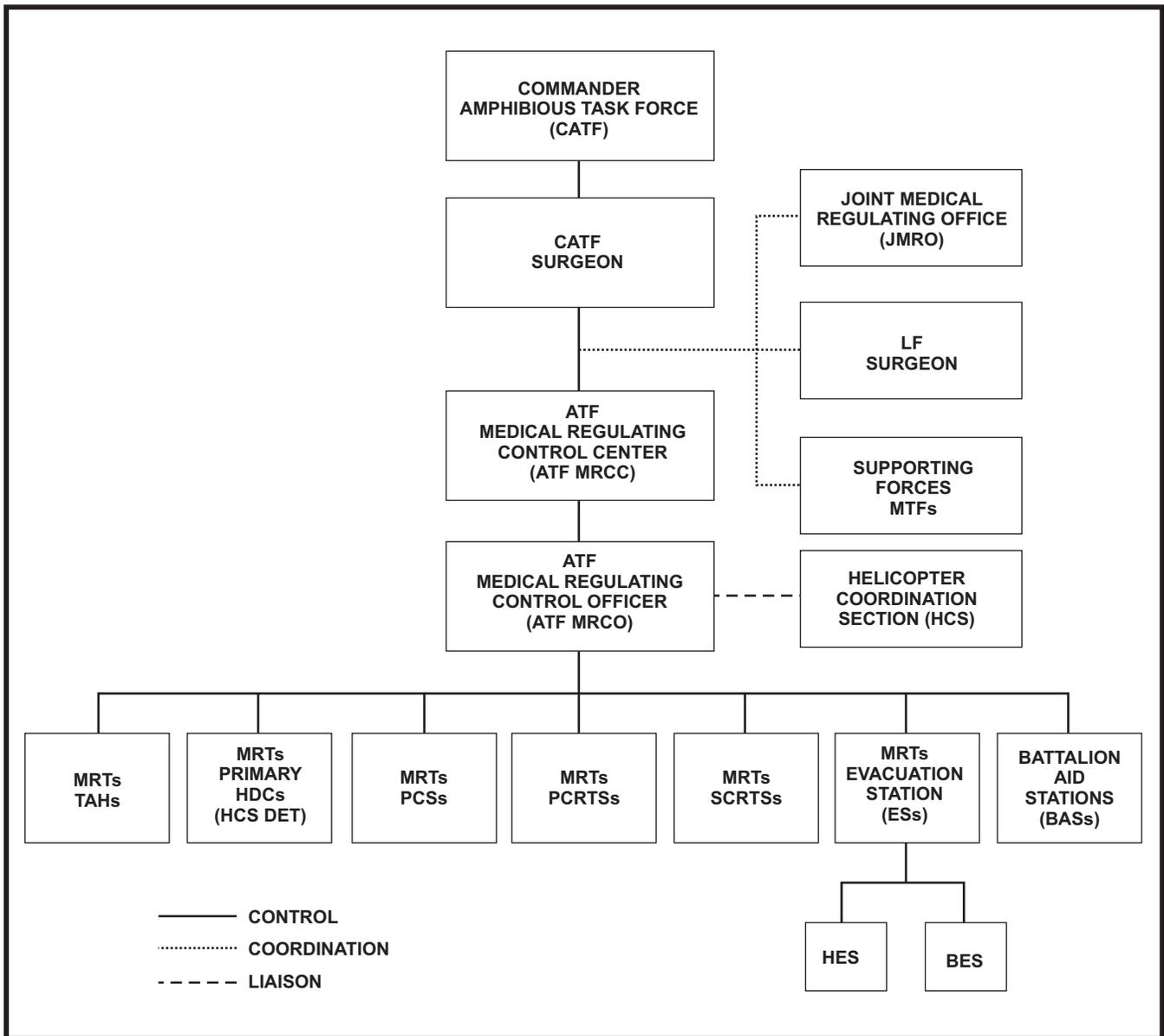


Figure G-1. ATF Medical Regulating (MEDREG) Organization

G.3.1.1.1 Fleet Surgical Team (FST). An FST is a 21 person medical team permanently assigned to a fleet commander (Atlantic and Pacific) to support deployed medical commitments. FSTs provide the nucleus for ATF medical support during amphibious operations.

G.3.1.1.2 Mobile Medical Augmentation Readiness Teams (MMARTs). MMARTs provide medical augmentation during peacetime contingencies, such as limited military operations and disaster relief. They are sponsored by the bureau of medicine and surgery (BUMED) and come from CONUS MTFs where MMART personnel are permanently assigned. During

mobilization, MMARTs cease to exist and operating forces are brought up to their full medical allowance. MMARTs provide the following medical capabilities: surgical, specialty treatment, special psychiatric rapid intervention team (SPRINT), preventative medicine, disaster support, and MEDREG. NAVMEDCOMINST 6440.2, “MMART Manual,” provides additional information.

G.3.1.2 ATF Medical Regulating Control Center (MRCC). The ATF MRCC coordinates the movement of casualties within the AOA. It is normally collocated with the helicopter coordination section (HCS), is manned by personnel from the FST,

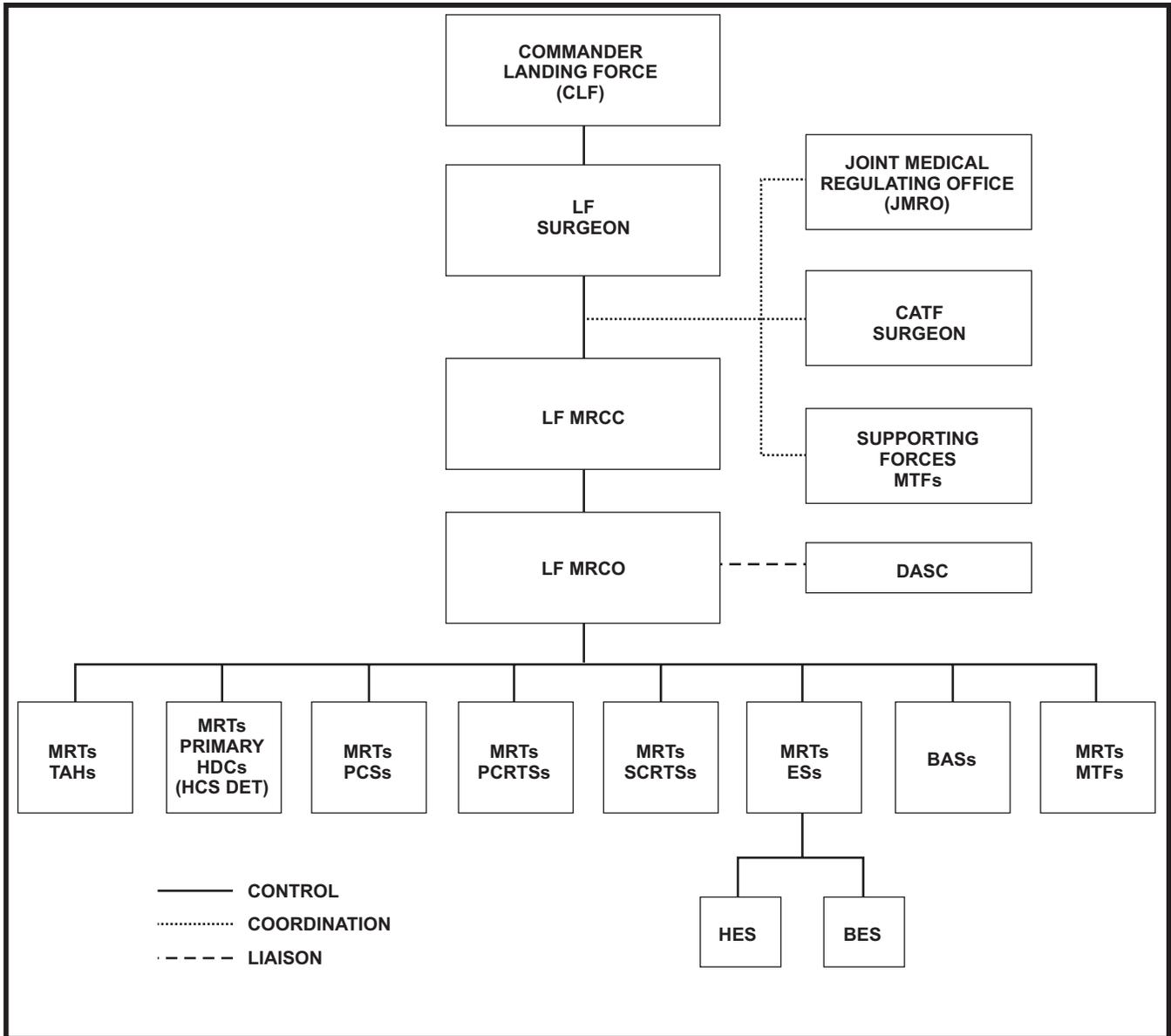


Figure G-2. LF MEDREG Organization

MMART, medical personnel augmentation system (MPAS), or ship’s company, and is headed by the ATF medical regulating control officer (MRCO). The ATF MRCC is responsible for MEDREG and medical capability status maintenance.

The ATF MRCC coordinates with the joint medical regulating office (JMRO) to evacuate casualties outside the AOA.

G.3.1.3 ATF Medical Regulating Control Officer (MRCO). The ATF MRCO is a medical service corps (MSC) officer who regulates the movement of casualties within the ATF. The ATF

MRCO directs the operation of the ATF MRCC, medical regulating teams (MRTs), and is net control for the MRN. The ATF MRCO reports to the CATF surgeon and is responsible for:

1. Initiating advance planning and coordination with the LF and advising the CATF surgeon on MEDREG matters.
2. Acting on requests for MEDREG from MRTs by recommending the preferred CRTS and transportation mode for casualty movement. The HCS detachment with the primary helicopter direction center (HDC) or primary control

officer (PCO) can accept or reject the transportation mode recommendation based on tactical circumstances.

3. Notifying CRTSs of inbound casualties.
4. Maintaining the master facilities spot status board.
5. Arranging for lateral casualty movement between CRTSs to match treatment needs with medical capabilities.
6. Coordinating casualty evacuation outside the AOA with JMRO.

G.3.1.4 Medical Regulating Teams (MRTs).

MRTs consist of medical regulators, provided from the FST, embarked unit's medical personnel, or MMART/MPAS and radio operators that are assigned to CRTSs, MTFs ashore, and ship-to-shore movement control agencies. MRTs report to the ATF or LF MRCC and are responsible for:

1. Guarding the MRN
2. Maintaining a facilities spot status board
3. Providing current medical capabilities, casualty evacuation status, and other information to the ATF or LF MRCC
4. Providing advice to HCS detachments with primary HDCs and PCOs on moving casualties
5. Preparing to assume ATF or LF MRCC duties if the ATF or LF MRCC is unresponsive to the MRN or if designated the alternate ATF or LF MRCC.

G.3.1.5 Casualty Receiving and Treatment Ship (CRTS). A CRTS has the required operational capability and resources to provide medical treatment to casualties.

G.3.1.5.1 Primary Casualty Receiving and Treatment Ship (PCRTS). A PCRTS has the best medical treatment capabilities and resources when compared with other ships in the ATF. The LHD, LHA, or LPH class ships are normally designated as PCRTSs. Figure G-3 lists various PCRTS's medical capabilities.

G.3.1.5.2 Secondary Casualty Receiving and Treatment Ship (SCRTS). A SCRTS has reduced medical treatment capabilities and resources when compared to a PCRTS. Examples are the LPD, LSD, LKA, and LST class ships.

G.3.1.5.3 Hospital Ships (TAHs). TAHs have extensive medical capabilities that are equivalent to a continental United States (CONUS) MTF. They are MSC-chartered ships designed to support amphibious operations. TAHs do not have a secure voice communications capability, a stipulation of the Geneva conventions, which must be considered during MEDREG planning.

G.3.1.6 Medical Regulating Net (MRN). The MRN is a dedicated communications net, preferably secure, that provides rapid communications between the ATF or LF MRCC and MRTs. It is used for MEDREG, blood reporting, blood requests, and providing status reports so that the ATF or LF MRCC has current information on the capabilities of each MTF. Units that guard the MRN are:

1. The ATF and LF MRCC
2. HCS detachment with primary HDCs
3. PCSs
4. All CRTSs
5. Each MTF ashore, except battalion aid stations (BASs)
6. Each evacuation station (ES).

G.3.2 Landing Force (LF) MEDREG Organization. The LF MRCC normally embarks in the same ship, lands in the same serial, and collocates ashore with the direct air support center (DASC). The phasing ashore of MEDREG control may occur after the DASC is operational and air control has been phased ashore. When MEDREG control is phased ashore, the LF MRCC assumes net control of the MRN and requests facility spot status reports from all MTFs to bring the master facility spot status board up-to-date. The ATF MRCC becomes the alternate control agency and continues to monitor the MRN.

G.3.2.1 LF Surgeon. The LF surgeon is the senior medical officer in CLF's staff and represents the commander in all matters pertaining to LF medical support required for an amphibious operation. The LF surgeon's responsibilities are similar to the CATF surgeon for organizing, implementing, and monitoring the LF MEDREG organization.

G.3.2.2 LF MRCC. The LF MRCC is normally collocated with the DASC and performs the same functions as the ATF MRCC discussed in paragraph G.3.1.2.

PCRTS	Operating Rooms	Intensive Care Beds	Ward Beds	Overflow Beds
LHD	6	26	50	528
LHA	4	17	50	300
LPH	2	2 to 4 (Note 1)	16 to 18 (Note 1)	200
TAH (Note 2)	12	80	900	0
Notes:				
1. Varies due to commissioning date.				
2. Capability equivalent to general hospital. Provided for comparison only.				

Figure G-3. Primary Casualty Receiving and Treatment Ship (PCRTS) Medical Capabilities

G.3.2.3 LF MRCO. The LF MRCO supervises the LF MRCC and when MEDREG is phased ashore has responsibilities similar to the ATF MRCO. The LF MRCO recommends the preferred destination for casualty treatment and transportation mode to the DASC or PCS and advises CRTSs or MTFs ashore of inbound casualties.

G.3.2.4 Line Company Hospital Corpsman. Hospital corpsmen assigned to the LF that are trained in emergency care and life support are the first echelon of medical treatment to go ashore. They provide direct support to platoons, squads, and BASs.

G.3.2.5 Battalion Aid Stations (BASs). BASs are highly mobile medical units that provide initial resuscitation to traumatic casualties and limited routine health care.

G.3.2.6 Evacuation Stations (ESs). As the landing force support party (LFSP) phases ashore, ESs are established. Beach evacuation stations (BESs) and helicopter landing zone evacuation stations (HESs) provide collection, triage, emergency treatment, and they coordinate with the shore party to move casualties to CRTSs or MTFs ashore.

G.3.2.7 Medical Battalions. When the beach-head is secured companies from the medical battalion phase ashore. Each collection and clearing company provides a MTF with resuscitative surgical capability and 60 flow-through beds. Each surgical support company provides a resuscitative surgical capability and 150 flow-through beds.

G.3.2.8 Rapidly Deployable Medical Facility (RDMF). The RDMF is comprised of four 250-bed facilities which can function independently or be configured together to provide up to a 1,000 bed facility. It provides combat medical support ashore to the LF.

G.4 MEDREG PLAN

CATF promulgates the MEDREG plan which sets the policy for casualty evacuation within the ATF. Specifically, the following items are included:

1. A tabulation of the medical resource capabilities of ships in the ATF, to include the number of medical personnel embarked and their qualifications, patient care beds, operating rooms, clinical laboratory capabilities, x-ray equipment available, whole-blood and blood products available and storage capacity, and so forth
2. The precedence for evacuating casualties
3. A primary casualty evacuation plan which describes procedures for regulating the flow of casualties to CRTs for early definitive medical care
4. A secondary casualty evacuation plan for evacuating casualties to rear area MTFs or outside the AOA
5. A mass casualties plan

6. The location and responsibility of each unit (MRCC, MRTs, and so forth) in the MEDREG organization
7. A list of all MTFs with normal and maximum casualty capacities
8. The reports required from each unit in the MEDREG organization.

G.4.1 Casualty Evacuation Planning. Casualty evacuation planning is divided into primary and secondary categories.

G.4.1.1 Primary Casualty Evacuation Plan. The primary casualty evacuation plan describes:

1. Moving casualties from the battle area to ESs with subsequent movement to CRTSs or MTFs ashore
2. Moving casualties from the battle area directly to CRTSs or MTFs ashore
3. Moving casualties laterally between CRTSs or MTFs ashore.

G.4.1.2 Secondary Casualty Evacuation Plan. The secondary casualty evacuation plan describes moving casualties to in theater MTFs, such as fleet hospitals or TAHs, or to MTFs out of theater.

G.4.1.3 Considerations Which Make MEDREG Difficult. Medical emergency evacuations (MED-EVACs) are normally required during the ship-to-shore movement when the majority of air and surface means available are dedicated to the rapid buildup of combat power ashore. The following considerations complicate MEDREG:

1. Interference with the movement of air and surface scheduled waves by diverting helicopters or landing craft for MEDEVACs must be minimized to maintain the momentum of the assault.
2. Initially casualties are unorganized, not self-supporting, and must be delivered to ESs for MEDEVAC.
3. MEDEVACs cannot be postponed because of combat or weather conditions. Delays increase the number of casualties which eventually will overload the CRTS's capabilities.
4. The use of aircraft in areas suspected of chemical, biological, or radiation (CBR)

contamination may reintroduce CBR agents into the atmosphere and contaminate casualties and helicopters. Helicopter decontamination is a time consuming evolution.

G.4.1.4 Medical Emergency Evacuation (MEDEVAC) Assets. The ATF assets used to transport casualties with their ambulatory or litter capacities are shown in Figure G-4.

G.4.1.4.1 Medical Boats. Medical boats display the MIKE flag over the beach flag and contain a hospital corpsman, first aid supplies, 20 liters (minimum) with floatation equipment installed, voice and visual communications equipment, lifejackets, and tarpaulins for inclement weather.

Well deck configured CRTSs normally direct the medical boat into the well to discharge casualties at the ramp. CRTSs without well decks direct the medical boat alongside and hoist casualties aboard by litter or collar slings.

Medical boats are designated in the landing craft availability table and maintain positions off the beach in accordance with the beach approach diagram.

G.4.1.4.2 Helicopters. Helicopters provide the most rapid and least traumatic means of MEDEVAC and are normally the preferred option for transporting seriously injured casualties to CRTSs or MTFs ashore.

All helicopters are normally committed in the helicopter employment and assault landing table (HEALT) for transporting scheduled waves. Helicopter MEDEVACs are conducted on a lift of opportunity basis.

G.4.2 MEDEVAC Precedence. Any MEDEVAC from a combat area poses varying degrees of risk. The risks which are assumed by personnel accomplishing the MEDEVAC will depend, among other factors, on the urgency of the medical care required. For this reason, casualties are prioritized strictly on the basis of their medical treatment requirements. Casualties should not be over-classified to hasten their evacuation for administrative reasons. Over-classification could cause delay in the evacuation of casualties with more critical medical needs, resulting in a possible loss of life. The following MEDEVAC precedence is used:

1. Urgent: assigned to emergency cases that should be evacuated as soon as possible, but not delayed longer than two hours, in order to save life, limb, or eyesight.

Asset	Ambulatory	or Litter
UH-1N	7	3
CH-46	22	15
CH-53	52	24
LARC V	25	12
AAV	25	6
LCVP	36	17
LCM 6	80	30
LCM 8	200	50
LCU	400	100
LCAC	Note 1	Note 1

Note 1. Depends on the number of portable shelters installed.

Figure G-4. Medical Emergency Evacuation (MEDEVAC) Capabilities

2. Priority: assigned to sick and wounded personnel requiring prompt medical care. The individual should be evacuated within four hours or the medical condition could deteriorate and an urgent precedence will be assigned.

3. Routine: assigned to sick and wounded personnel requiring evacuation but whose condition is not expected to deteriorate significantly. This category should be evacuated within 24 hours.

Helicopters are generally requested for urgent and priority precedence MEDEVACs.

G.4.3 MEDREG Coordination. The ATF or LF MRCO use the reports and status boards described in the following paragraphs to coordinate MEDREG within the ATF.

G.4.3.1 Reports. The format for each report and frequency is contained in the OPORD. NAVMED P-5133/FMFM 4-51, "Task Force Medical Regulating Manual," also discusses these reports.

G.4.3.1.1 Medical Joining Report. A medical joining report is submitted within 24 hours by all ships and MTFs joining the ATF. This report lists the number of:

1. Dedicated operating rooms
2. Other operating areas suitable for basic surgical procedures
3. Fitted and portable x-ray machines
4. Refrigerators suitable for whole blood storage and total capacity
5. Blood units on hand by type
6. Walking blood donors by type
7. Intensive care beds
8. Sickbay beds
9. Overflow beds.

G.4.3.1.2 Facilities Spot Status Report.

CRTSs and MRTs ashore must submit a facilities spot status report to the ATF or LF MRCO to update the master facility spot status board maintained in the ATF or LF MRCCs. This report contains the following information:

1. Number of operating beds
2. Beds occupied
3. The patient and backlog time for each operating room
4. The patient and backlog time for each operating area
5. Patients requiring lateral transfer
6. Patients requiring evacuation out of the AOA.

G.4.3.1.3 Medical Census Report. This report is submitted by each MTF as they become operational and then daily. It provides the ATF or LF MRCO with a daily summary and it contains:

1. Operating beds available
2. Patients admitted
3. Operating beds occupied
4. Patients remaining
5. Patients returned to duty
6. Patients evacuated
7. Deaths
8. Patients requiring evacuation
9. Unusual incidents
10. Outpatient visits
11. Unresolved medical logistics problems.

G.4.3.1.4 Blood Status Report. The blood status report is provided by each CRTS and MTF ashore and it provides by type the number of blood units:

1. On hand with expiration dates
2. Transferred

3. Expended
4. Required within 10 days.

G.4.3.2 Status Boards. The ATF and LF MRCO and MRTs use the following status boards to coordinate MEDREG within the ATF.

G.4.3.2.1 Facilities Spot Status Board. The facilities spot status board displays each MTF with their capabilities, including: bed status, specialty treatment available, and blood status. The ATF or LF MRCO determines the best suited CRTS or MTF ashore to direct casualties to by referring to this status board. MRTs update this information by submitting a facilities spot status report.

G.4.3.2.2 Regulating Status Board. The regulating status board displays for the ATF or LF MRCO the number of patients at each CRTS or MTF ashore waiting for a lateral transfer to a more capable CRTS or MTF.

G.4.3.2.3 Blood Status Board. The blood status board displays the quantity of blood available at each MTF.

G.4.4 Execution. As the ship-to-shore movements progress, BESs and HESs are established at each colored beach and landing zone, collocated with the shore party and helicopter support team (HST) respectively, by the LFSP. The shore party or HST use the BRAVO or helicopter request (HR) net, respectively, to relay MEDEVAC requests from a BES or HES. Requests from a BES are processed by the PCS MRT which uses the MRN to advise the ATF MRCO of the requirement. The ATF MRCO recommends a CRTS that is capable of receiving and treating the casualties and the transportation mode. With PCS or HSC detachment concurrence for transportation, the PCS MRT advises the CRTS of incoming casualties and mode of transportation. Requests from an HES are processed by the primary HDC MRT which uses the MRN to advise the ATF MRCO of the requirement. The ATF MRCO recommends a CRTS. A helicopter is normally provided for urgent and priority precedence casualties located at an HES. With HSC detachment or PCS concurrence for transportation, the primary HDC MRT advises the CRTS of incoming casualties and mode of transportation.

