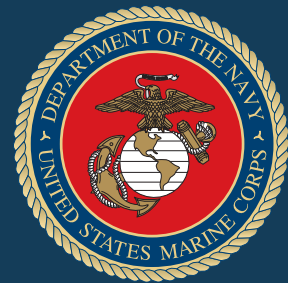
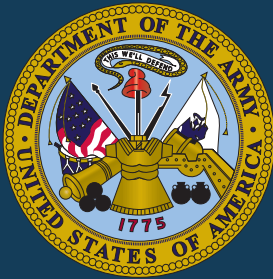


Joint Publication 3-03



Joint Interdiction



9 September 2016



PREFACE

1. Scope

This publication provides doctrine to plan, execute, and assess joint interdiction operations.

2. Purpose

This publication has been prepared under the direction of the Chairman of the Joint Chiefs of Staff. It sets forth joint doctrine to govern the activities and performance of the Armed Forces of the United States in joint operations and provides considerations for military interaction with governmental and nongovernmental organizations, multinational forces, and other interorganizational partners. It provides military guidance for the exercise of authority by combatant commanders and other joint force commanders (JFCs), and prescribes joint doctrine for operations and training. It provides military guidance for use by the Armed Forces in preparing and executing their plans and orders. It is not the intent of this publication to restrict the authority of the JFC from organizing the force and executing the mission in a manner the JFC deems most appropriate to ensure unity of effort in the accomplishment of objectives.

3. Application

a. Joint doctrine established in this publication applies to the joint staff, commanders of combatant commands, subunified commands, joint task forces, subordinate components of these commands, the Services, and combat support agencies.

b. The guidance in this publication is authoritative; as such, this doctrine will be followed except when, in the judgment of the commander, exceptional circumstances dictate otherwise. If conflicts arise between the contents of this publication and the contents of Service publications, this publication will take precedence unless the Chairman of the Joint Chiefs of Staff, normally in coordination with the other members of the Joint Chiefs of Staff, has provided more current and specific guidance. Commanders of forces operating as part of a multinational (alliance or coalition) military command should follow multinational doctrine and procedures ratified by the United States. For doctrine and procedures not ratified by the US, commanders should evaluate and follow the multinational command's doctrine and procedures, where applicable and consistent with US law, regulations, and doctrine.

For the Chairman of the Joint Chiefs of Staff:



KEVIN D. SCOTT
Vice Admiral, USN
Director, Joint Force Development

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SUMMARY OF CHANGES
REVISION OF JOINT PUBLICATION 3-03
DATED 14 OCTOBER 2011

- Incorporates the concept of full-spectrum superiority and provides additional discussion of maritime domain awareness into the elements of effective interdiction.
- Updates discussion on employment of mines and cluster munitions to include the effect of changes in international law and conventions on both US and partner nations.
- Updates discussion of United States Coast Guard conduct of interdiction in support of law enforcement operations.
- Clarifies the role of Special Operations Forces for both conduct and support of interdiction operations.
- Expands and updates sections on both electronic warfare and cyberspace operations as complements to interdiction operations.
- Updates and reorganizes the discussion of the theater air-ground system and the Service organizations which support interdiction operations.
- Clarifies aspects of command relationships that apply to interdiction operations.
- Adds discussion of the types of air interdiction mission types found on air tasking orders.
- Clarifies the role of fire support coordination measures for the conduct of interdiction operations.
- Simplifies the discussion of assessment as it pertains to interdiction operations.

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EXECUTIVE SUMMARY COMMANDER'S OVERVIEW

- Provides the Fundamentals of Interdiction in Joint Operations
 - Covers Joint Capabilities for Conducting Interdiction
 - Describes Command and Control of Joint Interdiction
 - Discusses Joint Interdiction Planning
 - Explains Joint Interdiction Execution
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Fundamentals

Interdiction

Interdiction is an action to divert, disrupt, delay, or destroy the enemy's military surface capability before it can be used effectively against friendly forces or to achieve enemy objectives. In support of law enforcement, interdiction includes activities conducted to divert, disrupt, delay, intercept, board, detain, or destroy, under lawful authority, vessels, vehicles, aircraft, people, cargo, and money.

Purpose of Interdiction Operations

The desired effects for interdiction operations are described using standard terms such as divert, disrupt, delay, or destroy.

The purpose of interdiction operations is to prevent adversaries from employing surface-based weaponry and reinforcing units at a time and place of their choosing. Interdiction can **divert** enemy forces or assets from areas where there are critical operational requirements for them. Actions supporting **disruption** will interrupt or impede the enemy or enemy capabilities or systems, upsetting the flow of information, operational tempo, effective interaction, or cohesion of the enemy force or those systems. Actions can **delay** the time of arrival of enemy forces or capabilities or alter the ability of the enemy or adversary to project forces or capabilities. Actions supporting **destruction** will damage the structure, function, or condition of a targeted system so that it can neither perform as intended, nor be restored to a usable condition, rendering it ineffective or useless.

Interdiction Objectives Considerations

When developing interdiction objectives, consider the relationship between targets and what second or third order effects may be created, paying particular attention to potential unintended or undesired effects.

Joint force commanders (JFCs) vary the emphasis upon interdiction operations and surface maneuvers, depending on the strategic and operational situation confronting them. During major operations and campaigns, the effects of interdiction are typically more influential when directed against an enemy's ability to command, mass, maneuver, supply, and reinforce available conventional combat forces. Interdiction is more difficult against an enemy that employs a covert force structure, a simple logistic net, and unconventional tactics.

Elements of Effective Interdiction

Effective interdiction operations share a number of common elements that lead to the attainment of interdiction objectives. The element of effective interdiction are full-spectrum superiority; synchronization with maneuver; sustained and concentrated pressure; accurate, reliable, and timely intelligence; and effective resource planning, positioning, and allocation.

Joint Capabilities

Interdiction-Capable Forces

During interdiction operations, components may support or be supported by another component commander to achieve theater/operational area-wide interdiction objectives, or they may conduct interdiction operations as part of their component mission.

Interdiction operations can be conducted by all components of the joint force, employing both lethal and nonlethal means. **Air forces** employ such weapons as projectiles, missiles, unguided munitions, precision-guided munitions, land and/or sea mines, electronic warfare (EW) systems, and sensors from airborne platforms in the air interdiction (AI) role. **Maritime forces** employ a network of integrated and redundant sensors, and command, control, communications, computers, intelligence, and EW systems, as well as, missiles, torpedoes, fixed-wing, tiltrotor, rotary-wing aircraft, unmanned aircraft, mines, naval fires, expeditionary forces, and boarding parties to support naval, air, and ground forces. **Land forces** employ such assets as attack helicopters, missiles, artillery, and forces capable of conducting conventional airborne, air assault, and amphibious operations to accomplish interdiction.

Complementary Operations

Joint interdiction operations are most effective when fully integrated into the concept of

operations (CONOPS) of the joint force. In addition to counterair and maneuver, other operations notable for their specialized roles which can complement joint interdiction operations, include strategic attack operations; intelligence, surveillance, and reconnaissance; space operations; EW; cyberspace operations; information operations; air refueling; and strike coordination and reconnaissance.

Command and Control

Command and Control (C2) of Joint Interdiction Operations

Joint interdiction operations require an integrated, flexible, and responsive command and control (C2) structure to process interdiction requirements and dependable, interoperable, and secure communications architecture to exercise control. The JFC exercises C2 through functional or Service component commanders. Each component may perform interdiction as part of their internal mission, employing their organic C2 assets in accordance with their particular tactics, techniques, and procedures.

Service C2 Systems

The theater air control system (TACS) is the **Air Force** component commander's mechanism for controlling air component assets. It consists of airborne and ground elements to conduct tailored C2 of air component operations, including AI. The **Army** air-ground system is an inherent part of the Army mission command system (arrangement of facilities, networks, information, personnel, and processes) that connects to the TACS and supporting joint air components of the theater air-ground system (TAGS). The **Navy** tactical air control system is the principal air control system afloat. The **Marine** Air Command and Control System consists of various air C2 agencies designed to provide the Marine air-ground task force aviation combat element commander with the ability to monitor, supervise, and influence the application of Marine and supporting air assets.

Theater Air-Ground System

The TAGS combines each Service's C2 and airspace management system into a unified framework allowing each to contribute in a unified effort supporting the JFC. The JFC directs the

TAGS architecture for a particular operational area. Each component's air-ground system is designed to facilitate C2 of that component's operations and interface with the TAGS.

Command Relationships

The capabilities of forces used for joint interdiction, as well as the magnitude of their potential contribution, must be considered while planning and conducting the joint interdiction effort. The joint force commander structures the joint force to ensure that diverse component capabilities, operations, and forces complement each other to achieve the desired results effectively and efficiently.

To ensure unity of command and effort of interdiction operations throughout a theater/joint operations area (JOA), the JFC normally delegates the planning and execution of theater/JOA-wide AI operations to the component commander with the preponderance of AI assets with theater/JOA-wide range and the ability to control them. The joint force air component commander (JFACC) is normally the supported commander for the JFC's overall AI effort, while land and maritime component commanders are supported commanders for interdiction in their areas of operations (AOs). There may be situations in which designation of a JFACC is not required when a conflict or situation is of limited duration, scope, or complexity. The JFC may approve the formation of a joint fires element within the operations directorate of a joint staff. Component commanders develop interdiction priorities to enhance mission accomplishment. Within their designated AOs, land and maritime component commanders integrate and synchronize joint maneuver and fires functions and interdiction missions. To facilitate this integration and synchronization within their AOs, such commanders have the authority to designate target priority, effects, and timing of fires.

Planning

Joint Force Objectives

Joint interdiction typically focuses on operational-level objectives as delineated in the JFC's operation or campaign plans. It must also support strategic-level objectives by working in concert with other efforts to neutralize or destroy the enemy's centers of gravity or other key target systems.

Integrating Interdiction and Maneuver

Interdiction and maneuver are complementary operations that should normally be integrated to create dilemmas for the enemy. Joint interdiction

can isolate enemy forces, control the movement of enemy forces into or out of a land or maritime AO, and set conditions for maneuver forces.

Planning Joint Interdiction

The JFC establishes broad planning objectives and guidance for interdiction of enemy forces as an integral part of a joint campaign or major operation. Commanders should consider how planned operations can complement joint interdiction objectives and vice versa. Components may conduct interdiction operations as part of their specific mission in addition to, or in lieu of, supporting the theater/JOA-wide interdiction effort. Detailed planning facilitates a coherent interdiction effort involving diverse forces using different employment procedures and reduces the potential for friendly fire incidents. Certain time-sensitive targets—highly lucrative, fleeting targets designated by the JFC as high priority—and other targets of opportunity may preclude the use of normal coordination procedures. The JFC establishes C2 architecture and procedures to coordinate dynamic targeting events across the joint force.

Targeting

During target development, the targeting process must relate specific targets to objectives, desired effects, and accompanying actions. The goal of targeting in interdiction is to select and prioritize a series of targets and/or target systems that when engaged, support the achievement of the JFC's operational/strategic objectives.

Intelligence

Priority intelligence requirements are developed to support interdiction operations. To that end, joint interdiction targets must be identified and then prioritized to facilitate collection management and mission accomplishment.

Interdiction Planning Considerations

The nature of the mission or a target set may determine its suitability for interdiction and what forces and weapon systems should be employed. Mobile or easily concealed targets may require an approach different from that employed in attacking fixed emplacements.

Preparation

JFCs should ensure that the correct mix of interdiction assets will be in place. Forces should be positioned within operational reach of enemy decisive points to support the JFC's CONOPS and exploit unforeseen opportunities.

Interdiction Execution

Operational Area Geometry and Coordination

Joint interdiction may be conducted in conjunction with friendly forces operating in an AO. In order to integrate joint fires and avoid friendly fire, fire support coordination measures (FSCMs) must be established. When air operations are involved, airspace coordinating measures will normally be used along with FSCMs.

Fire Support Coordination Measures (FSCMs)

Within their areas of operations, land and naval force commanders employ permissive and restrictive FSCMs.

FSCMs are necessary to facilitate the rapid engagement of targets and simultaneously provide safeguards for friendly forces. Permissive FSCMs facilitate attacks and include coordinated fire lines, free fire areas, fire support coordination lines (FSCLs), and kill boxes. Restrictive measures safeguard friendly forces and include no-fire areas, restrictive fire areas, restrictive fire lines, and airspace coordination areas. Interdiction of targets short of the FSCL is controlled by the appropriate land or amphibious force commander. Joint interdiction forces attacking targets beyond the FSCL must inform all affected commanders in sufficient time to allow necessary reaction to avoid friendly casualties. Special operations forces operations beyond the FSCL and outside the land force AO are particularly at risk and require detailed coordination to ensure proper restrictive FSCMs are in place to protect friendly personnel.

CONCLUSION

This publication provides doctrine to plan, execute, and assess joint interdiction operations.

CHAPTER I FUNDAMENTALS

“An army can be defeated by one of two main alternative means—not necessarily mutually exclusive: we can strike at the enemy’s troops themselves, either by killing them or preventing them from being in the right place at the right time; or we can ruin their fighting efficiency by depriving them of their supplies of food and war material of all kinds on which they depend for existence as a fighting force.”

Wing Commander J. C. Slessor
Air Power and Armies, 1936

1. Introduction

This publication provides a basis to plan, execute, and assess interdiction operations. **Interdiction is an action to divert, disrupt, delay, or destroy the enemy’s military surface capability before it can be used effectively against friendly forces or to achieve enemy objectives. In support of law enforcement, interdiction includes activities conducted to divert, disrupt, delay, intercept, board, detain, or destroy, under lawful authority, vessels, vehicles, aircraft, people, cargo, and money.** Interdiction is conducted on enemy surface targets (e.g., enemy command and control [C2], intelligence, fires, reinforcing units, lines of communications [LOCs], logistics, and other operational- and tactical-level enemy surface capabilities). These operations may be used to shape the operational environment or to directly support ongoing military operations by isolating the enemy from materiel, leadership, money, or moral support. Interdiction missions are conducted at such distance from friendly surface forces that detailed integration of each mission with the fire and maneuver of those forces is not required. **Interdiction operations may support theater or operational area-wide priorities or component operations.** Due to the nature of modern conflict that involves nation states, non-state actors, and other threats to the US, interdiction operations can span from US shores, across the open seas, and into theaters or operational areas. These operations may complement, support, or be supported by maneuver operations. When directed, other United States Government (USG) departments and agencies may support joint interdiction operations or conduct their own interdiction activities. Interdiction-capable forces are discussed in Chapter II, “Joint Capabilities.” Joint force commanders (JFCs) may employ interdiction operations as a principal means to achieve intended objectives. Military interdiction operations can also support other USG efforts and law enforcement activities overseas, as well as in the US as part of homeland security.

2. Interdiction in Joint Operations

JFCs integrate and synchronize operations and employ military forces and capabilities, as well as nonmilitary resources, resulting in greater combat power and operational effectiveness. Further, JFCs seek combinations of forces and actions to mass forces in the shortest time possible, and with minimal casualties, to achieve military

objectives. JFCs also gain decisive advantage over the enemy through asymmetrical actions conducted to preserve freedom of action for future operations.

a. Asymmetrical operations are particularly effective when applied against enemy forces not postured for immediate tactical battle, but instead operating in more vulnerable aspects—operational deployment and/or movement, extended logistic activity (including rest and refitting), or mobilization and training (including industrial production). Thus, JFCs should aggressively seek opportunities to apply asymmetrical force against an enemy in as vulnerable an aspect as possible—air attacks against enemy ground formations in convoy (e.g., the air and special operations forces' [SOFs'] interdiction operations against German attempts to reinforce its forces in Normandy); naval air attacks against troop transports (e.g., US air attacks against Japanese surface reinforcement of Guadalcanal); and land operations against enemy naval, air, or missile bases (e.g., The Anaconda Plan—the Union blockade of the Confederate States during the Civil War—was a strategic interdiction operation designed to support ground combat operations by disrupting and denying trade in material goods thus impacting both the ability for the Confederacy to supply its army and generate revenue to fund the war.)

b. Interdiction can create opportunities for commanders to exploit and should be integrated with other operations of the joint force. It can significantly affect the course of a campaign or major operation. However, the use of interdiction must be tailored to the situation and should be closely integrated in the JFC's overall plan. Interdiction against an enemy with a rigid, top-down C2 structure differs from the rapid, agile interdiction required against a decentralized, networked terrorist organization or insurgency. Interdiction can be particularly effective when the enemy must rapidly move major forces and their sustaining supplies.

3. Purpose of Interdiction Operations

The purpose of interdiction operations is to prevent adversaries from employing surface-based weaponry and reinforcing units at a time and place of their choosing. The desired effects for interdiction operations are described using standard terms such as divert, disrupt, delay, or destroy. Actions associated with one desired effect may also support the others. For example, delay can result from disrupting, diverting, or destroying enemy capabilities.

a. **Divert.** Interdiction can divert enemy forces or assets from areas where there are critical operational requirements for them. Its purpose is to consume resources or capabilities critical to enemy operations in a way that is advantageous to friendly operations. It may divert enemy ground forces to a location more favorable to the JFC or divert enemy naval, engineering, and personnel resources to the tasks of repairing and recovering damaged equipment, facilities, and LOCs. It can draw the attention of enemy forces away from critical friendly operations. These diversions prevent enemy forces and their support resources from being employed for their intended purpose. Diversions can also cause more circuitous routing along LOCs, resulting in delays for the enemy. Diversion may be effective in the interdiction of weapons of mass destruction (WMD) material.

b. **Disrupt.** Actions supporting disruption will interrupt or impede the enemy or enemy capabilities or systems, upsetting the flow of information, operational tempo, effective interaction, or cohesion of the enemy force or those systems. Interdiction can disrupt the enemy's C2 systems, intelligence collection capabilities, transportation systems, supply lines, industrial base, and psychological will. Interdiction thus disrupts the movement and routing of the enemy's information, materiel, and forces. Disruption can result from degradation or destruction of these enemy capabilities. Disruption of enemy surface forces can be accomplished in a number of ways. A key task during interdiction planning is analyzing the enemy for critical vulnerabilities that, if attacked, will have a disruptive effect across significant portions of the enemy force.

