

**Part VII**  
**References**



## Key Unit Phone Numbers

Location	DSN Phone	Commercial Phone
MARFORLANT C/S	836-1533/1600	(751) 836-1533/1600
G1	836-1541	(751) 836-1541
G-2	836-1600	(751) 836-1600
G-3	836-1620	(751) 836-1620
G-4	836-1647	(751) 836-1647
G-5	836-1701	(751) 836-1701
G-6	444-6256	
MARFORPAC C/S	315-477-8616/1621	(808) 477-8616/1621
G-1	315-477-8515	(808) 477-8515
G-2	315-477-8445	(808) 477-8445
G-3	315-477-8628	(808) 477-8628
G-4	315-477-8324	(808) 477-8324
G-5	315-477-8567	(808) 477-8567
G-6	315-477-8494	(808) 477-8494
MARFORRES C/S	678-1581/1582	(504) 678-1581/1582
G-1	678-5627	(504) 678-5627
G-2	678-6950	(504) 678-6950
G-3	678-6067	(504) 678-6067
G-4	678-1348	(504) 678-1348
G-6	678-1364	(504) 678-1364
MARFORSOUTH C/S	567-2600	(305) 437-2600
G-1	567-2601	(305) 437-2601
G-2	567-1855	(305) 437-1855
G-3	567-2603	(305) 437-2603
G-4	567-2604	(305) 437-2604
G-5	567-2605	(305) 437-2605
G-6	567-2606	(305) 437-2606
I MEF C/S	365-9101/9209/9104	(760) 725-9101/9209
G-1	365-9206	(760) 725-9206
G-2	365-9223	(760) 725-9223
G-3	365-9145	(760) 725-9145
G-4	365-9162	(760) 725-9162
G-5	365-5715	(760) 725-5715
G-6	365-9179	(760) 725-9179
II MEF C/S	751-8952/8200/8956	(910) 451-8952/8200
G-1	751-8135	(910) 451-8135
G-2	751-8039	(910) 451-8039
G-3	751-8987	(910) 451-8987
G-4	751-8409	(910) 451-8409
G-5	751-8187	(910) 451-8187
G-6	751-8949	(910) 451-8949

<b>Location</b>	<b>DSN Phone</b>	<b>Commercial Phone</b>
III MEF C/S	315-622-7753	
G-1	315-622-7744	
G-2	315-622-7316	
G-3	315-622-7718	
G-4	315-622-7784	
G-5	315-622-7717	
G-6	315-622-7267	
1 <sup>st</sup> FSSG C/S	365-5825/5966	(760) 725-2825/5966
G-1	365-5854	(760) 725-5854
G-2	365-5101	(760) 725-5101
G-3	365-6841	(760) 725-6841
G-4	365-1148	(760) 725-1148
G-6	365-5845	(760) 725-5845
2 <sup>nd</sup> FSSG C/S	751-2702/2826	(910) 451-2702/2826
G-1	751-5739	(910) 451-5739
G-2	751-5708	(910) 451-5708
G-3	751-3914	(910) 451-3914
G-4	751-3342	(910) 451-3342
G-6	751-3838	(910) 451-3838
3 <sup>rd</sup> FSSG C/S	315-637-3502/3522/3360	
G-1	315-637-2615	
G-2	315-637-1651	
G-3	315-637-1934	
G-4	315-637-2118	
G-6	315-637-1814	
4 <sup>th</sup> FSSG C/S	678-0651	(504) 678-0651
G-1	678-6505	(504) 678-6505
G-3	678-6530	(504) 678-6530
G-4	678-6520	(504) 678-6520
G-6	678-4990	(504) 678-4990
1 <sup>st</sup> MARDIV C/S	365-5423/6119	(760) 725-5423/6119
G-1	365-3847/3453	(760) 725-3847/3453
G-2	365-2883	(760) 725-2883
G-3	365-4439/3280	(760) 725-4439/3280
G-4	365-3505/2833	(760) 725-3505-2833
G-6	365-5059/2366	(760) 725-5059/2366
2 <sup>nd</sup> MARDIV C/S	751-8470/8155	(910) 451-8470/8155
G-1	751-8159	(910) 451-8159
G-2	751-8249	(910) 451-8249
G-3	751-8152	(910) 451-8152
G-4	751-8064	(910) 451-8064
G-6	751-8053	(910) 451-8053
3 <sup>rd</sup> MARDIV C/S	315-622-9574	
G-1	315-622-9422	
G-2	315-622-7336	
G-3	315-622-9592	
G-4	315-622-9050	
G-6	315-622-9489	

<b>Location</b>	<b>DSN Phone</b>	<b>Commercial Phone</b>
1 <sup>st</sup> MAW C/S	315-645-7320/3285	
G-1	315-645-0742	
G-2	315-645-3840	
G-3	315-645-3161	
G-4	315-645-3198	
G-6	315-645-2301	
2 <sup>nd</sup> MAW C/S	582-2341	(252) 582-2341
G-1	582-4134	(252) 582-4134
G-2	582-2883	(252) 582-2883
G-3	582-2341	(252) 582-2341
G-4	582-3400	(252) 582-3400
G-6	582-5058	(252) 582-5058
3 <sup>rd</sup> MAW C/S	267-7291	(619) 577-7291
G-1	267-7403	(619) 577-7403
G-2	267-4752	(619) 577-4752
G-3	267-4504	(619) 577-4504
G-4	267-7472	(619) 577-7472
G-5	267-7353	(619) 577-7353
G-6	267-7416	(619) 577-7416
MAWTS-1		
S-1	951-6382	(520) 341-6382
S-2	951-2653	(520) 341-2653
S-3	951-2915	(520) 341-2915
S-4	951-2577	(520) 341-2577
S-5	951-3572	(520) 341-3572
S-6	951-5353	(520) 341-5353
MSTP	278-2818/2906	(703) 784-2818/2906
MEF Branch	278-6401/6450	(703) 784-6401/6450
BSTF	278-5156/5157	(703) 784-5156/5157
USSPACECOM Space Ops Center	692-5527	(719) 554-5527
Naval Space Ops Center	249-6500	(540) 653-6500
Naval Space Support Teams	249-6160	(540) 653-6160

## Useful Web Pages

<b>Useful Internet Web Pages</b>	
<b>USMC Webpage</b>	<a href="http://www.usmc.mil/">http://www.usmc.mil/</a>
<b>MSTP Webpage</b>	<a href="http://www.mstp.quantico.usmc.mil/">http://www.mstp.quantico.usmc.mil/</a>
<b>USMC Doctrine</b>	<a href="http://www.doctrine.quantico.usmc.mil/">http://www.doctrine.quantico.usmc.mil/</a>
<b>Joint Doctrine</b>	<a href="http://www.dtic.mil/doctrine/#components">http://www.dtic.mil/doctrine/#components</a>
<b>USA Doctrine</b>	<a href="http://www-tradoc.army.mil/">http://www-tradoc.army.mil/</a>
<b>USN Doctrine</b>	<a href="http://www.nwdc.navy.mil/">http://www.nwdc.navy.mil/</a>
<b>USAF Doctrine</b>	<a href="http://www.usafdoctrine.maxwell.af.mil/">http://www.usafdoctrine.maxwell.af.mil/</a>
<b>Early Bird</b>	<a href="http://www.ebird.dtic.mil/">http://www.ebird.dtic.mil/</a>
<b>DOD Dictionary</b>	<a href="http://www.dtic.mil/doctrine/jel/doddict/">http://www.dtic.mil/doctrine/jel/doddict/</a>
<b>Navy Fact Sheet</b>	<a href="http://chinfo.navy.mil/navpalib/factfile/ffiletop.html">http://chinfo.navy.mil/navpalib/factfile/ffiletop.html</a>

# Planning Quick Reference Table

## Marine Corps Planning Process: Mission Analysis, COA Development, COA War Game, COA Comparison and Decision, Orders Development, Transition.