Casualties may be placed onboard helicopters or in medical boats as lifts of opportunity prior to the establishment of a BES or HES. In this case, the helicopter or medical boat advises the primary HDC or PCS of the MEDEVAC situation and the primary HDC or PCS acting on the advice of the ATF MRCO directs the helicopter or medical boat to a CRTS.

CRTSs make periodic facilities spot status reports to the ATF MRCO to maintain the master facility spot status board current.

CRTSs display a MIKE flag by day and, when tactical conditions permit, a blinking green light at night to indicate that they may receive further casualties. The flag is hauled down and the light is extinguished when CRTSs are unable to accommodate further casualties.

As the assault progresses, the medical battalion establishes MTFs ashore to augment CRTSs. When an airfield is secured, the AELT and MASF can begin evacuating casualties to fleet and general hospitals in theater or as directed.

TAHs enter the AOA as the tactical situation permits. When within helicopter range the ATF or LF MRCO can direct casualties to the TAH.

When the LF MRCC is established and air control has been passed to the DASC, control of MEDREG may be formally passed ashore to CLF. With MEDREG control ashore, CRTSs and MTFs ashore advise the LF MRCO of their current capabilities through facilities spot status reports.

G.5 MASS CASUALTIES

A mass casualties situation occurs when a large number of casualties have been produced simultaneously or within a short period of time and the available medical support and MEDEVAC capabilities have been exceeded. Mass casualties management is guided by the principal medical objective of providing the greatest good for the greatest number. In this situation normal triage procedures are modified and casualties are categorized based on their probability of survival and the urgency of medical treatment. MEDEVAC precedence and execution procedures remain as discussed in paragraphs G.4.2 and G.4.4, respectively.

G.5.1 Guidelines for Mass Casualties. Prompt triage is the key to effective casualty management. Casualties are classified into four general treatment categories:

1. Minimal: casualties who require simple treatment procedures by medical or nonmedical personnel to quickly return to duty. Follow-up treatment may be needed after termination of the mass casualties phase.
2. Delayed: casualties who require time consuming major surgical procedures but whose

life is not threatened by the delay of that surgery. Only emergency and sustaining treatment is provided until these patients can be evacuated or until the mass casualties phase is terminated and the required surgery can be performed.

3. Immediate: casualties who require immediate resuscitative treatment. Procedures used should not consume excessive time and should be economical in terms of medical resources.

4. Expectant: casualties with injuries so massive that the probability of survival is low even with concentrated medical efforts. Patients in this category are provided symptomatic and supportive care and monitored for any changes in condition. Intensive medical efforts on these casualties are made after the mass casualties phase is terminated or when permitted by the medical workload.

A mass casualties situation creates massive disruption to combat, combat support, and combat service support operations. The impact of large numbers of injured, and possibly CBR contaminated, casualties to CRTSs and MTFs ashore is effectively managed only if mass casualty plans have been developed and all personnel trained in their execution. Self-aid and buddy aid is the first level of care rendered in many instances and may be the key to a casualty's survival. Although the nature of medical management in a mass casualties situation is to provide the greatest good for the greatest number, at no time should the abandonment of a single casualty be contemplated. The classification of casualties permits focusing medical resources on the needs of those casualties who require immediate lifesaving efforts and those who can be quickly returned to duty to reconstitute the combat power of the LF.

G.5.2 Preparation for Mass Casualties. Each CRTS and theater MTFs ashore must have a mass casualties plan that includes:

1. Designating mass casualties handling personnel
2. Training personnel in mass casualties triage procedures
3. Developing and rehearsing standard operating procedures (SOPs) for receiving, triage, movement, and medical treatment
4. Prepositioning medical supplies and equipment at reception/triage areas

5. Establishing procedures and designating areas for monitoring, decontamination, and treating CBR casualties.

G.5.3 Guidelines for Chemical, Biological, or Radiation (CBR) Mass Casualties. Paragraph 6.3.6 discusses CBR countermeasures and mission oriented protective posture (MOPP) levels. Choices for handling CBR contaminated mass casualties are to decontaminate the casualties at ESs or bring them to CRTSs for decontamination. In either situation, CBR mass casualties management involves integrating damage control and medical personnel.

G.5.3.1 Decontamination Conducted Ashore. For decontaminating casualties ashore special teams for triage, decontamination, and evacuation may be established. These teams operate CBR mass casualties

ESs where treatment is limited to initial resuscitative and stabilization procedures. Treatment categories are the same as described in paragraph G.5.1. Decontamination is limited to the measures necessary to protect other personnel and equipment from becoming contaminated and prevent further CBR injury to casualties.

G.5.3.2 Decontamination Conducted Afloat. For decontaminating casualties aboard CRTSs, procedures to receive contaminated medical boats and helicopters are established and an area is designated for decontamination of the casualties. Routes are designated to move casualties from the point of arrival to triage areas and then to medical spaces. Monitoring teams continually assess contamination levels being introduced aboard ship. The medical boats and aircraft used for CBR MEDEVACs will require time consuming decontamination before they can be returned for LF operations.

APPENDIX H

Supplementary Boat Equipment

H.1 GENERAL

The equipment requirements listed in this appendix are in addition to the equipment in a boat or displacement landing craft allowance list or required by other publications. LCUs and LCACs are not included in this appendix as all required equipment is covered in the craft's applicable allowance list.

H.1.1 Control and Rescue Boats. See Figure H-1.

H.1.2 Displacement Landing Craft. See Figure H-2.

H.1.3 Special Operations. Additional or different equipment may be required for special operations. Requirements for these operations should be set forth in the operation order.

Equipment	Number Required by Boat			
	Boat Group Commander	Asst. Boat Group Commander	Salvage Boat	Helo Safety Boat
Anchor, 100 fathoms of line, and marker buoy	0	1	1	1
Axe, bolt cutters, hacksaw, and metal shears	0	0	0	1
Battle lantern	0	1	4	3
Binoculars	1	1	1	1
Blankets (minimum of 10)	0	0	0	10
Buckets, 8-quart size	0	3	6	0
Bull horn, electric, portable	1	1	1	0
Buoy for tow line (any inherently buoyant object)	0	1	1	0
Clock with sweep second hand	1	1	0	0
Diving equipment set, shallow water	0	0	1	0
Dosimeter, DT-60 personnel, accumulator (1 per man)	X	X	X	0
Dosimeter, pocket (key man), IM-143	1	1	2	0
Emergency cutting outfit (Note 1)	0	0	1	0
Fire extinguishers, CO ₂ , (15 lb)	0	0	2	0
Flags and lights, set, special (see Appendix C)	1	1	1	0
Flags, semaphore, set, type 1 or 2	1	1	1	1
Flashlights	2	2	2	0
Geiger counter, AN/PDR-27	0	0	1	0
Geiger counter, AN/PDR-43	0	0	1	0
Gun, line throwing, 2 spools of shot line per gun	0	1	2	0
Hearing protection (1 per man)	X	X	X	X
Heaving lines (100-foot)	2	3	3	0
Jumper cable, battery, approximately 15-foot long	0	1	1	0
Knives	0	0	0	2
Life rings	0	0	0	4
Light, red, 32 point	0	0	0	1
Marker float smoke	0	0	0	2
Medical kit	0	1	0	1
Messenger, 21-thread, 150 fm.	0	1	1	0
Nets, recovery, rigged on each side for immediate use	0	0	0	2
Oil, lube, 5-gallon can	1	1	1	0
Plugs, damage control kit	0	1	1	0
Quick tow strap, 17-foot, 3-1/2 inch nylon	1	2	2	0
Radar reflector	1	1	1	1
Radio equipment, portable	2	2	2	1
Ramp raising equipment (Note 2)	0	1	1	0
Repair and replacement parts kit, miscellaneous	0	0	1	0
Salvage pump (P-250) (Note 3)	0	1	1	0
Signal flares, day/night	0	0	0	6
Signal lamp, portable	1	1	1	1
Signaling light, infrared, portable	1	1	0	0
Spot light, portable	0	0	0	1

Figure H-1. Boat Equipment for Control and Rescue Boats (Sheet 1 of 2)

Equipment	Number Required by Boat			
	Boat Group Commander	Asst. Boat Group Commander	Salvage Boat	Helo Safety Boat
Stokes litter with flotation gear	0	0	0	1
Swimmer safety lines	0	0	0	4
Tow line, 150 fathoms, 5-inch nylon	0	1	2	0
Water, fresh, for engine cooling (5-gallon can)	1	1	1	0
Wands for flashlights, lucite	2	2	2	0
Wire bridle 3/4-inch, 20-foot legs with 7/8-inch swivel attached, 7/8-inch safety shackle	0	1	1	0
Wire cutters	0	1	1	0
Wrench, adjustable, 12-inch	0	0	2	0
<p>Notes:</p> <ol style="list-style-type: none"> Emergency cutting outfit includes: <ul style="list-style-type: none"> One striker (with spare flints) One welding gloves One cutting goggle (6 shade) One apparatus wrench One tip cleaner Two spare tips Ramp raising equipment includes: <ul style="list-style-type: none"> One 2-fold purchase reeved with 260 feet of 2-1/2 nylon One 40-foot, 3/4-inch wire strap Two 90-foot, 3/4-inch wire straps Two 16-foot, 3/4-inch wire straps Two 18-foot, 3/4-inch wire straps Four 10-inch steel snatch blocks Two 4-foot, 3/4-inch wire straps Two 3-ton ratchet type come-alongs with 15-foot reach Ten 7/8-inch safety shackles Two 3-foot 2-1/2-inch nylon straps 		<ol style="list-style-type: none"> P-250 includes <ul style="list-style-type: none"> One exhaust hose Two 1-1/2-inch fire hoses Two 1-1/2-inch vary nozzles One 2-1/2-inch fire hose Two spanner wrenches One peri-jet eductor One tri-gate (special) One 4-inch discharge hose Two 6-gallon fuel containers One in-line eductor Four 5-gallon AFFF cans One 20-foot suction hose One footvalve strainer. 		

Figure H-1. Boat Equipment for Control and Rescue Boats (Sheet 2 of 2)

Equipment	Number Required by Boat		
	LCVP	LCM	LCPL
Antibroaching lines, set of 2			
(a) 15 fathoms 3-inch manila	1	0	0
(b) 15 fathoms 3-1/2-inch manila	0	1	0
Dosimeter, DT-60 personnel, accumulator (1 per man)	X	X	X
Dosimeter, pocket (key man)	1	1	1
Flags, cargo (red, yellow, blue, green, see Appendix C)	1	1	0
Flags, semaphore set, type 1 or 2	1	1	1
Flashlights	2	2	2
Oil, lube (extra) (gallons)	5	10	5
Ramp hoisting tackle set (emergency)			
(a) 2-fold purchase	1	0	0
(b) 2-1/2-inch nylon, 20 fathoms	1	0	0
(c) Ratchet type come-along	0	2	0
Sand, bucket	1	1	1
Water for cooling engines (gallons)	5	10	5
Note: X denotes that quantity varies with size of boat crew.			

Figure H-2. Boat Equipment for Displacement Landing Craft

APPENDIX I

Salvage Operations

I.1 MISSION

During the waterborne ship-to-shore movement assault craft casualties are inevitable. The mission of the salvage organization is to keep boat lanes and beaches clear of disabled boats and assault craft so that the waterborne ship-to-shore movement is not delayed.

I.2 ORGANIZATION

Salvage operations in the amphibious objective area (AOA) is the responsibility of the commander, amphibious task force (CATF). The primary control officer (PCO) is delegated the responsibility for conducting assault craft salvage operations at a colored beach. The beachmaster is the senior salvage officer ashore and reports to the PCO for salvage operations conducted inside the surf zone. The assistant boat group commander (ABGC) is the senior salvage officer afloat and reports to the PCO for salvage operations conducted outside the surf zone and to the beachmaster for salvage operations inside the surf zone. Designated ships organize salvage teams and rig and equip LCMs as heavy salvage boats and LCVPs or LCPLs as light salvage boats.

I.2.1 Primary Control Officer (PCO). The PCO is responsible for conducting landing craft salvage operations at a colored beach to keep the beach, boat and landing craft air cushion (LCAC) transit lanes, and LCAC landing zones (CLZs) unobstructed.

I.2.2 Assistant Boat Group Commander (ABGC). The ABGC is embarked in an LCPL and directs all landing craft salvage operations during the ship-to-shore movement until the beach party is established ashore. After the last scheduled wave has landed, the ABGC is the senior salvage officer afloat and reports to the PCO for salvage operations seaward of the surf zone and to the beachmaster for salvage operations inside the surf zone.

I.2.3 Beachmaster. The beachmaster, once the beach party is established ashore, is the senior salvage officer ashore. The beachmaster reports to the PCO for salvage operations inside the surf zone. The lighter, amphibious resupply, cargo - 5 tons (LARC Vs) and bulldozers are organic salvage assets used by the beach party with salvage boats assisting as required.

I.3 SALVAGE BOATS AND TEAMS

Salvage boats are categorized as heavy or light salvage boats. They are organic specially configured landing craft manned by salvage teams from ships in the transport group.

I.3.1 Heavy Salvage Boat. A heavy salvage boat is normally an LCM 6, converted by boat alteration 19C dated 5 May 1963 for LCM 6s and 68C (Rev. A) dated 3 November 1987 for LCM 6 HPEs. They are stationed outside the surf zone to maintain a good view of the beach and boat lanes.

I.3.2 Light Salvage Boat. A light salvage boat is normally an LCPL.

I.3.3 Salvage Teams. Salvage teams consist of personnel from one ship trained as a team in accordance with qualification requirements in the type commander's master training plan. Salvage teams are in addition to the boat crew and are organized as follows:

1. Heavy salvage boat:

- 1 — Salvage officer
- 1 — BMC/BM1 (salvage rigger)
- 1 — EN1/EN2
- 1 — HT2/HT3
- 1 — RM3/RMSN
- 1 — SM3/SMSN
- 1 — HM3/HMSN
- 1 — SN

Note: One team member is a qualified search and rescue (SAR) swimmer.

2. Light salvage boat:

- 1 — BM2/BM3 (salvage rigger)
- 1 — SM3/SMSN
- 1 — HT2/HT3
- 1 — RM3/RMSN
- 1 — SN

I.4 SALVAGE EQUIPMENT

Salvage equipment for heavy and light salvage boats is listed in Appendix H.

I.5 AFLOAT SALVAGE OPERATIONS

The steps taken to free a broached boat or take a disabled boat under tow will vary according to the circumstances. A successful salvage operation depends on the ability of the salvage team to work out the best procedure for each situation. LCAC salvage operations are covered in paragraph I.7.

I.5.1 Salvage Procedures. This section describes boats in various situations and provides recommended salvage procedures or actions to be taken by the salvage team or boat crew.

I.5.1.1 Action Aboard a Broached Boat. A broached boat is nearly broadside to the surf and grounded on the beach.

I.5.1.1.1 Boat Stability. The crew aboard a broached boat utilizes pumps, buckets, helmets, or any container available to bail and minimize the amount of water in the boat. The less water in a boat, the less complicated the salvage operation is.

I.5.1.1.2 Engine Use. The boat's engine should be kept running, if possible, with the drive in forward gear. Screw wash prevents incoming surf from carrying a tow line into the screw or rudder. As the engine accelerates in forward gear in combination with a receding wave, the screw discharge and wave current will wash sand away from the rudder and skeg. This helps prevent rudder damage and enables the boat to retract off the beach without the stern digging into the sand. It also helps to minimize fishtailing on retraction and maintain control of the boat as it ungrounds and tends to slingshot off the beach from the tension in the tow line. Keeping the engine in forward gear adds to the strain on a tow line but is a key part of safely pulling a broached boat off the beach.

I.5.1.2 Passing a Tow Line to a Broached or Hard Aground Boat. The following procedures are used to pass a tow line in preparation for towing a broached or hard aground boat off the beach.

I.5.1.2.1 Light Surf. In light surf the salvage boat approaches close enough to pass the tow line directly to the stranded boat. If the beach is flat and the surf is breaking well to seaward, the salvage boat may beach and pass the tow line. If the surf is breaking close inshore or the beach is steep, the salvage boat may approach from the windward or upcurrent, whichever is stronger, side of the broached boat and throw a heaving line attached to the tow line. Approaching from windward or upcurrent will enable the heaving line to be passed more effectively and the distance will decrease as the salvage boat is set toward the stranded

boat by the wind or current. Standby heaving lines should be available in case the first line falls short. It may be necessary to begin the tow with the salvage boat downwind of the broached boat. As soon as the boat has been pulled free and is at right angles to the surf, the salvage boat should maneuver to make the tow from an upwind position until clear of the surf zone.

I.5.1.2.2 Heavy Surf. In a heavy surf the salvage boat remains outside the surf zone and shoots a shotline or floats a messenger through the surf by attaching one end to a life ring or kapok life jacket. The crew of the broached boat uses the messenger to haul in the tow line. The kapok life jacket is preferred due to the sail area it presents to the wind. When connecting a tow line to a broached or grounded boat in this situation, obtain the beachmaster's permission to use the line-throwing gun to preclude injuring personnel on the beach with the line throwing projectile.

I.5.1.2.3 Steep Beach Made Treacherous by a Heavy Backwash and Current. The salvage boat beaches downwind and downcurrent from the stranded boat. The tow line is carried by hand and secured to the stranded boat. This procedure lessens the danger of heavy backwash or current carrying the tow line into the screws of either boat and is used only when recommended by the beachmaster.

I.5.1.3 Towing a Broached or Hard Aground Boat. For towing LCVPs and LCMs off the beach, the tow line is connected to the stern bitts, cleats, or sampson post on the towed boat as shown in Figure I-1. LCVPs and LCMs are towed off the beach stern first and a bridle is always used for LCMs. The following equipment is required:

1. One 150-fathom, 5-inch double braided nylon or kevlar equivalent tow line
2. One wire bridle with 20-foot, 3/4-inch legs with 7/8-inch swivels
3. One 7/8-inch safety shackle
4. Three 100-foot heaving lines
5. One 150-fathom, 21-thread messenger
6. One buoy for tow line.

I.5.1.3.1 LCVP Tow. The salvage boat, after considering the surf conditions, sends over the tow line. The LCVP crew attaches the tow line to the stern sampson post. The LCVP is ready to be towed.

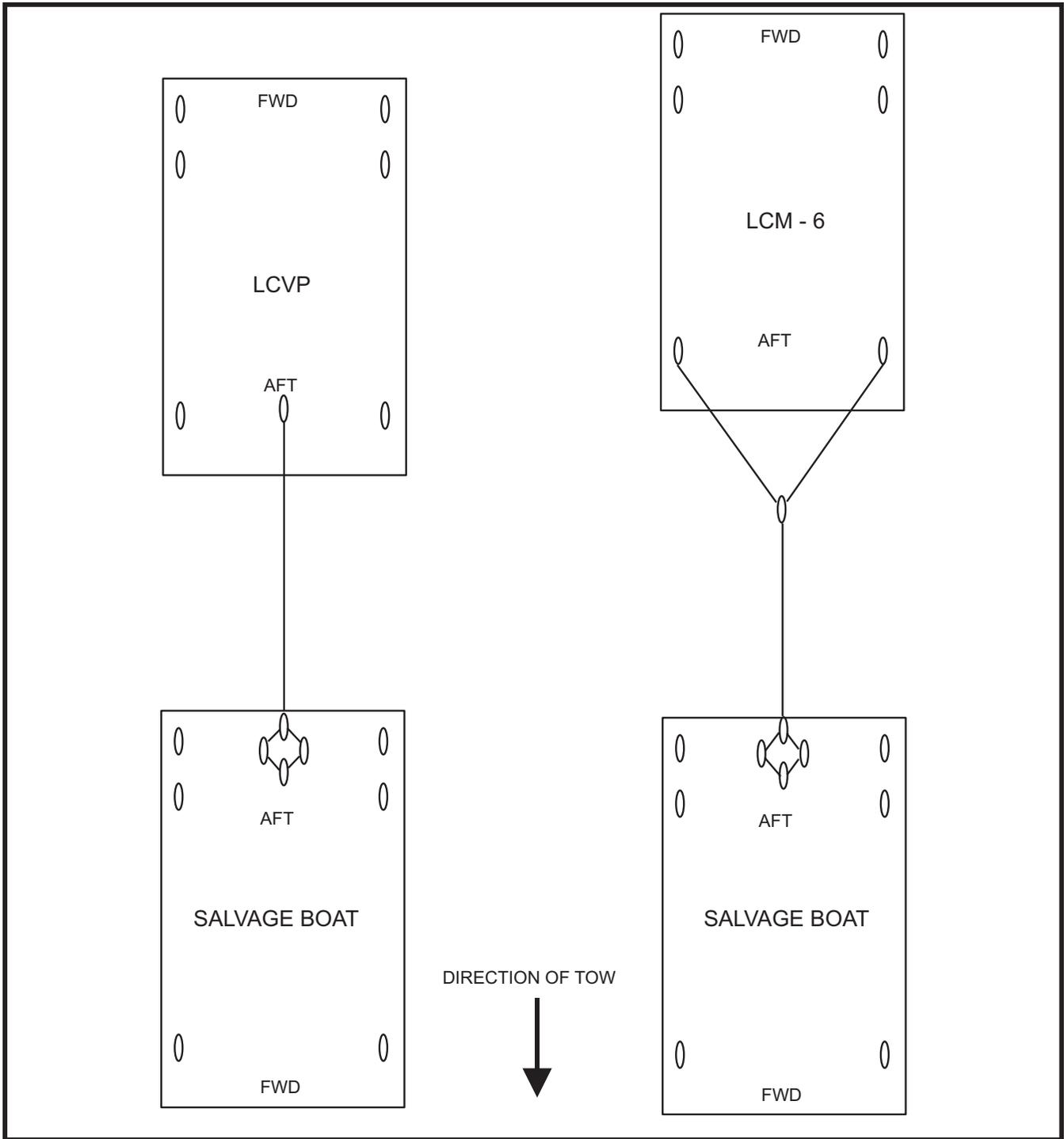


Figure I-1. Towing a Broached or Grounded Boat Off the Beach

I.5.1.3.2 LCM Astern Tow. The salvage boat, after considering the surf conditions, passes a tow line attached to a 3/4-inch wire bridle leg with a safety shackle. The wire bridle is attached to stern quarter cleats or bitts on the LCM. The LCM is ready to be towed.

I.5.1.4 Towing Alongside, Astern, and Quick Tow. There are three methods of towing displacement landing craft: alongside, astern, and quick tow. The alongside tow, also called the maneuvering tow, is used only for short distances and when placing the tow alongside a ship or dock. For a

long tow, particularly in bad weather, the astern tow is preferred. The quick tow is an expedient method to temporarily connect a tow line. COMNAVSURFLANT/COMNAVSURFPACINST 3340.3 Series, "Wet Well Operations," discussed the procedures for towing an amphibious assault vehicle (AAV). The Safe Engineering and Operations (SEAOPs) Manual discusses the procedures for towing LCACs.