(1) The enemy's combat operations may be disrupted with attacks on its C2 nodes or key commercial infrastructure components, such as electrical power and transportation, which support and sustain enemy operations. Such attacks may force the enemy to use less capable, less secure backup communications systems that can be more easily exploited by friendly forces. Regimes that possess a rigid, top-down C2 structure can be particularly vulnerable to interdiction.

(2) Interdiction can disrupt by attacking enemy LOCs, forcing the enemy to use less capable transportation modes to communicate and sustain its forces. These disruptive effects can severely affect the tempo of enemy operations and ultimately force the enemy to culminate earlier than anticipated.

(3) Interdiction attacks can also produce a psychological impact which could significantly reduce enemy capabilities and morale. Uncertainty as to whether or not forces, materiel, or supplies will arrive can directly affect enemy commanders, their staffs, and forces.

(4) Disruption can also be achieved through nonlethal means in support of counterterrorism, countering WMD, law enforcement, or national and/or international sanction activities. The purpose of these nonlethal actions is to impede unlawful activities or activities that pose a threat, while minimizing fatalities, permanent injury to personnel, and undesired damage to property and the environment. In modern complex operations, the adversary is often neither easily recognized nor a uniformed, armed combatant. In such an environment, activities such as boarding, diverting, and seizing, if feasible, are frequently more appropriate than lethal attacks.

c. **Delay.** Actions can delay the time of arrival of enemy forces or capabilities or alter the ability of the enemy or adversary to project forces or capabilities.

(1) When interdiction delays the enemy, friendly forces gain time. What JFCs do to improve their situation in the time gained is critical to any assessment of interdiction's contribution. However, an interdiction plan that focuses on delay and is effectively executed does not guarantee a major impact on operations. For delay to have a major impact, either the enemy must face urgent movement requirements or the delay must enhance the effectiveness of planned friendly operations.

(2) It is advantageous for friendly forces to pressure their adversaries to attempt time-urgent movement. Ideally, if the joint force maintains the initiative, the opponent is forced to make unplanned, time-urgent movements at times and places that maximize their vulnerability to interdiction.

(3) The purpose of interdiction may be to lengthen the time during which enemy land or naval forces are at risk of attack. When vehicles mass behind a damaged route segment, or ships are trapped in a harbor because of mines, a more concentrated set of targets and a longer period of exposure results. If there are follow-on strikes, this makes the enemy easier to destroy or render ineffective.

d. **Destroy.** Actions supporting destruction will damage the structure, function, or condition of a targeted system so that it can neither perform as intended, nor be restored to a usable condition, rendering it ineffective or useless. The destruction of enemy forces, cargoes, support elements, and resources is the most direct form of interdiction. This level of interdiction may not always require follow-up missions or a sustained operation or campaign. Destroying transportation systems is usually not an end in itself, but contributes to the delay, diversion, and disruption of enemy forces and materiel. It may cause the enemy to mass air defense assets, which may be useful elsewhere, around critical transportation nodes. It may force the enemy to use alternate, less efficient routes or disperse critical assets. The enemy may have to divert engineering resources from other tasks to prepare alternate routes in anticipation of possible attacks. This may be true even when transportation systems remain largely undamaged. It may also produce unintended or undesirable effects. However, destruction may also inhibit friendly freedom of action. Additionally, collateral damage and other unintended effects may influence the commander's decision to employ destructive fires in urban areas. For example, destruction of key enemy transportation infrastructure in and around land and naval areas of operations (AOs) could hinder subsequent friendly surface movement. Appropriate coordination of interdiction helps to preserve friendly freedom of action. Knowledge of the enemy helps the JFC to anticipate the reactions and consequences of a destruction-oriented interdiction upon all stakeholders—enemies, populace, friends, allies, and sympathizers.

4. Interdiction Objectives Considerations

a. The effectiveness of interdiction is dependent on a number of factors to include: the distance between interdiction operations and the location of intended effect; the means and rate of movement (ships, trains, aircraft, trucks); the physical target (forces, cargo/passengers, supplies, fuel, munitions, infrastructure); the level of enemy activity; enemy tactics; and the resilience, adaptability, persistence, and resourcefulness of the enemy or its targeted force or system. Interdiction may be planned to create advantages at any level, from tactical to strategic, with corresponding effects on the enemy and the speed with which interdiction affects frontline enemy forces. Interdiction deep in the enemy's rear area can have broad operational effects. However, deep interdiction may have a delayed effect on land and maritime operations. Interdiction closer to land and maritime forces may be of more immediate operational and tactical concern to maneuver forces. Thus, JFCs vary the emphasis upon interdiction operations and surface

maneuvers, depending on the strategic and operational situation confronting them. During major operations and campaigns, the effects of interdiction are typically more influential when directed against an enemy's ability to command, mass, maneuver, supply, and reinforce available conventional combat forces. Interdiction is more difficult against an enemy that employs a covert force structure, a simple logistic net, and unconventional tactics. However, with timely, accurate intelligence, and persistent operations, interdiction can disrupt supply operations, destroy weapons caches, and deny sanctuary. The following are considerations for interdiction objectives: attrition of enemy capabilities, constriction of enemy logistic systems, disruption of enemy C2 systems, forcing urgent movement upon the enemy, channeling enemy movements, denying enemy threat potential, interdicting insurgency operations, and aiding in the enforcement of sanctions. When developing interdiction objectives, consider the relationship between targets and what second- or third-order effects may be created, paying particular attention to potential unintended or undesired effects.

b. Attrition of Enemy Capabilities. Attriting inbound enemy forces and materiel may isolate forces directly engaged with US forces allowing the joint force to generate a greater material, informational, or psychological advantage. In some cases, circumstances such as enemy deployment or limiting rules of engagement (ROE) may make fielded forces a more viable target than supporting infrastructure. Resources, terrain, weather, and enemy actions are just a few variables to consider when developing interdiction targets.

(1) Depending on the situation, destroying individual enemy targets may not be the most efficient approach in terms of munitions, time, and forces available. Although the destruction of individual enemy forces has an immediate impact on enemy combat power, it usually requires more interdiction capabilities due to the larger number of individual targets—especially if they are dispersed, concealed, or fortified.

(2) Terrain and weather affect the ability to attrit enemy forces. Attacking an enemy in open terrain in good weather significantly differs from striking an enemy in rough wooded terrain under a layer of foul weather. As an example, during Operation DESERT STORM, Iraqi reinforcing combat units or logistic trains moving across open desert terrain were more vulnerable to interdiction by coalition airpower than dispersed Serbian forces that benefited from trees, valleys, and poor weather conditions during Operation ALLIED FORCE.

(3) Enemy characteristics influence the adopted concept of operations (CONOPS). The enemy's operational vulnerability and ability to replace losses—or adapt operations to mitigate them—must be weighed against the expected results of targeting supporting infrastructure. The enemy's movement also influences the ability to destroy fielded forces. Friendly maneuver can force an enemy to react and become predictable, making interdiction both viable and more effective.

c. Constricting the Enemy Logistic System. Combat creates demands on fielded forces and speeds consumption of vital war materiel. This in turn increases the effectiveness of interdiction operations by straining the support systems and reducing

stockpiles. For surface combat to take place, Service members, and their weapons, ammunition, food, and communications equipment, must get to the battle. When the enemy consumes large quantities of supplies because of heavy combat or extensive movement, interdiction operations have an accelerated impact for two reasons. First, when opponents are under heavy pressure, they may be forced to use up stockpiles reserved for ongoing or future operations. Second, high consumption drives an enemy to use more direct routes, making it more vulnerable to interdiction attacks. The nature of ground combat also determines which supporting elements are most critical at any given time. Historically, an enemy army fighting under static conditions is more affected by the destruction of munitions, while a highly mobile enemy is more disrupted by the loss of fuel and transportation.

(1) The less surplus capacity the enemy's logistic systems have, the less they can compensate for damage. For any type of interdiction in a combat or noncombat environment, degrading the mobility of the enemy's distribution system hinders its ability to redistribute assets to effectively counter friendly operations. When attacking the enemy's logistic systems, it is normally prudent to concentrate efforts on a small number of limiting factors, such as concentrations of supplies; petroleum, oils, and lubricants; storage and resupply systems; or soft vehicles. **When a critical vulnerability is identified within the enemy's logistic systems, it is usually beneficial to employ parallel attacks against that vulnerability.**

(2) The enemy's transportation system should also be broken down into critical requirements and critical vulnerabilities when analyzing for weaknesses to attack. Most transportation systems consist of the actual link for travel (roads, rail, etc.), vehicles used to transport troops or supplies along the link, energy required for those vehicles to operate (typically petroleum or electricity), C2 to run the transportation system, and repair facilities to keep the system operating. The loading and unloading nodes in the transportation system may prove especially lucrative for attack, as large concentrations of enemy forces or supplies are often found there. Examples include rail yards, harbors, and airfields. If forces or supplies are critically needed at the front, the enemy may not have the luxury of dispersing them during loading or unloading, which increases their vulnerability to interdiction. In many cases, the enemy will use the same transportation system for both forces and supplies. Under such circumstances, destroying or degrading the enemy's LOCs will affect both mobility and resupply capability. When analyzing an enemy transportation network for importance to its overall strategy, all possible uses for such a system must be considered. The analysis of the enemy's transportation network should include its surplus capacity and reconstitution capability.

d. **Disrupting Enemy C2 Systems.** The enemy's combat operations may be disrupted with strategic or interdiction attacks on its C2 nodes; the level of C2 disruption must be commensurate with overall objectives. Attacks on the C2 structure may seek to isolate enemy combat forces from higher headquarters or to force the enemy to use less capable and secure backup communications systems that can be more easily exploited. When the enemy employs a rigid, top-down C2 doctrine, it can be particularly vulnerable to the disruptive effects of C2 interdiction. This is especially true when the enemy has not had a long preparation period to exercise its plan or when the conflict has moved

beyond the initial stages. Conversely, an enemy that practices a high degree of C2 autonomy will likely be less affected by attacks on its C2 network. In some circumstances, complete destruction of the enemy C2 architecture could be counterproductive. For example, a plan requiring an enemy reaction to a friendly maneuver could fail if the enemy commander can neither receive reports of the maneuver nor transmit the order to react to it. The capability to affect the enemy through non-lethal electronic warfare (EW), cyberspace operations (CO), or other information-related capabilities (IRCs) should also be considered, as this approach may lead to better overall results, while freeing up conventional interdiction assets to prosecute alternate objectives. CO and information operations (IO) can also be used along with lethal interdiction to have greater effectiveness.

e. Forcing Urgent Movement upon the Enemy. The enemy may execute time-urgent movement for several reasons: an attempt to achieve surprise, the need to attack before reinforcements or supplies arrive, the requirement for rapid reinforcement of threatened defensive positions, the attempt to exploit offensive operations, or when driven to urgent movement by interdiction. Rapid movement of enemy forces and supplies often makes them more vulnerable to interdiction. They generally become more concentrated while traversing more exposed and predictable avenues, occasionally foregoing some of the more time-consuming camouflage, concealment, and deception techniques. However, movements are normally limited in duration due to a desire to limit exposure. For friendly forces to capitalize on such opportunities, the JFC must deny the enemy mobility when it needs it most. Close coordination is required among all forces to take full advantage of the situation. Additionally, commanders require access to information systems able to process real-time and near real-time intelligence in order to exploit the capabilities of interdiction and the opportunities these operations create. Friendly forces must take full advantage of all reconnaissance and surveillance assets to detect when these movements occur.

f. Channeling Enemy Movements. Interdiction can be used to channel the enemy's movements. The lack of transportation routes and man-made and natural obstacles makes interdiction efforts more effective. The fewer routes available to handle enemy supplies and reinforcements, the greater the loss or delay caused by severing those routes. Attacks on enemy lateral LOCs can channel movement, impair reinforcement, reduce operational cohesion, and create conditions for defeating the enemy in detail. Minefields may be employed to channel enemy maritime and ground movements, although the decision to use mines must be balanced against any potential that friendly forces or civilians may need to move through the targeted area. Geography may also restrict or channel surface movement, creating chokepoints and concentrated targets. Geography influences the rate of enemy movement, the size of the force to be moved, where it can move, and the means required to move the force.

A detailed discussion of the integration of barriers, obstacles, and mines is included in Joint Publication (JP) 3-15, Barriers, Obstacles, and Mine Warfare for Joint Operations.

g. Denying Enemy Threat Potential. The presence or threat of effective interdiction operations can result in deterring a potential enemy's actions. Fear of

interdiction can result in a less than optimum use of resources by the enemy. For example, an enemy that has faced or witnessed air interdiction (AI) may be reluctant to move reserve troops to the front lines where they are critically needed. The threat of interdiction operations is also a strong deterrent to the movement and proliferation of WMD. WMD interdiction encompasses operations directed toward weaponized chemical, biological, radiological, and nuclear devices/warheads and delivery vehicles; dual-use items required to produce devices/warheads, their precursors, or related items; related technology; financial and transportation intermediaries, which facilitate trade in WMD; and individuals associated with all of the above.

See JP 3-40, Countering Weapons of Mass Destruction, for more information on WMD interdiction operations.

h. Interdicting Insurgency Operations. Interdiction operations can be particularly valuable in irregular warfare and when conducting counterinsurgency. Guerrilla fighters do not often have large stockpiles of weapons, munitions, money, and other supplies close to their operating areas since they historically blend into, or come from, the population. Thus, they rely on regular supply routes to keep the insurgency supplied and funded. This opens up interdiction targets for the JFC. Of greater challenge in irregular warfare, however, is the fact that supply routes are much harder to interdict since they will often overlap with legitimate civilian routes, and insurgent supplies may be hidden in or be identical to legitimate civilian supplies moving through the operational area. Incorrectly destroying food stocks or civilian supplies may create animosity amongst the population and increase insurgent sympathy or support. Interdiction, when coordinated with combat operations against guerrillas, may deny or disrupt withdrawal routes for the enemy forces fleeing direct engagement with US forces. In these cases, significant coordination must be made between interdiction forces and forces in direct contact with insurgents to prevent friendly fire and maintain constant pressure and pursuit. Additionally, successful insurgencies often benefit from a sanctuary where forces can recruit, rest, refit, and avoid attrition from counterinsurgency forces. Thus, interdiction in irregular warfare that denies or disrupts access to sanctuary will be of enormous value to the overall counterinsurgency effort.

i. Enforcement of Sanctions. Sanction enforcement operations employ coercive measures to interdict the movement of certain types of designated items or information into or out of a nation or specified area. Maritime interception operations (MIO) are a form of interdiction used for sanction enforcement that are military or legal in nature, and serve diplomatic/political and military purposes. The diplomatic/political objective is to compel a country or group to conform to the objectives of the initiating body, while the military objective focuses on establishing a barrier that is selective, allowing only authorized goods or persons to enter or exit. Depending on the geography, sanction enforcement normally involves some combination of air and surface forces. MIO can be used across the range of military operations. It can be used to enforce sanctions or national policies imposed unilaterally, multinationally, or as directed by an international organization (e.g., the United Nations Security Council) or other regional authority. MIO may include the following:

- (1) Sending armed boarding parties to visit merchant ships bound to, through, or out of a defined regional area.
- (2) Examining boarded ships' crewmembers' papers, documentation, and cargo.
- (3) Searching for evidence of contraband, to include WMD or material required in the production of WMD.
- (4) Diverting vessels failing to comply with the guidelines set forth by the sanctioning body or nation.
- (5) Seizing suspect vessels and their cargo that refuse to divert.
- (6) Destroying vessels and cargo, if necessary.

For more information, refer to Navy Tactics, Techniques, and Procedures (NTTP) 3-07.11M/Coast Guard Tactics, Techniques, and Procedures (CGTTP) 3-93.3/Marine Corps Interim Publication (MCIP) 3-33.04, Visit, Board, Search, and Seizure Operations.

5. Elements of Effective Interdiction

Effective interdiction operations share a number of common elements that lead to the attainment of interdiction objectives. The mix of elements in each operation depends on such variables as the nature of the conflict, geographic location, weather, and enemy characteristics. Elements normally required to successfully prosecute interdiction operations are shown in Figure I-1 and are discussed below.

a. **Full-Spectrum Superiority.** The cumulative effect of dominance in the air, land, maritime, and space domains and information environment (which includes cyberspace) permits the conduct of joint operations without effective opposition or prohibitive interference.