<b>Actions Upon Receipt of Mission</b>	The CG and C/S consider the division of labor between the G-3 and the G-5: <b>Time:</b> Relative to what is being executed in current operations and what is future operation's planning horizon. <b>Purpose:</b> Is the purpose the same for future tasks, within the current or subsequent phases, such that G-3, Future Operations is the logical choice for planning. <b>Major Tactical Tasks:</b> Major tasks (Linkup, RIP, POL, JLOTS, etc.), of such complexity, that require long lead-time and coordination with forces external to the MEF. <b>Area of Operations:</b> Change in area of operations requiring a different set of considerations with respect to terrain and enemy. <b>Command Relationships:</b> Changes in command relationships requiring coordination beyond that of what is currently in place. <b>CG's guidance to C/S, G-3, and G-5 may include decisions on the following:</b> Assessment of division of labor between G-5 and G-3 in order to prevent duplication of effort. Where does the CG want the G-5 to focus his planning efforts. Does the CG want the G-5 to think beyond the next MEF mission? What are the CG's future concerns? What should the G-5 produce and hand off to G-3, FOPS. Planning Horizon based on Time Available: Is it better to have the G-5 coordinate and shape issues for the MEF or dedicate time to detailed planning that may be best planned by G-3 FOPS. Planning Horizon based on achieving the assigned purpose: While G-3 plans and executes towards one purpose, G-5 plans towards the next purpose.
<b>Commander's Orientation:</b>	The Battlestaff provides the necessary information for the CG to Review HHQ warning order or OPORD, intelligence estimate and IPB products (MCOO, doctrinal template). Commander issues Initial Guidance relative to <b>Commander's Battlespace Area Evaluation (CBAE):</b> Battlespace, COG, CDR's Intent, and CCIRs.
<b>Mission Analysis:</b>	Establish Time Line. Review initial guidance, CBAE and update MCOO. Review HHQ Mission and Intent. Determine the enemy and friendly <b>PURPOSE</b> of the Operation. Identify specified and implied tasks (annotate reference/page number). Determine essential tasks. Draft mission statement. Determine Area of Interest (AOI) in relation to AO. Review restraints (cannot do) and constraints (must do) (annotate reference/ page number). Review significant assumptions required to continue planning. Determine requests for information (RFIs). Determine priority intelligence requirements, recommended CCIRs, and review resource shortfalls. Determine subject matter expert shortfall. Enemy and Friendly COG/CV analysis (Enemy COG prevents you from achieving your purpose). Throughout planning allow OPT members time to brief respective Cdrs and staff principals. G-2 develops HVTs.
<b>Mission Analysis Brief:</b>	Review commander's initial guidance. Situation update, AO/AOI, Intel estimate (Terrain, weather, threat COA's). HHQ Mission and Intent. Review purpose, specified, implied, and essential tasks (with references/page). Proposed mission statement. Review shortfalls. Have G2 present enemy COA models. Review Enemy and Friendly COG. Recommend CCIRs. Issues for the commander. Once the mission statement is approved, draft and issue warning order (mission, cdr's intent, task organization, earliest time of movement, etc.). Start incorporating planning products within the JOPES basic orders format. Begin staff estimates and convene the Red Cell.
<b>COA Development:</b>	Commander issues planning guidance with respect to COA development, and decisive (results beyond itself) and shaping actions. Review MCOO, doctrinal and situation template, and ENCOA models. Graphically array friendly and enemy forces. Develop the relative combat power assessment. <b>Develop initial COAs by working backward from the PURPOSE of the operation, the ENDSTATE conditions that achieve the purpose, EN COG/CV, to decisive (ME) and shaping (SE/Lethal and non-lethal) actions and Reserves. Consider Types of Offensive Operations and Forms of Maneuver that can lead you to a Decision.</b> Think Time and Space at the MEF level—deep, close, rear operations. Determine which forms of maneuver best exploit the combined arms of the MAGTF across the entire battlespace. Where do you want to force, accept, or refuse battle. Develop HVTs into HPTs. Review the commander's planning guidance against the COA. Ensure that the COA is <b>Suitable</b> (accomplishes the mission [purpose] and complies with the commander's guidance). <b>Feasible</b> (accomplish mission with available time, space and resources). <b>Distinguishable</b> (significant different from other COAs in forms of maneuver or attacking EN COG through CVs). <b>Acceptable</b> (accomplishes an advantage that justifies the cost in resources), <b>Complete</b> (accomplishes the all tasks in accordance with the commander's guidance). <b>Brief the initial COA</b> to the commander, ensure that reps from the Red Cell are present. Make necessary modifications. Refine graphics (boundaries, LD, phase lines, ground and air axis, assembly areas fire support measures, ME/SE/Res) and <b>write COA narratives</b> (write broad overview of the operation as a CONOPS (MSC – ACE, GCE, FSSG tasks) as conducted in phases or stages with endstate for each. Tasks and Purpose of the ME/SE/Res). <b>Reserves</b> should be organized based on anticipated capabilities.
<b>COA Development Brief:</b>	Review Commander's Planning Guidance, Intel update, Mission, Intent, Updated facts and assumptions, Relative Combat Power Assessment, COA graphics and narratives (read the narrative and have a pointer work the map), recommended additions to CCIRs and PIRs. Pending Issues for the commander, Recommended war gaming analysis and evaluation criteria.