I.5.1.4.1 Alongside Tow. The towing boat slowly approaches either quarter of the tow. Fenders are rigged and 3-1/2-inch nylon bow, stern, and spring lines are ready for use. When the towing boat is alongside the tow's quarter, a line is secured to the bow of the towing boat and the stern of the tow to serve as a spring or power line. A second line is secured to the bow of each boat to serve as a forward breast or steering line. A third line is secured to the stern of the towing boat and the tow's outboard quarter to serve as an aft breast line. All lines are made taut and secured before the boats proceed. If the boats are required to enter the surf zone when the alongside tow is used, the towing boat is on the downwind side of the towed boat. Figure I-2 depicts the line arrangements for an alongside tow.

I.5.1.4.2 Astern Tow. The same equipment described in paragraph I.5.1.3 is required when towing LCMs or LCVPs; however, the bridle is fastened to bow fittings on the LCM or LCVP. The 5-inch double braided nylon tow line is used without the bridle for towing LCPLs. After the tow line is connected the

towing boat proceeds slowly ahead and pays out tow line to provide a catenary before commencing the tow.

I.5.1.4.3 Quick Tow. The quick tow is used to get an inoperable boat out of the way of incoming assault waves as quickly as possible. A 3-1/2-inch nylon line, 17 feet long with an eye splice at each end is used as a strap. By using this strap from the forward inboard cleat of the salvage boat to the forward inboard cleat of the tow, approach and line handling times are minimized. The disadvantage of this method is reduced maneuverability of the tow. Figure I-3 depicts a quick tow's line arrangement.

I.5.1.5 Guidance When Towing. The following rules are observed by the salvage crew and crew of the towed craft when towing:

1. Extreme care is taken so the tow line does not foul the screws of either boat.
2. When freeing a broached or grounded boat the tow line is made fast to centerline deck fittings at the stern of both boats. If the broached boat is not equipped with a centerline stern fitting a bridle is secured to bits or cleats on the stern quarters of the broached boat. A bridle is always used when freeing an LCM.
3. A broached boat is not towed from one quarter. Such a procedure is dangerous and inefficient.

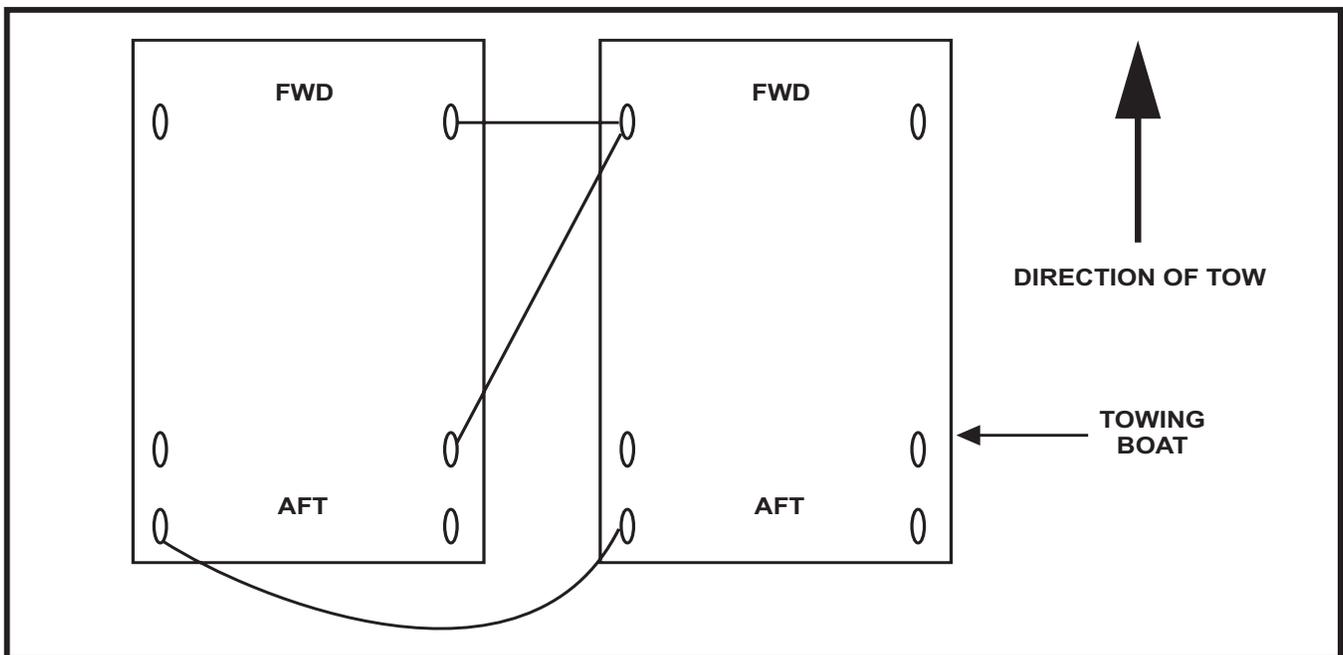


Figure I-2. Alongside Tow

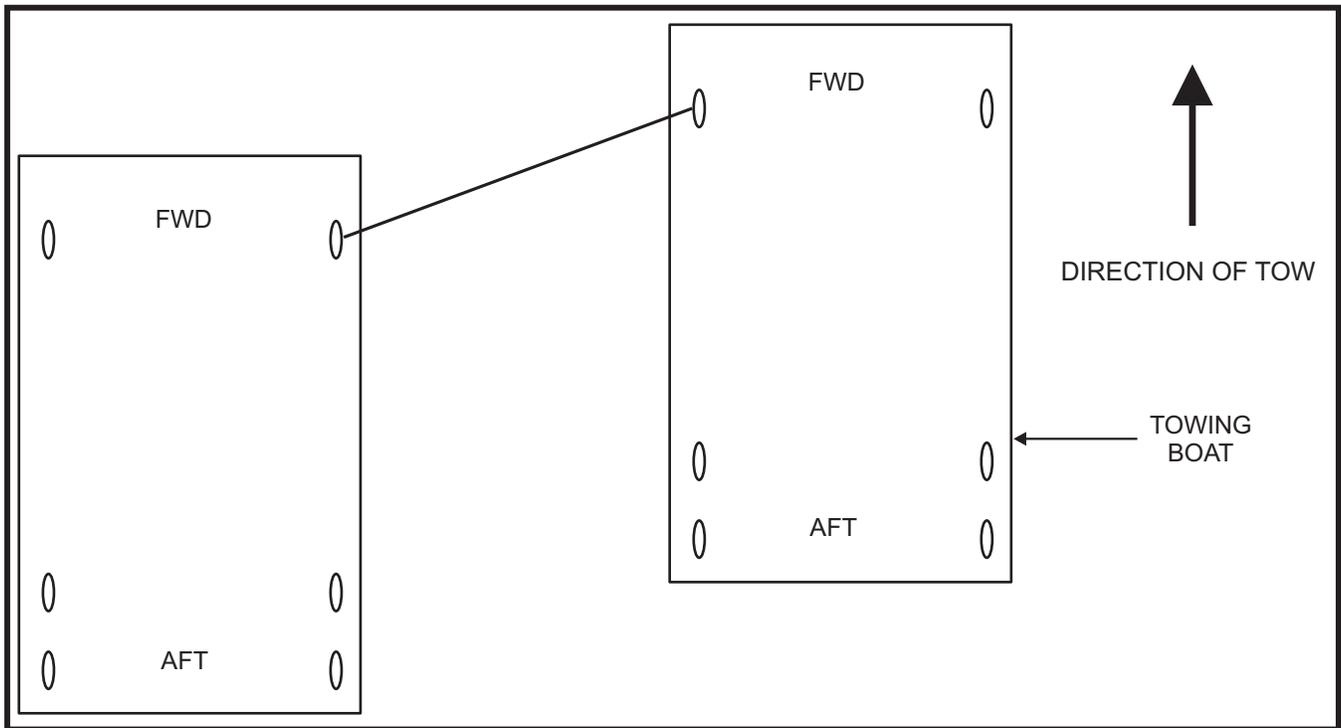


Figure I-3. Quick Tow

4. Slack in the tow line is taken up slowly and smoothly. Full throttle is never used. When the tow line is taut, a steady strain is maintained. When towing a broached boat off the beach it will come off a few inches at a time, as each wave raises the stern. Be patient if the boat does not break free immediately.

5. Once free from the beach, the boat is towed clear of the surf zone at a speed compatible with surf conditions, but never too fast.

6. When the tow line is attached and under a strain, the salvage boat will respond sluggishly to rudder orders as the stern must drag the tow with it when turning. To correct this condition, ease the strain on the tow line enough to allow the boat to turn in the direction desired. Caution, take in slack to keep from fouling the screws when slacking off on the tow line.

I.5.1.6 Fire or Flooding. A P-250 pump is rigged on the salvage boat for fighting fires, controlling flooding, or dewatering a boat. A boat on fire is approached from upwind. From this position firefighting efforts are more efficient and the salvage boat will drift closer to the disabled boat. The fire is attacked with aqueous film forming fluid (AFFF) as most boat fires will be class bravo fires. When the fire is extinguished, the salvage

boat comes alongside to inspect and dewater the boat. Minimum lines are used to secure the boat alongside and these lines are rigged to be cast off and slipped free from the salvage boat.

I.5.1.7 Structural Integrity. A hull inspection is made prior to freeing a broached boat from the beach. This inspection can be completed by the broached boat's crew, if required. Any breach in the integrity of the hull is repaired by caulking, plugging, or welding before the boat is towed free of the beach.

I.6 BEACH PARTY SALVAGE OPERATIONS

Incorporated into the mission of the beach party is conducting salvage operations inside the surf zone. The beachmaster is the senior salvage officer ashore and reports to the PCO when conducting salvage operations. The beachmaster is assisted by the ABGC and salvage boats assigned to the boat group.

I.6.1 Boat Broached or Hard Aground. When the beach party is established ashore, the preferred option to free a broached or hard aground boat is for the beachmaster to use a LARC V with an anti-broaching line to position the boat perpendicular to the surf line and assist the boat, using its engines, to retract. If the beachmaster requires assistance, a tow line is connected to the stern of the boat and a salvage

boat assists the boat in retracting off the beach. As a last resort, particularly if the screws and rudders are buried in the sand, the tow line is slipped under the broached boat's bow and fastened to a bitt or cleat on the beach side. The tow line is used to pivot the bow into the surf using the stern as a pivot point. This procedure is used only when recommended by the beachmaster.

I.6.2 Emergency Ramp Raising Methods. A salvage operation routinely conducted by the beachmaster or assault craft crews is raising ramps that are inoperable due to a parted cable or failed winch. The equipment used during this operation is required on each LCM or LARC V by the craft's allowance list.

I.6.2.1 Emergency LCM 8 Ramp Raising. The preferred method to raise an inoperable LCM 8 ramp is to rig a lifting pendant as shown in Figure I-4. The following equipment is required:

1. Two 90-foot, 3/4-inch wire pendants
2. Four 4-foot, 3/4-inch wire straps
3. Two 10-inch steel snatch blocks
4. Six 7/8-inch safety shackles.

The LCM 8 is firmly beached perpendicular to the surf line and a LARC V is positioned on each side of the bow. A 4-foot wire strap is passed through the access holes located on the outboard edges of the ramp. A 7/8-inch shackle is connected through both eyes of the wire strap to one eye of a 90-foot wire pendant on each side. Each 90-foot pendant is led up the gunwale, through the bow fairlead chuck, and then aft to the forward hoisting padeye. A 4-foot wire strap is passed through each forward hoisting padeye and both eyes are shackled to a 10-inch snatch block. Fairlead each 90-foot pendant through a snatch block and lead the bitter ends outboard and back to a LARC V.

Shackle the bitter end of each 90-foot pendant to a shock absorber attached to the LARC V kingpost or bow padeye. The LARC Vs position at a 20° angle to the LCM 8 and back down simultaneously until a strain is exerted on the pendants and the ramp rises. When the ramp is closed the ramp latches automatically lock it shut. Do not slack off on the pendants until the load binders are put in place and tightened.

I.6.2.1.1 Steel Hull LCM 8 Pull-Lift Method. The pull-lift method is accomplished by the boat crew. The following equipment is required:

1. Two 3-ton ratchet type come-alongs with 15-foot reach capability
2. Two 16-foot, 3/4-inch wire straps
3. Two 18-foot, 3/4-inch wire straps
4. Four 10-inch metal snatch blocks
5. Eight 3/4-inch safety shackles.

A 10-inch snatch block is shackled to each padeye on the gunwales aft of the bow ramp latches. Fairlead a 16-foot wire strap through each snatch block and shackle one end to the bow ramp lifting padeye and shackle a 10-inch snatch block (floating snatch block) to the bitter end of each wire strap. Shackle the 18-foot wire straps to the midship's padeyes and fairlead each through a floating snatch block and aft. Shackle each chain hoist standing block, or come-along, to the aft padeyes. Shackle the chain hoist hauling blocks to the bitter ends of the 18-foot wire straps. As the ramp is raised, remove the slack in the ramp cable, if possible. When the ramp is fully raised, secure the ramp dogs.

I.6.2.1.2 Aluminum Hull LCM 8 Pull-Lift Method. The following equipment is required:

1. Two 3-ton ratchet type come-alongs with 15-foot reach capability
2. Four 7/8-inch safety shackles.

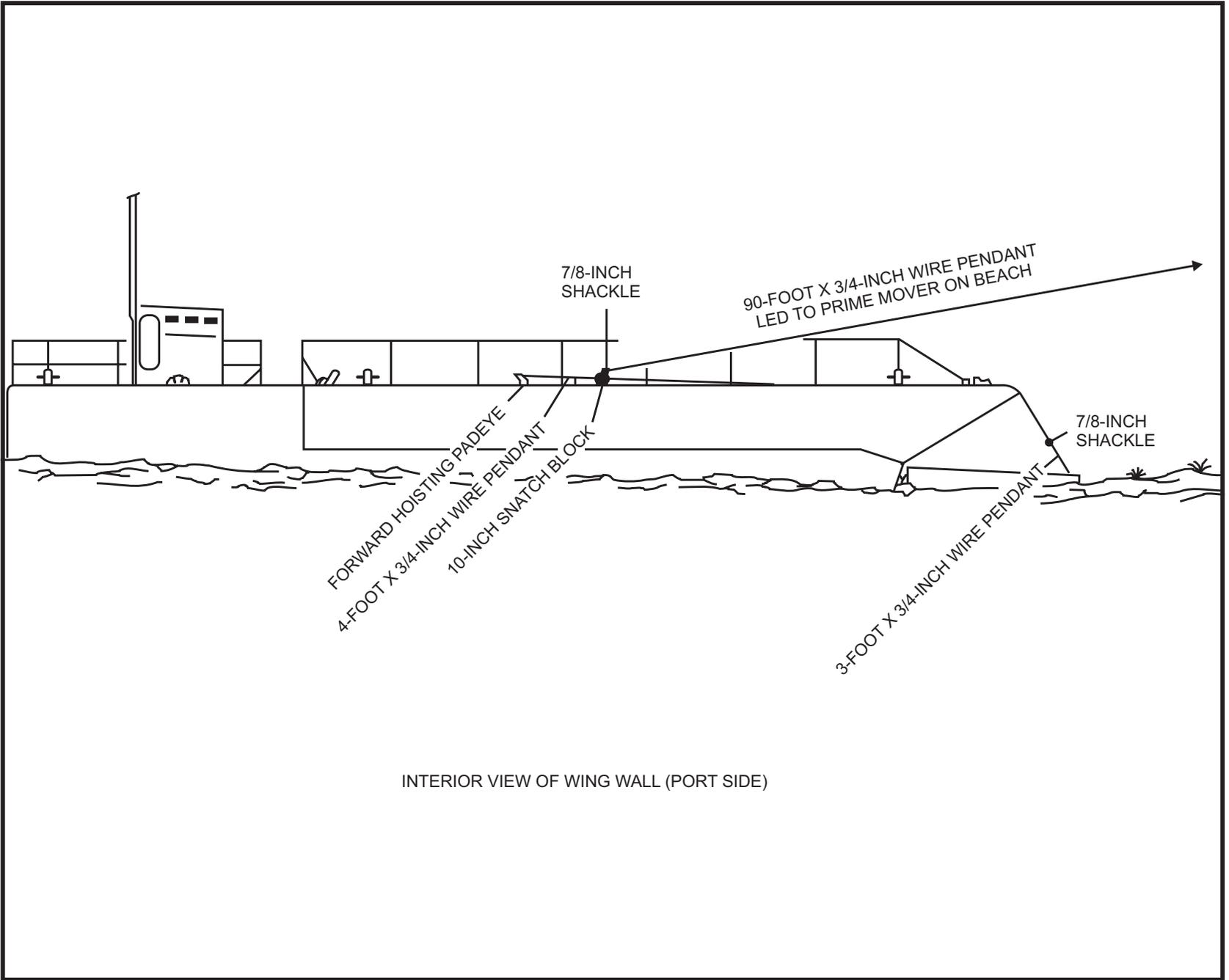
Each chain hoist, or come-along, is shackled into a bulkhead padeye aft of the ramp latches. The hauling block is shackled into each ramp lifting padeye. The ramp is raised using the come-along and secured.

I.6.2.2 Emergency LCM 6 Ramp Raising. The beachmaster method for raising LCM 6 ramps is applicable to Atlantic fleet LARC Vs only as kingposts are not rigged on Pacific fleet LARC Vs. In addition, the LCM 6 ramp may be raised by using a 10,000-pound capacity forklift.

I.6.2.2.1 LCM 6 Beachmaster Method. This method is similar to the LCM 8 steel hull beachmaster method. Only the port side of the ramp is rigged for lifting. The following equipment is required:

1. One 15-foot, 3/4-inch wire strap
2. One 3-foot, 3/4-inch wire strap
3. Two 7/8-inch safety shackles.

Figure I-4. Beachmaster Method of Raising LCM 8 Ramp (Aluminum or Steel)



The LCM 6 is firmly beached perpendicular to the surf line and a LARC V is positioned on the port side, bow to bow. A 3-foot wire strap is passed through the port side of the ramp's framework and shackled to the 15-foot wire strap. The bitter end of the 15-foot wire strap is shackled to the LARC V's king post. The coxswain uses the engines to maintain the LCM 6 firmly on the beach as the LARC V drives forward and raises the ramp.

I.6.2.2.2 LCM 6 Pull-Lift Method. This method is also similar to the pull-lift method for raising the LCM 8 steel hull ramp. Only one side of the ramp is rigged for lifting. The following equipment is required:

1. One 3-ton ratchet type come-along with 15-foot reach capability
2. One 40-foot, 3/4-inch wire strap
3. Two 4-foot, 3/4-inch wire straps
4. Two 7/8-inch safety shackles.

A 4-foot wire strap is passed through the ramp framework and both eye splices are shackled to the 40-foot wire strap. The come-along is attached to the bitter end of the 40-foot wire strap. Pass the second 4-foot wire strap through the aft hoisting ring and shackle both eye splices to the come-along. Raise the ramp and secure the ramp dogs.

I.6.2.2.3 LCM 6 Forklift Method. Position the forks of a 10,000-pound forklift under the ramp. Lift the ramp while simultaneously moving the forklift towards the LCM 6. Hold the ramp in position and secure the ramp dogs.

I.6.2.3 Emergency LCVP Ramp Raising. The beachmaster and pull-lift methods are used to raise the LCVP ramp.

I.6.2.3.1 LCVP Beachmaster Method. Three to five personnel manually raise the ramp and hold it in position until the ramp dogs are secured.

I.6.2.3.2 LCVP Pull-Lift Method. This method is similar to the LCM 6 and 8 pull-lift methods. The following equipment is required:

1. One two-fold purchase reeved with 20 fathoms of 2-1/2-inch nylon line

2. Two 3-foot, 2-1/2-inch nylon straps.

Attach one eye of a 3-foot nylon strap to the midship's cleat and lead the other eye over the gunwale into the cargo compartment. Install chaffing gear where the strap crosses the gunwale. Shackle the standing block of the two-fold purchase into the other eye of this strap. Pass the second 3-foot nylon strap through the ramp's battle port and place the hauling block hook into both eyes of this strap. The ramp is raised by operating the two-fold purchase.

I.7 LANDING CRAFT AIR CUSHION (LCAC) SALVAGE OPERATIONS

LCAC salvage operations are conducted under the existing salvage organization. A disabled LCAC seaward of the surf zone is towed by another LCAC to an LCAC support ship for repairs. Inside the surf zone, the beachmaster assists disabled LCACs or coordinates with the PCO for maintenance teams to affect repairs.

I.7.1 Seaward of the Surf Zone. Salvage operations of a disabled LCAC seaward of the surf zone is coordinated by the PCO. Typically an LCAC that is unable to go on cushion is still able to provide its own propulsion in the displacement mode to return to an LCAC support ship for repairs. If an LCAC is unable to provide its own propulsion it is towed by another LCAC. Towing equipment is carried onboard each LCAC as specified in the craft allowance list (CAL) and procedures are delineated in the SEAOPS manual.

I.7.2 Inland of the Surf Zone. The beachmaster assists LCACs that have lost mobility due to terrain features exceeding operating parameters. Normally a bulldozer is used with a tow line to assist LCACs in this type of situation. For a disabled LCAC requiring maintenance assistance to affect repairs that are beyond the capability of the LCAC's crew or onboard supply support, the beachmaster coordinates the required assistance with the PCO on the BRAVO net. The LCAC control officer (LCO) is then tasked to assemble the required organizational level repair expertise or supply support and arrange transportation. Salvage operations conducted inland of the high water mark on the beach are coordinated with the shore party. This procedure is analogous to the system used to repair a disabled helicopter ashore.

APPENDIX J

The Tactical Logistics (TACLOG) Group

J.1 FUNCTION

The TACLOG group is a temporary landing force (LF) organization that is collocated with the Navy ship-to-shore movement control organization. It advises commander, landing force (CLF); commander, amphibious task force (CATF); and Navy control officers of changes to the LF landing plan and their effects on the tactical situation ashore, facilitates the movement of tactical units and logistical support requested by LF tactical commanders ashore, and provides CLF with the status of the ship-to-shore movement and a mechanism to influence the assault.

J.2 BACKGROUND

The ship-to-shore movement is a complex evolution designed to rapidly transfer LF combat power ashore to accomplish a specified mission. To conduct the ship-to-shore movement the Navy establishes control organizations that are described in Chapters 4 and 5. The LF establishes three temporary organizations to facilitate the ship-to-shore movement, provide tactical and logistical support to LF units ashore, and keep CLF advised of the progress of the assault. These organizations are: the TACLOG group, landing force support party (LFSP), and helicopter support team (HST). These Navy and LF organizations provide the mechanisms for combat units to move ashore and receive tactical and logistical support without having to focus on these areas.

This appendix describes the organization and functions of the TACLOG group and its relationship with the Navy control organization and, through the LFSP and HST, combat units ashore. Refer to Appendix K and L for a detailed description of the LFSP and HST organizations respectively.