Elements of Effective Interdiction Operations

- Full-Spectrum Superiority
- Synchronization with Maneuver
- Sustained and Concentrated Pressure
- Accurate, Reliable, and Timely Intelligence
- Effective Resource Planning, Positioning, and Allocation

Figure I-1. Elements of Effective Interdiction Operations

b. Synchronization with Maneuver. The synchronization of interdiction operations and maneuver can lead to more effective operations. Planning and conducting interdiction and maneuver operations within a coherent framework creates a synergistic effect. The benefits of integrating these operations are discussed in more detail in Chapter IV, “Planning.”

c. Sustained and Concentrated Pressure. Successful interdiction operations have highlighted the importance of sustained, concentrated efforts. Since interdiction is often directed against replaceable systems or assets (vehicles, weapons, aircraft, ships, illegal/dangerous cargoes, persons, or communications equipment) and reparable systems (engineering features, such as bridges and rail lines), sustained, concentrated pressure, sufficient to impede efforts to replace or repair affected assets, is required. This applies particularly to operations of long duration, because time allows the enemy to restore losses. Eventually, resourceful enemies can circumvent even the most enduring effects of interdiction. Success or failure often comes down to the balance between the enemy’s ability to mitigate interdiction effects versus friendly ability to sustain interdiction actions. Effective employment of intelligence, surveillance, and reconnaissance (ISR) assets provides critical information to the JFC on the results of interdiction and on the enemy’s ability to reconstitute.

d. Accurate, Reliable, and Timely Intelligence. Information about the enemy’s plan of operations, LOCs, tactical dispositions, and capabilities can help determine the enemy’s probable course(s) of action (COA[s]), identify contraband shipments (as related to WMD) or interrelated target systems, and allow the commander to anticipate enemy actions or counteractions and respond accordingly. A prerequisite for planning joint interdiction operations is an understanding of the capabilities and limitations of the enemy and how they are most likely to operate. Accurate, reliable, and timely intelligence allows commanders to develop achievable objectives, select appropriate targets, apply the appropriate weapon and delivery systems, and keep abreast of the enemy’s response, as applicable.

(1) Intelligence assessments can provide interdiction operations with crucial input on target development by assessing enemy characteristics. Intelligence analysts also support interdiction planners with environmental assessments. Conversely, interdiction may enhance intelligence collection efforts if, for example, the destruction of primary communications nets causes the enemy to use systems which are more vulnerable to exploitation.

(2) Accurate, reliable, and timely intelligence is extremely important to maritime domain awareness (MDA). The *National Maritime Domain Awareness Plan for the National Strategy for Maritime Security* (December 2013) defines MDA as “the effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or environment of the US.” Obtaining and maintaining accurate MDA is a key enabler of an active and layered maritime defense in depth, and it facilitates more expeditious and precise actions by the joint force maritime component commander (JFMCC), if established, and subordinate commanders. Some degree of MDA is also required to effectively operate as a component of the joint force.

Achieving awareness of the maritime domain is challenging due to the vastness of the oceans and seas, the large volume of maritime commerce, sensor limitations, the great length of shorelines, and size of port areas, which provide both concealment and numerous access points to the land. MDA requires integrating all-source intelligence, law enforcement information, open-source data, and information from public and private sectors, both nationally and internationally. By networking maritime regions and resources into a common global maritime picture, useful data can be presented in a form that supports a wide range of planning, decision, execution, and assessment requirements to include those supporting interdiction operations. Given the nature of these operations, it is important that information be shared within the interagency and international communities to the maximum extent possible.

e. Effective Resource Planning, Positioning, and Allocation. Ensuring the appropriate resources (units, munitions, vessels, etc.) are allocated and positioned to conduct effective interdiction operations requires detailed planning. Interdiction objectives will affect the movement and positioning of appropriate interdiction platforms and weapons. Proper weapon planning and employment are important factors for effective combat interdiction operations. Matching the correct weapon (system) to the target minimizes the time and resources required to achieve the objective. Mismatching available munitions or assets with targets and/or target systems can greatly increase the time and resources required to achieve the objectives of the interdiction operation and unduly risks valuable personnel and weapon systems through additional strikes against the same undamaged/undestroyed target. Munitions and fuse settings should be tailored to the desired effect—target and/or target systems destruction, neutralization, or suppression. Although precision-guided munitions (PGMs) have become a primary weapon of choice, planners should realize that general purpose and cluster munitions may, consistent with application of ROE and the law of war, create better effects in some situations. Planners should also consider the possibility of adverse weapons effects against friendly forces, such as the employment of time-delayed munitions against an enemy near advancing friendly forces. Additionally, planners should consider adverse effects of enemy munitions or weapons material collocated at a target site. Some WMD targets may have restrictions due to the danger of releasing hazards. PGMs are uniquely valuable in attacking hardened point targets or for minimizing collateral damage. These highly accurate munitions provide rapid strike capability with maximum flexibility, while standoff precision weapons allow joint interdiction forces to remain outside the most heavily defended areas with the same accuracies. Precision attack of key infrastructure, transportation, and C2 targets may cripple an enemy force's ability to maneuver.

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CHAPTER II

JOINT CAPABILITIES

1. Interdiction-Capable Forces

Interdiction operations can be conducted by all components of the joint force, employing both lethal and nonlethal means. During interdiction operations, components may support or be supported by another component commander to achieve theater/operational area-wide interdiction objectives, or they may conduct interdiction operations as part of their component mission. Broad lethal and nonlethal interdiction capabilities of the components and other USG departments and agencies are listed in Figure II-1.

a. Air forces employ such weapons as projectiles, missiles, unguided munitions, PGMs, land and/or sea mines, EW systems, and sensors from airborne platforms in the AI role.

(1) AI is an air operation conducted to divert, disrupt, delay, or destroy the enemy's military surface capabilities before it can be brought to bear effectively against friendly forces, or to otherwise achieve enemy objectives. AI is conducted at such distances from friendly forces that detailed integration of each AI mission with the fire

Interdiction-Capable Forces

- Air forces employ such weapons as projectiles, missiles, unguided munitions, precision munitions, land and/or sea mines, electronic warfare systems, and sensors from airborne platforms.
- Maritime forces employ assets such as surface combatants, aircraft carriers, amphibious warfare ships, aircraft, helicopters, submarines, landing forces, and special operations forces, and weapons such as missiles, munitions, torpedoes, and mines, capable of conducting a variety of air, land, and sea operations.
- Land forces employ such assets as attack helicopters, missiles, artillery, and those forces capable of conducting conventional airborne, air assault, and amphibious operations.
- Special operations forces may support conventional interdiction operations by providing terminal guidance for precision-guided munitions, or may act independently when the use of conventional forces is inappropriate or infeasible.
- Other United States Government departments and agencies work with military forces in a whole-of-government approach to interdiction capabilities and forces. Military elements work with our interagency partners (Department of the Treasury, Federal Bureau of Investigation, etc.) to interdict threat finance and foreign fighter streams.
- Cyberspace forces can employ offensive cyberspace operations capabilities to divert, disrupt, delay, or destroy enemy capabilities in support of interdiction operations.

Figure II-1. Interdiction-Capable Forces

and movement of friendly forces is not normally required. Some characteristics or considerations of AI follow.

(a) AI can be executed as a supported mission or it can provide support to land and maritime commanders. AI contributes by disrupting the enemy's ability to command, mass, maneuver, withdraw, supply, and reinforce available combat power, and by weakening the enemy physically and psychologically.

(b) AI can contribute to or achieve JFC objectives independent of surface forces. AI operations outside surface AO and conducted against enemy forces, LOCs, C2 systems, and other enemy resources can significantly alter the course of an operation.

(c) AI creates opportunities for friendly commanders to exploit. AI may support a surface scheme of maneuver within a surface commander's AO. AI can create effects that facilitate and support the land and maritime component's ability to execute JFC specified tasks and missions.

(d) AI is inherently less complicated to execute than close air support (CAS) because it does not require detailed integration with the fire and movement of friendly forces. Detailed integration requires extensive communications, comprehensive deconfliction procedures, and meticulous planning. Therefore, if the enemy surface force presents a lucrative target, AI conducted before friendly land forces make contact can significantly degrade the enemy's fighting ability and reduce the number of CAS sorties required. The CAS/AI relationship has a parallel within the maritime domain. Like CAS, maritime air support (MAS) refers to air action against hostile surface targets—at sea—that requires detailed integration with the fire and movement of maritime forces. AI of maritime targets differs from MAS in that detailed tactical integration with naval surface forces is not required.

(2) Each Service's air forces' flexibility, range, speed, lethality, precision, and ability to mass at a desired time and place contribute significantly to the overall joint interdiction effort. Air forces offer the versatility and capability to deliver combat power against the enemy when and where needed to attain objectives. The ability of aircraft to employ PGMs offers a distinct advantage over other weapon systems in many cases. PGMs can correct for ballistics, release, and targeting errors in flight. Explosive loads can also be more accurately tailored for the target, since planners can assume most bombs will strike in the manner and place expected. Unless using time-delayed munitions, manned and unmanned aircraft (UA) can offer the advantage of conducting phase I battle damage assessment (BDA). Also, stealth capabilities and air-launched conventional standoff weaponry reduce the risk of detection and loss of aircraft and aircrews while increasing the probability of successful attacks.

(3) Technological advancements have given the joint force UA armed with PGMs. UA may provide the benefit of lower cost, lower radar and visual signatures, and extended loiter times compared with most manned aircraft and provide the JFC another interdiction option. UA can be employed over suspected or known enemy strongholds to locate and engage targets of opportunity for longer periods of time. Armed UA have

been used extensively in this capacity during Operation ENDURING FREEDOM (OEF) and Operation IRAQI FREEDOM (OIF).

(4) Employment of cluster munitions allows joint forces to channel the enemy into kill zones or deny access to an area. Sea mines can also be delivered by aircraft, deterring enemy ships from entering an area of the sea or sinking them. Often, mines are more effective for interdiction than bombs, because delayed effects munitions continue to be effective after the delivery aircraft have left the area. Enemy uncertainty regarding the presence of these munitions can result in excessive delays, diversion of resources into time-consuming countermeasures, and reduced enemy morale. However, the use of cluster/mine munitions may also present several disadvantages to the joint force to include: collateral damage, danger to civilians, post-conflict cleanup cost, adverse coalition public relations, international legal implications, and denial of friendly access to the targeted area. Programmable self-destruct munitions may mitigate some of these disadvantages. Lastly, the use of mines and cluster munitions is governed by rigorous safeguards to ensure compliance with international law and the national security needs of the US. US policy in this area is under constant review and modification. Employment must only be executed in accordance with the ROE approved for the operation. Additionally, the use of cluster/mine munitions may be problematic in an environment where multinational members have ratified international conventions against these munitions.

For more information on mine warfare, see JP 3-15, Barriers, Obstacles, and Mine Warfare for Joint Operations.

b. Maritime forces employ a network of integrated and redundant sensors, and command, control, communications, computers, intelligence, and EW systems, as well as, missiles, torpedoes, fixed-wing, tiltrotor, rotary-wing aircraft, UA, mines, naval fires, expeditionary forces, and boarding parties to support naval, air, and ground forces. Ships performing surface warfare and submarines performing antisubmarine warfare are examples of interdiction actions to establish and maintain sea control. Expeditionary forces can conduct operational maneuver from the sea to extend control to the edge of the operational area and disrupt and destroy enemy forces and facilities. Interdiction in a maritime operational area can isolate an enemy from outside support, halt undesired activity, and enforce legal sanctions. It can also enhance free use of the sea LOCs for such friendly operations as deployment of forces and can provide security for other naval operations. Interdiction in the maritime operational area can be significantly different from operations in other operational areas due to the complexity of international law of the sea. Especially when conducting homeland security (e.g., United States Coast Guard [USCG] under Title 14, United States Code [USC]), or homeland defense interdiction operations, maritime forces may be tasked to intercept, interdict, disable, stop, and board vessels prior to use of lethal means of interdiction.

(1) Interdiction can deny the enemy free movement into or within an objective area prior to an amphibious assault by landing force elements. Naval fires may also be used for interdiction along littoral LOCs.

(2) Interdiction on waterways can disrupt enemy infiltration, movement, and resupply along and across major waterways in an operational area. Mines have a wide application to interdiction operations in both the littoral regions and the open ocean. They are effective in harbors, coastal regions, and strategic chokepoints of the ocean. Harbors can be vital to maintaining both a viable economy and an effective maritime force. A lack of adequate ports to resupply naval vessels may reduce the effectiveness of enemy forces. Ports may also be essential in sustaining a military campaign. Disrupting the flow of ships in and out of a port—or shutting it off altogether—can be an effective way to cripple an enemy.

(3) The general purpose of MIO is to interdict goods or persons prohibited by a lawful sanction. However, not every individual MIO action or boarding results in interdiction, because the vast majority of vessels boarded in these operations are free of prohibited goods or persons. While a primary mechanism for initiation of MIO has been United Nations Security Council resolutions, other rationales exist for MIO, including:

- (a) Consensual boarding (permission granted by the ship's captain);
- (b) A flag state authorized boarding;
- (c) An interception as a condition of port entry;
- (d) The belligerent right of visit and search;

(e) An interception made in accordance with Article 110 of the United Nations Convention on the Law of the Sea (UNCLOS), based upon reasonable grounds for suspecting that the intercepted ship is engaged in piracy, engaged in the slave trade, engaged in unauthorized broadcasting (but only if the flag state of the warship has jurisdiction under Article 109 of UNCLOS), without nationality, or is the same nationality as the warship (though flying a foreign flag or refusing to show its flag); or

- (f) An interception made pursuant to the right of self-defense.

(4) Visit, board, search, and seizure agreements—such as bilateral ship boarding agreements negotiated between nations that have endorsed the Proliferation Security Initiative Statement of Interdiction Principles—can assist in the timely interdiction of vessels. The tactics, techniques, and procedures for the conduct of MIO are provided in NTTP 3-07.11M/CGTTP 3-93.3/MCIP 3-33.04, *Visit, Board, Search, and Seizure Operations*, which describes detailed visit, board, search, and seizure operations.

(5) Expanded maritime interception operations (EMIO) are authorized by the President and directed by the Secretary of Defense to deter, degrade, and/or disrupt or gather raw intelligence to potentially prevent attacks against the US and its allies. EMIO involves interception of vessels identified to be transporting targeted personnel or materiel that pose an imminent threat to the US and its allies. EMIO may be implemented without sanctions and may involve multinational forces or other USG departments and agencies. The legal rationales required to permit boarding include those listed in subparagraph 1.b.(3).

(6) Law enforcement operations (LEO) are a form of interdiction operations for which the Department of Defense (DOD) plays a critical role. The basis and mission of LEO, however, is different from MIO. Title 14, USC, Section 2, requires the USCG, as the primary, maritime federal law enforcement agency (LEA), to enforce or assist in the enforcement of all applicable federal laws on, under, and over the high seas and waters subject to the jurisdiction of the US and to engage in maritime air surveillance or interdiction to enforce or assist in the enforcement of violations of the laws of the US. USCG vessels routinely conduct LEO independent of naval operations. However, United States Navy (USN) vessels may embark USCG boarding teams, typically in the form of law enforcement detachments (LEDETs), in order to conduct LEO for boardings. USN ships carrying USCG boarding teams or LEDETs support federal law enforcement efforts, but USN and other DOD personnel are limited by law, policy, and regulation in the role they can play in law enforcement activities, such as boarding, arrest, or seizure. Counterdrug and alien migrant interdiction operations are examples of LEO. As the lead US federal agency for detection and monitoring the illegal aerial and maritime transit of drugs into the US, DOD plays a critical role in supporting US and partner nation law enforcement interdiction efforts by sharing relevant information on targets of interest. Subject to restrictions, Title 10, USC, Sections 372-374, permits DOD to provide personnel, equipment, facilities, maintenance, training, and advice to US LEAs. DOD also has capability, when authorized, to train partner nation security forces in MIO.

For more information refer to NTTP 3-10.1, Coastal Riverine Force Operations.

(7) Subject to authorities, SOF are well-suited to provide support to law enforcement interdiction operations and to build the capacity of partner nation security forces to conduct interdiction operations.

(8) Riverine operations facilitate interdiction in coastal and inland waterways. In areas with limited land transportation, but numerous waterways, rivers provide natural transportation routes and are logical population centers. In some developing countries, inland waterways are major arteries for economic circulation, and military operations may be needed to keep waterways open to maintain the local economy. Water routes are strategically and tactically important to an insurgent or enemy force, particularly in situations where an external aggressor supports and directs insurgency. Such a situation may require interdiction and control of waterways.

(a) A thorough understanding of the riverine environment is needed to plan and conduct riverine operations. In a riverine area, watercraft are the principal means of transport. In such areas, indigenous personnel often settle along the waterways because they are the only usable means of travel between villages. Civilian traffic and settlements conceal the enemy's movements, mining, and ambush operations. Control of waterways is necessary in riverine areas.

(b) Riverine operations are joint operations undertaken primarily by ground and naval forces. Participating forces must coordinate and integrate efforts to achieve a common objective. Interdiction may be an objective of riverine operations, while other objectives may be to seize key terrain, strike, raid, or facilitate freedom of navigation.

Mission, enemy, terrain and weather, troops and support available/time available are the basis for the task organization. Considering the total forces available, riverine operations require a balance between types of forces. A special consideration in task organization for riverine operations is the amount of troop lift and fire support available from the air, maritime, or land components. The major factors determining maritime support requirements are:

1. The extent to which navigable waters permit moving naval support to, within, and around the operational area.

2. The size of ground forces needed in the objective area, the availability of other means of transportation, and the desirability of using other means to deliver them.