<b>COA War Game:</b>	Commander updates intent, guidance, CBAE, and CCIRs as part of the commander's war game guidance. Includes friendly and threat COAs to be war gamed against specific (most likely and dangerous) enemy COAs. List of critical events (decisive action, shaping, link up, passage of lines, enemy counter attack...) that need to be war gamed, and level of the war game (one or two levels down). The commander establishes the evaluation criteria based upon principles of war (MOOSE MUSS), main effort, EN COG, Purpose of the operation.... Red Cell and OPT prepare Synchronization Matrixes for their COAs. Review the commander's guidance and evaluation criteria with the OPT and Red Cell. Evaluate the friendly COAs against enemy COAs and not against other friendly COAs. Review war game rules and technique—post the designated enemy COA overlay on the map, post the friendly COA overlay on the map, determine if events are simultaneous or chronological, determine the affects of shaping (CINC and Enemy) on the forces. Begin the war game by establishing time of the event and weather conditions, conduct as many moves as necessary to achieve desired results. Record the time and results of the friendly and enemy moves, and collect data to satisfy the commander's evaluation criteria. Update synchronization matrix and decision support template and matrix (event template with projected enemy positions, NAIs, TAIs, and DPs). Identify and record, time, critical events, decision points, branches, and sequels. Validate HPTs. Identify resource shortfalls, and additional RFI, PIRs, and CCIRs. Identify and develop measures of effectiveness for assessment. <b>Validate Assessment Criteria's and MOEs for Tasks.</b> Brief respective staff sections to develop and refine staff estimates.
<b>COA War Game Brief:</b>	Mission, Intent, Cdr's evaluation criteria, war gamed COA, narrative and task organization, war gamed significant events and results (just the facts), decision points, any branches and sequels, validated assumptions, additional CCIRs and PIRs, resource shortfalls, commander's issues (track the ones resolved), commander's evaluation criteria as it pertains to each COA.
<b>COA Comparison and Decision:</b>	The commander, principle staff, and subordinate commanders examine and evaluate the COAs using the commander's evaluation criteria, staff estimates, and estimates of supportability. The commander may select a COA, modify a COA, develop a new COA by combining favorable elements of all the COAs, or discard and begin staff planning anew. Upon making a decision, the commander reviews the COA in detail (critical events and decision points) with subordinate commanders and principle staff. Issue Warning Order.
<b>Orders Development:</b>	The C/S coordinates the principle staff to assist the G-3 in developing the OPORDER. The mission statement (goes in para 2 of the OPORDER), commander's intent (para 3a), COA narrative (refined into a concept of operations [para 3b]), CCIRs (para 3e), staff estimates (refined into appropriate annexes), specified and implied tasks (with a purpose assigned to subordinates in para 3c), synchronization matrix (refined into an execution matrix), and other products from the planning process become the basis of the OPORDER. Conduct an Orders Reconciliation to review the entire order to ensure that the basic order and all its annexes are properly linked and in agreement. Conduct an "orders crosswalk" to ensure that the order is also linked to higher and adjacent. Identified branches are further planned to become FRAGOs. Decision Support Template and Matrix along with other Intelligence and IPB products are provided to subordinate commands.
<b>Transition:</b>	Designed to shift from planning to execution. The commander or C/S provide transition guidance. During transition, the commander conducts a transition/execution drill to envision flow of events with subordinate commanders. The commander may require the subordinate commanders to give a confirmation brief of their understanding of the mission and intent and their CONOPS. In internal transition, the plan is transitioned by future ops to current ops. The OPT reviews the detailed plan or order with all the staff section current ops reps. This brief may consist of an orientation, intelligence update, IPB, HHQ mission and intent, mission, commander's intent, CCIRs, T/O, and concept of operations, subordinate tasks, coordinating instructions, identified branches and sequels, decision support tools, pending issues. Current Ops should conduct an execution drill.

<b>Red Cell: Supports the CIC.</b>	Convene the red cell as soon as possible. As the "thinking enemy," the red cell receives threat COAs (most dangerous/most likely) from the G-2 and prepares these COAs for the war game. Based on threat capabilities, the red cell should have the following representation: maneuver, fires, and intelligence. The red cell team leader is designated by the commander and does not necessarily have to be an intel officer. The red cell and the OPT must constantly exchange information during the planning process.
<b>Warfighting Functions:</b>	Maneuver, Intelligence, Logistics, Command and Control, Force Protection, Fires
<b>Center of Gravity:</b>	COG is a source of strength (MCDPs & 0-1) COGs may shift by phase or by COA. For example if the enemy is defending, his COG may be artillery; whereas, if the enemy is delaying, his COG maybe his counterattack force—armor. At the tactical level, if the EN COG does not prevent you from achieving your purpose, then it may not be a COG. <b>Remain focused on the purpose</b> , the attack of the EN COG is only important if it leads you to that purpose.
<b>Cdr's Intent:</b>	Purpose, Method, and End State