J.2.1 Parallel Chains of Command. Joint Pub 3-02, "Joint Doctrine for Amphibious Operations," requires the establishment of parallel chains of command between the Navy and LF to plan and conduct amphibious operations. These parallel chains of command enable CATF and CLF to decentralize the planning and execution of the ship-to-shore movement to subordinate commanders. Corresponding commanders can then closely coordinate their planning and operations with the opposite commander in the parallel chain of command.

J.2.2 Navy and Landing Force (LF) Organizations. The Navy control organization provides positive centralized control of the ship-to-shore movement. Close coordination between the waterborne and helicopterborne movements and supporting, prelanding, and in-stride operations with the flexibility to change the amphibious task force (ATF) landing plan is required to ensure maximum tactical effectiveness during the landing and subsequent rapid buildup of combat power ashore. The LFSP accompanies surfaceborne units ashore during the waterborne ship-to-shore movement to facilitate the flow of personnel, equipment, and supplies across the beach and to establish a beach support area (BSA) to provide direct combat service support (CSS) to these units. Requests for on-call waves, prepositioned emergency supplies, nonscheduled units, and adjustments to the LF landing plan are made by tactical commanders through the LFSP to the surfaceborne regimental landing team (RLT) TACLOG detachment for the required liaison with primary control officers (PCOs) to provide the tactical units, CSS, or adjust the LF landing plan. The HST performs a similar function for helicopterborne units. Requests are made by tactical commanders through the HST to the helicopterborne RLT TACLOG detachment for the required liaison with the helicopter transport group/unit commander (primary helicopter direction center (HDC), and helicopter logistics support center (HLSC)).

The TACLOG group is the interface between LF units ashore and the Navy control organization. It responds to LF tactical and CSS requests and liaises with the Navy control organization to respond to these requests. To facilitate this liaison, the TACLOG detachment at each LF echelon is embarked in the same ship with the Navy control organization exercising operational control over the ship-to-shore movement of that LF echelon. Figure J-1 depicts the TACLOG group organization for a Marine Expeditionary Force (MEF)-sized Marine air-ground task force (MAGTF). Smaller MAGTFs will not require such an extensive TACLOG group structure.

J.3 TACLOG DETACHMENT COMMON FUNCTIONS

Common functions pertain to each TACLOG detachment depicted in Figure J-1. These functions are:

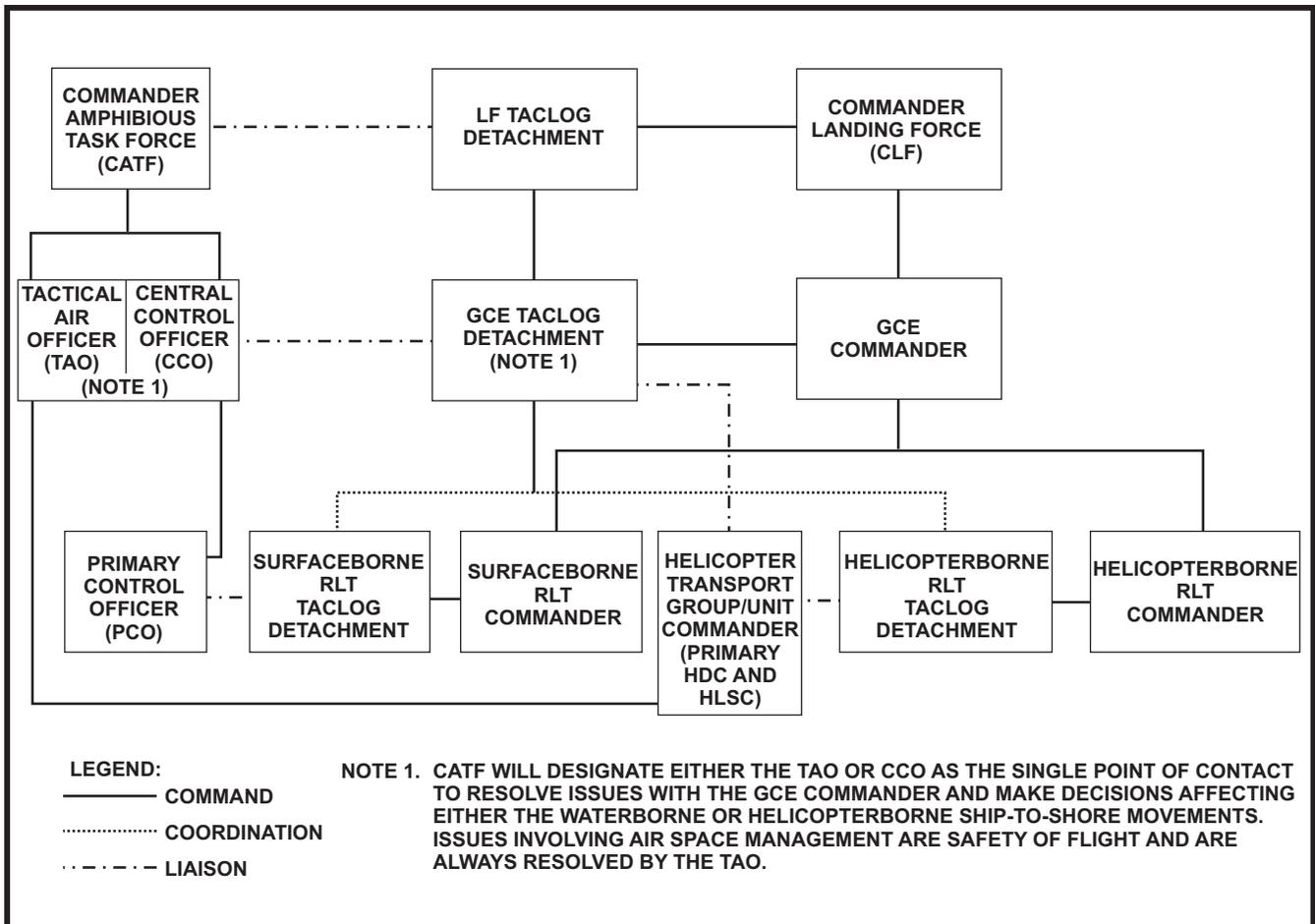


Figure J-1. TACLOG Group Organization for a MEF-sized MAGTF

1. Coordinate pre-D-day and pre-H-hour transfers
2. Monitor the landing of scheduled waves and provide recommendations to the Navy control organization on landing on-call and nonscheduled serials
3. Process tactical and logistical requests from LF tactical commanders
4. Advise the Navy control organization of the location of serials and preferred transportation (landing craft or helicopter)
5. Advise the Navy control organization of the priority for landing serials if beach/landing zone (LZ) congestion or shortages of transportation assets affect the tactical or CSS situation ashore
6. Advise the Navy control organization of adjustments required to the LF landing plan and their effects on the tactical situation ashore
7. Maintain a date-time group (DTG) record of scheduled, on-call, and nonscheduled serials showing when requested, dispatched, and received
8. Coordinate the planned CSS buildup in combat service support areas (CSSAs) with the LFSP
9. Represent the commander in decisions that may affect tactical operations ashore (within the limits of the authority delegated)
10. Coordinate transport group movement with the Navy control organization
11. Coordinate withdrawal/backload operations with the Navy control organization in accordance with priorities and preferred transportation modes established by the supported commander.

J.4 ORGANIZATION

The TACLOG group organization in a MEF-sized MAGTF contains TACLOG detachments that represent the LF command element (CE) (LF TACLOG detachment), Marine division (ground combat element (GCE) TACLOG detachment), surfaceborne RLTs (surfaceborne RLT TACLOG detachments), and helicopterborne RLTs (helicopterborne RLT TACLOG detachments). This organization is depicted in Figure J-1. The requirement to keep CLF apprised of the status of the ship-to-shore movement and provide a mechanism to influence the assault is balanced against the necessity to decentralize the execution of the ship-to-shore movement to subordinate commanders and have decisions made at the lowest level possible in the parallel chain of command.

The LF TACLOG detachment is the senior TACLOG group agency. It exercises coordinating authority; as defined in Joint Publication 1-02, "Department of Defense Dictionary of Military and Associated Terms"; over subordinate TACLOG detachments. The LF TACLOG detachment advises CLF on the progress of the ship-to-shore movement and changes being contemplated by subordinate commanders. The LF TACLOG detachment does not have operational control of subordinate TACLOG detachments, therefore CLF, if necessary, may direct changes to the LF landing plan or influence the decisions of subordinate commanders through his command authority over the LF.

Alternate TACLOG detachments are formed and embarked in the alternate ATF flagship, alternate primary HDCs, and secondary control ships (SCSs) designated to replace primary control ships (PCSs) in emergency situations.

J.4.1 Transitioning From a Tactical to Combat Service Support (CSS) Focus. The initial unloading period is tactical and provides for the rapid buildup of combat power ashore and quick response to LF tactical and logistical requirements. The general unloading period is primarily logistical and emphasizes the rapid unloading of personnel and equipment remaining in assault shipping. During the initial unloading period the TACLOG group's focus is tactical and each TACLOG detachment is directed by a representative from the respective commander's G/S-3 (operations) staff section. At specified times during the initial unloading period the TACLOG group's focus transitions from a tactical to logistical orientation and each TACLOG detachment is then directed by a representa-

tive from the respective commander's G/S-4 (logistics) staff section. The decision on when the LF TACLOG detachment transitions from a tactical to logistical focus is made by the CLF based on the tactical situation ashore. Subordinate TACLOG detachments transition when various levels of tactical and CSS units and capabilities, discussed in the following paragraphs, are positioned ashore.

J.4.2 TACLOG Group Organizational Considerations. The TACLOG group's organization is prescribed by CLF in the LF operations order (OPORD). CLF specifies which subordinate commanders form TACLOG detachments. Subordinate commanders determine the precise composition of their respective TACLOG detachments based on the mission assigned and the type of force to be employed and have operational control of the detachment. The following considerations are pertinent for establishing a TACLOG group organization:

1. Personnel assigned to a typical TACLOG detachment are from the commander's G/S-3 and G/S-4 staff section, embarkation organization, communications section, and administrative section. Representatives from each LF unit embarked in scheduled and on-call waves may also be assigned.
2. Personnel have a detailed knowledge of operations and embarkation orders, ship's landing plans, tactical and CSS plans and capabilities, and each document comprising the ATF landing plan. These documents are listed in paragraph J.6.
3. Dedicated communications equipment is available on each control ship.

J.4.3 LF TACLOG Detachment. The combat service support element (CSSE) commander is responsible for forming and directing the LF TACLOG detachment. As such, the CSSE commander is intimately involved with the operational and logistical aspects of the assault and monitors the progress of establishing the LFSP ashore. Key personnel are provided from the LF CE and CSSE commander's G-3 and G-4 staff sections. The LF TACLOG detachment is collocated with CATF and CLF.

J.4.3.1 LF TACLOG Detachment Functions. The following functions are specific to the LF TACLOG detachment and are in addition to the common TACLOG group functions listed in paragraph J.3:

1. Advise the CLF on the TACLOG group structure that is required to support the ATF landing plan
2. Advise the CATF and CLF on changes to the LF landing plan or scheme of maneuver ashore, emphasizing their effects on the tactical situation
3. Coordinate issues with subordinate TACLOG detachments that require resolution by CATF or CLF.

J.4.3.2 LF TACLOG Detachment Transition of Focus. The CSSE commander is assisted in directing LF TACLOG detachment operations during the initial unloading period by a representative from the LF G-3 staff section. When all scheduled and on-call waves have landed this responsibility transitions from the LF G-3 representative to a representative from the CSSE G-3 staff section. The decision on when this transition occurs is made by the CLF based on the tactical situation ashore. The CSSE commander, when satisfied that sufficient CSS capability is ashore, recommends to CLF that the responsibility for CSS operations ashore shift from the LFSP to the force service support group (FSSG) and the general unloading period begins. With CATF's concurrence the general unloading period commences. CLF directs that the LF TACLOG detachment transition from the CSSE G-3 representative to a representative from the LF G-4 and the CSSE commander and staff proceed ashore. The LF TACLOG detachment continues operations until a specified level of LF supplies are positioned ashore.

J.4.4 Ground Combat Element (GCE) TACLOG Detachment. The GCE commander forms the GCE TACLOG detachment. Key personnel are provided from the GCE commander's G-3 and G-4 staff sections. It is collocated with the Navy control organization responsible for planning and conducting the waterborne and helicopterborne ship-to-shore movements. The complexity of an amphibious operation warrants establishing separate Navy control organizations for the waterborne and helicopterborne ship-to-shore movements. CATF will designate either the central control officer (CCO) or tactical air officer (TAO) as the single point of contact for the GCE commander to resolve issues and make decisions affecting either ship-to-shore movement. Issues involving air space management are safety of flight and are ultimately resolved by the TAO. Paragraph 4.3.2.1 provides additional information on the CCO and paragraph 5.4.2 on the TAO.

J.4.4.1 GCE TACLOG Detachment Functions. The following functions are specific to the GCE

TACLOG detachment and are in addition to the common TACLOG group functions listed in paragraph J.3:

1. Monitor the waterborne and helicopterborne ship-to-shore movements to ensure a balanced buildup of combat power ashore
2. Coordinate changes to the LF landing plan with the surfaceborne and helicopterborne RLT TACLOG detachments to facilitate the balanced build up of combat power ashore
3. Advise the LF TACLOG detachment periodically on the progress of the assault.

J.4.4.2 GCE TACLOG Detachment Transition of Focus. GCE TACLOG detachment operations during the landing of scheduled and on-call waves are directed by a representative from the GCE G-3 staff section. When all scheduled and on-call waves have landed this responsibility transitions to a representative from the G-4 staff section. The GCE TACLOG detachment terminates operations when the GCE commander's headquarters moves ashore.

J.4.5 Surfaceborne Regimental Landing Team (RLT) TACLOG Detachment. A surfaceborne RLT TACLOG detachment is established by each RLT commander conducting an assault over a colored beach. Key personnel are provided from the RLT commander's S-3 and S-4 staff sections and it is collocated with the PCO. Paragraph 4.3.2.3 provides additional information on the PCO. Subordinate battalion landing teams (BLTs) provide representatives to the surfaceborne RLT TACLOG detachment to resolve issues that affect their unit. Surfaceborne TACLOG detachments are not established below the RLT echelon unless BLTs are conducting operations in landing areas widely separated from the RLT commander which precludes effective command and control.

J.4.5.1 Surfaceborne RLT TACLOG Detachment Functions. The following functions are specific to the surfaceborne RLT TACLOG detachment and are in addition to the common TACLOG group functions listed in paragraph J.3:

1. Monitor the landing of scheduled waves and provide recommendations to the PCO on landing on-call waves and nonscheduled units.
2. Advise the GCE TACLOG detachment and PCO of adjustments required to the assault schedule and LF landing sequence table and their effects on the tactical situation ashore.

3. Process tactical and logistical requests from surfaceborne units. These requests are received from the LFSP and the sequence of events and communications nets used are described in paragraphs 5.5.6 and 5.5.7.

4. Coordinate the maintenance of basic load supply levels in the BSA and a planned CSS buildup in a CSSA with the LFSP.

J.4.5.2 Surfaceborne RLT TACLOG Detachment Transition of Focus. The commander's responsibility to direct the surfaceborne RLT TACLOG detachment and the procedure for transitioning from a representative of the S-3 staff section to the S-4 representative is the same as described for the GCE TACLOG detachment. The surfaceborne RLT TACLOG detachment terminates operations when all scheduled and on-call serials and nonscheduled units assigned to the RLT have landed.

J.4.6 Helicopterborne RLT TACLOG Detachment. A helicopterborne TACLOG detachment is established when helicopterborne forces consist of a battalion-sized force or larger. For a MEF-sized MAGTF the helicopterborne force is normally an RLT and the helicopterborne RLT TACLOG detachment is collocated with the helicopter transport group/unit commander (primary HDC and HLSC). If helicopterborne forces are landed in multiple LZs, a helicopterborne TACLOG detachment is established with each primary HDC to advise the helicopterborne unit commander and helicopter transport unit commander of the status of the helicopterborne assault. Close coordination and liaison between the helicopterborne RLT TACLOG detachment, helicopter coordination section (HCS) detachment, primary HDC, and HLSC is required during the landing of on-call waves and nonscheduled units because of the increased probability of change to the planned employment of helicopters in order to maximize their tactical advantages of speed and mobility. Paragraphs 5.4.6, 5.4.7, 5.4.8, and 5.4.9 provide additional information on the HCS detachment, helicopter transport unit commander, primary HDC, and HLSC respectively.

J.4.6.1 Helicopterborne RLT TACLOG Detachment Functions. The following functions are specific to the helicopterborne RLT TACLOG detachment and are in addition to the common TACLOG group functions listed in paragraph J.3:

1. Monitor the landing of scheduled waves and provide recommendations to the HCS detachment and HLSC for landing on-call waves and nonscheduled units.

2. Advise the HCS detachment, HLSC, and GCE TACLOG detachment of adjustments required to the helicopter employment and assault landing table (HEALT) and their effects on the tactical situation ashore.

3. Process tactical and logistical requests from helicopterborne units. Requests are normally received from the HST and the sequence of events and communications nets used are described in paragraphs 5.5.6 and 5.5.7.

4. Coordinate the maintenance of basic load supply levels in the LZ with the HST and a planned CSS buildup in a landing zone support area (LZSA) with the LFSP.

J.4.6.2 Helicopterborne RLT TACLOG Detachment Transition of Focus. The commander's responsibility to direct the helicopterborne RLT TACLOG detachment and the procedure for transitioning from a representative of the S-3 staff section to the S-4 representative is the same as described for the GCE TACLOG detachment. The helicopterborne RLT TACLOG detachment terminates operations when all scheduled and on-call serials and nonscheduled units assigned to the RLT have landed.

J.5 COMMUNICATIONS

The following paragraphs describe the communications connectivity between LF units and the TACLOG group. For additional information on communications nets used during the ship-to-shore movement refer to paragraph 4.3.8 and 5.7.

J.5.1 LF Tactical Net (TACNET). The LF TACNET facilitates command, control, and coordination of the assault between CLF and GCE, air combat element (ACE), and CSSE commanders. CLF influences the decisions of subordinate commanders on this net.

J.5.2 Supported Unit TACNET. The supported unit TACNET is monitored by the shore party, HST, and the appropriate TACLOG detachment to anticipate logistics requests.

J.5.3 Helicopterborne Unit Command Net. The helicopterborne unit command net is an internal net used by the helicopterborne unit to request logistics support from their HST.

J.5.4 Helicopter Support Team (HST) Control Net. The HST control net is used to request on-call air serials, resupply missions, and to facilitate

the exchange of information between the HST, helicopterborne RLT TACLOG detachment, and LFSP. Multiple HST control nets may be required depending on the scope of helicopter operations.

J.5.5 Landing Force Support Party (LFSP) Command Net. The LFSP command net is used by the LFSP to direct CSS operations with the surfaceborne and helicopterborne RLT TACLOG detachments, shore party, and HST.

J.5.6 LFSP Control Net. The LFSP control net is used by surfaceborne units to request support from the LFSP and by the LFSP to coordinate logistics requests from surfaceborne units with the surfaceborne RLT TACLOG detachment.

J.6 DOCUMENTS

The documents used by the TACLOG group are listed below and described in Chapter 3.

1. Amphibious vehicle availability table

2. Landing diagram
3. Landing craft and amphibious vehicle assignment table
4. LF serial assignment table
5. LF landing sequence table
6. Assault schedule
7. Helicopter availability table
8. Helicopter landing diagram
9. Heliteam wave and serial assignment table
10. Helicopter employment and assault landing table (HEALT)
11. Sea echelon plan
12. Landing area diagram
13. Approach schedule
14. Landing craft availability table
15. Landing craft employment plan.

J.7 REPORTS

Periodic reports from TACLOG detachments are required to keep CLF, LF tactical commanders, and Navy control officers informed of the status of the ship-to-shore movement. The periodicity and format for these reports is contained in LF OPORDs.

APPENDIX K

The Landing Force Support Party (LFSP)

K.1 GENERAL

The LFSP is a temporary landing force (LF) organization, composed of Navy and LF elements, that facilitates the ship-to-shore movement and provides initial combat support and combat service support (CSS) to the LF. Its mission is to support the landing and movement of troops, equipment, and supplies across beaches and into landing zones (LZs). To ensure success in an amphibious operation, the LF must rapidly establish itself ashore. The LFSP is task organized to facilitate that rapid buildup of combat power ashore by ensuring an organized and uniform flow of personnel, equipment, and supplies over and into beaches and LZs in support of the LF scheme of maneuver ashore. Simply stated, the LFSP facilitates the execution of the LF landing plan. The LFSP is task organized primarily from the naval beach group (NBG) and other Navy organizations as directed by commander, amphibious task force (CATF); and the combat service support element (CSSE), aviation combat element (ACE), and ground combat element (GCE) of the LF. The concept of LFSP operations is to centralize the responsibility for combat support and CSS functions normally provided by the CSSE, ACE, and Navy under a single organization during the initial stages of the assault for unity of effort. As the LF establishes itself ashore, the LFSP organization matures to provide an expanding range of support and services to the LF until relieved by the CSSE. Figure K-1 depicts the Marine air-ground task force (MAGTF) organization for the ship-to-shore movement. Chapter 2 describes the MAGTF organization. Appendix J describes the tactical logistics (TACLOG) group organization. This appendix describes the LFSP organization, functions, and operational and command relationships; post-LFSP combat support and CSS operations; and the planning process for establishing the LFSP.

K.1.1 Unity of Effort. An attack launched from the sea against an enemy deployed and prepared on land is a complex evolution. Many aspects of any plan can go wrong and enemy actions disrupt the plan. It is not possible to plan for every contingency, therefore reliance on individual initiative to act and make correct decisions is essential. This is particularly true during the ship-to-shore movement. The LFSP is task organized to resolve problems with the LF landing plan. A critical aspect of this organization is the cooperation required among LF and Navy elements for unity of effort to achieve a common

goal. Commanders must develop in their staffs and subordinates the desire to cooperate among themselves and with other elements of the amphibious task force (ATF). Unity of effort must extend up and down each parallel chain of command, so that all echelons are working to attain the same goal. The development of teamwork is an essential ingredient for unity of effort which is necessary for the decisive application of the full combat power potential of the ATF. Without unity of effort, disruptions to the ATF landing plan produce friction which can prove fatal to the amphibious operation.

K.2 MISSIONS AND FUNCTIONS

The primary mission of the LFSP is to provide initial combat support and CSS for the LF during the ship-to-shore movement. Commander, landing force (CLF) is responsible for organizing a system to accomplish this mission and other specific support functions in the landing area. The CSSE commander is normally designated by the CLF to form the LFSP. Other missions of the LFSP are to:

1. Facilitate the landing and movement of troops, equipment, and supplies across beaches and into LZs, ports, and airfields
2. Assist in the efforts to evacuate casualties and prisoners of war during the early stages of the assault
3. Assist in the beaching and retraction of landing ships, landing craft, pontoon causeway piers, and amphibious vehicles
4. Direct landing craft and amphibious vehicle salvage operations inside the surf zone
5. Facilitate the establishment of the CSSE, ACE, and NBG ashore.