3. The command relationship between the maritime commander and ground force commander.

4. The maritime force commander having responsibility for moving subordinate joint force ships and watercraft between riverine bases and support facilities outside the riverine area. The land force commander in the riverine area is responsible for the security of ships within the area.

c. Land forces employ such assets as attack helicopters, missiles, artillery, and forces capable of conducting conventional airborne, air assault, and amphibious operations to accomplish interdiction. The interdiction goals of operational-level commanders are to isolate the AO by interdicting enemy military potential before its effective use against friendly forces. Direct or indirect fires may be used by land forces to achieve interdiction goals.

(1) Attack helicopters provide a commander with an effective and versatile means of interdicting enemy forces. They may use them for rapid reaction operations and where terrain restricts or prohibits ground force occupation or engagement of the enemy's forces. Attack helicopters are capable of employing precision-guided weapons and providing terminal guidance for other interdiction forces. They are capable of operating during the day or night and in adverse weather conditions.

(2) Field artillery contributes to land operations by massing fires in space and time on single or multiple targets with precision, near-precision, and area fire capabilities. Field artillery can rapidly shift fires throughout the AO in support of the scheme of maneuver and to counter unforeseen enemy reaction to create the maneuver commander's desired effects. Artillery assets are very effective for interdicting high-value, well-defended targets, day or night, in all weather conditions. Artillery can create obstacles to enemy maneuver and cover the friendly force's advance with obscuring smoke and disruptive/destructive fires. Artillery can suppress enemy defensive systems to facilitate ground and air operations and can be used to promote deception, keep the enemy off balance, interdict enemy counterattack routes, and test its responses. Appropriate

artillery target areas include mobility corridors which form chokepoints on the enemy supply route and areas through which hostile weapon systems and equipment must pass.

(3) Current technology for missile system warhead guidance allows missiles to target mobile armor formations and small point targets such as buildings or other non-hardened targets. They can conduct short-notice strikes without airborne aircraft support against targets in heavily defended areas where the probability of the loss of manned aircraft is too high. Missile systems are usually employed against soft, stationary targets. These targets include unhardened surface-to-surface missile sites, emplaced artillery batteries, air defense sites, logistic sites, and C2 facilities. The Army Tactical Missile System (ATACMS), guided multiple launch rocket system, and 155-millimeter projectiles provide the joint force with interdiction capabilities, which can complement and enhance the theater/operational area-wide interdiction effort.

(4) Airborne and air assault forces provide the joint force with an interdiction capability, using forcible entry operations in the form of raids to seize key terrain or chokepoints to achieve interdiction objectives. During Operation DESERT STORM, elements of the XVIII Airborne Corps, in the largest air assault in military history, penetrated 260 kilometers into Iraqi territory to the Euphrates River. The purpose of this operation was to cut the Iraqi LOCs along Highway 8 to Baghdad, effectively isolating Iraqi forces in the Kuwait theater of operations.

d. **SOF** can conduct interdiction operations in their own right with specialized capabilities. However, their greatest contribution to joint interdiction operations may be in their use as a force enabler and multiplier. SOF complement and support conventional interdiction operations by providing raw intelligence, target cueing, guidance for PGMs, and post attack assessment. Additionally, SOF can conduct and support joint interdiction operations with a range of special operations core activities when the use of conventional forces is inappropriate or infeasible. SOF may conduct coastal or riverine interdiction operations using a variety of specialized ships and craft. In a linear operational environment, SOF may be inserted in the enemy's rear operational area for their disruptive effect or to engage key transitory targets. Such direct action operations typically involve an attack on critical targets such as LOCs. SOF may employ organic weapon systems such as fixed- or rotary-winged gunships. Additionally, SOF may enlist the support of local friendly forces who may interdict from within the enemy's infrastructure in areas presumed to be safe from attack. SOF may also degrade or obstruct the warmaking capability of a country by damaging, destroying, or diverting war materiel, facilities, utilities, and resources. This sabotage may be the most effective or only means of attacking specific targets that lie beyond the capabilities of conventional weapon systems.

(1) The use of SOF in terminal guidance operations (TGO) can significantly enhance interdiction. TGO are actions that provide additional information regarding a specific target location to approaching aircraft and/or weapons by electronic, mechanical, voice, or visual communications. This combination of SOF TGO and joint interdiction aircraft was used extensively during OEF.

(2) SOF special reconnaissance (SR) missions are another means of supporting interdiction operations. SR is reconnaissance and surveillance actions conducted as a special operation in hostile, denied, or within diplomatically or politically sensitive environments to collect or verify information of strategic or operational significance, employing military capabilities not normally found in conventional forces. These actions provide an additive capability for commanders and supplement other conventional reconnaissance and surveillance actions. Even with today's sophisticated long-range sensors and overhead platforms, some information can be obtained only by visual observation or other collection methods in the target area. SOF's highly developed capabilities of gaining access to denied and hostile areas, worldwide communications, and specialized aircraft and sensors enable SR against targets inaccessible to other forces or assets. SR is further divided into two mission subsets:

(a) **Target Acquisition (TA).** TA includes all activities to acquire and collect information in support of planning for, or interdiction of, a specific target. These actions can be in support of a follow on SOF mission or in support of other strike assets.

1. Reconnaissance. These are operations with the primary purpose of locating targets of opportunity (e.g., enemy materiel, personnel, and facilities in assigned general areas or along assigned ground communication routes) and LOCs. Reconnaissance is not conducted for the purpose of attacking specific identified targets.

2. Target and Threat Assessment. These are operations conducted to detect, identify, locate, and assess a target to determine the most effective employment of weapons. This type of operation might include the assessment of the potential effects (to include collateral damage) of a strike or an attack on a chemical, biological, radiological, nuclear, or toxic industrial material site.

(b) **Specific Data Collection.** Specific data collection consists of all activities to collect data for purposes other than targeting.

1. Environmental Reconnaissance. These are operations conducted to collect and report critical hydrographic, geological, and meteorological information.

2. Post-Strike Reconnaissance. SOF can gather a variety of post-interdiction information, including impact on population behavior and detailed BDA on target structures.

e. **Multi-Service Capabilities.** Some capabilities or weapons used for interdiction operations cross Service boundaries. Cruise missiles are one such weapon which can be launched from aircraft, ships, and submarines. Cruise missiles, such as the joint air-to-surface standoff missile or Tomahawk land-attack missile, can be effective interdiction assets and provide a potent employment option to the joint force. Several variants provide single warhead unitary blasts or a hardened target penetration warhead. Low risk, accuracy, and range make missiles most viable in the planning of interdiction contingency operations against stationary targets. Cruise missiles are capable of conducting short-notice strikes launched from aircraft operating outside the range of

enemy threats. They are ideal for use against targets in heavily defended areas where the probability of the loss of manned aircraft is too high. Cruise missiles are also capable of neutralizing enemy air defenses to facilitate a much larger attack by land- and sea-based airpower.

f. **Interagency Partners.** Often, DOD will either support or be supported by interagency partners. Supporting combatant commands or government agencies can provide capabilities in support of interdiction. When these capabilities are synchronized with intelligence collection and IO, they play a key role in the interdiction of WMD and other forms of interdiction. USG departments such as the Department of State, Department of Energy, Department of Homeland Security (DHS), and Department of the Treasury bring significant resources to the table in the effort for interdiction. The JFC should coordinate through the combatant commander to access these resources.

See JP 3-08, Interorganizational Cooperation, for further information.

2. Complementary Operations

Joint interdiction operations are most effective when fully integrated into the CONOPS of the joint force. In addition to counterair and maneuver, other operations notable for their specialized roles, which can complement joint interdiction operations, include the following:

a. **Strategic Attack Operations.** A strategic attack is a JFC-directed offensive action against a target—whether military, political, economic, or other—that is specifically selected to achieve national or military strategic objectives. These attacks seek to weaken the enemy’s ability or will to engage in conflict or continue an action and as such, could be part of a campaign, major operation, or conducted independently as directed by the President. Additionally, these attacks may achieve strategic objectives without necessarily having to achieve operational objectives as a precondition. Suitable targets may include, but are not limited to, enemy strategic centers of gravity (COGs). Strategic attack and interdiction operations complement one another. As an example, strategic attack may focus on halting production and storage of critical war materiel, while interdiction concentrates on cutting off the flow of this materiel. Strategic attack and interdiction operations also create a synergistic effect with simultaneous attacks against the enemy in depth, which places maximum stress on the enemy, allowing them no respite.

b. **ISR** is an activity that synchronizes and integrates the planning and operation of sensors; assets; and processing, exploitation, and dissemination systems in direct support of current and future operations. This is an integrated intelligence and operations function, and it comprises a joint mission to produce relevant information from all sources in a comprehensive, responsive, timely manner, so that military decision makers may gain and maintain an information advantage over an enemy.

c. **Space Operations.** Space systems support joint interdiction target analysts, planners, and combat forces by providing capabilities for C2; sea, land, air, and space

surveillance; intelligence collection; tactical warning and combat assessment; navigation; geospatial information and services; and environmental monitoring. Space control operations balance the protection of US space capabilities with the denial of those of the adversary and must be integrated into joint interdiction plans and operations as appropriate. Planning must account for critical vulnerabilities with respect to space-based systems. Joint force reliance on these systems makes them a lucrative target for an enemy with the means to attack them. Also, many space-based systems, such as Global Positioning System signals, are susceptible to EW techniques and environmental interference, and these factors must be taken into account during the planning process.

JP 3-14, Space Operations, provides further amplification on the role of space forces in joint operations.

d. **EW.** EW capabilities produce effects throughout the electromagnetic spectrum (EMS) in support of joint interdiction operations. Commanders conduct EW (i.e., electronic attack [EA], electronic protection [EP], and electronic warfare support [ES]) to retain freedom of maneuver in the EMS, accomplish the JFC's objectives, deny freedom of action to adversaries, and enable other operational activities. EA assets perform vital screening functions and can degrade, disrupt, or deceive an adversary's positioning, navigation, and timing (PNT); datalinks; communications; and radars. EP measures provide protection and ensure effective friendly use of the EMS, to include communications and weapons datalinks. ES synchronizes and integrates the planning and operational use of sensors, assets, and processes within a specific operational environment to reduce uncertainties concerning the adversary, environment, time, and terrain. ES efforts dynamically map the electromagnetic operational environment (EMOE) for targeting and threat avoidance planning. ES can also provide geolocation of transmissions that interfere with effective and timely PNT signal reception and provide combat assessment feedback during and after strike activities by monitoring changes in the EMOE.

e. **CO.** Many aspects of joint operations rely in part on cyberspace; CO can complement and enable other forms of interdiction. Automated information systems support most forms of interdiction planning and execution, from situational awareness sensors and displays to embedded computers in navigation and weapon systems. Security of these cyberspace elements is crucial to their effective use and the outcome of related interdiction missions. Cybersecurity actions, including properly trained users and keeping software and hardware correctly configured, protect mission-critical systems from internal and external cyberspace threats, and increase the effectiveness of interdiction missions throughout the operational environment.

JP 3-12, Cyberspace Operations, provides further amplification on the role of cyberspace forces in joint operations.

f. **IO.** IO is the integrated employment, during military operations, of IRCs in concert with other lines of operation to influence, disrupt, corrupt, or usurp the decision making of adversaries and potential adversaries while protecting our own. IO complements interdiction through a variety of means and can be used to accomplish

interdiction objectives, ideally achieving the goals before friendly forces engage the enemy. Use of IRCs to affect adversary C2 and intelligence functions may lead to confusion, uncertainty, or lack of confidence in available information and leadership decisions, and may contribute directly to collapse of enemy capability and will. The synergistic effects of military information support operations (MISO) conducted in parallel with interdiction operations can affect the enemy's capabilities and will to fight simultaneously. The psychological shock of massed joint interdiction with IO can be overwhelming to the enemy's fielded forces, especially when those forces have already been strained by land or maritime combat. The nonlethal nature of many IRCs allows their use prior to and after hostilities, extending contact across time, thereby giving the friendly force greater opportunity to influence events and outcomes favorably.

Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3210.01, Joint Information Operations Proponent, and JP 3-13, Information Operations, discuss the role of IO in joint operations.

g. **Air refueling** provides the JFC the ability to maneuver and mass interdiction forces, using surprise and economy of force, at a time and location where the enemy is least prepared, to deter, dissuade, or destroy. Station times will be increased for airborne, on-call AI missions, providing decreased response times. While technically a support asset, air refueling has become such an integrated part of AI operations that it would be difficult to imagine operating without the enhanced capabilities it provides. For example, enemy antiship defenses may force an aircraft carrier to stand off from the target area, requiring refueling support to get carrier aviation to the fight. When air superiority is in dispute and enemy aircraft and missiles threaten air bases close to the fight, air refueling may be the only way to get interdiction missions to the target area.

h. **Strike Coordination and Reconnaissance (SCAR).** SCAR is a mission flown for the purpose of detecting targets and coordinating or performing attack or reconnaissance on those targets. SCAR missions are flown in a specific geographic area and are an element of the C2 interface to coordinate multiple flights, detect and attack targets, neutralize enemy air defenses, and provide BDA. The area may be defined by a box or grid where potential targets are known or suspected to exist, or where mobile enemy surface units have relocated because of surface fighting. **Typical SCAR tasks include cycling multiple attacking flights through the target area and providing prioritized targeting guidance and enemy air defense updates to maximize the effect of each sortie.** Maritime SCAR is conducted as specified by the surface warfare commander (SUWC). Detailed SCAR procedures are outlined in Army Techniques Publication (ATP) 3-60.2/Marine Corps Reference Publication (MCRP) 3-23C/NTTP 3-03.4/Air Force Tactics, Techniques, and Procedures (AFTTP) 3-2.72, *Multi-Service Tactics, Techniques, and Procedures for Strike Coordination and Reconnaissance*.

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CHAPTER III COMMAND AND CONTROL

1. Command and Control of Joint Interdiction Operations

At the highest level, the JFC is responsible for the execution of theater strategy and operations. The joint operations center is the focal point for integrating joint operations at the macro level, to include interdiction. Interdiction of enemy forces and infrastructure is an integral part of a joint campaign or major operation. **Joint interdiction operations require an integrated, flexible, and responsive C2 structure to process interdiction requirements and dependable, interoperable, and secure communications architecture to exercise control.** The JFC exercises C2 through functional or Service component commanders. Each component may perform interdiction as part of their internal mission, employing their organic C2 assets in accordance with their particular tactics, techniques, and procedures.

a. **The JFC normally delegates the planning and execution of theater/joint operations area (JOA)-wide AI operations, outside of component-assigned AOs, to the joint force air component commander (JFACC), if established.** The JFACC directs, coordinates, and deconflicts joint AI operations from an operations center which is normally designated a joint air operations center (JAOC). The JAOC is structured to operate as a fully integrated facility and relies on expertise from other component liaisons to coordinate requests or requirements and maintain an up-to-date status of the other component operations and interdiction target nominations. The JFACC staff will normally task and allocate most joint AI operations using host-component, organic C2 architecture. Reliable, secure communications are required to exchange information among all participants. In joint operations, components provide and operate the C2 systems, which have similar functions at each level of command. The JFACC tasks joint AI assets made available for theater/JOA-wide tasking through the JAOC and appropriate Service component C2 systems to ensure the proper integration of interdiction with the surface scheme of maneuver. With proper coordination, other components may provide the JFACC supporting capabilities, like long range artillery, that contribute to joint AI objectives.

b. **Theater Air Control System (TACS).** The TACS is the Air Force component commander's mechanism for controlling air component assets. It consists of airborne and ground elements to conduct tailored C2 of air component operations, including AI. The structure of the TACS should reflect sensor coverage, component liaison elements, and the communications systems required to provide adequate support. As an organic Air Force system, the TACS remains under operational control (OPCON) of the commander, Air Force forces (COMAFFOR). The air operations center (AOC) is the senior C2 element of the TACS and includes personnel and equipment of necessary disciplines to ensure the effective planning and conduct of component air operations. The AOC is designed to expand, via augmentation, to form the JAOC when the COMAFFOR is designated by the JFC as the JFACC.

(1) Exchange of liaisons between Service and functional components is critical to ensure coordination between the US Air Force's TACS and the Army air-ground system (AAGS). To facilitate this coordination, the US Air Force habitually aligns air support operations groups (ASOGs) at each Army corps and the air support operations squadron (ASOS) at each Army division. The wartime functions performed by the ASOG and ASOS are unique to each; the ASOG's functionality is focused at the operational level, while the ASOS's functionality is focused at the tactical level.

(2) **Joint Air Component Coordination Element (JACCE).** The Army corps ASOG is organized, trained, and equipped to serve the wartime function of the JACCE. The COMAFFOR or JFACC may establish one or more JACCEs with other functional component commanders' headquarters (joint force land component commander [JFLCC], joint force special operations component commander [JFSOCC], JFMCC, etc.) or joint task force headquarters to better integrate joint air operations plans with the host headquarters operation plans. When established, the JACCE is a component-level liaison that serves as the direct representative of the JFACC. The JACCE does not perform any C2 functions, and the JACCE director does not have command authority over any air forces.