<b>CCIRS</b>	Information required by the Cdr that directly affects his decisions and dictates the successful execution of operational or tactical operations. CCIRs normally result in the generation of three types of information requirements: <b>Priority Intelligence Requirements (PIR)</b> , <b>Essential Elements Of Friendly Info (EEFI)</b> , <b>Friendly Force Information Requirements (FFIR)</b> . CCIRs should be linked to decisions, assessment criteria's and branch plans.
<b>On-order; Be Prepared Missions</b>	An <b>On-order</b> mission is a mission <b>to be executed</b> , except that the <b>exact time and place may not be known</b> . The force assigned the mission is a committed force, it will develop plans, allocate resources, task organize, and position forces for execution. It must be mentioned in the CONOPS. A <b>Be-prepared</b> mission is a mission assigned that <b>might be executed</b> . It will be executed <b>only if something else has or has not been successful; linked to an event</b> . No resources are allocated for a BPT mission. In the priority of planning, it will be planned after any other assigned on-order missions.
<b>Forms of Maneuver and Types of Operations:</b>	<b>Forms of Maneuver:</b> Frontal Attack--Flank Attack – Envelopment (single/double)—Turning Movement—Penetration—Infiltration. <b>Types of Offense:</b> Movement to Contact, Attack (Hasty, Deliberate, Spoiling, Counterattack, Raid, Feint, Demonstration), Exploitation, Pursuit. <b>Types of Defense:</b> Mobile (orients on the destruction of the enemy through offensive action) and Position Defense (deny enemy access to critical terrain for a specified period of time). <b>Forms of Defensive Maneuver:</b> defend and retrograde. <b>Forms of Retrograde:</b> Delay, Withdrawal (under pressure and not under pressure), Retirement. <b>Forms of Reconnaissance:</b> Zone, Area, Point, Route, Recon in Force. <b>Forms of Security:</b> Screen (observe and report), Guard (T/O to operate apart and protect the main force), Cover (prevent surprise and deceive the enemy).
<b>Defense Operations:</b>	Security area (FLOT[no screening or guard forces forward of—should have a BHL for these forces]—FEBA [area where ground combat units are deployed, excluding screening and covering forces]). Main Battle Area (FEBA—Rear Boundary of forward subordinate units). Rear Area (area forward from the assigned rear boundary to the rear boundary of the main battle area). <b>Position Defense:</b> Denies the enemy access to terrain. <b>Mobile Defense:</b> Orients on the enemy force. <b>Defend in sector or battle position.</b> Task Organized <b>Counterattack Force and Reserves.</b>
<b>Phases— Stages— Parts</b>	Name each in sequence---- Pre-Hostilities, Lodgment, Shaping, Combat Operations, Decisive Ops, Exploitation, Stabilization, Follow Through, Post Hostilities, Redeployment. Each state should have an end state or conditions that determine transition to the next.
<b>Amphibious Operations:</b>	<b>Types:</b> Assault, Demonstration, Raid, Withdrawal. Assault Forces and Assault Follow on Echelon. <b>PERMA;</b> Planning, Embarkation, Rehearsal, Movement, Assault. <b>Considerations:</b> Mission (Purpose of amphibious assault – fix, deceive, or fight in depth, are operations sequenced or simultaneous), Objectives, who is the CATF and does he have the ability to control the AOA, if established. If no AOA how and who controls the battlespace. AOA (immature theater) / AO (mature theater), Command Relations, Air Control, Supporting Ops, Boundaries, Linkup, Deception, Pre-Assault Ops, Advance Force Ops, MPF, Logistics (AFLOAT or JLOTS). What are the conditions for transfer of authority ashore. Is NAVFOR the supported or supporting commander during execution of the amphibious operation? <b>Advance Force Operations</b> (Org within the ATF that precedes to prepare the obj area—recon, mines...), <b>Pre-Assault Operations</b> (conducted in obj area before the assault phase begins by the ATF forces), Supporting Operations (Coordinated by the CATF to shape the enemy by joint forces—deception, battlespace dominance, mines outside the AOA, MIO, special operations). <b>SHIPS: LPD1:</b> (700 Marines, 1 LCAC, 2 Helo spot—2 CH46s), <b>LPD4:</b> (650 Marines, 1LCAC, 2 Helo spot—4 CH 46s), <b>LSD36:</b> (350 Marines, 2/3 LCAC, 1 Helo spot 1—0 CH 46s), <b>LSD41:</b> (400 Marines, 4 LCAC, 2 Helo spot—0 CH 46s), <b>LSD49:</b> (400 Marines, 2 LCAC, 2 Helo spot—0 CH 46s), <b>LHD1:</b> (1800 Marines, 3 LCAC, 9 Helo spot —42 CH 46s), <b>LHA:</b> (1800 Marines, 1 LCAC, 9 Helo spot—43 CH46s), <b>LCC-19,</b> Blue Ridge Command Ship (200 Marines, 1 Helo spot). <b>5-inch Guns:</b> 22,000k HE, WP, illum.
<b>MOOTW:</b>	<b>Principles:</b> Objective, Unity of Effort, Security, Restraint, Perseverance, and Legitimacy. <b>Types:</b> Arms Control, Combating Terrorism, DOD Support to Counterdrug Operations, Enforcement of Sanctions/Maritime Intercept Operations, Enforcing Exclusion Zones, Ensuring Freedom of Navigation and Overflight Humanitarian Assistance, Military Support to Civil Authorities, Nation Assistance/Support to Counterinsurgency, NEOs, Peace Operations (Peace Enforcement, Peace Keeping Operations, Operations in Support of Diplomatic Efforts), Protection of Shipping, Recovery Operations, Show of Force Operations, Strikes and Raids, Support to Insurgency.
<b>Linkup Operations:</b>	Conducted during an amphibious operation by forces landed by surface or aviation means, relief of an isolated unit, join other US or allied forces. May be conducted to complete an encirclement of envelopment of an enemy force, join an attacking force with a force inserted in the enemy rear. Assist in the breakout of an encircled friendly force, Forces may be moving towards each other, or may be stationary. May be part of an offensive or defensive operation. HQ directing the linkup must establish the command relationships and responsibilities of the forces involved. Liaison is established through planning and continues throughout the operation. Coordinate the scheme of maneuver and control measures. Location of primary and alternate linkup points. Fire support measures increase or decrease as the forces converge. Actions following the linkup. G2 must employ R/S assets near linkup points. Axis of advance of the moving force must intersect the security element of the stationary force. Stationary force removes obstacles, provides guides and establishes assembly areas for the reorganization of the linkup forces. A restrictive fire line (RFL) may be required to preclude fires from the convergence of forces affecting each other. As the linkup become imminent, the RFL is moved as close to the stationary force as possible to allow maximum freedom of action for the linkup force (moving force should control fires). Both FSCC should clear fires not observed or under terminal control. Upon linkup, responsibility for fire support is transferred to the designated commander. If the linkup force is to continue operations with the stationary force, then a single commander for the overall force must be designated. FM 71-100 Div Ops
<b>Obstacle Crossing:</b>	Natural or Manmade. <b>Hasty or Deliberate. Suppress, Obscure, Secure, and Reduce.</b> Support Force to isolate the obj, Breach force create lanes within the obstacle belt. Assault force dislodges the enemy. <b>M-155 MICLIC:</b> 100m x 16m. Expect 50% equipment loss for the breach force. Mechanical Reduction 10 minutes per 100m minefield.