K.2.1 Landing Force (LF) Element Functions. Functions performed by LF elements of the LFSP are command and control, beach support area (BSA) development, beach throughput, support for helicopter-borne units, and other functions. These functions are described in the following paragraphs.

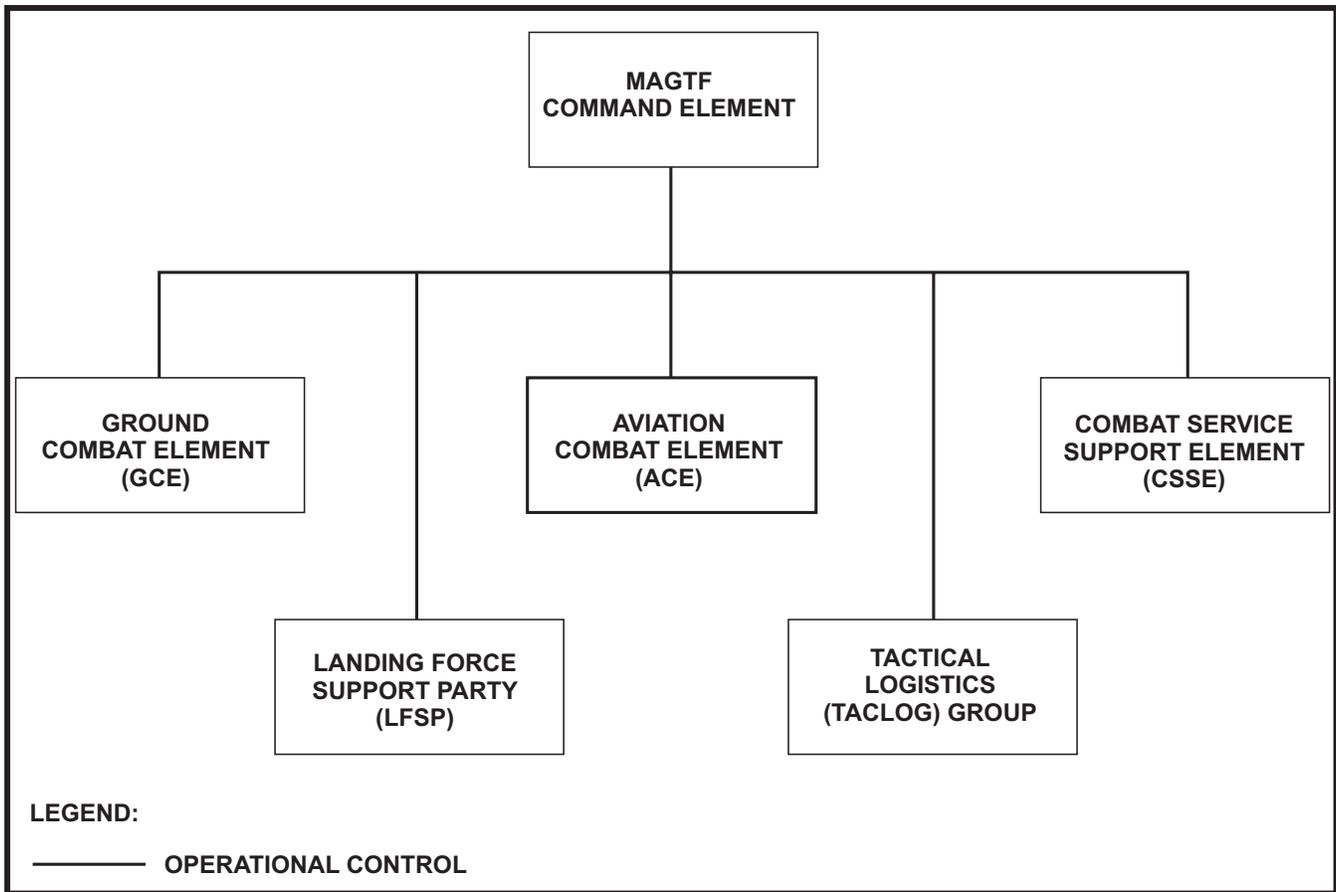


Figure K-1. MAGTF Organization for the Ship-to-Shore Movement

K.2.1.1 Command and Control. Command and control functions are:

1. Establish and operate information centers and maintain current situation maps to assist LF units
2. Control traffic in the BSA
3. Maintain communications with waterborne and helicopterborne unit commanders and their TACLOG detachments
4. Establish lateral communications between beaches and LZs
5. Maintain a record, by category, of units, equipment, and amount of supplies landed
6. Establish, as a part of the overall LF warning system, a system to warn of attacks within the BSA.

K.2.1.2 BSA Development. BSA development functions are:

1. Select, on the recommendations of the Navy element, locations for causeways, landing ships, and landing craft to beach
2. Mark beach unloading points
3. Construct helicopter landing points
4. Establish multiclass supply dumps to include amphibious assault fuel systems
5. Mark/remove obstacles
6. Construct and maintain beach lateral and exit roads
7. Provide local security and coordinate the overall defense of the BSA with naval elements.

K.2.1.3 Beach Throughput. Beach throughput functions are:

1. Assist units in landing and moving across beaches

2. Coordinate the movement of amphibious vehicles carrying supplies; unload supplies from landing craft, ships, and helicopters; and move supplies to LF units or dumps as required
3. Operate amphibious assault fuel facilities
4. Provide emergency maintenance and dewaterproofing facilities for equipment landed in the waterborne assault
5. Load helicopters with supplies for further delivery inland.

K.2.1.4 Support for Helicopterborne Units. Support functions for helicopterborne units are:

1. Provide training to helicopterborne tactical units and helicopter support teams (HSTs)
2. Provide landing support and helicopter control elements (HCEs) to the helicopterborne unit's HST (see Appendix L)
3. Provide CSS to helicopterborne units when HST operations cease (see Appendix L).

K.2.1.5 Other Functions. Other functions performed are:

1. Process requests from LF units ashore for supplies or pass requests to the appropriate TACLOG detachment
2. Establish and operate forward arming and refueling points (FARPs) and lagger points
3. Establish and operate beach evacuation stations (BESs)
4. Establish and operate enemy prisoner of war (EPW) holding facilities
5. Evacuate casualties and EPWs to designated locations
6. Provide graves registration services
7. Initiate civil affairs and military government activities
8. Provide personnel for ship's platoons, when directed (see paragraph K.3.5)
9. Provide training for ship's platoons of LF units

10. Provide landing craft air cushion (LCAC) landing zone (CLZ) support teams (CSTs) to the beach party (see paragraph K.3.2.2.3)
11. Provide support to countermine operations in the beach zone to include attached LF explosive ordnance disposal (EOD) personnel
12. Construct CLZs.

K.2.2 Navy Element Functions. Functions performed by the Navy element of the LFSP are:

1. Install navigational aids/markers and remove obstacles in beach approaches
2. Advise shore party commanders of suitable sites for beaching amphibious vehicles, landing craft, landing ships, and pontoon causeway piers
3. Direct the beaching and retraction of landing ships, landing craft, pontoon causeway piers, and amphibious vehicles
4. Observe and report surf conditions to the primary control officer (PCO)
5. Salvage and effect emergency repairs to landing craft and amphibious vehicles (see Appendix I)
6. Assist in the local security of the BSA
7. Maintain communications with PCOs and beach parties on adjacent beaches
8. Assist in the evacuation of casualties and EPWs
9. Mark beach landing sites
10. Direct displacement landing craft to and from beach landing sites
11. Direct LCACs to and from CLZs
12. Install the amphibious assault bulk fuel system (AABFS)
13. Advise the LFSP commander of Navy activity in the BSA
14. Provide support, to include attached Navy EOD personnel, to countermine operations conducted in very shallow water and surf zones.

K.3 LFSP ORGANIZATION

Establishing the LFSP organization is normally the responsibility of the CSSE commander. To ensure unity of effort, the LFSP operates as a subordinate element of the LF under the operational control of CLF. The organization and mission of the LF dictate the specific structure of the LFSP. The LFSP is task organized to accommodate the number of landing beaches/LZs the LF will use, the size of the units landing, and the mission assigned. The LFSP provides combat support and CSS to waterborne and helicopterborne units. The shore party and beach party elements provide this support to waterborne assault units carried in displacement landing craft through shore party and beach party teams operating numbered colored beaches. Waterborne assault units carried in LCACs are supported by LCAC control teams (CCTs) and CSTs operating CLZs. Helicopterborne assault units are supported by helicopter support elements (HSEs) which provide attachments to the HST of the helicopterborne unit.

The nucleus of LFSP personnel are from the CSSE, ACE, and naval construction regiment (NCR) with augmentation from other LF units, the NBG, special attachments such as sea-air-land (SEAL) teams, EOD units, and so forth. The composition of the LFSP is determined during the initial planning phase. The specific task organization for an LFSP may vary, but for planning purposes a basic LFSP structure is depicted in Figure K-2. The LFSP consists of:

1. LFSP headquarters (HQ)
2. Shore party
3. Beach party
4. Special attachments
5. Ship's platoons.

K.3.1 LFSP Headquarters (HQ). The LFSP commander, and staff, control landing support operations within the landing area. This HQ ensures effective landing support through close coordination with subordinate units, timely reinforcement, and consolidation of shore party and beach party elements. The LFSP matures from a small cell in the early stages of the ship-to-shore movement when beach and LZ operations are decentralized to a robust organization as LFSP operations expand and become more centralized. As more functions and capabilities move ashore the LFSP command and control capability grows accordingly until the CSSE, ACE, NCR, and NBG are established

ashore and assume responsibility of their functions. Figure K-3 illustrates the command relationships within the LFSP.

Personnel from the LFSP HQ are from the CSSE, ACE, NCR, and NBG. These personnel provide the required expertise that is not normally available from each organization in the initial stages of the assault. When the LFSP is dissolved, and the various functions performed by the LFSP transition to each organization, the individuals who performed those tasks for the LFSP will perform them for their parent organizations.

In the initial stages of the ship-to-shore movement the LFSP HQ is afloat. LFSP operations are decentralized to the shore party and beach party teams on numbered colored beaches. Operational control for landing support operations on the numbered colored beach resides with the shore party team commander. When the shore party and beach party groups are established ashore on a colored beach, they assume operational control of their respective teams. Operational control for landing support operations on each colored beach resides with the shore party group commander. When the shore party and beach party HQs are established ashore, and the shore party commander has consolidated command of the shore party groups, operational control of the shore party and beach party groups transitions to the shore party and beach party commanders respectively. Concurrent with this transition, the LFSP HQ is established ashore and the LFSP commander assumes operational control of the shore party, beach party, special attachments, and all other LFSP units ashore. If the LFSP HQ is not established ashore concurrently with the beach party and shore party HQs, operational control for landing support operations in the landing area resides with the shore party commander until the LFSP commander assumes operational control. The LFSP HQ personnel and equipment landed are minimal as the shore party and beach party HQs form the predominant part of the LFSP HQ.

The size and capability of the shore party and beach party expands as the magnitude of LFSP responsibility and activity expands. For example, when HST operations cease, the LFSP assumes responsibility for sustainment of the helicopterborne unit and operation of the landing zone support area (LZSA). HCEs attached to the helicopterborne unit's HST return to LFSP operational control. The size of the LFSP HQ increases in proportion to the activity level ashore, but this increase is small relative to the growth of the shore party and beach party HQs. This is because the majority of LFSP command and control tasks are performed by the shore party and beach party HQs.

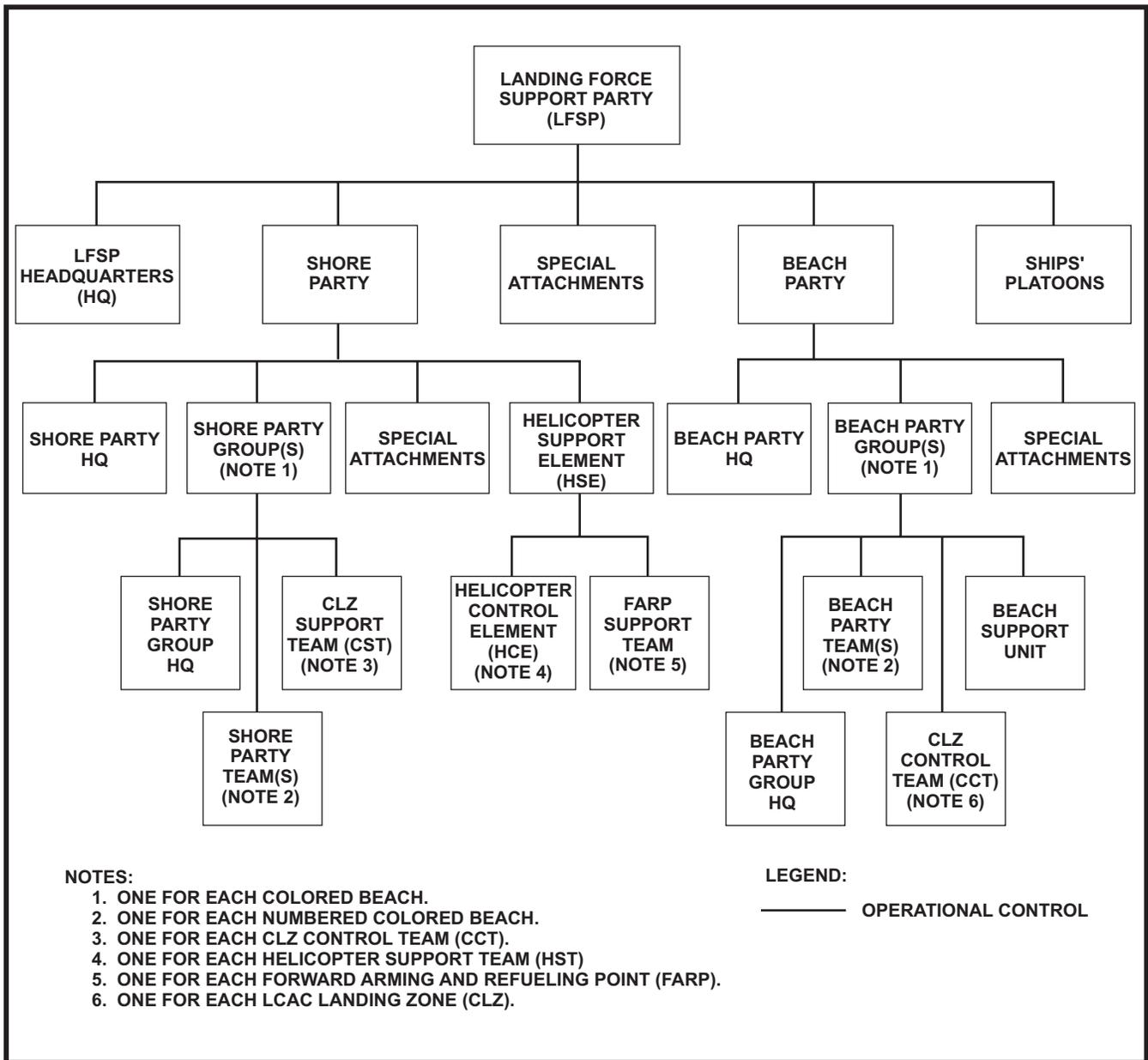


Figure K-2. Basic Landing Force Support Party (LFSP) Organization

K.3.2 Shore Party. The shore party is the LF component of the LFSP. It is task organized to facilitate the landing and movement of waterborne troops, equipment, and supplies and the evacuation of casualties and EPWs. The nucleus for shore party personnel is the landing support battalion (LSB), force service support group (FSSG) augmented with personnel and equipment from the GCE, ACE, NCR, and other CSSE units. The shore party consists of the following elements:

1. Shore party HQ
2. Shore party groups

3. HSEs
4. Special attachments.

Functions performed by the shore party are listed in paragraph K.2.1.

K.3.2.1 Shore Party HQ. The shore party HQ consists of command and administrative, medical, military police (MP), communications, motor transport and equipment, and liaison sections. These sections are described in the following paragraphs.

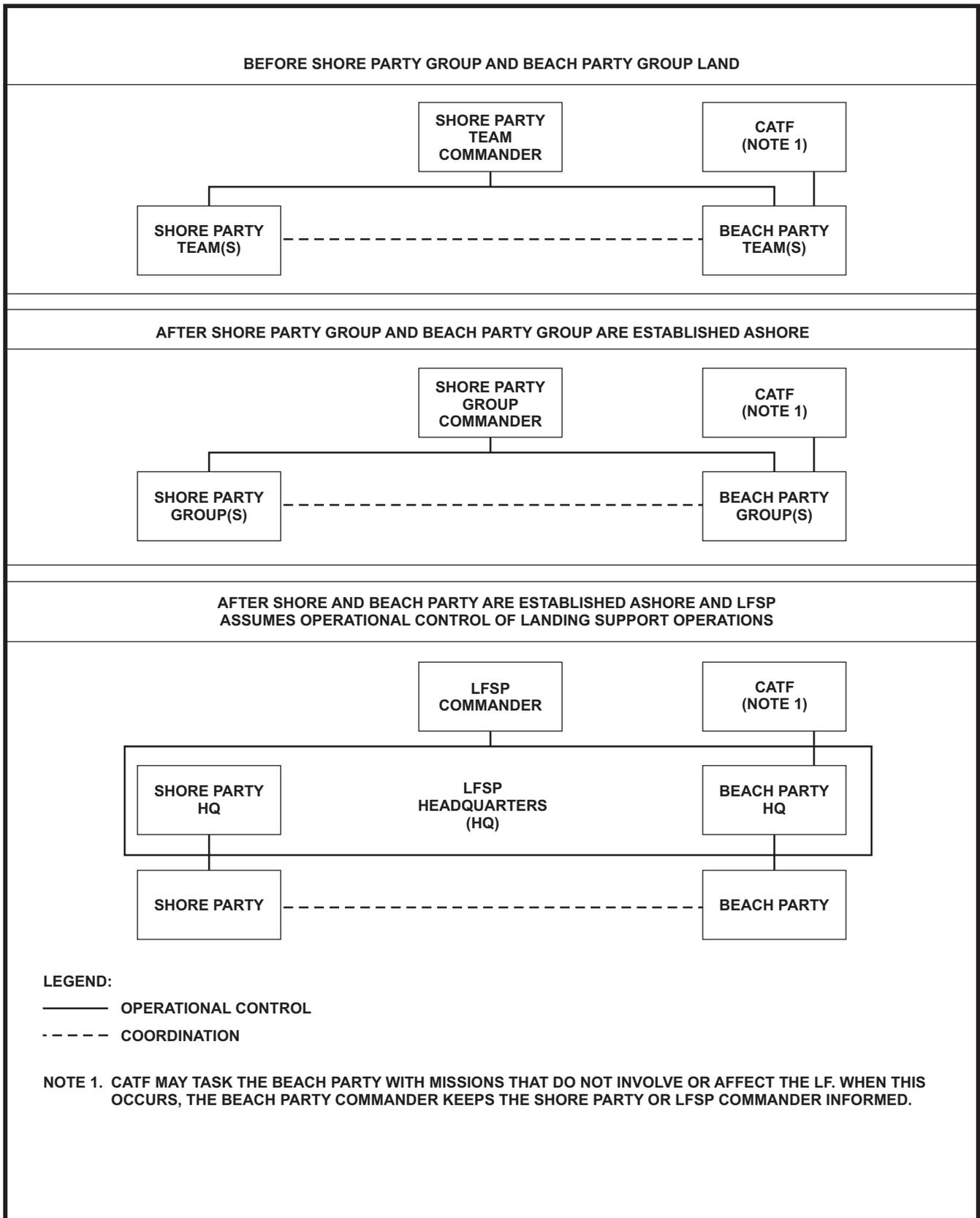


Figure K-3. LFSP, Shore Party, and Beach Party Command Relationships

K.3.2.1.1 Command and Administrative. The command and administrative section is formed from the LSB HQ.

K.3.2.1.2 Medical. The medical section is formed from the medical battalion, FSSG. This section plans medical regulating (MEDREG) for the LFSP, supervises operation of BESs and helicopter evacuation stations (HESs), and prepares evacuation reports required by higher HQ.

K.3.2.1.3 MP. The MP section is formed from the division or FSSG MP company. This section supervises shore party MP activities. Additionally, it establishes the LF EPW stockade and directs EPW evacuation operations.

K.3.2.1.4 Communications. The communications section is formed from the LSB with augmentation from the communications company, headquarters and service (H&S) battalion, FSSG. (See FMFM 3-32, "MAGTF Communications" for additional information on shore party communications.

K.3.2.1.5 Motor Transport and Equipment. Motor transport units or detachments are under the control of the shore party HQ. However, vehicles required by the shore party commander and operations officer are under the control of the command and administrative section.

K.3.2.1.6 Liaison. The liaison section is formed from units that are attached to or under the operational control of the shore party.

K.3.2.2 Shore Party Group. The shore party group is responsible for supporting a colored beach over which a regimental landing team (RLT), or equivalent Army force, lands. Upon landing, the shore party group commander assumes control of landing support activities of subordinate shore party teams, and begins consolidating activities at the group level. Shore party group functions include:

1. Allocating shore party team personnel and equipment as required
2. Establishing shore party group communications and consolidating shore party team communications
3. Providing liaison personnel to supported unit's HQs
4. Coordinating defensive measures

5. Coordinating with the beach party group commander

6. Submitting reports and records.

As illustrated in Figure K-2, the shore party group consists of a HQ, two or more shore party teams, one or more CSTs and special attachments. The nucleus for shore party group personnel is the landing support company, LSB, FSSG.

K.3.2.2.1 Shore Party Group HQ. The shore party group HQ contains command and administrative, MP, evacuation, communications, motor transport and equipment, and replacement draft personnel sections. These sections are initially established by shore party teams and when the shore party group is established ashore it assumes control of each section. Attachments which do not have a service or task to perform as part of one of the shore party teams are normally retained under the control of the shore party group HQ.

K.3.2.2.1.1 Command and Administrative. The nucleus for command and administrative section personnel is the landing support company HQ.

K.3.2.2.1.2 MP. The MP section consists of the commanding officer of the attached MP unit and administrative and communications personnel as required. This section coordinates operations of MP elements attached to shore party teams.

K.3.2.2.1.3 Evacuation. This section maintains records of personnel evacuated, and ensures that casualty evacuation procedures are functioning effectively.

K.3.2.2.1.4 Communications. The communications section provides communications for the shore party group HQ. When the shore party group is established ashore, it consolidates communications established by the shore party teams. When communications sections of shore party teams are no longer required, they return to the shore party group's communications section.

K.3.2.2.1.5 Motor Transport and Equipment. The nucleus for motor transport and equipment section personnel is the H&S and landing support equipment companies, LSB with augmentation as required from the motor transport and engineer support battalions, FSSG, and division combat engineer battalion.

K.3.2.2.1.6 Replacement Draft Personnel. Replacement draft personnel unload, handle, breakdown, and place bulk cargo in BSA dumps.

Initial assignment of replacement draft personnel may be to ships' platoons. When a ship completes offload, replacement draft personnel report to a shore party group labor pool. During the initial and general offload periods, replacement draft personnel are used as long-shoremen at beach unloading points and dumps within the BSA. The number of replacement draft personnel available to the shore party will decrease as the scheme or maneuver ashore carries the assault closer to the force beachhead line (FBHL) and the requirement for replacements in combat units increases.