(3) **Air Support Operations Center (ASOC) and Tactical Air Control Party (TACP).** The division ASOS is organized, trained, and equipped to serve the wartime functions of ASOC and TACP. The ASOC is subordinate to the JAOC and resides at the Army's senior tactical echelon, normally collocated with the division fires cell and airspace element. While the JAOC provides control of theater-wide air power, the ASOC provides primary control of joint air power operations in support of the Army. The interdiction coordinator, within the ASOC, is responsible for oversight of all AI that takes place within division assigned airspace. Integration then continues down through the Air Force component liaisons aligned with land combat forces. TACPs normally provide support from the Army's senior tactical echelon down to battalion levels to advise ground commanders on the capabilities and limitations of joint air support operations, assist the staff in joint air support planning, and conduct terminal control of CAS. When integrated, the TACS and AAGS are collectively known as the TACS-AAGS (see Figure III-1 and ATP 3-52.2/MCRP 3-25F/NTTP 3-56.2/AFTTP 3-2.17, *Multi-Service Tactics, Techniques, and Procedures for the Theater Air-Ground System*).

c. **AAGS.** The AAGS is an inherent part of the Army mission command system (arrangement of facilities, networks, information, personnel, and processes) that connects to the TACS and supporting joint air components of the theater air-ground system (TAGS). AAGS is the Army's control system to synchronize, coordinate, and integrate joint air operations with the ground commander's scheme of maneuver and fires. The AAGS provides the framework to initiate and process air support requests, collection requirements, airspace integration, Army indirect fires, joint fires, air and missile defense, and exchange of liaisons. The AAGS and Air Force TACS are designed to work together to enhance joint air-ground integration for their respective components. Habitual relationships and frequent training events between the Army and Air Force improve the conduct of critical joint air-ground functions and assist in creating synergistic effects for interdiction operations.

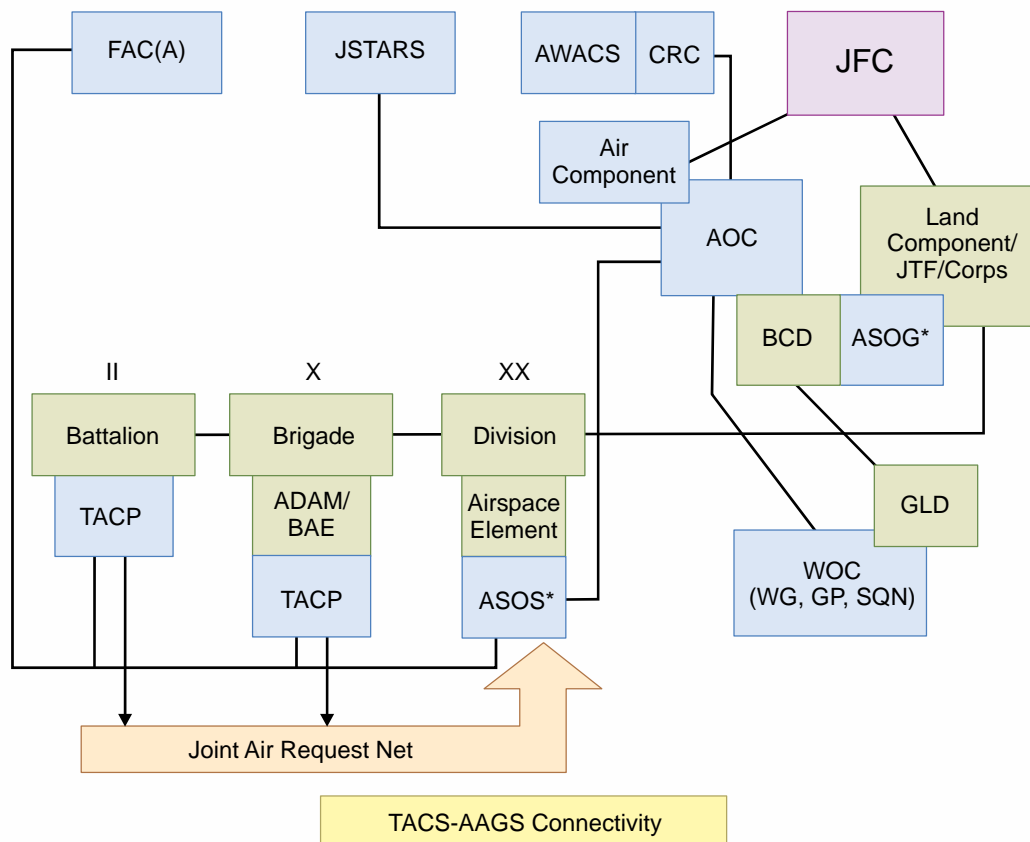
(1) As previously mentioned, the exchange of liaisons between Service and functional components is critical to coordination between the TACS and the AAGS. To facilitate this coordination, the Army habitually aligns the battlefield coordination detachment (BCD) with AOCs.

(2) The BCD is an Army coordination detachment that enables selected operational functions as the senior liaison between the Army forces commander and the air component commander. The BCD interfaces with the appropriate divisions within the AOC to ensure the Army commander's needs are represented to the air component commander. Key tasks include exchanging current intelligence and operational data (priorities, friendly order of battle, scheme of maneuver), support requirements (ISR, joint fires, space support, suppression of enemy air defense, EW), coordinating Army forces requirements for airspace coordinating measures (ACMs), fire support coordination measures (FSCMs), and theater airlift. The critical role of the BCD is to ensure the exchange of information and to advocate for the Army commander as the liaison element between Service components. For additional information regarding the BCD, see ATP 3-09.13, *The Battlefield Coordination Detachment*.

(3) **Ground Liaison Detachments (GLDs).** The GLDs are supervised by the BCD. GLDs serve as the primary coordinating element between the supporting Air Force unit and supported ground forces. GLDs support wing operations and provide continuous ground liaison coverage. A GLD normally consists of a combat arms officer and a combat arms noncommissioned officer. A GLD's primary role is to provide liaison between the ground units requesting air support and the Air Force fighter wings, bomber wings, airlift wings, and composite wings providing CAS, AI, airlift, and airdrops. For additional information regarding GLDs, see ATP 3-09.13, *The Battlefield Coordination Detachment*.

(4) **Joint Air-Ground Integration Center (JAGIC).** The JAGIC is a method to effectively organize personnel and equipment to build personal relationships and teamwork between Soldiers and Airmen. This is facilitated through the physical integration of selected division current operations staff members with Air Force ASOS's TACP and ASOC personnel. The JAGIC evolved from a concept to enhance joint collaborative efforts to integrate joint air-ground assets. Located in the Army division current operations integration cell, the JAGIC provides commanders a technique to coordinate, integrate, and control operations in division-assigned airspace. The JAGIC co-locates decision-making authorities from the land and air component to support the supported maneuver commander's objectives and intent. The JAGIC facilitates effective mission execution while reducing the level of risk. The JAGIC is designed to fully support and enable division-level current operations through the rapid execution and clearance of fires and airspace. It is a modular and scalable center designed to integrate and synchronize fires and airspace control in the division AO in accordance with guidance received from the division commander and the JFACC and airspace control authority. For additional information regarding JAGIC, see ATP 3-91.1/AFTTP 3-2.86, *The Joint Air Ground Integration Center*.

Key Air Force and Army Components of the Theater Air Control System: Army Air-Ground System



*Exact make up and capabilities of the ASOG/ASOS tailored to match the mission assigned to the corps/division. The ASOC is normally collocated with the senior Army tactical echelon.

NOTE:

Coordination is effected between all organizations for effective/efficient operations.

Legend

AAGS	Army air-ground system	GP	group
ADAM	air defense airspace management	JFC	joint force commander
AOC	air operations center	JSTARS	Joint Surveillance Target Attack Radar System
ASOC	air support operations center	JTF	joint task force
ASOG	air support operations group	SQN	squadron
ASOS	air support operations squadron	TACP	tactical air control party
AWACS	airborne warning and control system	TACS	theater air control system
BAE	brigade aviation element	WG	wing
BCD	battlefield coordination detachment	WOC	wing operations center
CRC	control and reporting center		
FAC(A)	forward air controller (airborne)		
GLD	ground liaison detachment		

——— command and control

Figure III-1. Key Air Force and Army Components of the Theater Air Control System: Army Air-Ground System

d. The **Navy tactical air control system (NTACS)** is the principal air control system afloat. The senior USN air control agency is the Navy tactical air control center (Navy TACC) and the subordinate airborne element is the E-2 Hawkeye aircraft. The Navy TACC plans the conduct of naval air operations, as well as coordinates operations that affect airspace. **The Navy TACC is the primary air control agency within the AO from which all air operations supporting the amphibious task force are controlled.**

e. **Marine Air Command and Control System (MACCS).** The MACCS consists of various air C2 agencies designed to provide the Marine air-ground task force aviation combat element commander with the ability to monitor, supervise, and influence the application of Marine and supporting air assets. Marine aviation's philosophy is one of centralized control and decentralized execution. The Marine force's focal point for tasking and exercising OPCON over Marine Corps air forces is the tactical air command center, which performs similar duties for organic Marine aviation that the JAOC performs for joint air component operations. The direct air support center (DASC) is roughly equivalent to the Air Force's ASOC.

f. **Special Operations Air-Ground System (SOAGS).** Theater special operations are normally under the control of the JFSOCC. If designated by the JFSOCC, control of SOF airpower is normally exercised by a joint special operations air component commander (JSOACC). If a JSOACC has not been designated, then SOF airpower is controlled by its Service component within the joint force special operations command. The JFSOCC provides a special operations liaison element (SOLE) to the JFACC to coordinate, deconflict, and integrate special operations air, surface, and subsurface operations with conventional air operations. The SOLE can provide timely operational environment awareness which can enhance interdiction operations.

g. **TAGS.** The TAGS combines each Service's C2 and airspace management system into a unified framework allowing each to contribute in a unified effort supporting the JFC. Combining the TACS, AAGS, NTACS, MACCS, and SOAGS creates the TAGS. The JFC directs the TAGS architecture for a particular operational area. Each component's air-ground system is designed to facilitate C2 of that component's operations and interface with the TAGS. The roles, responsibilities, and authorities of each TAGS element should be clearly spelled out in theater-wide documents such as the area air defense plan and airspace control plan.

For more information on TAGS, see ATP-52.2 (Field Manual [FM] 3-52.2)/MCRP 3-25F/NTTP 3-56.2/AFTTP 3-2.17, Multi-Service Tactics, Techniques, and Procedures for the Theater Air-Ground System.

h. USN and USCG forces may have specific targets for interdiction or they may operate in patrol areas. The distances involved and the ambiguity of possible threats at sea require operational flexibility. C2 may be through a task force, other military chain of command, or in some instances of maritime operational threat response (MOTR) plan execution, directly through national level authorities. Both the USN and USCG may respond under Title 10, USC, authority. However, unless the situation involves a major

and immediate threat requiring emergency USN response as the only/most capable available force, USCG will respond if mission requirements dictate, under Title 14, USC, law enforcement authority.

For more information on MOTR, see JP 3-27, Homeland Defense.

i. Within the maritime operational area, authority for control of AI of maritime target assets is derived from the JFMCC as the supported commander. The JFACC may allocate sorties, via the air tasking order (ATO), to provide reconnaissance and surveillance—often referred to as surface surveillance coordination—and AI in the maritime AO. These sorties play a critical role in targeting and establishing/maintaining a common operational picture. In most cases, the sea combat commander or the SUWC will be authorized to designate surface contacts for strike during AI of maritime target execution.

2. Command Relationships

JFCs typically conduct joint interdiction operations through component commanders. All elements of the joint force can be called upon to perform interdiction operations. For example, SOF may conduct limited interdiction operations deep in enemy territory, and land or maritime force commanders may employ interdiction assets within their AOs. Planning and coordinating interdiction operations occurs at many levels of command within a joint force. The flexibility and capability of interdiction-capable assets allow them to be employed in a multitude of situations. Subordinate commanders possess organic assets which can contribute to interdiction operations. These assets may also be employed in support of the JFC's operation or campaign objectives, or to support other components of the joint force, which benefits the joint force as a whole. Normally, air assets tasked in support of the theater/JOA-wide interdiction effort are also heavily tasked to conduct or support other joint operations, such as CAS, counterair, strategic attack, IO, and maritime support.

a. **Unity of Effort in Joint Interdiction Operations.** The capabilities of forces used for joint interdiction, as well as the magnitude of their potential contribution, must be considered while planning and conducting the joint interdiction effort. The JFC structures the joint force to ensure that diverse component capabilities, operations, and forces complement each other to achieve the desired results effectively and efficiently. **To ensure unity of command and effort of interdiction operations throughout a theater/JOA, the JFC normally delegates the planning and execution of theater/JOA-wide AI operations to the component commander with the preponderance of AI assets with theater/JOA-wide range and the ability to control them. The JFACC is normally the supported commander for the JFC's overall AI effort, while land and maritime component commanders are supported commanders for interdiction in their AOs.**

b. **The JFC establishes JFACC authority and command relationships.** JFACC authorities and command relationships typically include exercising OPCON over assigned forces. The JFACC will normally exercise tactical control (TACON) over

forces made available for tasking. Service component commanders will normally retain OPCON over their assigned and attached Service forces. However, the JFC may decide that direct support is a more appropriate command authority for certain capabilities and/or forces.

c. **JFC Staff Option.** There may be situations in which designation of a JFACC is not required when a conflict or situation is of limited duration, scope, or complexity. The JFC may approve the formation of a joint fires element (JFE) within the operations directorate of a joint staff (J-3). The JFE is an optional staff element composed of representatives from the J-3, the components, and other elements of the JFC's staff, to include the intelligence directorate of a joint staff targeting staff, and others as required. The JFE is an integrating staff element that synchronizes and coordinates fires planning and coordination, to include interdiction, on behalf of the JFC.

Refer to JP 3-30, Command and Control of Joint Air Operations, for a detailed discussion of command relationships involving joint air operations. For more information on command relationships and authorities, see JP 1, Doctrine for the Armed Forces of the United States.

For more information on the JFE, see JP 3-60, Joint Targeting.

d. The JFMCC is the supported commander within the maritime AO designated by the JFC. Within the designated AO, the JFMCC has the authority to designate target priority, effects, and timing of fires in order to integrate and synchronize maneuver, fires, and interdiction. In coordination with the JFMCC, other commanders designated by the JFC to execute theater- or JOA-wide functions have the latitude to plan and execute these JFC-prioritized operations within the maritime AO. Commanders executing such a mission must coordinate the operation to avoid adverse effects and friendly fire incidents. If those operations would have adverse impact within the maritime AO, the commander assigned to execute the JOA-wide functions shall readjust the plan, resolve the issue with the JFMCC, or consult with the JFC for resolution.

Refer to JP 3-32, Command and Control for Joint Maritime Operations, for a detailed discussion of command relationships involving joint maritime operations.

e. The JFLCC is the supported commander within the land AO designated by the JFC. Within the designated AO, the JFLCC has the authority to designate target priority, effects, and timing of fires in order to integrate and synchronize maneuver, fires, and interdiction. In coordination with the JFLCC, commanders designated by the JFC to execute theater- and/or JOA-wide functions have the latitude to plan and execute these JFC prioritized operations within the land AO. Any commander executing such a mission within a land AO must coordinate the operation to avoid adverse effects and friendly fire. If those operations would have adverse impacts within the land AO, the commander assigned to execute the JOA-wide functions must readjust the plan, resolve the issue with the JFLCC, or consult with the JFC for resolution.

Refer to JP 3-31, Command and Control for Joint Land Operations, for a detailed discussion of command relationships involving joint land operations.

f. Although a part of DHS, USCG is a military Service and a branch of the Armed Forces of the United States (Title 14, USC, Section 1 and Title 10, USC, Section 101). The USCG is, at all times, an “armed force” under Title 14, USC. The USCG does not require Title 10, USC, authority to participate in the national defense of the US. Upon declaration of war, or when directed by the President, the USCG transfers to the Department of the Navy (Title 14, USC, Section 3). Even after transfer, the USCG retains full Title 14, USC, authorities. Absent such declaration or direction, the Service operates under the auspices of DHS and closely cooperates with the USN regarding maritime security issues (Title 14, USC, Section 145) and assists DOD in the performance of any activity for which the USCG is especially qualified.

g. **Component commanders develop interdiction priorities to enhance mission accomplishment.** Within their designated AOs, land and maritime component commanders integrate and synchronize joint maneuver and fires functions and interdiction missions. To facilitate this integration and synchronization within their AOs, such commanders have the authority to designate target priority, effects, and timing of fires. When employing interdiction operations within their AOs, commanders attempt to strike targets with organic assets first when practical and feasible. Coordination with the JFACC in these instances may be necessary to prevent redundant targeting and joint interdiction mission disruption. Targets that the land or maritime force commander is unable to strike, due to lack of organic assets or for which joint force assets are best suited, are nominated to the joint targeting process for interdiction operations as individual targets, categories of targets, or in terms of desired effects. Once validated, the targets may be prosecuted by another component commander or another component commander’s assets may be made available for tasking to the air, land, or maritime force commander. However, forwarding desired effects rather than strict target nominations gives those responsible for conducting joint interdiction maximum flexibility to exploit their capabilities.

(1) **The supported commander should clearly articulate the concept of maneuver operations to commanders who apply joint interdiction forces within the commander’s designated AO.** In particular, supported commanders should provide supporting commanders as much latitude as possible in planning and executing their operations. When coordinating maneuver operations, supported commanders should clearly state how they envision interdiction supporting their maneuver operations; what they want to accomplish with interdiction; as well as those actions they want to avoid, such as the destruction of key transportation nodes or the use of certain munitions in a specific area.