<b>Passage of Lines:</b>	Must facilitate another tactical operation. Conducted to continue and attack, envelop an enemy force, pursue a fleeing enemy, or withdraw a security or main battle force area. Use multiple passage lanes. Should be rapid to minimize vulnerability. Stationary unit conducts aggressive counter recon. Engineer support from stationary unit to guide the passing force through obstacles along the FLOT. Control measure (Battle Handover Line, Axis of Advance, Rearward Assembly Areas). Passing unit FSC coordinates the fires. Stationary unit assists in CASEVAC, EPWs, civilian control, route priority and traffic control. Higher command coordinates responsibility of control of zone or sector or mutually agreed by stationary and passing commanders. Deception and smoke are planned. Combat support is integrated into the plan to support the movement of the passing unit. Route priority is given to the passing unit. Exchange intelligence, tactical plans, SOPs, security measure during passage, priorities of route and facilities and provisions for movement control, exchange of LNOs, and obstacle plan.
<b>Relief in Place</b>	Can be conducted simultaneously over the entire sector or staggered over time. Executed from front to back or back to front, given METT-T and the amount of forces employed along the FLOT (minimum forces along the FLOT, relief rear to front and vice versa). Time of relief, sequence of units, advance parties, fire support coordination, air defense, passage control (initially unit being relieved has TACON upon relieving unit, exchange of equipment...).
<b>Maritime Prepositioning:</b>	Secure area with adequate ports (drafts, overhead clearance, and throughput [roads...]), and adequate strategic airlift. One MPSRON supports a brigade size MAGTF force of approx. 18,800 Marines and sailors for 30 days. All classes of supplies except IV, VI and X. <b>MPSRON-1</b> Mediterranean Sea, <b>MSPRON-2</b> Indian Ocean (Diego Garcia), <b>MSPRON-3</b> Pacific Ocean (Guam). <b>M1A1:</b> 58; <b>LAVs:</b> 25; <b>AAVs:</b> 109; <b>HMMWVs</b> 129 (72 w/TOW), <b>Stingers:</b> 45; <b>ROWPUs:</b> 41; Trucks (5 ton): 489, <b>MHE:</b> 121; 30 days sustainment. <b>Sorties</b> for MEF (Fwd) Fly in Echelon: CMD (CE) 12; GCE 35; CSSE 30; ACE 151. Naval Support Element (NSE) 6. Offload 7-9 days dependent on ship type. Backload 9-10 days.
<b>Rear Operations:</b>	<b>Functions: Communications, Intelligence, Movement, Area Management, Security, Sustainment, Infrastructure Development, HN Support.</b> Dedicate intell assets to rear area. Today's deep fight may be tomorrow's rear area. MACE CG generally assigned as the RAC (rear area commander/coordinator). Reserve Regt assigned as the TCF. <b>Levels:</b> 1. (Agents, terrorists, saboteurs....) Threat can be defeated by base/base cluster self-defense. 2. (Small tactical units, unconventional forces....) Beyond base self-defense capability but can be defeated by response forces (MP) with supporting arms. 3. (Large tactical units—air/heliborne, amphibious....) Requires commitment of combined arms tactical combat forces (TCF). <b>Active and Passive Defensive Measures.</b> SROE and LNO to FOPS. If FSSG is the RAC than they must have assets assigned for fire coordination and security
<b>IPB</b>	<b>Doctrinal Template:</b> En Order of Battle. <b>Situation Template:</b> Enemy based on terrain and environment. <b>Event Template:</b> NAI with EN COA for developing a collection plan. <b>Combined Event Template:</b> Red and Blue Forces COA. <b>Decision Support Template:</b> A product of war gaming, projected EN COA with DPs/NAI/TAI. <b>MCOO:</b> Modified Combined Obstacles Overlay: mobility corridors, objectives avenues of approach, likely location of EN obstacle system, defensible terrain, likely engagement area, key terrain, built up areas & civil infrastructure, etc. <b>HVT:</b> Essential for the enemy to accomplish the mission. Developed by the G-2. <b>HPT:</b> Enemy targets, when destroyed, help us accomplish the mission. Developed by the G-3.
<b>IO/IW/C2W:</b>	Integrated plans to degrade enemy decision making capabilities while protecting ones own IO/IW/C2W includes: <b>Deception, Psychological Operations, Physical Destruction, Electronic Warfare, Operational Security, Civil Affairs. Defensive IO/IW/C2W methods include: OPSEC, Information Assurance, CI, Counter Psyops, and Counter Deception.</b> C2W implies tactical measures while IW is operational information operations
<b>MOPP Conditions:</b>	1: Over garment worn, carry the rest of the protective gear. 2: Wear boots. 3: Protective mask and hood. 4: Gloves and liners, over garment is closed and hood pulled down. Joint Service Lightweight Integrated Suit Technology MOPP suit lasts 30 days and 24 hrs contaminated. Account for a factor of 1.5 longer to accomplish task under MOPP conditions. FM 3-4, NBC Protection.
<b>Air Defense Weapons Control Status:</b>	<b>Weapons Free:</b> Weapons fired at any target not positively recognized as friendly. <b>Weapons Tight:</b> Fired at targets recognized as hostile. <b>Weapons Hold:</b> Fired in self-defense.
<b>Levels of Authority:</b>	<b>COCOM:</b> non-transferable command authority established by law. <b>OPCON:</b> transferable authority to accomplish assigned missions; does not include authority for logistics, administration, discipline, internal organization, or unit training. <b>TACON:</b> local direction to accomplish assigned tasks. <b>ADCON:</b> administrative and logistics. <b>DS:</b> Support another force and to answer directly to the supported force's request for assistance. <b>GS:</b> Support given to the supported force as a whole and not any subdivision thereof. <b>GSR:</b> Arty mission, support the force as whole while providing reinforcing fires for another arty unit. <b>Attached:</b> Temporary placement of units or personnel in an organization. <b>Mutual Support and Close Support</b>
<b>LNOs: REPs: Augments:</b>	<b>Liaisons:</b> represent the sending unit's capabilities, plans, and concerns. He must be able to understand how his commander thinks, and convey his commander's intent, mission, concept of operations, and concerns. LNOs should have the requisite rank, authority, clearances and communication connectivity to function properly. LNOs should have the depth in personnel to conduct sustained operations. <b>REPs:</b> Work for the sending unit and provide short term, as required input into the planning process. They are expected to be the SME for the function they represent. <b>Augments:</b> Work for the receiving commander or staff and usually fill an MOS/TE shortfall requirement for the gaining unit.
<b>Fire Support</b>	<b>FSCL:</b> Established by the land or amphibious commander to coordinate fires of air, ground, or sea weapons systems. Must be coordinated with appropriate air commander (keep in mind the ATO cycle its impact to rapidly change FSCLs). Supporting elements may fire beyond without coordination but should inform appropriate ground commander. Coordination required behind the line. <b>CFL:</b> A line beyond which conventional fire support means may fire at any time without additional coordination. <b>RFL:</b> Established between two converging forces, established by the next higher common commander. <b>RFA:</b> Fires that exceed imposed restrictions may not be delivered without approval.