K.3.2.2.2 Shore Party Team(s). Shore party team(s) support a numbered colored beach. The nucleus for shore party team personnel is the landing support platoon (LSP), LSB, FSSG with augmentation for specific missions. As shown in Figure K-4, the shore party team consists of an advance party, HQ, shore platoon, service platoon, and motor transport/heavy equipment platoon.

K.3.2.2.2.1 Advance Party. The shore party team advance party is composed of command, liaison, communications, and beach party sections. The advance party is a temporary group formed from the various shore party and beach party team elements. It conducts early beach reconnaissance, establishes communications, and marks landing sites and dumps. The advance party reverts to their parent units in the shore party and beach party teams when they come ashore, except for liaison sections operating with the battalion landing team (BLT). The liaison section remains with the BLT and becomes part of the shore party team HQ.

K.3.2.2.2.2 Shore Party Team HQ. The shore party team HQ includes command, evacuation, MP, communications, and security sections. Command section personnel are provided from the HQ, LSP; evacuation section personnel are from the medical battalion, FSSG; MP section normally consists of a detachment from the MP company, H&S battalion, FSSG; communications section normally consists of a detachment from the communications platoon, H&S company, LSB, and other communications units as required; and security section personnel are augmented specifically for this duty.

K.3.2.2.2.3 Shore Platoon. The shore platoon consists of a detachment from the shore party platoon, augmented as necessary. The shore platoon establishes and operates facilities for unloading supplies and equipment from landing craft or helicopters and movement of that material to dumps, staging areas, or out of the BSA.

K.3.2.2.2.4 Service Platoon. The service platoon consists of command, dump, and maintenance salvage sections. It is organized from the shore party platoon augmented by specialist personnel from other FSSG units. The service platoon organizes and operates dumps, maintenance, and salvage areas in the BSA.

K.3.2.2.2.5 Motor Transport/Heavy Equipment Platoon. The motor transport/heavy equipment platoon's vehicles are provided by the motor transport battalion, LSB, engineer support battalion, FSSG, and combat engineer battalion of the division. This platoon provides engineer equipment and motor transport support to the shore party team.

K.3.2.2.3 CLZ Support Team(s) (CST). The shore party CST operates under the operational control, or in direct support, of the beach party CCT. The operational control or direct support relationship is normally based on the proximity of the CLZ to other shore party and beach party activities. The CST performs the same functions in the CLZ as the shore platoon of the shore party team performs on the beach. The CST unloads personnel, equipment, and supplies from LCACs and facilitates their movement out of the CLZ. The activities of the CST are normally confined to the CLZ itself. Supply dumps, staging, or assembly areas adjacent to or associated with a CLZ are normally run by another shore party element. Paragraph K.3.3.2.4 describes the CCT. In situations where a section of the CCT is assigned to a beach party team, a CST section is tasked organized to accompany the CCT section and the command or support relationship is specified by the LFSP commander. A CST is organized into the sections described in the following paragraphs.

K.3.2.2.3.1 Command. The command section coordinates all activity associated with unloading and moving personnel, equipment, and supplies from LCACs/CLZ.

K.3.2.2.3.2 Movement Control. The movement control section directs the flow of personnel, equipment, and supplies.

K.3.2.2.3.3 Material Handling Equipment (MHE). The MHE section provides and operates equipment used to unload LCACs and clear the CLZ.

K.3.2.2.3.4 Maintenance. The maintenance section provides maintenance support for equipment, exclusive of electronics, and vehicles used by the CST and CCT, including inoperative vehicles/equipment in serials coming ashore in order to clear them from LCACs/CLZ.

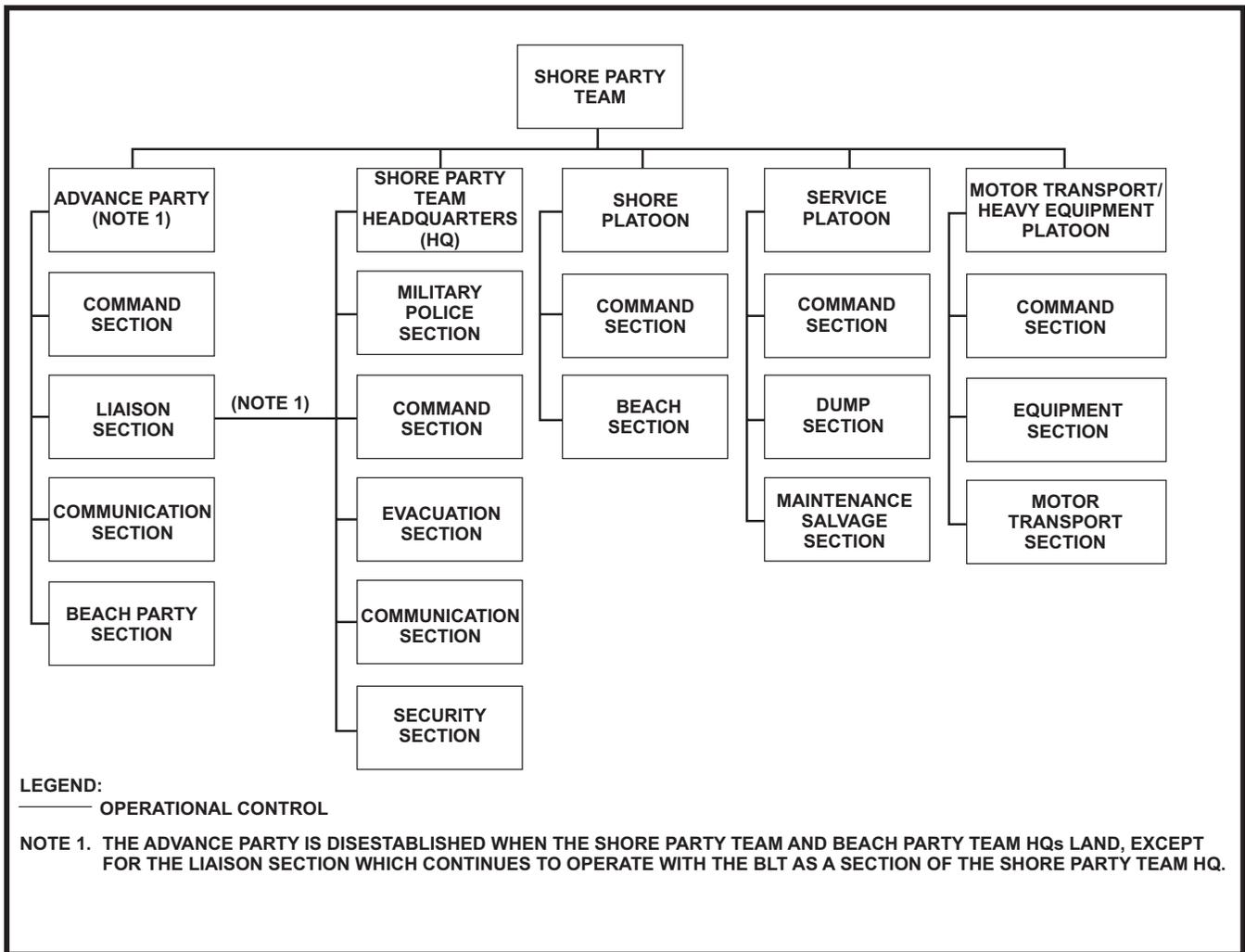


Figure K-4. Basic Shore Party Team Organization

K.3.2.2.3.5 Motor Transport. The motor transport section provides the vehicles used by CST.

K.3.2.3 Helicopter Support Element (HSE). The ACE commander is responsible for helicopter terminal guidance and arming and refueling aircraft ashore during the ship-to-shore movement. These tasks must be accomplished even though the ACE commander and ACE combat support and CSS units are not ashore. The ACE commander fulfills these obligations through the HSE by task organizing HCEs and FARP support teams and providing them to the LFSP. The LFSP then provides helicopter terminal guidance and arming and refueling capabilities through the HCEs and FARP support teams until the ACE is established ashore and assumes these responsibilities.

K.3.2.3.1 HCE. During the initial stages of amphibious operations the Marine air command and control system (MACCS) is not established. The LFSP

task organizes the HSE (to include HCEs) to meet mission requirements and provides task organized HCEs to the helicopterborne unit's HST.

The HCE is task organized into three sections: air traffic control, communications, and helicopter maintenance and repair. Personnel and equipment for the air traffic control and communications sections come from the Marine air traffic control squadron (MATCS) and Marine wing communication squadron (MWCS) of the Marine wing control group (MWCG) respectively. The air traffic control section establishes and operates electronic and visual navigation aids to guide aircraft, and controls helicopter operations within the LZ. Aircraft maintenance personnel come from the helicopter squadron making the lift. Crash, fire, and rescue personnel, and their portable equipment, come from a rotary wing (RW) Marine wing support squadron (MWSS[RW]) of the Marine

wing support group (MWSG). If a helicopter refueling capability is required in the LZ, fuel team personnel and equipment from the MWSS(RW) are included in the HCE.

K.3.2.3.2 FARP Support Team. FARPs are established ashore as early as the tactical situation permits, and provide the arming and refueling capabilities that are necessary for flexible and mobile helicopter operations. FARPs decrease aircraft response and turn around times to meet LF requirements, and reduce LF dependence on Navy ships for arming and refueling services. Personnel, equipment, and supplies to establish and operate a FARP are in on-call waves or non-scheduled units; the latter category being the norm. The FARP support team is task organized like the HCE with personnel and equipment provided from the same organizations. The FARP support team organization differs from an HCE as follows:

1. The FARP support team has an aviation ordnance section to prepare and load ordnance on aircraft. This section is from helicopter/AV-8 squadrons, and from the RW Marine air logistics squadrons (MALS[RW])/fixed wing (FW) MALS.
2. The helicopter maintenance and refueling section includes AV-8 squadron maintenance personnel.

When called ashore, a FARP support team, and its supplies and equipment, moves by helicopter or landing craft. Criteria to establish a FARP includes:

1. Distance and stability of the forward edge of the battle area (FEBA)
2. Aircraft time on station
3. Physical security requirements
4. Susceptibility of FARP location to indirect fire
5. Command and control requirements
6. Coordination of logistics efforts: location of Class III and V dumps, adequacy of road networks, and level of helicopter support necessary to sustain FARP operations
7. Anticipated duration of FARP operations at a specific location before movement to a new location is necessary to support the LF scheme of maneuver ashore.

For additional information of FARP operations see NWP 55-9/FMFM 5-3-ASH Series, "Assault Support Helicopter Tactical Manuals."

K.3.2.4 Shore Party Special Attachments. In addition to ATF units which are provided to the LFSP as special attachments (see paragraph K.3.4), units may be attached to the shore party to facilitate throughput operations within the BSA. For example, EOD and combat engineer personnel may be attached to conduct counter mine operations.

K.3.3 Beach Party. The beach party is the Navy component of the LFSP and is under the operational control of the LFSP commander. Figure K-2 depicts the organizational relationship between the beach party, shore party, and LFSP, and paragraph K.3.1 describes the command relationship between the beach party and shore party until each respective HQ and the LFSP HQ are established ashore. The beach party consists of the following:

1. Beach party HQ
2. Beach party group(s)
3. Special attachments.

For further information on the beach party see NWP 22-5/FMFM 4-3, "The Naval Beach Group." Functions performed by the beach party are listed in paragraph K.2.2.

K.3.3.1 Beach Party HQ. Personnel and equipment for the beach party HQ comes from the NBG. The beach party HQ provides command and control for beach party operations.

K.3.3.2 Beach Party Group. The beach party group is the Navy counterpart to the shore party group. A beach party group supervises and coordinates all Navy activities on a colored beach. The beach party group organization is depicted in Figure K-5 and consists of the following:

1. Beach party group HQ
2. Beach party team(s)
3. Beach support unit
4. CCTs

K.3.3.2.1 Beach Party Group HQ. The beach party group HQ is primarily from the BMU. It lands with the shore party group HQ. The command relationships between the beach party, shore party, and LFSP are discussed in paragraph K.3.1.

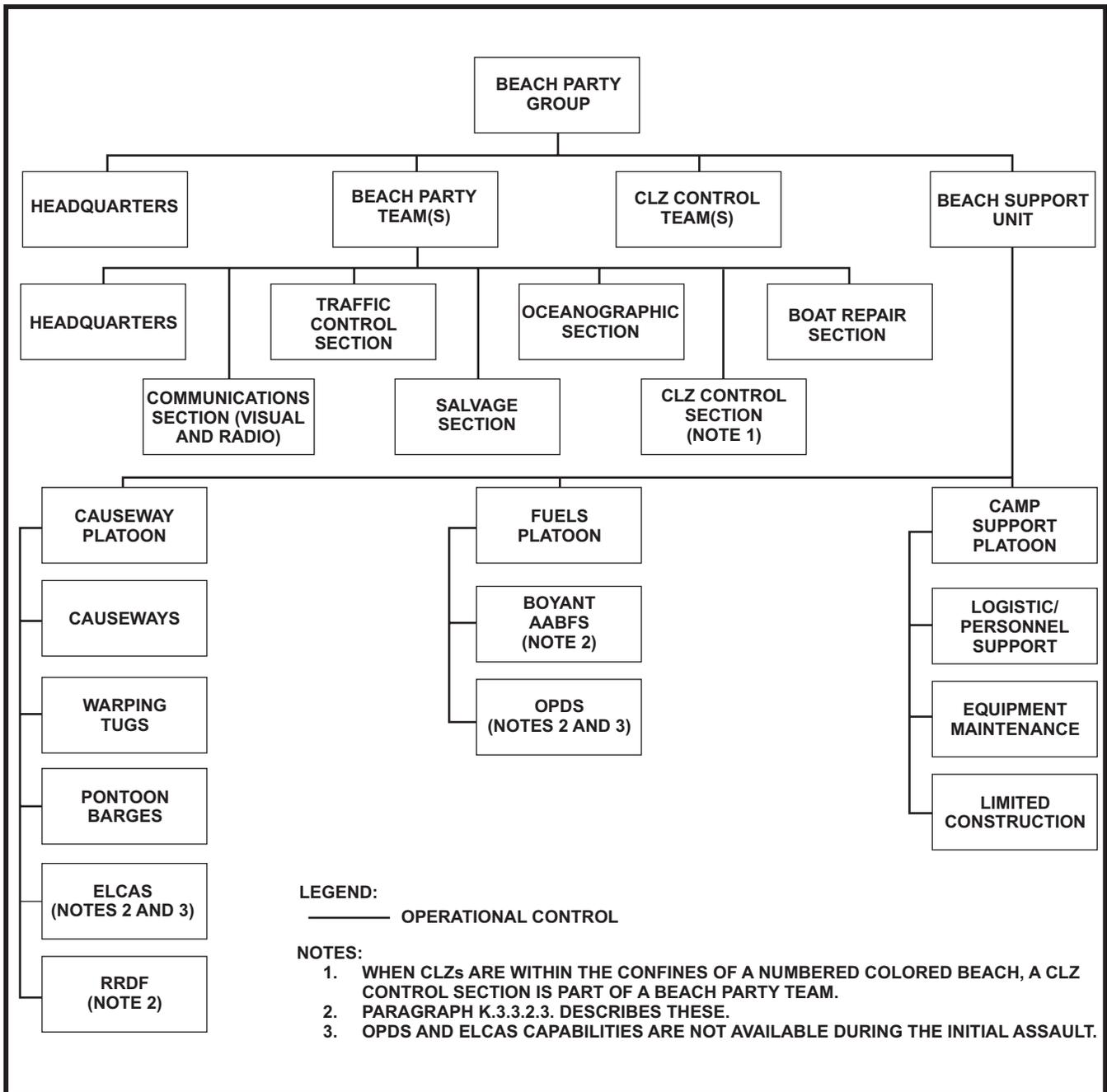


Figure K-5. Basic Beach Party Group Organization

K.3.3.2.2 Beach Party Team. The beach party team is the Navy counterpart of the shore party team. It supervises and coordinates all Navy activities on a numbered colored beach. The beach party team commander is a Navy officer who lands with the shore party team commander, and remains under the operational control of the shore party team commander until the shore party group and beach party group commanders are established ashore. The beach party team is composed of the following sections:

K.3.3.2.2.1 Beach Party Team HQ. The beach party team HQ section contains the beach party team commander, communications, and administrative assistants. Part of this section lands with the shore party team advance party.

K.3.3.2.2.2 Communications. The communications section provides communications connectivity with the PCO and adjacent beaches.

K.3.3.2.2.3 Traffic Control. The traffic control section controls traffic at unloading points at the beach, and directs the beaching and retraction of landing craft.

K.3.3.2.2.4 Salvage. The salvage section contains personnel and equipment, such as tractor dozers and amphibious vehicles, from the NBG amphibious construction battalion (PHIBCB) and BMU that assist landing craft to beach and retract, accomplish minor beach improvements, and salvage landing craft and amphibious vehicles inside the surf zone.

K.3.3.2.2.5 Oceanographic. The oceanographic section contains SEALs who report to the beach party team commander after completing advance force operations. SEALs mark and remove obstacles in beach approaches up to the high water mark, conduct hydrographic surveys, beach survey intelligence reports (BSIRs), perform lifeguard duties, and mark channels and navigation hazards.

K.3.3.2.2.6 CLZ Control Section. The CLZ control section is a part of the beach party team when a CLZ is within the confines of a numbered colored beach (see paragraph K.3.3.2.4).

K.3.3.2.2.7 Boat Repair. The boat repair section contains specialists from the NBG assault craft unit (ACU) who perform emergency repairs to landing craft on the beach. Landing craft requiring extensive repairs are towed to designated ships.

K.3.3.2.3 Beach Support Unit. The beach support unit is from the NBG's PHIBCB and consists of:

1. Causeway Platoon. The causeway platoon provides causeways to land equipment and supplies over the beach. Pontoon causeways are launched, assembled, and moved to the beach when directed by the PCO. Once causeways are secured on the beach, they are under the operational control of the beach party commander and operations are conducted by beach support unit personnel.

2. Fuels Platoon. The fuels platoon installs the AABFS when directed by the PCO. After installation, personnel operating the system are from the beach support unit.

3. Camp Support Platoon. The camp support platform provides limited beach construction to establish the camp and communication support.

The beach support unit provides:

1. Causeway piers for stand-off and compression marriages
2. Container-over-the-shore (COTS) systems. Each COTS system includes one elevated causeway system (ELCAS) and six four-section causeway ferries
3. Roll-on/roll-off discharge facility (RRDF)
4. AABFS, and off-shore POL discharge system (OPDS)
5. Landing craft and amphibious vehicle salvage
6. Camp support and limited construction.

Not all elements of the beach support unit are under the operational control of the beach party at all times. For example, barge ferries and RRDFs, when operating away from the beach, operate under the PCO's control, and elements that install and operate the AABFS, although ashore, do not come under the control of the LFSP until the installation is complete. Tasks which are performed ashore are done under the control of the beach party commander and are accomplished without direction from the shore party or LFSP commander. In this manner, unity of effort and cooperation is accommodated without imposing unnecessary constraints on Navy operations.

K.3.3.2.4 CLZ Control Team (CCT). A CCT controls LCACs from seaward of the LCAC penetration point (CPP) to a CLZ for unloading, and then back to the surf zone. A CST is provided by the shore party group to support each CCT (see paragraph K.3.2.2.3). CCTs are from the NBG's BMU. CCT is analogous to a beach party team. As shown in Figure K-5 the CCTs are coequal with beach party teams. CLZs are normally located away from landing beaches. In those cases where a CLZ falls within the confines of a numbered colored beach, a CLZ control section is placed under the operational control of the beach party team responsible for the numbered colored beach.

The CCT's primary mission is to provide command, control, and communications to facilitate the landing of troops, equipment, vehicles, and supplies in CLZs. The CCT:

1. Establishes the command post
2. Enters radio nets with the LCAC control officer (LCO)
3. Organizes the CLZ

4. Provides traffic control for LCACs from seaward of the CPP to the CLZ
5. Assists in evacuation of LF casualties/EPWs
6. Reports surf conditions and the general beach situation to the LCO.

K.3.3.2.4.1 CCT Organization. The CCT is organized to control LCACs from seaward of the CPP to the CLZ, within the CLZ, their unloading, and return transit to the surf zone. The CCT organization is depicted in Figure K-6 and contains:

1. Advance party
2. CCT HQ
3. Terminal guidance section
4. Communications section
5. CST

K.3.3.2.4.2 Advance Party. The advance party lands as early as possible. It is task organized from other CCT elements. They survey the CLZ and ingress and egress routes to determine their suitability for LCAC operations. Additionally, they establish communications and LCAC initial terminal guidance capabilities. When the CCT lands, the advance party is disestablished and reports to parent units within the CCT.

K.3.3.2.4.3 CCT HQ. The CCT HQ is composed of personnel from the NBG's BMU. It provides command and control for all LCAC operations between the CPP and CLZ, to include operations within the CLZ.

K.3.3.2.4.4 Terminal Guidance Section. The terminal guidance section is composed of BMU personnel that employ visual signals to direct LCACs through the CPP, in ingress routes, into the CLZ, and in egress routes back to the surf zone.

K.3.3.2.4.5 Communications Section. The communications section is composed of BMU personnel that provide communications between the CCT, LCACs, beach party group, and the LCO.

K.3.3.2.4.6 CST. The CST is composed of shore party group personnel that perform support functions in the CLZ. These functions and command relationship with the beach party are covered in paragraph K.3.2.2.3.

K.3.3.3 Beach Party Special Attachments.

Special attachments are made to the beach party to perform tasks or provide capabilities not normally included in the beach party organization. These attachments may provide support to the LF, but more likely perform Navy tasks that are more effective when performed from the beach. As an example, the clearance of obstacles and mines in the surf zone (high water mark to 10-foot water depth) and the very shallow water zone (10-foot to 40-foot of water depth) by SEALs and Navy EOD is most efficiently accomplished from the beach. As the amphibious assault progresses, additional units not directly associated with the LFSP, such as the ACU and Naval cargo handling and port group (NAVCHAPGRU), may phase ashore and be attached to the beach party.

K.3.4 LFSP Special Attachments. Special attachments are made to the LFSP for defense of the BSA, to provide liaison personnel, and for specialized tasks. For example, air defense units may be attached to establish facilities to detect and counter air attacks in the BSA. During the early stages of the assault CLF may deploy tactical units to counter threats in the BSA/LZSA or the LFSP commander, in an emergency situation, may take operational control of any units operating in the BSA/LZSA to provide area defense. If U.S. Army, or allied units, are included in the LF, representatives from these organizations are attached to the LFSP for liaison and coordination. The NCR element may be attached to the LFSP. The NCR is a LF controlled unit that is used for construction tasks that are beyond the capabilities or focus of Marine Corps engineer units. The NCR, also called "sea bees" constructs or repairs air and CSS facilities for LF use and develops or improves the transportation network within the BSA/LZSA.