(2) Supported commanders decide which targets will be nominated for interdiction operations during the decision-making and deliberate targeting processes. For example, the JFLCC could send a target nomination consisting of the target description (enemy tank brigade), desired effects (attrite by 20 percent in one ATO period), approximate timing (ATOs “x, y, and z”), and rationale (to reduce the brigade to

less than 50-percent combat effectiveness over a three-day period) to the JFACC via the BCD. The supporting JFACC can then determine how best to support the JFLCC—without knowing in advance the exact location or timing of the mobile targets. Joint intelligence preparation of the operational environment can help identify appropriate target areas with named areas of interest and target areas of interest to allow the JFLCC to provide the JFACC with predicted mobile target locations to facilitate interdiction operations against the enemy tank brigade. By judiciously employing FSCMs, specifically kill boxes, the JFLCC can facilitate the joint interdiction effort within the JFLCC's AO.

(3) **It is important to note that joint interdiction can be conducted inside an AO in direct response to JFC tasking and may not be in support of the AO commander.** The JFC may, for example, have designated certain high-payoff targets that are located inside a subordinate commander's AO. Any commander executing such a mission within a land or maritime AO must coordinate the operation to avoid adverse effects and/or friendly fire incidents. If those operations would have an adverse impact within a land or maritime AO, the commander assigned to execute the mission must readjust the plan, resolve the issue with the land or maritime component commander, or consult with the JFC for resolution.

Refer to ATP 3-91.1/AFTTP 3-2.86, The Joint Air Ground Integration Center, for a detailed discussion of command relationships and coordination measures for AI conducted within the land component area of operations.

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CHAPTER IV PLANNING

“A good plan violently executed now is better than a perfect plan next week.”

General George S. Patton, Jr., *War As I Knew It*, 1947

1. Overview

The JFC directs the actions of assigned and attached forces to achieve objectives through an integrated joint campaign and major operations. The manner in which the JFC plans, organizes, and directs forces affects the responsiveness and versatility of joint interdiction operations. Unity of effort, centralized planning, and decentralized execution are key to success in joint and interagency interdiction operations.

a. **Joint Force Objectives.** JFCs employ forces to accomplish their missions; the principal challenge is to combine force capabilities and operations to create effects that support achievement of those missions. The planning, coordination, and integration of joint interdiction with other operations, such as maneuver, can yield unique advantages. This integration of effort begins with the JFC’s theater-/JOA-level objectives, guidance, and intent. Likewise, the JFC’s theater/JOA campaign or operation plan facilitates such integration and helps to ensure that interdiction operations are part of a larger plan aimed at achieving the JFC’s objectives. Centralized planning and decentralized execution of joint interdiction operations ensure coherence and aid in the effective use of force; enhance the exploitation of tactical events; avoid fragmented, duplicated, and conflicting efforts; and accommodate the Service and functional components’ different employment concepts and procedures.

b. Joint interdiction typically focuses on operational-level objectives as delineated in the JFC’s operation or campaign plans. It must also support strategic-level objectives by working in concert with other efforts to neutralize or destroy the enemy’s COGs or other key target systems. Additionally, joint interdiction complements maneuver force operations. Successful joint interdiction requires close integration with other operations, available resources, and anticipated effects. Strategic- and operational-level objectives are best described in terms of desired outcomes rather than specific targets.

c. Simultaneity in planning refers to the simultaneous application of military and nonmilitary power against the enemy’s critical capabilities/requirements and COGs. Simultaneity in joint force operations contributes directly to an enemy’s collapse by placing more demands on enemy forces and functions than can be handled. To the degree possible within the constraints of the principles of economy of force and mass, joint force operations should be conducted across the full breadth and depth of the operational area, creating competing and simultaneous demands on enemy commanders and resources. Just as with simultaneity, the concept of depth seeks to overwhelm the enemy throughout the operational area, creating competing and simultaneous demands on enemy commanders and resources and contributing to the enemy’s speedy defeat. Interdiction is one manner in which JFCs add depth to operations at the operational level.

This also forms the foundation of deep operations theory. The intent of deep operations is to bring force to bear on the opponent's structure at tactical and operational depths in a near simultaneous manner. The goal is to compel the enemy to comply with our will by diminishing its freedom to act and to resist our intentions through a continual erosion of its own capabilities and will. Operational reach enables early detection and identification of threats and increases the opportunity for interdiction.

GULF WAR COALITION INTERDICTION

Coalition air interdiction operations placed Iraqi forces on the horns of a dilemma: if they remained in position, they would be struck either from the air or by the advancing Coalition ground forces; if they tried to move, they made themselves extremely vulnerable to patrolling Coalition aircraft, including attack helicopters.

**SOURCE: Department of Defense Final Report to Congress
on the Conduct of the Persian Gulf War, April 1992**

d. Geographic distance (that is, “close” versus “deep”) should not constitute the primary distinction between different forms of interdiction. The concept of depth applies to time as well as space. Operations extended in depth, time, and space shape future conditions and can disrupt an opponent's decision cycle. Although it has usually been the case that interdiction closer to enemy forces was designed to affect the battle over a shorter term than actions deeper in the enemy's territory, the most important aspect in planning interdiction operations is the effect desired, which may be measured in time. The commander's intent, prioritized objectives, approved mission statement, and targeting guidance directly impact targeting decisions.

e. **Immediacy of Interdiction Operations.** The relative immediacy of the impact of interdiction may depend on several factors: the distance between interdiction operations and the location of intended effect, the means and rate of enemy movement (ships, trains, aircraft, trucks, tanks, or foot), the type of interdiction targets (forces, supplies, fuel, munition, or infrastructure), the level of enemy activity, and the strength and resilience of the attacked force or system. The JFC should not apply strict geographic boundaries to interdiction, but should plan for its theater-/JOA-wide application.

2. Integrating Interdiction and Maneuver

a. Interdiction and maneuver operations are potent entities in their own right. Both interdiction and maneuver operations include the movement of forces and weapon systems, and delivery of fires (lethal and nonlethal) which create effects to support objectives at strategic, operational, and tactical levels. Maneuver and interdiction could be conducted relatively independent of each other in certain circumstances. **However, integrating interdiction and maneuver, as well as their joint fires, enhances the ability for each to more fully contribute to a successful outcome of a campaign or major operation.**

b. Interdiction and maneuver are complementary operations that should normally be integrated to create dilemmas for the enemy. Synchronizing AI with a ground movement toward the enemy flank forces the enemy into the dilemma of either absorbing a potentially deadly flanking ground attack or repositioning and exposing themselves to a much more effective air attack. Accordingly, integrating interdiction and maneuver provides one of the most dynamic concepts available to the joint force. **Interdiction and maneuver should not be considered as separate operations against a common enemy, but rather as complementary operations designed to achieve the JFC's objectives.**

(1) Maneuver can play a major role in enabling conditions for effective employment of interdiction. Maneuver can place sustained pressure on the enemy, forcing the enemy to increase consumption of logistics, increase resupply rates, and thereby increase the frequency of exposure to interdiction. As a result, interdiction may destroy enemy forces and assets at a faster rate than they can be repaired, replaced, or resupplied. Actual or threatened maneuver can force an enemy to respond by attempting rapid repositioning or resupply. **Close coordination among the components will help ensure that conditions occur in which the enemy force is made most vulnerable to interdiction.**

(2) **Joint interdiction can also facilitate maneuver operations.** It may, but is not required to, occur at the same place and time as the maneuver to be effective. Joint interdiction can control the time of engagement to that point most advantageous to friendly forces. Joint interdiction can be a major contributor and enabler for land and naval force operations. Interdiction can give land or maritime forces the time and protection they need to maneuver. The psychological effects of interdiction efforts can greatly reduce the will of enemy forces to continue, especially when faced with the prospect of having to defend against subsequent maneuver operations. In a forced entry scenario, joint interdiction may support land and amphibious maneuver operations by denying the enemy supply or resupply of equipment and forces to the objective area. It may also interfere with their means of C2 or provide a diversionary screen. Joint interdiction can isolate enemy forces, control the movement of enemy forces into or out of a land or maritime AO, and set conditions for maneuver forces. When joint interdiction is conducted in support of land or maritime forces, it should be properly integrated with the scheme of maneuver of the supported force. Within the AO, the supported land or maritime commander is responsible for the integration of maneuver, fires, and interdiction. To facilitate this synchronization, such commanders designate the target priority, effects, and timing of interdiction operations within their AOs.

c. The JFC ultimately approves the integration of joint interdiction operations with the execution of other joint force operations. JFACC-controlled interdiction operations conducted over maritime and littoral areas may require close coordination between the JFACC and the JFMCC. Additionally, in the case of AI operations short of the fire support coordination line (FSCL), all air-to-ground and surface-to-surface attack operations are controlled by the appropriate land or amphibious force commander. Coordination between the JFACC and the JFLCC, as well as coordination between aircrews and friendly land forces, is required through the appropriate air C2 agencies.

3. Planning Joint Interdiction

a. The JFC establishes broad planning objectives and guidance for interdiction of enemy forces as an integral part of a joint campaign or major operation. Subordinate commanders recommend to the JFC how to use their combat power more effectively to this end. With this advice, the JFC sets interdiction priorities, provides targeting guidance, and makes apportionment decisions. The JFC should clearly designate where the weight of the joint interdiction should be applied. Weight of effort may be expressed in terms of percentage of total available resources, by assigning priorities for resources used with respect to other aspects of the theater/JOA campaign or operation, or as otherwise determined by the JFC. This is a particularly important consideration for commanders who must determine the correct number and types of forces and weapon systems within their AO, including the effects of joint interdiction. Likewise, effective interdiction planners must have a thorough understanding of the JFC's CONOPS. Once the JFC establishes campaign or major operation objectives, component commanders develop operation plans that accomplish (or contribute to the accomplishment of) the theater-/JOA-wide strategic and operational objectives. Commanders should consider how planned operations can complement joint interdiction objectives and vice versa. These operations may include such actions as military deception operations, withdrawals, lateral repositioning, and flanking movements that are likely to cause the enemy to maneuver forces which may make them more vulnerable to interdiction.

b. **Component Organic Interdiction Operations.** Components may conduct interdiction operations as part of their specific mission in addition to, or in lieu of, supporting the theater-/JOA-wide interdiction effort. For example, maritime forces charged with seizing and securing a lodgment along a coast may include the interdiction of opposing land and maritime forces as part of the overall amphibious operation. Within an assigned AO, a ground commander can interdict enemy forces to enhance the effectiveness of the friendly scheme of maneuver with the use of organic assets such as ATACMS, organic fixed-wing, tiltrotor, rotary-wing aircraft, and artillery. In such situations as these, C2 for the operation is normally conducted according to the component's procedures.

c. **JFACC.** The JFACC, after coordination with other components commanders' requirements for air component support, recommends the theater-/JOA-wide air apportionment recommendation to the JFC. The JFC provides target priorities and air apportionment guidance to the JFACC and other component commanders. **The JFACC, using priorities established in the JFC's air apportionment decision, then plans and executes the overall air component effort, using air assets assigned or made available. This air component effort includes not only AI, but also other component capabilities provided in support of AI objectives.**

(1) Theater/JOA AI capabilities and forces made available for tasking are determined by the JFC, in consultation with component commanders. They are based on JFC-assigned objectives and the CONOPS. Following the JFC's air apportionment decision, the JFACC allocates and tasks the capabilities/forces made available. **The JFACC's AI employment guidance, based on the JFC's air apportionment decision,**

is used by the JAOC for input into the ATO. Scheduled AI missions may be dynamically re-tasked if requisites such as aircrew qualifications, weapons load, and weapons fusing are compatible. The following are AI missions found in the ATO:

(a) **AI.** **AI** is a scheduled mission to strike targets in response to JFC or component-target nominations. AI missions are normally tasked to plan and prosecute targets through deliberate targeting and tasked on the ATO. AI missions may be redirected during execution to prosecute higher priority targets of opportunity through dynamic targeting.

(b) **Ground alert AI** is an on-call air mission placed on ground alert to provide responsive AI throughout the theater in response to emerging targets.

(c) **Airborne alert AI** is an on-call air mission that pursues planned on-call or may be directed during execution to pursue unplanned or unanticipated targets of opportunity in designated areas versus planned (scheduled or on-call) targets tasked on an ATO. Airborne alert AI is often referred to in the Marine Corps as armed reconnaissance. The Marine Corps abbreviation for armed reconnaissance is “AR;” however, because “AR” is “air refueling” in the ATO, the Marine Corps term is not used in ATOs. Some theater concepts of employment define on-call missions to provide responsive strike capability to specific targets sets, often targets with mobile characteristics that are validated and approved on the joint integrated prioritized target list. For example, airborne alert AI may be tasked to target long-range missile systems that threaten accomplishment of friendly force objectives.

(d) **SCAR.** Once aircrew are tasked with SCAR by the ATO or a C2 agency, no further authorization is required unless otherwise restricted/amended by the supported commander or ROE. For additional information regarding SCAR, see ATP 3-60.2/MCRP 3-23C/NTTP 3-03.4.3/AFTTP 3-2.72, *Multi-Service Tactics, Techniques, and Procedures for Strike Coordination and Reconnaissance*.

Note: The United States Marine Corps and USN consider armed reconnaissance as one of three types (AI, armed reconnaissance, and SCAR) of deep air support. The United States Air Force equivalent to armed reconnaissance is **airborne alert AI**.

Note: The air apportionment process and the joint air tasking cycle are discussed further in JP 3-30, *Command and Control of Joint Air Operations*.

(2) The JFC is the only individual who has the authority to change the priorities established in the air apportionment decision. However, the JFACC may retarget, cancel, or change allocated AI target assignments to adapt to a changing situation, consistent with the JFC’s intent. The JFACC coordinates changes with affected commanders whenever possible to minimize impact on other joint force operations. The JFC may give the JFACC the authority to redirect joint air operations, but **the JFC or affected component commander approves all requests for redirection of direct support air assets**. Affected component commanders are notified by the JFACC upon redirection of joint sorties previously allocated in the joint ATO for support of component operations.

d. **Component commanders, as supported commanders within their AOs, are responsible for integrating and synchronizing maneuver, fires, and interdiction within their AOs.** Accordingly, land and maritime commanders designate the target priority, effects, and timing of interdiction operations within their AOs. They may designate priority of attacks to focus allocated interdiction assets on the targets or target systems essential to achieving the land or maritime force commanders maneuver objectives. The supported commander specifies desired effects to defeat threats to the maneuver force, to position the enemy for defeat by maneuver forces, and to avoid friendly fire or hindrance to friendly maneuver. Timing of operations is synchronized to mass effects at the desired place and time to achieve the objective. Synchronization requires explicit coordination and unity of effort among the units and components in any operation. Failure to properly coordinate attack of targets within AOs may result in a duplication of effort or increase the risk of friendly fire. Maneuver force commanders are assisted in this integration by such elements as the Army's BCD and Marine liaison officer and naval and amphibious liaison element at the JAOC, JACCE, TACPs, and air liaison officers who provide advice to the maneuver force commander and staff on the capabilities, limitations, and employment of air assets, to include interdiction.

e. Detailed planning facilitates a coherent interdiction effort involving diverse forces using different employment procedures and reduces the potential for friendly fire incidents. Interdiction coordination procedures must not inhibit timely application of fires in the conduct of other operations. Commanders should consider component capabilities for speed, range, maneuver, weapon system characteristics, ability to operate in a potentially contaminated area, IO, intelligence gathering, and ability to receive and distribute information available from space-based assets. Commanders at all levels must ensure interdiction operations are integrated with other ongoing operations. At the joint force level, the joint operations center integrates interdiction into joint operations. Normally, subordinate commanders establish planning cycles for operations based on JFC guidance. This practice permits the coordination of applicable operations, including interdiction, between component commanders early enough and in sufficient detail to allow integration of those operations.

f. Certain time-sensitive targets (TSTs)—highly lucrative, fleeting targets designated by the JFC as high priority—and other targets of opportunity may preclude the use of normal coordination procedures. The JFC establishes C2 architecture and procedures to coordinate dynamic targeting events across the joint force. In such cases, dynamic targeting procedures, appropriate coordination measures, prior coordination, on-scene commander, decentralized execution authorities, and ROE should enable rapid attack of targets. TSTs and other targets of opportunity should be coordinated between affected component commanders prior to attack. When mission objectives, desired effects, and general deconfliction and time sequencing have been jointly planned and integrated at the JAOC for AI operations, details such as attack tactics and individual mission deconfliction can be worked out by those responsible for execution. To ensure a coherent and coordinated effort, a plan for conducting joint interdiction should address two principal areas: a general CONOPS and a description of the planning and coordination cycle required for the phasing of joint interdiction (see Figure IV-1).