<b>Days: Hours:</b>	<b>C-day:</b> deployment to commence; <b>D-day:</b> commencement of hostilities; <b>R-day:</b> redeployment; <b>S-day:</b> 200,000 selected reserve to active duty for 90 days; <b>T-day:</b> National Emergency 1,000,000 reserve callup for 24 months; <b>W-day:</b> hostile government may commence operations. <b>Hours:</b> H: commencement of operation on D-day; L: hour at which deployment commences on C-day. (ref: JP1-02, under Time)
<b>DEFCON 1-5:</b>	<b>DEFCON 5</b> being normal while <b>DEFCON 1</b> being maximum readiness of military forces.
<b>Collaborative Planning Systems:</b>	<b>GCCS:</b> Global Command and Control System. <b>JDISS:</b> Joint Deployable Intelligence System (fed by GCCS requires SIPRNET). <b>JMCIS/UB:</b> Joint Maritime Command Information System/Unified Build. <b>IAS:</b> Intelligence Analysis System. <b>TCO:</b> Tactical Combat Operations. <b>C2PC:</b> Command and Control Personal Computer. <b>CTAPS:</b> Contingency Theatre Automated Planning System. <b>TBMCS:</b> Theater Battle Management Core Systems (Replacing CTAPS). <b>AFTADS:</b> Advanced Field Artillery Tactical Systems. <b>TMS:</b> Target Management System. <b>JOTS:</b> Joint Operational Tactical System. <b>JOTS 1 (TDBM):</b> Track Database Manager. <b>COP:</b> Common Operating Picture (CINC). <b>CTP:</b> Common Tactical Picture (Component and Below). <b>DII COE:</b> Defense Information Infrastructure Common Operating Environment.
<b>Classes of Supply:</b>	<b>I</b> Rations, <b>II</b> Individual Equipment, <b>III</b> POL, <b>IV</b> Construction, <b>V</b> Ammunition, <b>VI</b> Sundry Items, <b>VII</b> Major End Items, <b>VIII</b> Medical/Dental, <b>IX</b> Repair parts, <b>X</b> Materials for Non-Military Programs.
<b>Weapons Systems:</b>	<b>MIAI:</b> 300 miles (505 gal: 300 miles), weight 70 tons, range 120mm--3,000m, 14 per company; <b>T-72:</b> max range 2000m; <b>M2 BFV:</b> 300 miles (175 gal) 25mm chain gun 14 per company; <b>TOW:</b> 3750, <b>Hellfire:</b> 7000; <b>Longbow 20K;</b> <b>Javelin:</b> 2,000; <b>60mm Mortar</b> 3,500; <b>81mm Mortar</b> 5,800; <b>105mm Arty</b> 14,000; <b>155mm Arty</b> 18,000 Rap 30,000; <b>MLRS 32K – 100K(ATACMS);</b> <b>Stinger missile:</b> 15000m; <b>Patriot:</b> 160 km; <b>Hawk:</b> 80 km; <b>JSTARS:</b> approx. 200miles by 200miles coverage. <b>TLAM:</b> 1,000 lb warhead; <b>JDAM:</b> Joint Direct Attack Munitions – Satellite Guided.
<b>Armor Division</b>	Total Vehicles 5,314. If the Div moves without DISCOM it requires 662 Km on one route. With DISCOM 729 km. (Ref CGSC ST 100-3).
<b>Armored Cavalry Regt</b>	<b>2d ACR -- Light UH-60:</b> 10; <b>OH-58:</b> 33; <b>HMMWV TOWS:</b> 108; <b>HMMWV SCOUT:</b> 180; <b>155mm Towed:</b> 24; <b>120mm Mortar:</b> 18; <b>3<sup>rd</sup> ACR – Heavy M1A1:</b> 123; <b>CFV M3:</b> 125; <b>CEV:</b> 3; <b>Javelin:</b> 24; <b>Mortar 120mm:</b> 18; <b>OH-58:</b> 24; <b>AH64:</b> 16; <b>EH60:</b> 3; <b>UH60:</b> 18; <b>Avenger:</b> 6; <b>Stinger:</b> 10; <b>155mm SP:</b> 24
<b>USMC Tank Battalion</b>	<b>Bn:</b> <b>M1A1:</b> 58 (66-72 tons). Co 14 x 4 (12 M88AI Rs & 6 AVLBs, 4 M60A1 Bridge Armored vehicle). 5-Tons: 38; <b>TOW HMMWV:</b> 26
<b>LAR Bn</b>	<b>LAV 25:</b> 60; <b>LAVC2:</b> 8; <b>LAV-AT:</b> 16; <b>LAV-M:</b> 8; <b>LAV-L:</b> 16; <b>LAV-R:</b> 6; <b>TOTAL</b> 114. <b>5-Ton:</b> 13; <b>LVS:</b> 3; <b>Wrecker:</b> 2; <b>HMMWV:</b> 24 <b>LAR CO:</b> <b>LAV 25:</b> 14; <b>LAV-M:</b> 2; <b>LAV-T:</b> 4; <b>LAVC2:</b> 1; <b>LAV-R:</b> 1; <b>LAV-L:</b> 3 <b>CO</b> 25 x 4 <b>Weight</b> 28,000lbs empty; <b>CH53E</b> carries 30,000lbs 50 miles.
<b>AAV Bn</b>	<b>AAVP7s:</b> 213, <b>AAVC7s:</b> 14; <b>AAVR7s:</b> 6. <b>Bn</b> = 4 AAV Cos. <b>CO:</b> 44Ps; 3Cs; 1R. <b>CO</b> D in 29 Palms. <b>Combat Assault Bn</b> in Okinawa has 1 AAV CO
<b>Air Defense</b>	<b>Patriot:</b> 160 km. <b>Patriot Radar</b> Alt 80K, <b>Acquisition Range</b> 160K. <b>Engagement Range</b> 60K. Should be employed no more than 20K from unit. <b>Mutual Support</b> 15K. <b>BN:</b> 5 Btry; 8 Launchers per Btry; 32 Missiles per Btry. <b>AVENGER</b> <b>Acquisition Range</b> 10K; <b>Engagement Range</b> 5K. <b>Mutual Support Distance</b> 3K. 8 Missiles per vehicle. <b>Stinger Missile:</b> 15000m. <b>Hawk:</b> 80 km.
<b>Intelligence Collection Platforms</b>	<b>Rivet Joint:</b> Communications Intelligence and Electronic Intelligence. <b>Quickfix: EH 60 –</b> Tactical Communication Intelligence and Electronic Intelligence; DF and Electronic attack in low frequency spectrums. <b>Compass Call: Jammer. Commando Solo: C-130 –</b> Psychological operations and broadcaster.
<b>Tactical Ballistic Missiles</b>	<b>SCUD B:</b> Range:300K, Payload:2,200lbs, CEP: 400 to 1000m, Warhead: Conv/Chem. <b>SCUD C:</b> Range:500K, Payload:1,500 lbs, CEP: 400 to 1000m, Warhead: Conv/Chem. <b>Nodong 1:</b> Range:1000K, Payload:2,200lbs, Warhead: Conv/Chem. <b>Nodong 2:</b> Range:1500 - 2000K, Payload:2,200lbs, Warhead: Conv/Chem. <b>M18:</b> Range:1000K, Payload:880lbs. <b>M9:</b> Range: 600K, Payload:1100lbs, CEP: 300m, Warhead: Conv. <b>CSS-2/DF-3:</b> Range:3000K, Payload:3000lbs, CEP: 1000m, Warhead: Conv/ Nuc. <b>Jericho 1 (Israel):</b> Range:500K, Payload:1,100lbs, Warhead: Conv/Chem. <b>Frog 7:</b> Range:70K, Payload:960lbs, CEP: 400m, Warhead: Conv/Chem. <b>Sakr-80 (Egypt):</b> Range:80K, Payload:440lbs, Warhead: Conv. <b>Vector (Egypt):</b> Range: 600K, Payload:1000lbs, Warhead: Conv. <b>BGM – 109 TOMAHAWK:</b> Range:1300K, Payload:1000lbs, CEP: 10m, Warhead: Conv/ Nuc. (Ref CGSC ST 100-3).
<b>Attack Helicopters</b>	<b>AH1:</b> Missiles: 8/ 20mm, Range: 480k; <b>AH64:</b> Missiles: 16/30mm, Range: 480k—aux tanks 800k; <b>OH58:</b> Missiles: 4/.50cal, Range:413k. (Ref CGSC ST 100-3).
<b>Utility Helicopter</b>	<b>UH60:</b> Troop: 13 (20 without seats), Range: 592K, Internal:2,600lbs, External: 8000lbs. <b>CH47:</b> Troop: 33 (100 without seats), Range: 717K, Internal:20,200lbs, External: 30,000lbs. <b>CH53E:</b> Troop: 35 (55 with center seats), Range: 620m, refueling – Indefinite, Internal:31,000lbs, External: 33,000lbs. <b>CH53D:</b> Troop: 35 (55 with center seats), Range: 690m, takeoff weight: 19,000lbs. <b>CH46:</b> Troop: 14 (24 combat), Range: 190K, Internal:2,600lbs, External: 8000lbs. <b>UH1:</b> Troop: 9, Range: 200K, Internal:2,600lbs, External: 8000lbs. (Ref CGSC ST 100-3).
<b>Functions of Marine Air</b>	<b>Offensive Air Support (CAS &amp; DAS);</b> <b>Antiair Warfare (Offensive AAW and Air Defense);</b> <b>Assault Support;</b> <b>Air Reconnaissance;</b> <b>Electronic Warfare;</b> <b>Control of Aircraft and Missiles</b>

# CSS Considerations in the IPB Process

## Terrain Implications:

- Can the terrain support CSS operations?
  - Are host nation (HN) assets available for logistics operations?
  - Any existing structures/built-up areas present?
  - Any usable medical facilities
  - Is there any overhead storage/work areas?
- What are the ground avenues of approach (AA) that could interfere with CSS operations? Offensive operations could produce by-passed or stay behind enemy elements that must be recognized and averted by CSS assets to be able to maintain continuous support.
- Where are the infiltration lanes that could be used by the enemy?
  - Identify and locate the routes the enemy could use to move insurgents, light infantry and/or unconventional warfare units into the CSS AOR.
  - Is there any area in the CSS AOR that could provide concealed positioned to these enemy units
- Identify possible AAs, LZs, DZs, and MSR ambush locations in the CSS AO.