K.3.5 Ship's Platoon. A ship's platoon consists of LF personnel responsible for loading, stowing, and offloading LF equipment and supplies. When a ship carries equipment and supplies that belong only to LF units embarked on that ship, the ship's platoon is sourced from the ship's embarked troops at the direction of the commanding officer of troops (COT). If replacement draft personnel are available, they may be assigned to the LFSP for use as ships' platoons on ships that carry supplies and equipment not organic to embarked LF units, such as assault follow-on echelon (AFOE) ships. Ships' platoon personnel are available for reassignment to shore party group labor pools on completion of their ship's offload or they revert to their parent unit. Replacement draft personnel may be assigned to unload follow-up shipping, utilized for general labor in BSAs, or as replacements for tactical units. If possible, ship's platoons for backload operations should consist of the same personnel.

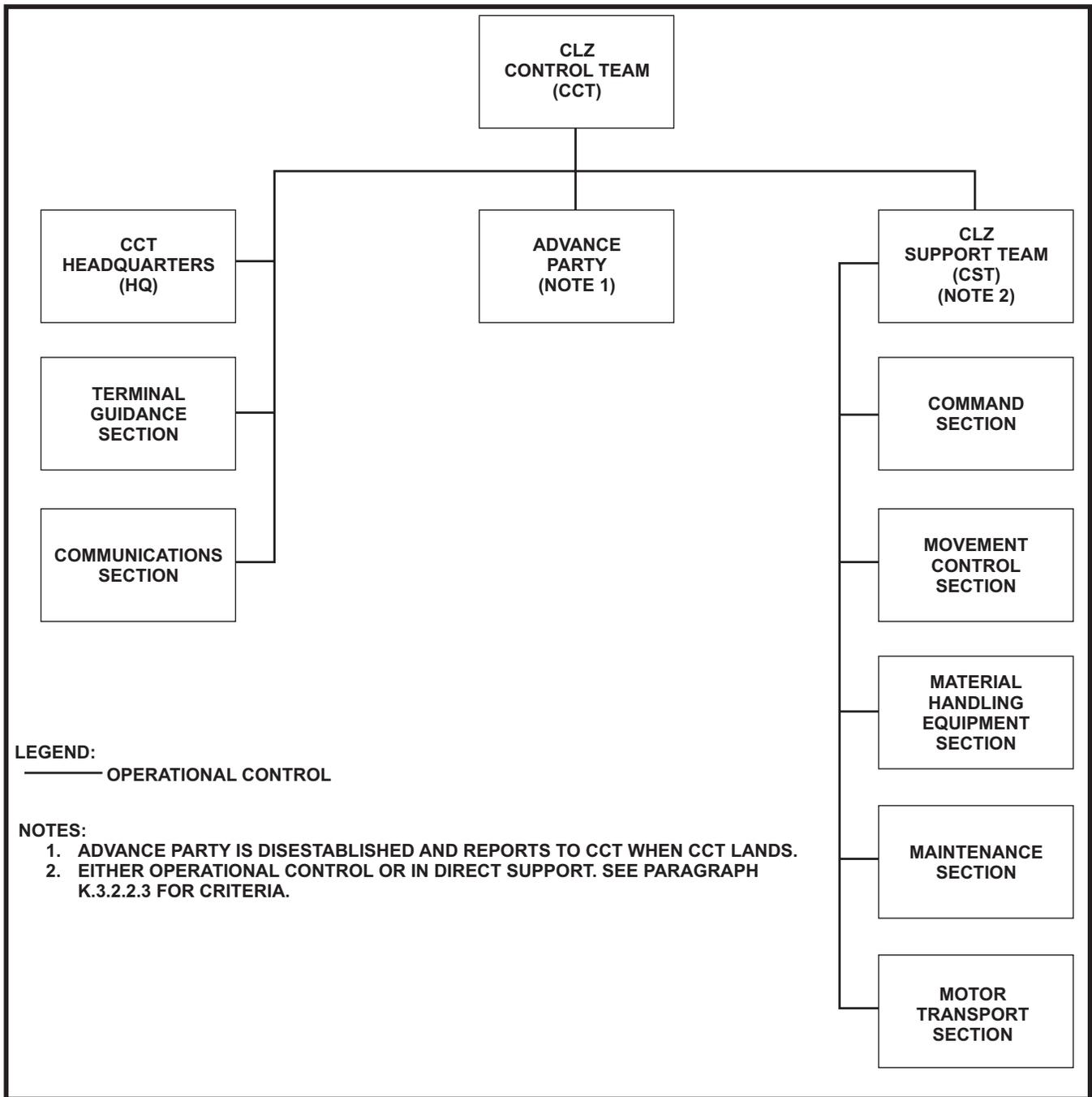


Figure K-6. Basic CLZ Control Team (CCT) Organization

K.4 POST LFSP OPERATIONS

CLF directs that LFSP operations cease and the LFSP dissolves based on the recommendation of the CSSE commander. This recommendation is made when the CSSE commander determines that there is sufficient CSSE units and command and control capability in place ashore. Termination of LFSP operations signals the establishment of the

CSSE ashore. It does not indicate the end of the ship-to-shore movement; the amphibious operation; the CATF and CLF doctrinal relationship; or the existing command relationship between Navy and LF organizations.

K.4.1 Air Combat Element (ACE) and Naval Construction Regiment (NCR) Organization.

When LFSP operations cease, if the HQs for the ACE

and NCR are not yet established ashore, those ACE and NCR units that were part of the LFSP will change operational control to the CSSE commander to maintain unity of effort until their respective HQs are established and ready to assume operational control of their units.

K.4.2 Beach Party and Naval Beach Group (NBG). To maintain unity of effort if the NBG HQ is not ashore when LFSP operations terminate, the beach party changes operational control to the CSSE. This change in operational control does not alter the beach party commander's latitude to accomplish Navy functions not directly related to LF operations. These functions are discussed in paragraph K.3.3.2.3. This relationship continues until the NBG HQ lands and assumes operational control of the beach party. The CSSE commander retains operational control of the NBG until sufficient Navy capability is established ashore for the NBG commander to assume operational control of landing support operations in the beach/port area from the CSSE commander. At this time, CATF may establish a Navy support activity to direct landing support and port operations and the NBG changes operational control to the Navy support activity.

K.5 PLANNING

LFSP operations involves many diverse functions performed by various organizations from the LF and Navy. A basic concept of LFSP operations is to facilitate unity of effort during the ship-to-shore movement through consolidation of ship-to-shore functions under the LFSP commander which simplifies the organization providing initial combat support and CSS to the LF. LFSP planning begins on receipt of the initiating directive. LFSP planners plan concurrently with other LF and Navy organizations in the parallel chains of command. Subordinate commanders can not wait until all plans are published. Because combat is a dynamic event and circumstances change, LFSP plans must be flexible. This is achievable through concurrent and parallel planning that is started early and adjusted through frequent consultation with LF and Navy organizations. Figure K-7 illustrates a notional LFSP planning process. This process is described in the following paragraphs.

K.5.1 Initiating Directive. This document states the ATF mission. Its significance to the LFSP is it alerts the LF that formation of an LFSP must begin; an LFSP is always formed for an amphibious operation. Within the initiating directive is essential information for planning the operation, such as the location which provides weather and topography constraints such as jungle or

arctic conditions. This information enables the CSSE, which is responsible for establishing the LFSP, to begin planning and initiate liaison with appropriate LF and Navy organizations.

K.5.2 Commander, Amphibious Task Force (CATF) and Commander, Landing Force (CLF) Commander's Concept and Guidance. The commander's concept and guidance provide a starting point to begin planning. In the initial stages these concepts are not extremely detailed. They provide focus for planning. CLF's concept and guidance outlines how CLF intends to conduct operations ashore, and is a focal point for unity of effort for all LF and attached organization. Much of the initial planning, regardless of the commander's concept, is common to any operation, such as messing, berthing, and equipment and personnel readiness. Some planning is unique to each operation, such as the LFSP organization, number and designation of beaches, HLZs, CLZs, and so forth. CLF's concept and guidance narrows the alternatives considered by subordinate commanders during the initial planning phase.

K.5.3 Subordinate Commander's Concepts. Predicated on the information contained in CATF's and CLF's concepts and guidance, subordinate commanders of the LF and Navy develop their concepts. These concepts provide the base line for LFSP planning. These concepts also are not detailed, but provide focus for the planning efforts of subordinate commanders and the LFSP.

K.5.3.1 GCE Commander's Concept. The GCE commander's concept provides an estimate of colored beaches, CLZs, HLZs, and the size of GCE units to enter these areas.

K.5.3.2 ACE Commander's Concept. The ACE commander's concept provides an estimate of helicopters required to support the helicopterborne assault, HLZ air control and refueling requirements, numbers of FARPs, and a time line when they are required ashore.

K.5.3.3 CSSE Commander's Concept. The CSSE commander's concept provides an estimate of how to accomplish the logistics buildup and a time line of when the CSSE will be established ashore and LFSP operations terminate.

K.5.3.4 CATF's Concept. CATF's ship-to-shore (STS) movement concept provides an overview of how CATF intends to support the LF's STS movement requirements and an estimate of beach party activities.

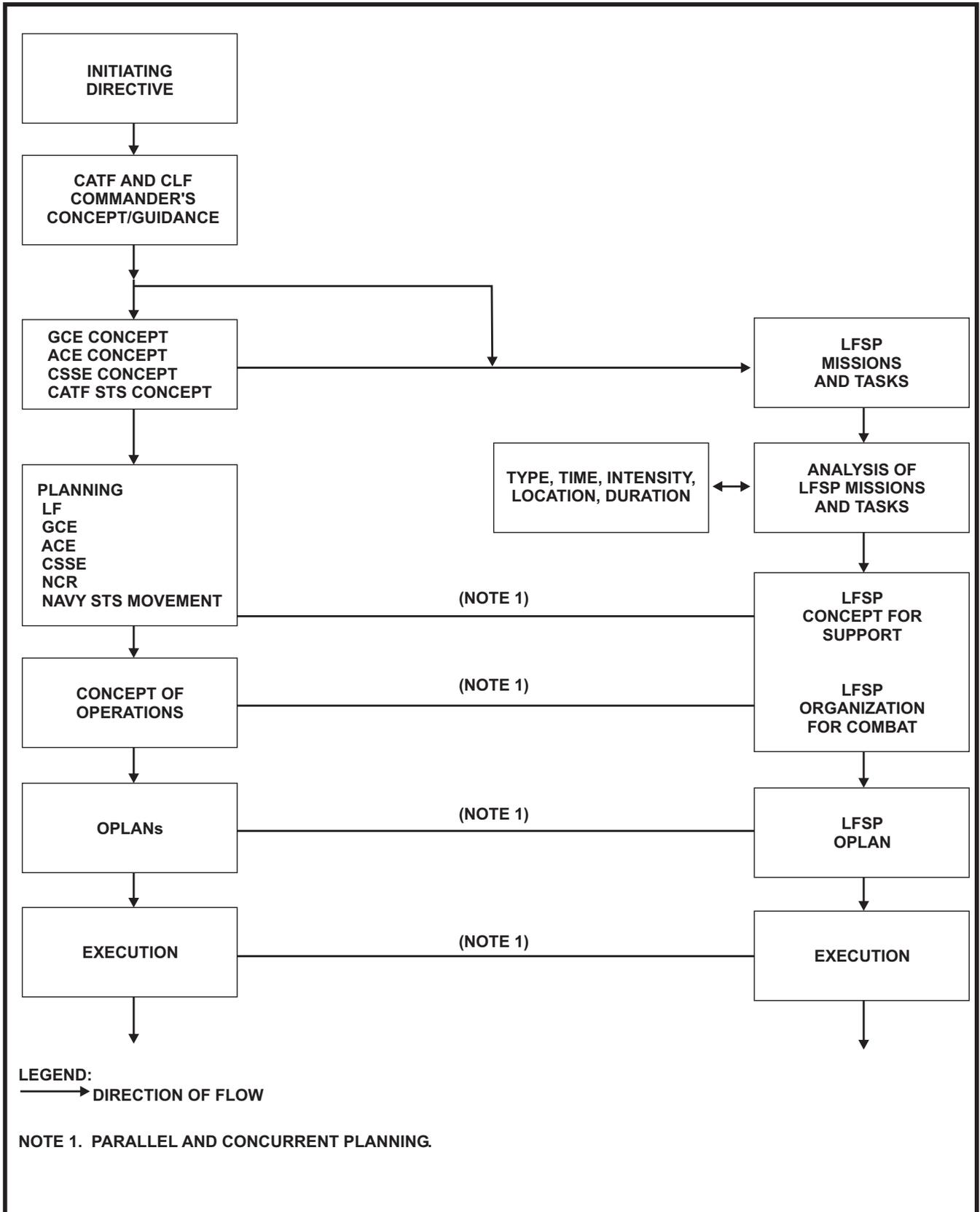


Figure K-7. Notional LFSP Planning Process

K.5.4 LFSP Missions and Tasks. An analysis of LFSP missions and tasks is performed. The missions and tasks are grouped by type, time, intensity, location, and duration. This process develops a LFSP concept for support and, based on the notional LFSP organization, a LFSP organization for combat is created.

K.5.5 LFSP Concept for Support and Organization for Combat. With the LFSP concept for support and organization for combat completed, LFSP planners consult with the various organizations that contribute units to the LFSP to refine the concept and organization. Concurrently, planning by other LF and Navy units proceeds, and a clearer operational picture develops. Information such as scheme of maneuver ashore, fire support requirements, required supply levels, casualty estimates, EPW forecasts, NCR information, and so forth enables LFSP planners to determine task organizations and command and control requirements. When the initial requirements are completed they are forwarded to CLF for review and approval. CLF tasks the various LF organizations to provide the necessary support to the LFSP, and submits a request to CATF for Navy support. Concurrent and parallel planning with close liaison between LF and Navy organizations continues. As LF plans mature, CATF establishes the ship-to-shore movement control organization as a parallel chain of command to the levels of command employed by the LF to execute the STS movement. When the Navy control organization is established, the LF establishes a TACLOG group (see Appendix J) to assist, advise, and coordinate with the Navy control organization. LFSP planners plan and coordinate closely with these organizations.

K.5.6 LFSP Operations Plan (OPLAN). The LFSP OPLAN is published and disseminated concurrently with LF subordinate commanders' OPLANs.

Concurrent and parallel planning continues after OPLAN publication and on through execution of the operation. When necessary, and when possible, changes to the LFSP OPLAN are published.

K.6 COMMUNICATIONS

The following paragraphs describe the communications connectivity required by the LFSP to carry out its mission.

K.6.1 LFSP Command Net. The LFSP command net is used to direct CSS operations with the TACLOG group, shore party, and HST.

K.6.2 LFSP Control Net. The LFSP control net provides a means for surfaceborne combat units to request support from the LFSP and for the LFSP to coordinate logistics requests from surfaceborne combat units with the TACLOG group.

K.6.3 Helo Request (HR) Net. The HR net is used to coordinate helicopter support for LF units ashore. The LFSP guards this net for surfaceborne units.

K.6.4 Helicopter Support Team (HST) Control Net. The HST control net is used to exchange logistics information between the HST, TACLOG group, and LFSP.

K.6.5 Supported Unit Tactical Net. The supported unit tactical net is monitored by the LFSP and appropriate TACLOG detachment to anticipate requests for logistics support.

Refer to Chapters 4 and 5 for further information on communications connectivity during the ship-to-shore movement.

APPENDIX L

The Helicopter Support Team (HST)

L.1 PURPOSE

Using helicopterborne forces in the amphibious assault is one of the most important tactical weapons of the landing force (LF). By its nature, an assault by helicopterborne forces is a complex evolution requiring detailed planning to integrate all aspects of the amphibious task force (ATF). At the ATF level of planning and staff functioning, the coordination of surfaceborne and helicopterborne assault forces is critical to project power ashore and the exploitation of enemy weaknesses.

This appendix covers HST fundamentals, organization, and responsibilities and the operational aspects of providing combat service support (CSS) to the helicopterborne unit. ATF tactical plans must support the helicopterborne unit in a rapidly changing environment over widely dispersed areas. The CSS necessary to sustain this unit must be tailored to the special considerations of helicopterborne operations. Terminology used in this appendix is primarily United States Marine Corps (USMC) related, but is applicable to any LF.

L.2 FUNDAMENTALS

Because of the complexity and rapid nature of helicopterborne operations, any confusion during the rapid buildup of combat power ashore in a helicopter landing zone (HLZ) can be fatal. Therefore, all elements of the Marine air-ground task force (MAGTF) and Navy control agencies must coordinate planning and be familiar with the role that each plays during amphibious operations.

L.2.1 Helicopterborne Operations. The following factors are fundamental to helicopterborne operations.

1. The helicopterborne unit commander is responsible for all aspects of the operation in the HLZ. The helicopterborne unit receives support and augmentation from other LF organizations, but the helicopterborne unit commander retains operational control.
2. An HST is formed for all helicopterborne operations to facilitate the rapid, organized, and efficient buildup of balanced combat power in the objective

area. The composition and commander of the HST is decided by the helicopterborne unit commander based on the mission and whether a CSS buildup is planned.

3. HST members must be trained to carry out assigned duties. The team must be familiar with all aspects of landing operations. The HST commander is responsible for planning and coordinating HST training.
4. The role of the landing force support party (LFSP) in supporting a helicopterborne operation depends on the mission and task organization of the LF. The level of support provided to the helicopterborne unit by the LFSP may vary from landing zone (LZ) operations training to providing personnel and equipment to form the HST headquarters and LZ platoon if a CSS buildup is planned.
5. The helicopterborne unit and attachments are responsible for preparing, rigging, and hooking up their organic equipment and supplies for external helicopter lift.
6. Within the LF, slings and cargo nets used for external helicopter lifts are centrally controlled and managed by the LFSP. Landing support units provide training in the use of this equipment to helicopterborne units.
7. To ensure unity of effort during a helicopterborne operation all units are under the operational control of the helicopterborne unit commander. The LF operation order will specify when or under what conditions operational control of these units passes back to their parent organization.
8. Helicopter initial terminal guidance for assault waves is normally provided by division or force reconnaissance units. Initial terminal guidance is extremely critical for night helicopterborne operations. Once established in the LZ, the HST assumes responsibility for helicopter terminal guidance from the reconnaissance unit. The reconnaissance unit is assigned follow-on missions by the helicopterborne unit commander or higher headquarters, as appropriate.

9. HST operations are normally terminated when the helicopterborne unit is no longer dependent on helicopters as the primary means of support or when a planned CSS buildup commences in the LZ.

L.2.2 Planned Combat Service Support (CSS) Buildup. Understanding what constitutes a planned CSS buildup is also a fundamental aspect of helicopterborne operations. Based on the mission, a helicopterborne unit moves ashore with the necessary personnel, equipment, and a basic load of consumable supplies. The basic load carried by the helicopterborne unit is prescribed by the commander, landing force (CLF). The terms “basic load” and “prescribed load” are used interchangeably.

The basic load, for all classes of consumable supplies except ammunition (Class V), is expressed in days of supply (DOS). DOS is the amount of supplies that a unit requires to sustain itself in combat for one day. For example, a DOS of food, water, and fuel is three meals and two canteens of water (more in hot climates) per individual, and the fuel required for one day’s operation of organic equipment as specified in the table of authorized material. A DOS for other supplies such as sand bags, barbed wire, repair parts, and so forth is normally specified in the unit’s standard operating procedure (SOP).

The basic load for ammunition has two parts; a basic allowance (BA) and day of ammunition (DOA). The BA is the quantity of ammunition specified in Marine Corps Order P8010 to be maintained for each weapon employed in combat. A DOA is the total ammunition, calculated at standard consumption rates, for each organic and attached weapon employed in combat.

An example of a helicopterborne unit’s basic load is: two DOA, two DOS. The BA is a requirement that is implied and normally not stated. In addition to the BA the unit will carry sufficient ammunition and consumable supplies to sustain itself in combat for two days without resupply. The basic load is issued to, controlled, and carried by the helicopterborne unit to the objective area. The basic load is considered helicopterborne unit organic supplies. The helicopterborne unit commander will specify what portions of the basic load will be carried by subordinate units and what portions will be retained under central control in HLZ dumps run by the HST.

Movement of the helicopterborne unit’s basic load to the objective area and resupply of the basic load to maintain the specified supply level is not considered a CSS buildup. A CSS buildup takes place when additional

supplies above and beyond the basic load are moved to the objective area. For example, a supply safety level of one or two DOS/DOA moved to the objective area constitutes a CSS buildup. When a CSS buildup in an LZ commences, control of the LZ transitions from the helicopterborne unit HST to the LFSP and the LZ is redesignated a landing zone support area (LZSA).

The LF operation order specifies when control of the LZ passes from the HST to the LFSP. Passing control can be specified by time, event (such as when sufficient LFSP command and control capability is in the LZ), or on order of the CLF.

L.3 HST ORGANIZATION AND RESPONSIBILITIES

The helicopterborne unit is supported by organic, attached, and external CSS elements organized to push supplies, material, and ammunition forward by air. The primary CSS organization within the helicopterborne unit is the HST.

The HST provides support in helicopterborne operations by facilitating the landing and movement of helicopterborne forces, equipment, and supplies to and within the HLZ. The HST also supports the evacuation of casualties and enemy prisoners of war.

L.3.1 HST Organization. The HST is task organized and composed of personnel and equipment from the helicopterborne force and the LFSP, augmented from other LF units as required. Normally, an HST is assigned to each HLZ and provides support to units operating in and around that zone. Its organization is based on the contemplated operation. The HST normally consists of an advance party, headquarters, helicopter control element (HCE), and LZ platoon as shown in Figure L-1. The basic functions of each of these elements are explained in the following paragraphs.