Joint Interdiction Plan

The concept of operations should include:

- Identification of objectives and resource requirements necessary to sustain activities
- An orderly schedule of anticipated decisions needed to shape and direct the conduct of joint interdiction
- Phases for related joint interdiction operations
- Arrangements for orchestrating the operations of air, land, maritime, and special operations forces to ensure an integrated effort
- Scheme of support operations needed to assist and protect forces engaged in joint interdiction operations
- Provisions for feedback or analysis concerning the effectiveness of joint interdiction operations

The planning and coordination cycle should:

- Emphasize simplicity
- Emphasize mission-type orders when appropriate
- Ensure availability of appropriate forces and capabilities for employment
- Ensure that component efforts support and reinforce each other to minimize duplication and conflicting actions
- Arrange tasking and coordination of support operations to assist and protect forces engaged in joint interdiction
- Preclude adverse effects on other friendly forces and operations
- Ensure the continuance of effective operations during periods of degraded communications
- Provide flexibility to adapt to changing conditions and priorities

Figure IV-1. Joint Interdiction Plan

4. Targeting

The JFC is responsible for all aspects of planning and targeting, from establishing objectives, coordination, and deconfliction between component commanders to assessment of operations. Targeting is the process of selecting and prioritizing targets and matching the appropriate response to them, taking account of operational requirements and capabilities. Targeting proceeds from the definition of the problem to an assessment of the results achieved by the executed COAs. During target development, the targeting process must relate specific targets to objectives, desired effects, and accompanying actions. Interdiction should focus on those systems that will result in the greatest payoff and achieve the objectives. The targeting process is complicated by the requirement to deconflict duplicative efforts, to prevent friendly fire, to ensure compliance with the law of war, to perform collateral damage estimation, and to synchronize and integrate the interdiction of those targets with other activities of the joint force. Joint planners, targeteers, and weaponeers should consider CO and capabilities which may be useful in environments where lethal or other options are unavailable or of limited utility.

a. The goal of targeting in interdiction is to select and prioritize a series of targets and/or target systems that when engaged, support the achievement of the JFC's operational/strategic objectives. A highly effective means to facilitate this process is the joint targeting coordination board (JTTCB). The JTTCB is a group formed by the JFC to accomplish broad targeting oversight functions that may include but are not limited to coordinating targeting information, providing targeting guidance and priorities, and refining the joint integrated prioritized target list. The board is normally comprised of representatives from the joint force staff, all components, and if required, component subordinate units.

Additional details on the JTTCB and targeting doctrine can be found in JP 3-30, Command and Control of Joint Air Operations, and JP 3-60, Joint Targeting.

b. Joint interdiction assets are limited resources. Nominated targets will usually outnumber available assets. A component commander's number one priority may not match JFC's priorities. Interdiction operations within AOs occur simultaneously with joint interdiction operations that have a theater-/JOA-wide range. Coordination, communication, and feedback between components regarding targeting decisions are essential and enhance trust between supported, supporting, and subordinate commanders and forces. Under most circumstances, the ATO achieves the desired coordination for planned AI missions.

c. Interdiction missions are categorized by their targeting method—dynamic or deliberate. Dynamic targeting is normally employed during current operations planning because of the nature and time-frame associated with current operations (usually the current 24-hour period). On-call missions engage targets of opportunity (targets identified too late or not selected for action in time to be included in deliberate targeting), that require time-sensitive or immediate attention by employing dynamic targeting. However, the same quick-response nature of dynamic interdiction that allows it to take advantage of fleeting opportunities can also have a negative impact on individual mission success through threat exposure, incorrect fusing, improper weapon/target matching, and reduced situational awareness. Dynamic targeting should be used in those cases when the need for a short reaction time outweighs the reduced effectiveness that may result when compared to those interdiction missions planned during deliberate targeting. Scheduled interdiction missions involve the use of deliberate targeting which supports the joint force's future plans effort, normally 24-to-72 hours prior to mission execution. Deliberate targeting allows joint interdiction forces more time to study target imagery and to align attack axes to optimize weapons effects. Detailed study can reduce threat exposure and allow mission planners to optimize the weapon's fusing for maximum effect. Deliberate interdiction allows better packaging of interdiction and support assets when required. Moreover, gain/loss considerations should be weighed. Commanders should ensure the benefits of redirecting interdiction assets away from a planned target to a target of opportunity outweigh the costs by pondering several variables. What is the operational impact of delaying or not striking a planned target with a scheduled mission? What are the overall targeting priorities and objectives? Does the payoff of interdicting a target of opportunity pass the gain/loss considerations? Is the higher risk of redirecting or retargeting scheduled assets from planned targets that have performed tactical mission

planning, rehearsals, and configured for a specific mission worth pursuing an unplanned or unanticipated target that is normally a fleeting window of opportunity?

Additional information on dynamic targeting can be found in the ATP 3-60.1/MCRP 3-16D/NTTP 3-60.1/AFTTP 3-2.3, Multi-Service Tactics, Techniques, and Procedures for Dynamic Targeting.

d. Joint Automated Deep Operations Coordination System (JADOCS):

(1) JADOCS is a software application and collaborative tool used for dynamic targeting and facilitates the integration of joint/multinational fires. Digital integration of US and multinational fires systems enables timely execution of TSTs, component-critical targets, high-payoff targets, and high-value targets.

(2) The joint management function provides the ability to change and display operational maneuver graphics, ACMs on the airspace control order, air tracks on the ATO loaded on the air defense system integrator, and FSCMs while conducting joint fire support.

(3) The AI planning and execution function provides more effective employment of AI assets through timely and improved information flow for the identification, assignment, and nomination of AI targets.

For more information on JADOCS, see JP 3-09, Joint Fire Support; AFTTP 3-3 AOC, Operational Employment-Air and Space Operations Center; and ATP 3.60.1/MCRP 3-16D/NTTP 3-60.1/AFTTP 3-2.3, Multi-Service Tactics, Techniques, and Procedures for Dynamic Targeting.

5. Intelligence

a. Commanders require intelligence systems that facilitate exploitation, sharing, and appropriate dissemination of real-time and near real-time intelligence. Intelligence collection assets provide this intelligence for interdiction planning. Planners must ensure that intelligence collection is focused in the most critical areas to enable interdiction operations. Intelligence analysts must collaborate to create well-analyzed, useful, and timely products that support effective interdiction planning and targeting operations against planned and fleeting target sets.

b. Priority intelligence requirements are developed to support interdiction operations. To that end, joint interdiction targets must be identified and then prioritized to facilitate collection management and mission accomplishment.

Collection management relationships are discussed further in JP 2-01, Joint and National Intelligence Support to Military Operations. Joint intelligence preparation of the operational environment is discussed in JP 2-01.3, Joint Intelligence Preparation of the Operational Environment.

6. Interdiction Planning Considerations

The nature of the mission or a target set may determine its suitability for interdiction and what forces and weapon systems should be employed. For example, a pipeline in the jungle might best be attacked by SOF elements whereas clandestine river transportation of weapons or illegal cargo may best be interdicted by coastal riverine forces. The fewer the routes and depots in an enemy transportation system, and the more the enemy depends on that system, the more that system may be vulnerable to interdiction. Conversely, an enemy who possesses a varied, dispersed transportation system is usually much less affected by LOC interdiction. Mobile or easily concealed targets may require an approach different from that employed in attacking fixed emplacements.

a. **Target area environmental considerations include restrictive terrain, time of day, adverse weather, sea state, and seasonal and temperature effects.** These conditions may camouflage or conceal targets, reduce visibility, and degrade weapon systems and force capabilities. Terrain features may affect acquisition of the target, requiring specialized weapons and attack tactics. For example, heavily forested emplacements or staging areas may be more suited to SOF direct action missions than laser-guided weapons.

(1) Adverse environmental conditions, to include humidity and temperature effects, solar activity, lunar illumination, and passive defense measures, such as smoke, may conceal targets, reduce visibility, and degrade weapon systems and overall interdiction capabilities. The rate and extent of enemy maneuver may also be influenced by the physical environment. These, in turn, can provide greater interdiction opportunities. For example, when enemy maneuver on land or sea is restricted to a few major routes by transient or seasonal weather or oceanographic conditions, it can result in the concentration of forces. Accurate environmental information facilitates the joint force's ability to maximize the performance of its personnel and systems, such as forecasting the electro-optical environment (thermal crossover periods and other TA data) for employing advanced weapon systems. This information increases the probability of successful interdiction and enables friendly forces to exploit the environmental limitations of enemy forces and systems.

For more information on weather support, see JP 3-59, Meteorological and Oceanographic Operations.

(2) Technology has enhanced detection and identification of obscured targets. For example, night vision devices and electronic sensors can greatly reduce the concealment previously provided by limited visibility. More importantly, assets equipped with advanced sensors, such as Joint Surveillance Target Attack Radar System (JSTARS) and UA systems, can direct interdiction assets onto immediate, high-value TSTs which might otherwise be undetectable. However, the enemy's capability to deny this technology is constantly evolving. Camouflage, concealment, and deception have the capability to affect a multitude of sensors and can severely limit the TA process.

(3) Target defenses may distract aircrew or degrade aircraft systems, reducing the effectiveness of AI. Detection assets, such as JSTARS and UA or the use of all-source intelligence, may enhance TA. However, enemy air defenses may not allow interdiction aircrew adequate time or avenues to acquire their target due to high speeds, low or high altitudes, or restricted ingress routing necessary to minimize the risk of engagement. Effective force packaging can reduce the impact of enemy air defenses and achieve local air superiority.

b. Interdiction operations in urban areas can be problematic and require special considerations during planning. To begin with, collateral damage in cities or towns that have not been evacuated will represent a great risk that must be considered and minimized. One real, alleged, or staged collateral damage or friendly fire incidents can have strategic impact, affecting world opinion, ROE, and host-nation restrictions on operations. Planners should integrate public affairs, CO, MISO, and other IRCs into interdiction operations from strategy development through mission execution and follow on operations. Next, planners need to account for weather effects caused by the urban environment. Factors include increased pollution and aerosols affecting target detection, warmer temperatures affecting infrared signatures, and variable wind speeds affected by building layout. Finally, urban operations, by their very nature, involve significant law of war considerations. In particular, commanders must determine the military necessity of an operation, the proportionality of the damage that will be caused, and whether the potential harm to civilians outweighs the importance of the operation. Interdiction forces must give extra attention to the axis of attack and target designation; the problem may be similar to attacking enemy forces in steep mountainous terrain. Larger urban areas with more vertically developed buildings add increased target elevation issues to the targeting problem, and the combination of tall buildings and narrow streets can cause an “urban canyon” effect leading to masking issues for line-of-sight munitions and targeting sensors. Munitions effects will vary greatly depending on whether the enemy can be attacked in the open versus inside buildings, requiring both patience and flexibility for mission success. Planners and operators should take great care in choosing the correct delivery method, munition, and fusing option when employing fires in an urban environment.

For additional information on urban operations, see JP 3-06, Joint Urban Operations. For additional information on joint collateral damage procedures, see CJCSI 3160.01, No-Strike and the Collateral Damage Estimation Methodology. For additional information on collateral damage risk to civilians, civilian structures, and properties associated with CAS, see JP 3-09.3, Close Air Support.

c. While there are many similarities between air operations over land and sea, important differences exist.

(1) **Maritime ROE** include customary international law that impact ROE (e.g., territorial waters versus high seas).

(2) **Maritime Airspace Control.** Nearly every combatant has a powerful radar sensor/weapons system. As a result, maritime airspace control tends to be more positive

vice procedural. This emphasis on positive control involves more controlling agencies within a maritime operational area.

d. **Limitations.** Joint forces operate in accordance with applicable ROE, conduct warfare consistent with international laws recognized by the US, and operate within restraints and constraints specified by their commanders. Military objectives are justified by political, military, and legal necessity, and achieved through appropriate and disciplined use of forces. **ROE/rules for the use of force are applied by JFCs as a primary means to ensure that operations adhere to the law of war and US law.** Many factors influence ROE, including national and international law, national command policy, mission, operational environment, and commander's intent. ROE always recognize the inherent right of self-defense. **Properly developed ROE must be clear, tailored to the situation, reviewed for legal sufficiency, and included in training.** ROE typically will vary from operation to operation and may change during an operation. DOD forces operating under USCG TACON per *Memorandum of Agreement Between the Department of Defense and the Department of Homeland Security for Department of Defense Support to the United States Coast Guard for Maritime Homeland Security* operate in accordance with Coast Guard Use of Force Policy. The JFC may prohibit or restrict joint force attacks on specific targets or objects, without specific approval based on diplomatic/political considerations, military risk, the law of war, and ROE. Targeting restrictions fall into two general categories. Items on the no-strike list are those designated by the appropriate authority upon which attacks are prohibited. Restricted targets are legitimate targets that have specific restrictions imposed to avoid interfering with military operations, and any actions that exceed those restrictions are prohibited until coordinated and approved by the establishing headquarters. Targets may have certain restriction caveats associated with them that should be clearly documented in the restricted target list (for example, do not strike during daytime, strike only with a certain weapon, etc.). Some require special precautions (e.g., chemical, biological, or nuclear facilities; proximity to no-strike facilities). Many traditional interdiction targets, such as bridges, power generation systems, dams, and other infrastructure, may be placed on the restricted list to avoid indiscriminate effects on the civilian population and a lengthy rebuilding process when major combat operations (MCOs) are complete. In addition, structures such as bridges may be vital for use by tactical forces during MCOs and attacking them in this case is counterproductive.

For additional information, see JP 3-60, Joint Targeting.

e. JFCs should consider the potential requirements for interagency coordination as a part of their activities. **Early inclusion of interagency considerations in assessments, estimates, and plans for military operations, will facilitate civil-military integration of effort, focus the appropriate military participation, and assist the military effort to obtain the best available support from other interagency participants. At the same time, DOD must be prepared to support other federal, state, and local agencies as appropriate.** There is no activity conducted by a JFC that is totally a military operation, including major combat against a near peer competitor, WMD interdiction in international waters, or enforcing sanctions. Interagency participants, from the Department of State to the DHS, have interest in and requirements to participate in

planning military interdiction operations. For example, MIO actions against a vessel with suspected WMD cargo en route to a US port could easily involve USN (DOD), USCG (DHS), Department of State, Central Intelligence Agency, Department of Energy, US Special Operations Command, defense intelligence entities, and Department of Justice activity. Two tools that JFCs and their staffs can use to facilitate interagency coordination are: annex V (Interagency Coordination) to operation plans designed to enhance interagency planning and coordination with partner agencies in carrying out assigned missions, and the joint interagency coordination group.

For more information on interagency activities, see JP 3-08, Interorganizational Cooperation.

f. Today's security environment is extremely fluid, with continually changing coalitions, alliances, partnerships, and new (both national and transnational) threats constantly appearing and disappearing. **Joint forces should be prepared for operations with forces from other nations within the framework of an alliance or coalition.** When conducting interdiction, JFC and staff must consider the inherent complexity of coordinating with multinational partners.

(1) Participation in multinational operations may be complicated by varying national obligations derived from international agreements (i.e., other members in a coalition may not be signatories to treaties that bind the US or they may be bound by treaties to which the US is not a party). **Differing capabilities of allies and coalition partners complicate the integration of multinational partners and the coordination and synchronization of their activities during multinational operations.**

(2) Alliances typically have compatible C2 structures and weapon systems but many multinational partners will not. This can have a detrimental effect on multinational operations, to include interdiction. **As we increasingly rely on information technology to plan and conduct operations, we must take into account the capabilities of our multinational partners and the possible limiting effects of their C2 structure.**

(3) Each partner in multinational operations possesses a unique cultural identity—the result of language, values, religion, and economic and social outlooks. Language differences often present the most immediate challenge. **Information lost during translation can be substantial, and miscommunication or misunderstanding can have disastrous effects.**

(4) **An ability to share valuable information helps build trust and confidence, and is beneficial to effective integration of the complex interactions required to succeed in any operations against an enemy. It is incumbent on the JFC to develop processes and procedures that facilitate the sharing of information.** In addition the JFC should consider establishing a civil-military operations center to ensure maximum unity of effort and ease coordination for development of processes and procedures.

7. Preparation

a. **Positioning of Interdiction Forces.** Interdiction forces must be positioned in a manner that will allow attack on enemy vulnerabilities. During the earliest stage of planning, JFCs should ensure that the correct mix of interdiction assets will be in place. **Forces should be positioned within operational reach of enemy decisive points to support the JFC's CONOPS and exploit unforeseen opportunities.** Commanders must remain flexible and use every available option to ensure success. For example, a host nation might deny basing and overflight rights to joint aircraft. To circumvent this obstacle, air refueling might be required to support interdiction aircraft, unrestricted multinational interdiction aircraft might be utilized, or maritime or land forces may need to maneuver to a position where organic weapons are in range of interdiction targets.

b. **Operations Rehearsal.** Preparing for interdiction operations includes **organizing and, where possible, training forces to conduct operations throughout the JOA.** When it is not possible to train forces in the theater of employment, as with US-based forces with multiple taskings, maximum use should be made of regularly scheduled and ad hoc exercise opportunities. Realistic joint training during peacetime will dramatically increase the lethality of the joint force. Staffs should be identified and trained for planning and controlling joint operations. **JFCs and the composition of their staffs should reflect the composition of the joint force to ensure that those responsible for employing joint forces have thorough knowledge of their capabilities and limitations.** The training focus for all forces and the basis for exercise objectives should be the combatant commander's joint mission essential task list.

CHAPTER V

INTERDICTION EXECUTION

1. Operational Area Geometry and Coordination

a. **JFCs may employ various control and coordination measures to facilitate effective joint operations.** These measures may include establishing boundaries, objectives, coordinating altitudes to deconflict air operations, air defense areas, amphibious objective areas, and submarine operating areas. Boundaries require special emphasis because of their implications on the integration of interdiction and maneuver. **Boundaries define areas in order to facilitate integration and deconfliction of operations.** In land and maritime operations, a boundary is a line that defines areas between adjacent units or formations. A boundary may be designated for maritime operations adjacent to the area of land conflict to enhance coordination and execution of maritime operations. Integration of efforts and synchronization of activities within the land or maritime operational boundaries is particularly important.

(1) The JFC may use lateral, rear, and forward boundaries to define AOs for land and maritime forces. These are sized, shaped, and positioned to enable land or maritime forces to accomplish their mission while protecting forces. Theater air sorties are not constrained by land boundaries, per se. However, since the airspace above surface areas is used by all components of the joint force, JFCs promulgate airspace control measures to deconflict the necessary multiple uses required.

For more information on ACMs, see JP 3-52, Joint Airspace Control.