## Weather Implications:

- What will be the effect on the entire road network (hard surfaced and unimproved road surfaces) as a result of different types of precipitation (rain, snow, fog/mist, ice) and temperature?
  - Will a rain soaked unimproved dirt road support the weight of fuel
  - LVSs or 5K tankers? How about a HET loaded with a M1A1 weighing 135 tons?
  - How will an iced over hard surface MSR effect LOGPAC operations?
  - Will an unplowed, snowed over MSR affect CSS travel time?
- Will the temperature have any effect on:
  - Friendly forces CL II (Clothing)
  - Classes of supply
  - Storage of CL I and VIII
  - Consumption of CL III (Bulk & Packaged) or IX (filters, tire chains, batteries, starters)?
  - Production of potable water (frozen pipes, iced over ponds, creeks, etc)?
- How would poor visibility/illumination affect:
  - Enemy infiltration
  - Force Protection
  - Driving/resupply activities (slower convoy speeds, accidents)

## Other Implications:

- Security:
  - Does the area offer adequate cover/concealment?
  - Do we have observation/overwatch positions along possible AAs / LZs?
  - Can we disperse our assets to reduce possible collateral damage?
  - Can we minimize our unit's signature

- General:
  - Does the area afford good communications?
  - Is the road network adequate and trafficable? Can the terrain support movement within the AO for the vehicles that will occupy it?
  - Is the AO in proximity to the MSR, not on the MSR but near it? By doing so it reduces unit signature and might take the unit off an AA.
  - Potable water/raw water source location (available, frozen over)
  - Access to MEDEVAC LZ?
  - Existing bridges capable of handling fully loaded LVSs, 5K tankers and HETS evacuating M1s?
  - What is the height clearance for overhead bridges?
  - Any water/rail capability

**CSS Considerations in Developing the MCOO:**

- Does the terrain offer an area suitable for logistics operations
- Is it away from possible AAs and mobility corridors?
- Is this area close to a useable road network?
- Does the MSR travel through primary or secondary engagement areas?
- Are there any obstacles that could restrict/divert CSS operations such as bridge restrictions, choke points, road surface/trafficability concerns?

# CSS Considerations in the Marine Corps Planning Process

## CSS Considerations in Mission Analysis

The questions logistics planners and operators should always be able to answer are—

- **Where are we on the battlefield?**
- **Why are we here?**
- **How do we support from here?**
- **How do we get support from here?**
- **How long do we need to provide support for?**
- **When, to where, and in what sequence do we displace to ensure continuous operations?**

The following is a type of methodology for logistics planners at all levels. It is based on a requirement, capability, shortfall, analysis, and solution model. This methodology can be used in logistics course of action (COA) development when the unit is developing its concept of support. This process is meant to complement the Marine Corps Planning Process.

### Requirements

1. What method is used to determine logistics requirements? [For example, personnel density, equipment density, planning factors, operating tempo, combination, etc.]
2. What is the source of the requirements determination calculations? [For example, Marine Corps Orders, casualty estimator historical data, etc.]
3. What units are you supporting for this mission?
  - Will it change during the operation?
4. Identify implied logistics tasks based on the tactical plan.
  - What are the ramifications of river crossings, pauses, deep attacks, etc.?
5. Is there an NBC threat?
6. What do you need?
7. How long will you need it?
8. Where do you need it?
9. What do you need to put it there? [For example, fuel bladders/bags, materiel handling equipment, etc.]
10. How will you get it there?
11. When do you need it there?

12. How long will it take to get it there?
13. How soon will it be available to move there?
14. Where is it coming from?
15. What do you need to do with it before moving it where you need it? (For example, does it have to be containerized, broken down, segregated, separated, disassembled, configured, or reconfigured before movement?)
  - How long will that take?
  - What are the requirements for that?
16. Does it have to move again after it gets there?
  - Who will move it from there?
17. What are the competing demands for this requirement?
18. What is required to offload it when it gets there?
19. Does anything need to be done with it once it gets there? (For example, does it have to be unpacked, assembled, etc.?)
20. What has to be done to move it once it is there?
21. Does this requirement have special employment considerations? (For example, require a large, level area of land or a fresh water source; be located near an MSR; need refrigeration; require dedicated transportation; etc.)
22. How often will the commodity, supply, or service be required?
  - How often must it be replenished?
23. Does the requirement have preparatory activities? [For example, engineers to make berms for a fuel bags, airfield matting for forward arming and refueling points (FARPs), road and pad construction for a CSSA]
  - What is the expected duration of the required preparation?
  - How do you request the preparation and who approves it? (For example, engineer work has to be approved through channels.)
  - What support is required for the preparatory activities?

### **Capabilities**

1. What are the units available that have the capability to fulfill the requirement?
2. Is more than one unit required to provide the capability?
3. What are the overall receipt, storage, and issue requirements for my area of support for this particular commodity, supply, or service?
4. Will this capability be used to weight the battle logistically?

5. What is the total short ton (STON)/gallon/other distribution capability by mode? Line haul? Local haul? Other?

- What distribution planning factors were used?

6. How many locations require this capability?

7. Are any units with this capability already committed?

8. Are any units with this capability due in? When?

9. Can a unit deploy elements (sections or detachments) to place the capability where it is required?

10. Does the unit have unique management/employment considerations?

### **Comparison/Shortfall**

1. If there is no shortfall, go to the *analysis* portion of this methodology.

2. Which requirements exceed capabilities?

3. For requirements that exceed capabilities, is it overall or in a particular area, region, or time?

4. How much is the shortfall in terms of units of measurement (STONs, gallons, square feet)?

5. What does the shortfall equate to in terms of days of supply?

6. At what point in the battle is the requirement expected to exceed the capability?

7. What is the type of shortfall? Is it a supply availability shortfall, a resource [equipment, materials handling equipment (MHE), personnel, facilities, man-hours, etc.] shortfall, or a distribution shortfall?

### **Analysis**

The analysis process has to occur for all support operations even if there is no shortfall. The log planner has to determine how to support the operation.

1. What is the earliest the support operation can begin?

2. What is the latest the support operation can begin?

3. Is it better to be early or late?

4. What is the purpose of the support? (For example, is the purpose to build stocks at GS, to sustain a force for a given period of time at DS, or to resupply a user?)