L.3.1.1 Advance Party. The advance party, normally 8 to 10 members with hand-carried equipment, includes representatives from all elements of the HST. The advance party lands early, selects suitable areas for establishing CSS installations, establishes the advance party command post (CP), and places unloading point markers. Unloading point markers are described in Appendix C and are the same as those used by the LFSP in the beach support area (BSA). They indicate where the various categories of supplies are landed and where casualties are evacuated. The officer in charge (OIC) of the advance party assumes operational control over the division or force reconnaissance unit that provided the initial

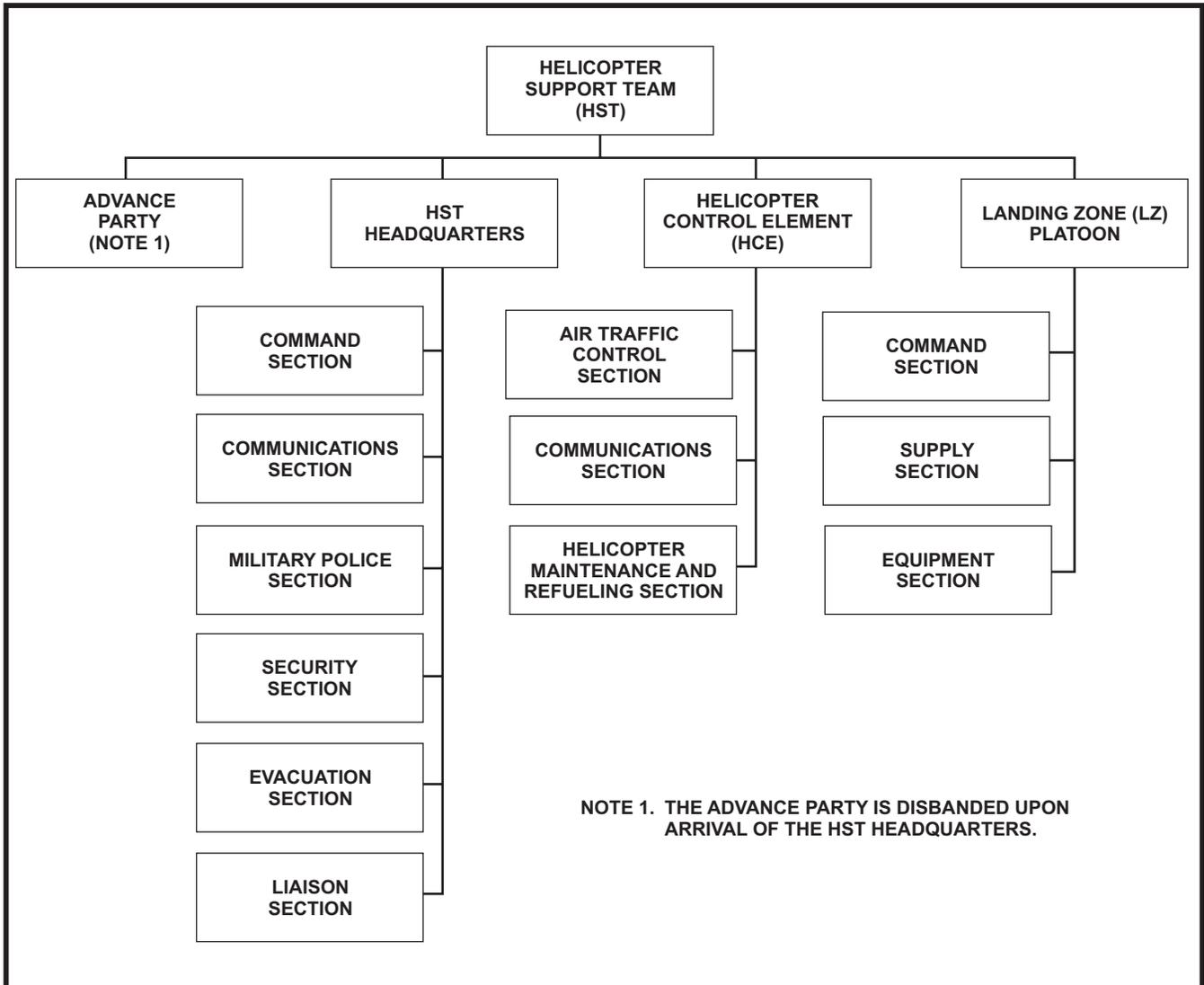


Figure L-1. Helicopter Support Team (HST) Organization

terminal guidance into the LZ. The OIC retains control of the reconnaissance unit until the HCE of the HST assumes responsibility for helicopter air traffic control.

When the HST is established in the LZ, the advance party disbands and personnel revert to their parent elements within the HST.

L.3.1.2 HST Headquarters. The HST headquarters element may come from the service platoon of the helicopterborne unit when no CSS buildup is planned, or from the landing support platoon of the LFSP when a CSS buildup is planned. Providing LFSP landing support personnel to form the HST headquarters when a CSS buildup is planned simplifies transfer of control of the LZ to the LFSP when a CSS buildup commences. The headquarters element assumes control of the LZ

from the advance party as rapidly as possible. The HST commander establishes the CP in an area readily accessible by surface and helicopter transportation means. The HST headquarters consists of:

1. A command section provided by the appropriate platoon headquarters, augmented as required
2. A communications section provided by the communications platoon of the helicopterborne unit or from the LFSP, as appropriate
3. A military police section from the military police company, division headquarters battalion, or the LFSP, as appropriate

4. A security section provided by the helicopterborne unit
5. An evacuation section provided by the medical section of the helicopterborne unit
6. A liaison section provided by the helicopterborne unit.

L.3.1.3 Helicopter Control Element (HCE).

The air combat element (ACE) commander, through the HCE, is responsible for air traffic control ashore of aircraft within the MAGTF. During the initial stages of amphibious operations the Marine air command and control system (MACCS) is not established so HCEs are provided by the ACE to the LFSP, and the HCEs become part of the LFSP's helicopter support element (HSE). The LFSP in turn task organizes the HSE (to include HCEs) to meet mission requirements and provides task organized HCEs to the helicopterborne unit for inclusion in the HST.

The HCE consists of:

1. An air traffic control section provided by the Marine air traffic control squadron (MATCS)
2. A communications section provided by the Marine air communication squadron (MACS) of the Marine wing control group (MWCG)
3. A helicopter maintenance and refueling section provided as follows:
 - Maintenance personnel from the helicopter squadron making the lift
 - Crash, fire, and rescue personnel and equipment from a rotary wing (RW) Marine wing support squadron (MWSS(RW)) of the Marine wing support group (MWSG)
 - Fuel team personnel and equipment from a MWSS(RW).

L.3.1.4 Landing Zone (LZ) Platoon. The LZ platoon is provided by the unit providing the HST command section and it is organized into command, supply, and equipment sections. If material handling equipment is required in the LZ or if helicopter slings and related equipment are required for external lifts, the equipment section is provided by the LFSP as this type of equipment is not organic to combat units. This is valid whether or not a CSS buildup is planned.

L.3.2 HST Responsibilities. The HST performs tasks within an LZ similar to those performed by the LFSP in the BSA. An HST:

1. Establishes communications with the headquarters element of the helicopterborne unit, supporting helicopters, tactical logistics (TACLOG) groups, and the primary helicopter direction center (HDC)/assault support coordinator (airborne) (ASC(A))
2. Prepares and marks landing sites, removes or marks obstacles, and sets up wind direction indicators
3. Selects areas for supply dumps and other CSS installations, HST CP, helicopter evacuation stations (HESs), and defensive positions to provide HLZ security
4. Controls helicopter operations within the LZ and supports helicopterborne units landing in the LZ
5. Unloads helicopters to include external lifts
6. Loads cargo nets, pallets, slings, and casualties on board helicopters
7. Establishes dumps, issues supplies, and maintains necessary records of supplies received, issued, and available
8. Maintains the helicopterborne unit's basic load at the prescribed level
9. Passes requests for replenishment of the basic load, supplies not contained in the HLZ dumps, or on-call serials to the helicopterborne RLT TACLOG detachment collocated with the primary HDC and HLSC
10. Provides personnel and vehicle ground control
11. Maintains a situation map and information center
12. Performs emergency helicopter repair and refueling
13. Evacuates prisoners of war and casualties
14. Performs fire-fighting duties in the HLZ.

L.4 HST OPERATIONS

The following paragraphs discuss HST embarkation, organization for landing, and operations ashore.

L.4.1 Embarkation. If the helicopterborne unit is embarked aboard several amphibious ships, the HST may be spread loaded, however, this is not mandatory.

L.4.2 Organization for Landing. The HST is formed into heliteams for the ship-to-shore movement. The heliteams and their equipment are normally landed in scheduled waves. The position of the HST serials in the scheduled waves of the helicopterborne unit is determined by the landing plan of that unit. They normally land in the following sequence:

1. Advance party
2. HCE
3. HST headquarters (first echelon)
4. LZ platoon (first echelon)
5. HST headquarters (second echelon)
6. LZ platoon (second echelon)
7. HST equipment.

L.4.3 Operations Ashore. HST operations ashore parallel those of the LFSP. Communications are established between the HST and the Navy air traffic control agency (primary HDC/ASC(A)), helicopterborne RLT TACLOG detachment, helicopterborne unit command element, helicopters subsequently arriving in the HLZ, and, when a CSS build-up is planned, the LFSP commander. Emergency supplies and troop serials required out of sequence are requested by the helicopterborne unit through the HST commander.

L.4.3.1 Helicopter Landing Zone (HLZ) Organization. The HLZ is organized to effectively accomplish assigned helicopter support tasks. The development of the HLZ is generally the same as the development of the BSA and the HCE's role is analogous to the beach party. The equipment available for HST use is limited to that which is transportable by helicopter. A representative HLZ is shown in Figure L-2.

L.4.3.2 Control of Aircraft. The control of aircraft traffic in and around HLZs is a critical element in helicopterborne operations. As control of aircraft is one

of the six functions of Marine Corps aviation, it is the responsibility of the ACE commander to provide the LFSP with sufficient trained personnel and equipment for HSTs to establish air traffic control facilities in each HLZ. Helicopter control required in the HLZ is initially provided by initial terminal guidance teams from division or force reconnaissance. When the HST is established, these control functions are assumed by the HCE. The air traffic control section of the HCE directs aircraft traffic in, out, and around the LZ by coordinating with the ASC(A). The ASC(A) deconflicts helicopter traffic with fixed wing aircraft activities by coordinating with the tactical air coordinator (airborne) (TAC(A)). During the ship-to-shore movement, the ASC(A) is an extension of the primary HDC and the TAC(A) is an extension of the TACC afloat. Windsocks, panels, and range lights for night operations are installed under the cognizance of the LZ control officer. Helicopters approaching or departing the HLZ check in with the LZ control officer by radio for landing or takeoff instructions. Approaching pilots identify the cargo they are carrying to enable the LZ control officer to direct them to a specific landing point. When in the vicinity of the landing point, the aircraft is taken under the control of a ground controller by visual means and signaled into the proper landing position.

L.4.3.3 Aircraft Maintenance and Refueling. Aircraft maintenance and refueling facilities within the HLZ are minimal. However, personnel are available to make minor repairs and adjustments to aircraft and to provide emergency refueling. If major repairs are required, additional maintenance personnel and equipment are flown from ships to the HLZ.

L.4.3.4 Movement of Supplies. Troops, equipment, and supplies are kept clear of HLZ landing points to prevent interference with helicopters landing and departing the area. Transportation and material handling equipment within the HLZ is minimal, therefore, landing points must be placed as close to dump sites as possible. Adequate equipment and personnel must be available to move incoming supplies rapidly to dump sites, and prepackaged supplies must be kept within the weight limitations of the HLZ cargo handling equipment.

L.4.4 Termination of HST Operations. HST operations normally terminate when the helicopterborne unit is no longer dependent on helicopter support as the primary means of CSS or when a planned CSS buildup commences in the HLZ. When HST operations end, and if there is no longer any requirement for the HLZ to operate, the HCE will terminate operations and revert to LFSP operational control.

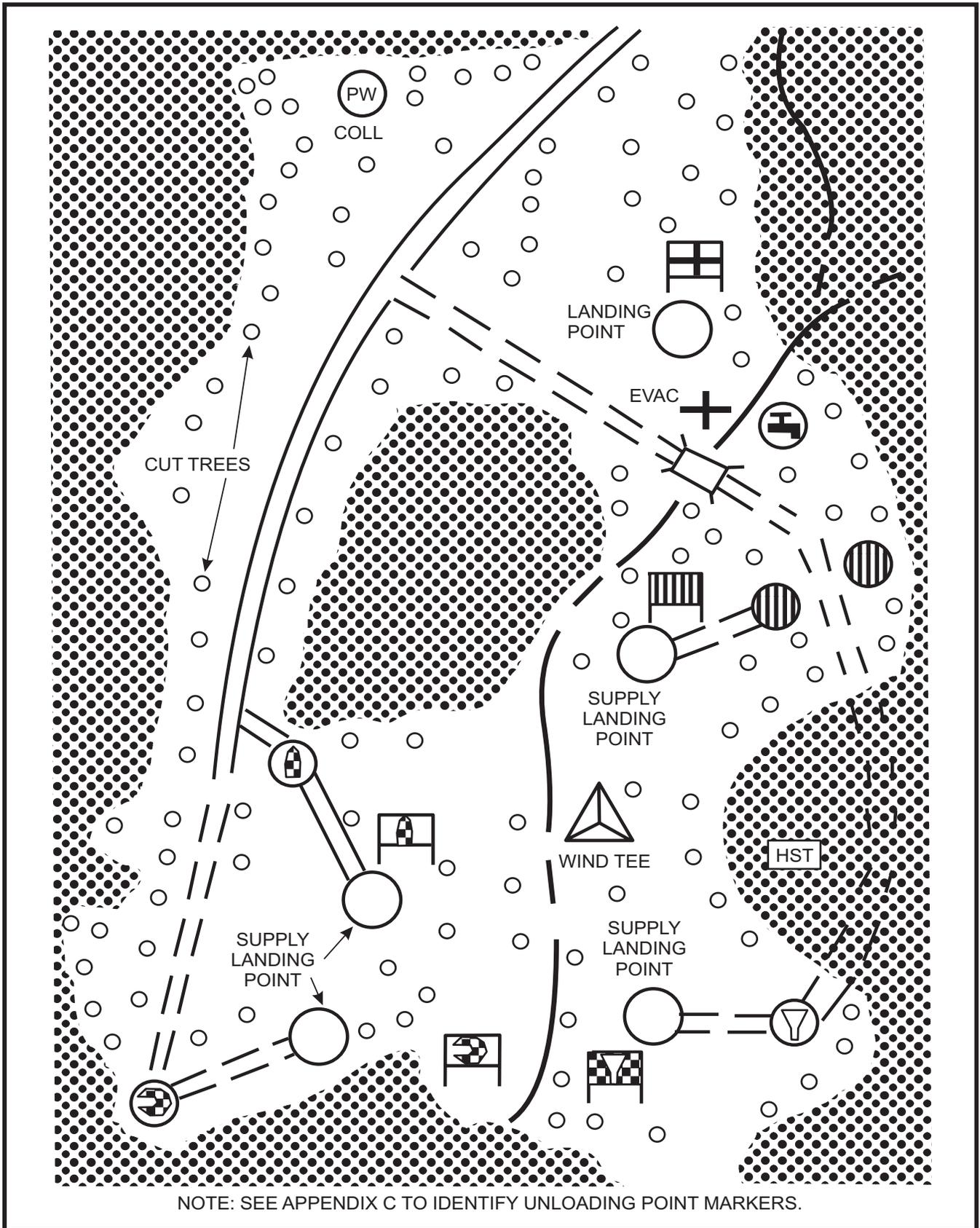


Figure L-2. A Representative Helicopter Landing Zone

In cases where HST operations terminate and there is still a requirement for helicopter support to sustain the operation, a CSS buildup will take place and the LZ will become a LZSA. Control of the LZSA is exercised by the LFSP. Since the ACE's MACCS is not normally established ashore at this stage of the operation, the HCE will revert to the LFSP and continue operations under the LFSP until such time as the ACE commander can assume responsibility for air traffic control.

L.5 COMMUNICATIONS

The following paragraphs describe the communications connectivity required by the HST to carry out its mission.

L.5.1 HST Logistics Support. The HST is organized and equipped to provide direct CSS to its helicopterborne unit. The communications nets described in the following paragraphs facilitate this logistic support.

L.5.1.1 Helicopterborne Unit Command Net. The helicopterborne unit command net is an internal net used by the helicopterborne unit to request logistics support from their HST.

L.5.1.2 HST Control Net. The HST control net is used to forward CSS requests to the helicopterborne RLT TACLOG detachment and the LFSP.

L.5.1.3 HLZ Local Net. The HLZ local net is used to connect all subordinate activities in the HLZ

including supply dumps, evacuation sites, and the HCE. A parallel wire communications system is installed if time and the tactical situation permit.

L.5.1.4 Wire Communications. A wire communications system is established between the HST command element and the helicopterborne unit command element. This system includes a direct line from the HST to the helicopterborne unit S-4 to coordinated CSS requests.

L.5.2 HCE. The HCE is organized and equipped to conduct helicopter approach and terminal guidance control. The communications nets described in the following paragraphs support the HCE.

L.5.2.1 Helicopter Direction (HD) Net. The HD net is guarded by the LZ control officer to obtain information on inbound and outbound helicopters. In addition, the HD net may be used to advise the ASC(A) and other control agencies of the situation in the HLZ.

L.5.2.2 LZ Control Net. The LZ control net is used by the LZ control officer to control helicopters from the initial point (IP) to the HLZ and within the HLZ.

L.5.2.3 HCE Local Net. The HCE local net provides the HCE commander with communications to control helicopter control personnel in each of the landing sites of the HLZ. This net may be supplanted or augmented with a wire communications system.

APPENDIX M

Operational Tasking Amphibious (OPTASK AMPHIB)

M.1 PURPOSE

The OPTASK AMPHIB is a formatted message used by the commander amphibious task force (CATF), central control officer (CCO), or primary control officer (PCO) to promulgate or change information concerning an amphibious operation. The information provided in this message may cover multiple beaches and landing zones, specific phases of the operation, or change information provided in a previous OPTASK AMPHIB or the operation order (OPORD).

M.2 REFERENCE

APP 4, Volume 1, "Allied Maritime Structured Messages (U)," provides detailed instructions for preparing the OPTASK AMPHIB and should be consulted for additional information and specific arrangement of each data field.

M.3 MESSAGE FORMAT

The following is a general synopsis of an OPTASK AMPHIB:

MSGID/OPTASK AMPHIB/CTF XX/001/JAN

- The message identification above denotes the first OPTASK AMPHIB transmitted by CTFXX in January

A1/REF/ (reference)

- The appropriate OPORD or operation code name is inserted.

A2/PERIOD/ (period of operations)

- The specific time period covered by the OPTASK AMPHIB is inserted.

B1/ADVOPS/ (advance force operations)

- The geographic location, period of time, objectives, and special instructions for advance force operations are described using free text.

B2/RHRSLDG/ (rehearsal landing)

- The geographic location, period of time, and type of landing (turnaway, surface only, without troops, and so forth) are defined.

B3/DLDG/ (D-day landing)

- The geographic location, date, type of landing, objectives, H-hour, and L-hour are defined.

C1/DUTIES/ (amphibious warfare)

- Amphibious warfare general duties, such as primary control ship (PCS), sneak attack defense coordinator (SADC), primary casualty receiving and treatment ship (PCRTS), and so forth are listed with the unit responsible for each.

C2/NGSASIG/ (naval gunfire support area assignments)

- The ship's name, fire support area (FSA) assignment, mission, zone of fire, supported landing force (LF) unit, and period of assignment are listed.

D1/CHARTS/ (charts and maps)

- The nautical charts or maps, supporting the amphibious operation, are listed with their corresponding hydrographic office (H.O.) or identification numbers.

D2/AOA/ (amphibious objective area)

- The AOA boundaries and altitude (or flight level) restrictions are defined. Air space boundaries (if different from AOA boundaries) are also defined.

D3/SEAECH/ (sea echelon)

- Used only to change the sea echelon area overlay provided in the OPORD.

D4/REFPOINT/ (reference point)

- Gives the name and geographic position of a navigation or friendly air contact reference point.

D5/BEACHCTR/ (beach center)

- The name, color, and number of each beach are listed with the geographic position of beach center and depth of the beach provided.

D6/BOATLANE/ (boat lane)
– The boat lane axis, length, and the location of the return boat lane are given.

D7/LNCHCORR/ (launch corridor)
– The underway launch track and scenario are described using free text.

D8/LOD/ (line of departure)
– The LOD's geographic position is given.

D9/ANCHOR/ (anchorage)
– Anchorages are designated and listed by name or alpha-numeric designation.

D10/LPHAREA/ (helicopter transport area)
– The helicopter transport area is defined.

D11/FSSTN/ (fire support stations)
– Used only to change fire support stations in the naval surface fire support (NSFS) area overlay provided in the OPORD.

D12/FSPOINT/ (fire support reference point)
– A number and geographic position are given for each fire support reference point.

D13/FSAREA/ (fire support area)
– Used only to change fire support areas in the NSFS area overlay provided in the OPORD.

D14/NGSZONES/ (naval gunfire support zones)
– Used only to change naval gunfire support zones in the NSFS area overlay provided in the OPORD.

D15/BEACHEAD/ (force beach head line (FBHL) trace)
– Used only to change the FBHL overlay provided in the OPORD.

D16/HELOLZ/ (helicopter landing zone (HLZ))
– A designation, geographic position, and description of each HLZ are given.

D17/HELOCORR/ (helicopter flight corridors)
– Helicopter primary and secondary transit lanes from the helicopter landing diagram are listed.

D18/HELOCONT/ (helicopter control)
– Free text is used to define helicopter launch sites, rendezvous points, transit altitudes (in bound and outbound), and so forth.

E1/ADVMOV/ (advance force movement)
– The time of advance force detachment, the detachment position, and point of intended movement (PIM) are given.

E2/ATFMOV/ (main body movement)
– The formation used to approach the AOA, arrival time at point OSCAR, order of entry, interval between ships, speed, and the guide are designated.

F1/SURFASLT/ (surface assault waves)
– Each wave is listed for each colored or numbered beach by wave number with wave composition, ship launching the wave, and touch down time specified.

F2/HELOASLT/ (helicopter assault waves)
– Each wave is listed for each HLZ by wave number with wave composition, ship launching the wave, and touch down time specified.

G1/NGSFIRE/ (naval gunfire schedule of fire)
– The target number, description, position, type of ammunition to be used, firing instructions, commence fire time, cease fire time, and type of fire are given.

H1/PRE CASOP/ (pre-H hour close air support (CAS))
– The target number, type of target, number of aircraft required, aircraft mission, time on target, cease fire time and unit providing the aircraft are given.

K1/RSTDFIRE/ (restricted fire plan)
– Used only to change the NSFS area overlay provided in the OPORD.

K2/RSTDAIR/ (restricted air plan)
– The target number, position of the firing unit and target, maximum ordinate, effective time, and stop time are given.

K3/ANTIMECH/ (antimechanized plan)
– Used only to change the antimechanized plan provided in the OPORD.

K4/RADARBCN/ (radar beacon plan)
– Used only to change the radar beacon plan provided in the OPORD.

L1/RHRSLPXD/ (rehearsal landing post exercise discussion)
– The time, location, required attendees, and transportation support arranged are defined.

L2/CAUSEWAY/ (causeway operations)

- The causeway operating area is defined and the position for causeway emplacement and the order ships will marry to each causeway pier are given.

L3/BARGEOPS/ (barge ferry operations)

- The ship providing the barge ferry causeways and the order of ships that will offload using them are described.

L4/OFFLOAD/ (general offload)

- The general offload plan and PCS procedures are described using free text.

L5/AABFS/ (amphibious assault bulk fuel system)

- AABFS employment; beach transfer points; launch, employment, and recovery schedule; support boat requirements; ecological precautions; and amplifying instructions are provided for each AABFS.

N1/COMMS/ (communications)

- Used only to change the OPTASK COMMS.

N2/EMCON/ (emission control plan)

- Provided in ATP 1 format to commands that were not on distribution for the OPTASK EW.

P1/POSTPONE/ (postponement plan)

- The ATF operating area and the effective time period are described.

X1/REPINST/ (reporting instructions)

- Special reporting instructions not covered elsewhere may be inserted.

Y1/SPECINST/ (special instructions)

- Special instructions not covered elsewhere may be inserted.

Y2/SPECINFO/ (special information)

- Special information not covered elsewhere may be inserted.

Z1/ACKNLDGE/ (acknowledgment)

- Message addressees required to acknowledge the OPTASK AMPHIB are listed.

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