5. Will support be provided from a fixed location or from a forward logistics detachment?

6. What is the significance of the shortfall?

7. What is the potential impact of the shortfall?

8. What is the expected duration of the shortfall?

9. What is the cause of the shortfall (battle loss, time-phased force deployment sequence, etc.)?

10. If the shortfall is a *supply availability* shortfall, consider the following:
  - Is the shortfall only at this level or is at higher levels as well?
  - Is it a result of higher commands' efforts and support priorities?
  - Is the supply available at other echelons and, if so, where?
  - How long will it take to get here?
  - Is there an acceptable alternative, a substitute, or an alternative source of supply?
11. If the shortfall is a *resource shortfall* (equipment, MHE, personnel, facilities, man-hours, etc.), consider the following:
  - Can similar resources be diverted or obtained from somewhere else?
  - Is HNS a viable alternative?
  - How specialized is the shortfall resource?
  - Can a secondary military occupational specialty (MOS) be used?
  - Does a sister service or coalition partner have the capability?
12. If the shortfall is a *distribution shortfall*, consider the following:
  - Is the shortfall due to a lack of assets or to a time-distance problem?
  - Does the shortfall capability require special handling or any special distribution requirements?
  - Are there any alternative distribution modes?
  - Are host nation distribution assets available?
  - Are sister service/coalition assets available?
    - Are they compatible? (For example, European and SWA host nation fuel tankers are metric and require a coupler adapter to interface fuel bags or US tankers.)
  - Are there any airfields, field landing strips, or helipads near the requirement?
13. How will logistics capability be echeloned forward?
  - Which units will be tasked to establish forward logistics bases?

### **Solutions**

1. Determine the most workable solutions based on analysis.
2. Ensure support plan is fully integrated into concept of operations.

## **CSS Considerations in COA Development**

### **Focus on logistical factors that constrain the tactical operations**

- Key is to identify and eliminate any COA that is not supportable.
- Identify limitations that planners must be concerned with
- (CL IV availability for barrier plans or CL V CSR Vs RSR)
- Identify the cost or risk in terms of resources for each COA
- Update logistics and personnel estimates as additional information becomes available
- Key questions for the CSS planners are:
- Will CSS support be required to relocate during the operation?
- Are the line haul or local haul distance factors exceeded?

### **Specific items to focus on for COA development**

- CSSA, BSA locations
- MSR plan for resupply of the units
- Barrier plan and its effect on resupply; location of the CL IV point
- Will the CSSA need to move to support the COA
- Are any Mobile Detachments required

## **CSS Considerations in COA Wargaming**

### **Focus on ensuring critical CSS items are included on the synchronization matrix**

- Update logistics estimates as additional information is obtained.
- The war game will validate, change, or invalidate some or the entire logistics estimate.
- The logistics estimate is validated and completed as part of the COA Wargame process.
- Estimates applied during wargaming help to ensure COAs are supportable and feasible.
- Wargaming helps CSS planners synchronize tactical logistics functions to support a tactical operation.
- It determines the timeframe support must be provided to enable the combat forces to accomplish their mission.
- During the war game, the CSS planner can prepare the logistics portion by function of the synchronization matrix. This ensures all critical CSS actions are addressed.
- Wargaming helps determine specific events that are critical before the battle and provides estimates of peak consumption, times and distances supply convoys must travel, battle losses and casualties.
- Wargaming also helps to de-conflict terrain.
- Determine adjustments to consumption factors based on wargame results.

## **CSS Considerations in COA Comparison**

### **Develop meaningful and descriptive criteria for comparing COA's.**

- Which COA has higher/lower casualty estimates and subsequent need for replacements?
- Which COA has higher/lower consumption rates of CL V?
- Which COA has higher/lower consumption rates of CL III (Bulk)?
- Which COA has higher/lower battle damage estimates requiring increased recovery and evaluation of combat/CS/CSS systems?
- Which COA has longer LOCs requiring possibly more transportation assets?
- Which COA has increased sustainment requirements (CL IV, Combat Health Spt)
- Which COA presents higher degree of risk in the potential loss or destruction of CSS assets and resources?

### **When determining decision criteria, CSS planners must:**

- Provide the commander information to properly weigh all issues before making a decision.
- Ensure the commander fully understands the costs and risks that exist in a COA.

## Comparison of MCPP to Other Planning Processes

<b>MCPP</b>	<b>MDMP</b>	<b>JTF</b>	<b>JOPEs Crisis Action Planning</b>	<b>NATO</b>
MISSION ANALYSIS	RECEIPT OF MISSION	MISSION ANALYSIS	SITUATION DEVELOPMENT	INITIATION
	MISSION ANALYSIS	PLANNING GUIDANCE	CRISIS ASSESSMENT	ORIENTATION
COA DEVELOPMENT	COA DEVELOPMENT	COA DEVELOPMENT	COA DEVELOPMENT	CONCEPT DEVELOPMENT
COA WAR GAME	COA ANALYSIS	COA ANALYSIS		
COA COMPARISON/ DECISION	COA COMPARISON	COA COMPARISON	COA SELECTION	PLAN DEVELOPMENT
	COA APPROVAL	COA SELECTION		
ORDERS DEVELOPMENT	ORDERS PRODUCTION		EXECUTION PLANNING	
TRANSITION		EXECUTION		PLAN REVIEW

**Note:** Like steps of each planning process are shaded in the same manner.

## Frequency Bands

Frequency Band Reference Table		
Abbreviation	Band	Frequency Range
ELF	Extremely Low Frequency	Below 3 KHz
VLF	Very Low Frequency	3 KHz – 30 KHz
LF	Low Frequency	30 KHz – 300 KHz
MF	Medium Frequency	300 KHz – 3 MHz
HF	High Frequency	3 MHz – 30 MHz
VHF	Very High Frequency	30 MHz – 300 MHz
UHF	Ultra High Frequency	300 MHz – 3 GHz
SHF	Super High Frequency	3 GHz – 30 GHz
EHF	Extremely High Frequency	Above 30 GHz

Note:  
KHz = Kilohertz = one thousand cycles per second  
MHz = Megahertz = one million cycles per second  
GHz = Gigahertz = one billion cycles per second

## Customary / Metric Conversion Factors

Linear Measure	
English System	Metric System
1 inch	= 2.54 centimeters
1 foot	= 0.3048 meters
1 yard	= 0.9144 meters
1 mile	= 1.6093 kilometers
0.3937 inch	= 1 centimeter
1.0936 yards	= 1 meter
0.6137 miles	= 1 kilometer
Liquid Measure	
English System	Metric System
1 fluid ounce	= 29.573 milliliters
1 quart	= 0.94635 liters
1 gallon	= 3.7854 liters
0.033814 fluid ounce	= 1 milliliter
0.26417 gallon	= 1 liter
Weight Measure	
English System	Metric System
1 troy pound	= 0.37324 kilograms
1 avoirdupois pound	= 0.45359 kilograms
1 short ton (0.8929 long ton)	= 907.18 kilograms 0.90718 metric ton
1 long ton (1.1200 short tons)	= 1016.0 kilograms 1.0160 metric tons
2.2046 avoirdupois pounds	= 1 kilogram
1.1023 short tons	= 1 metric ton
0.98421 long tons	
Square Measure	
English System	Metric System
1 square foot	= 9.2903 square decimeters
1 square yard	= 0.83613 square meter
1 square mile	= 2.5900 square kilometers
1.1960 square yards	= 1 square meter
0.38608 square miles	= 1 square kilometer
Cubic Measure	
English System	Metric System
1 cubic foot	= 0.28317 cubic meter
1 cubic yard	= 0.76455 cubic meter
1 cubic mile	= 4.16818 cubic kilometers
1.3079 cubic yards 35.315 cubic feet	= 1 cubic meter
0.23990 cubic mile	= 1 cubic kilometer