(2) Boundaries are based on the JFC's CONOPS and the land or naval force commander's requirement for depth to maneuver rapidly and to fight at extended ranges.

b. **Operational Environment Geometry. Joint interdiction may be conducted in conjunction with friendly forces operating in an AO.** In order to integrate joint fires and avoid friendly fire, FSCMs must be established. When air operations are involved, ACMs will normally be used along with FSCMs. Before discussing coordination measures, a brief background on operational environment geometry will provide a better understanding for the types of FSCMs required in interdiction operations.

(1) Operational areas may be contiguous or noncontiguous (see Figure V-I). When they are contiguous, a boundary separates them. When operational areas are noncontiguous, they do not share a boundary; the CONOPS links the elements of the force. A noncontiguous operational area is normally characterized by a 360-degree boundary. The higher headquarters is responsible for the area between noncontiguous operational areas.

For additional information on contiguous and noncontiguous operations, see JP 3-0, Joint Operations.

Contiguous and Noncontiguous Operational Areas

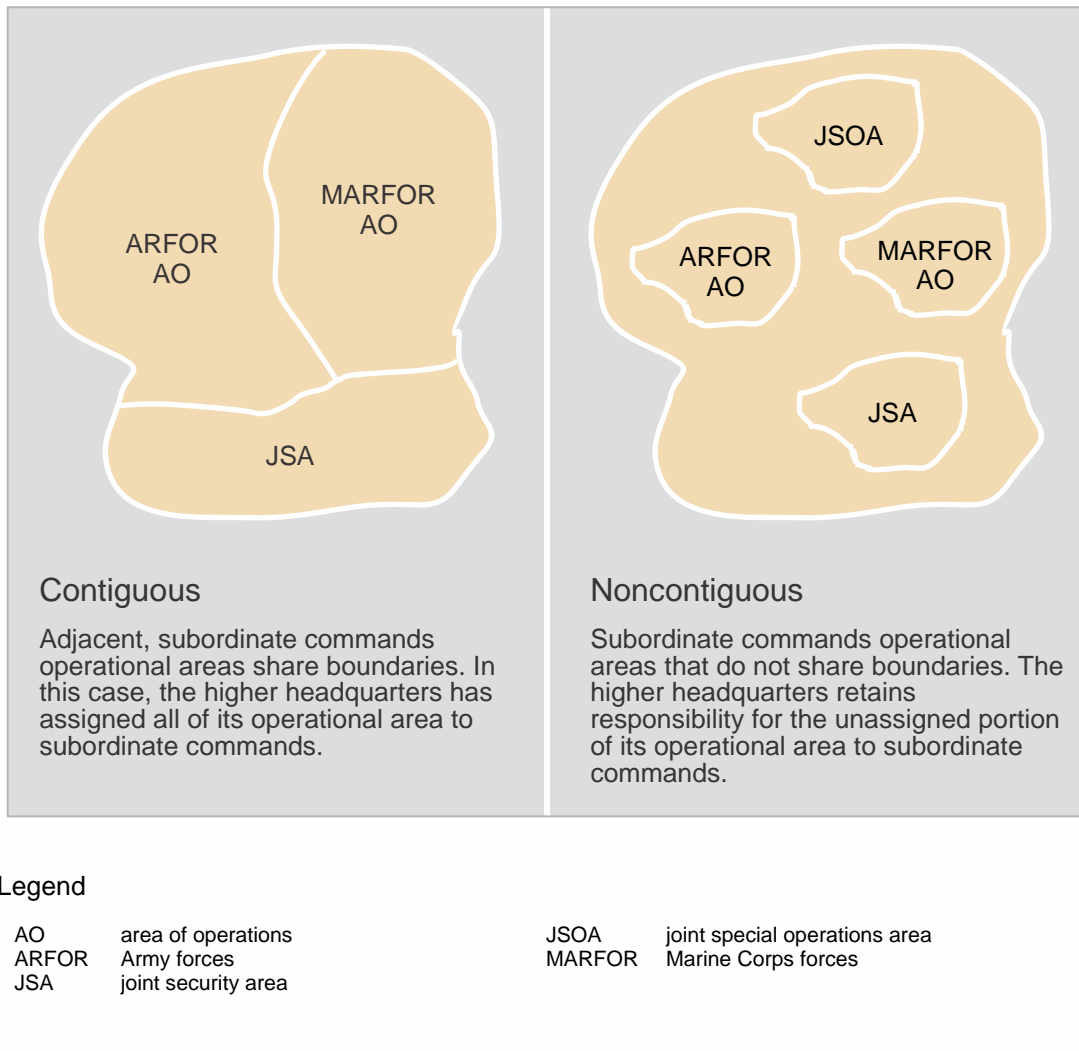


Figure V-1. Contiguous and Noncontiguous Operational Areas

(2) Operations may be linear or nonlinear in nature (see Figure V-2). In linear operations, commanders direct and sustain combat power toward enemy forces in concert with adjacent units. Linear perspective refers primarily to the conduct of operations along lines of operations with the forward line of own troops (FLOT) identified. In linear operations, emphasis is placed on maintaining the position of the land force in relation to other friendly forces. This positioning usually results in contiguous operations where surface forces share boundaries. Linear operations are normally conducted against a deeply arrayed, echeloned enemy force or when the threat to LOCs requires control of the terrain around those LOCs. In these circumstances, linear operations allow commanders to concentrate and integrate combat power more easily. World War I, World War II, and the Korean War offer

multiple examples of linear operations, while more recent examples include maneuver during Operation DESERT STORM and the drive to Baghdad during OIF.

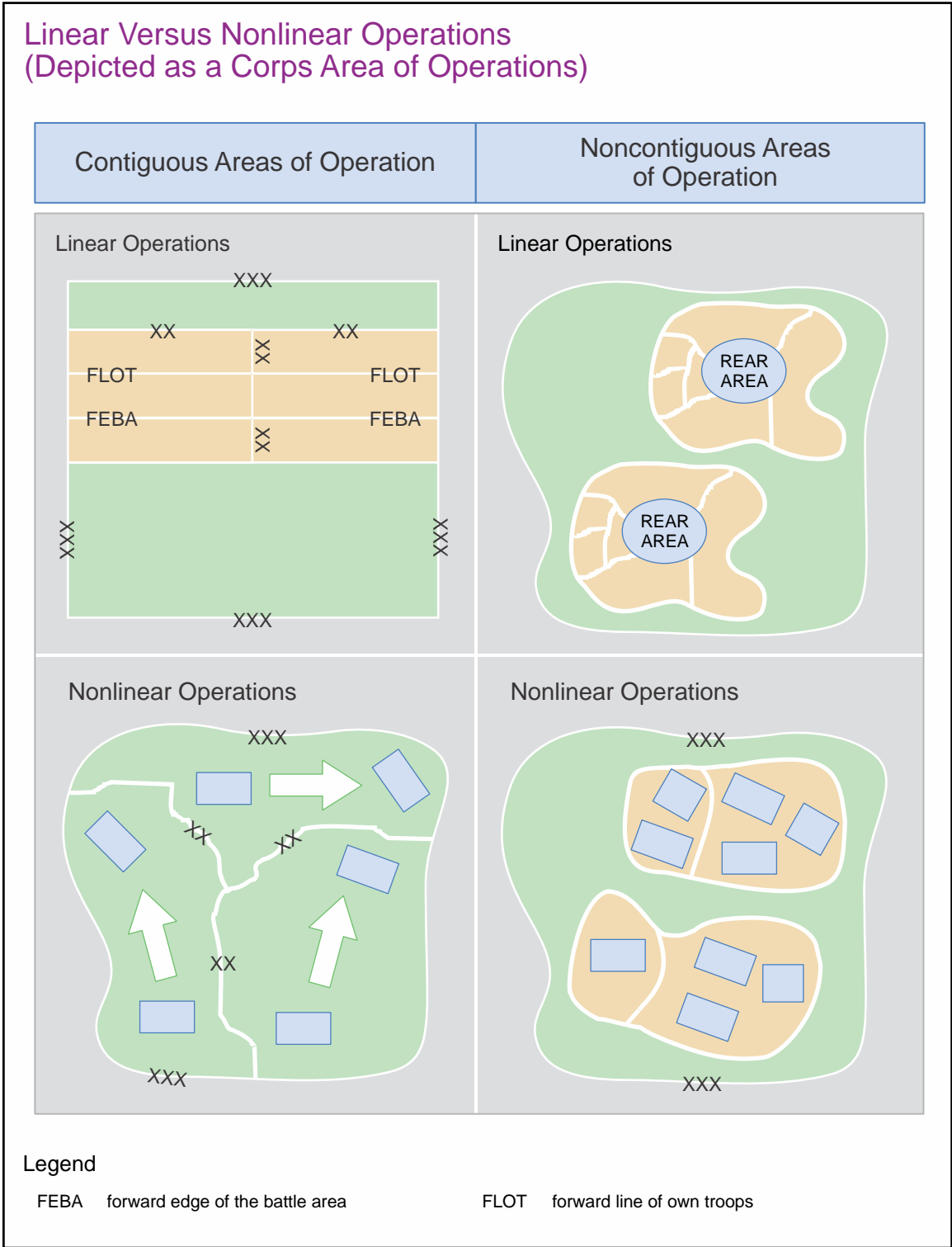


Figure V-2. Linear Versus Nonlinear Operations (Depicted as a Corps Area of Operations)

(3) **In nonlinear operations, forces orient on objectives without geographic reference to adjacent forces.** Nonlinear operations are usually characterized by noncontiguous operations. Nonlinear operations emphasize simultaneous operations along multiple lines of operation from selected bases. Nonlinear operations place a premium on intelligence, mobility, and sustainment. OEF is an excellent example of nonlinear operations. Joint forces orient more on their assigned objectives (for example, destroying an enemy force or seizing and controlling critical terrain or population centers) and less on their geographic relationship to other friendly forces.

For additional information on nonlinear operations, see JP 3-0, Joint Operations.

2. Fire Support Coordination Measures

a. A notional JFLCC or JFMCC AO is depicted in Figure V-3. It is important to note that interdiction is taking place both inside and outside the AO, as well as, long and short of the FSCL. There are three important constructs to understand when discussing coordinating measures (FLOT, FSCL, and kill boxes).

(1) The forward boundary (FB) defines a component's outer AO and is the farthest limit of an organization's responsibility. The organization is responsible for deep operations to that limit. Within the JOA, the next higher headquarters is responsible for coordinating deep operations beyond the FB. In offensive operations, the FB may move from phase line to phase line, depending on the AO situation.

(2) The FLOT is a line that indicates the most forward positions of friendly forces during linear operations at a specific time. The FLOT normally includes the forward location of covering and screening forces. The zone between the FLOT and the FSCL is typically the area over which friendly ground forces intend to maneuver in the near future and is also the area where joint AI operations are normally executed through the ASOC/DASC.

b. **FSCM.** Within their AOs, land and naval force commanders employ permissive and restrictive FSCMs. **FSCMs are necessary to facilitate the rapid engagement of targets and simultaneously provide safeguards for friendly forces. Permissive FSCMs facilitate attacks and include coordinated fire lines, free fire areas, FSCLs, and kill boxes. Restrictive measures safeguard friendly forces and include no-fire areas, restrictive fire areas, restrictive fire lines, and airspace coordination areas.**

(1) The FSCL is a significant consideration during interdiction operations. When appropriate, a FSCL will be established and adjusted by appropriate land or amphibious force commanders within their assigned boundaries in consultation with superior, subordinate, supporting, and affected commanders. The FSCL facilitates the expeditious attack of surface targets beyond the coordinating measure and applies to all fires of air-, land-, and sea-based weapon systems using any type of ammunition against surface targets. The FSCL is a permissive FSCM, the permissive area being beyond the coordination measure. The air component, while recognizing this aspect of the FSCL, also views the FSCL as a restrictive FSCM when regarding the area

short of the coordination measure. The JFLCC and JFMCC cannot employ fires long of the FSCL without coordination with affected commanders, and the JFACC cannot employ fires short of the FSCL without coordination with the JFLCC or JFMCC. The FSCL does not divide an AO by defining a boundary between close and deep operations or a zone for CAS.

(2) The FSCL is primarily used to establish C2 procedures for planning and execution purposes—it does not define mission types. Interdiction can occur both short of and beyond the FSCL. Attacks on surface targets short of the FSCL during the

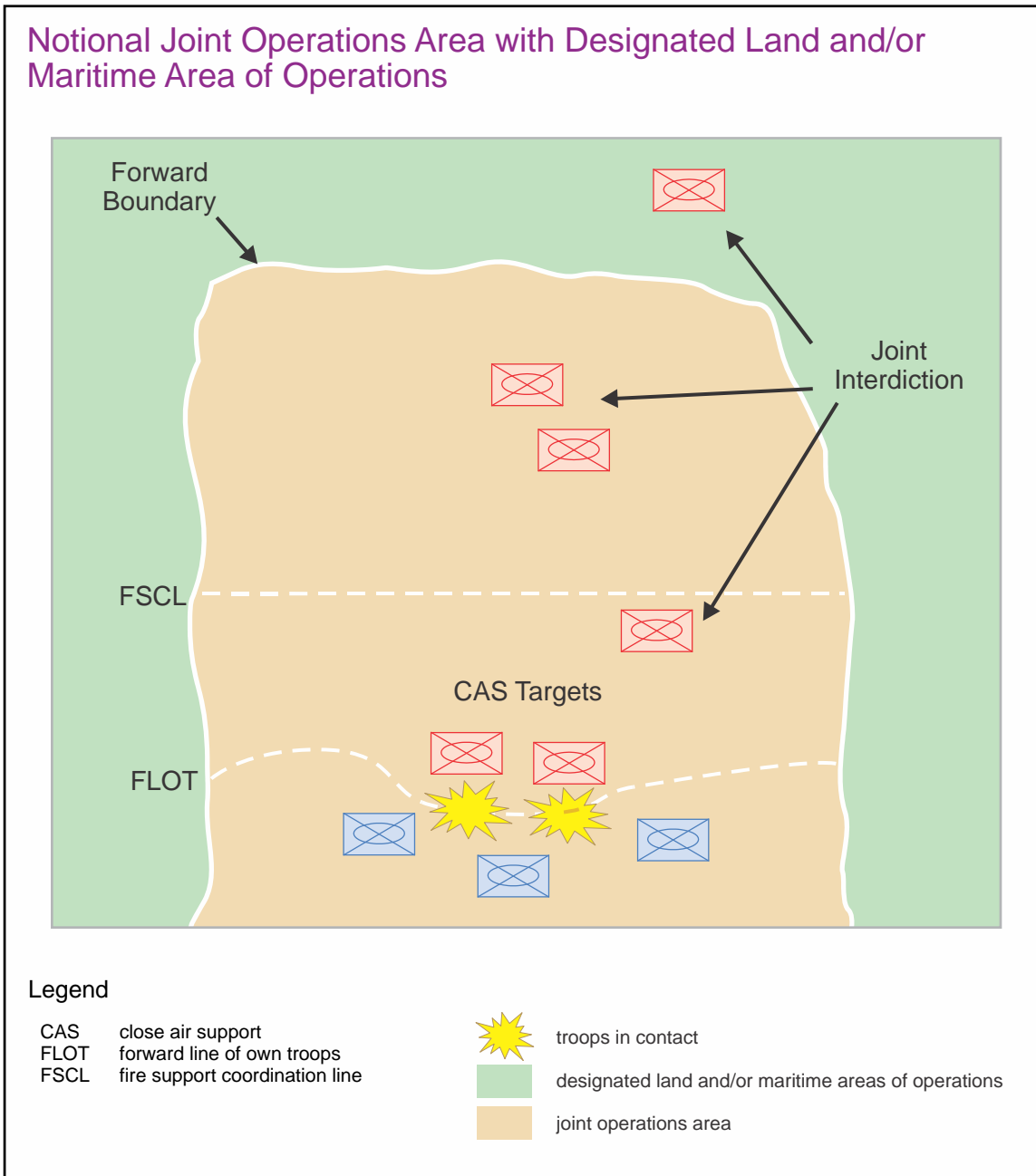


Figure V-3. Notional Joint Operations Area with Designated Land and/or Maritime Area of Operations

conduct of joint interdiction operations must be controlled by, and/or coordinated with, the appropriate land or amphibious force commander. While conducting AI short of the FSCL, mission updates through a TACS or amphibious TACS agency can help ensure that those targets are still valid, eliminate redundant targeting, and reduce the potential for friendly fire incidents. An example of this type of coordinating agency is an ASOC/JAGIC, DASC, or Navy TACC.

(a) Interdiction of targets short of the FSCL is controlled by the appropriate land or amphibious force commander. Coordination is normally conducted through such agencies as the Army fires cell and fire support coordination center. This coordination is facilitated by C2 platforms or centers such as JSTARS, BCD, ASOC/JAGIC, DASC, Navy TACC, or SOLE.

(b) Joint interdiction forces attacking targets beyond the FSCL must inform all affected commanders in sufficient time to allow necessary reaction to avoid friendly casualties.

(c) SOF operations beyond the FSCL and outside the land force AO are particularly at risk and require detailed coordination to ensure proper restrictive FSCMs are in place to protect friendly personnel. Coordination of engagements beyond the FSCL is especially critical to commanders of air, land, multinational, and SOF units operating beyond the FSCL. Such coordination is also important when engaging forces are employing wide-area munitions or those with delayed effects. Finally, this coordination assists in avoiding conflicting or redundant engagement operations.

(d) The decision on where to place (or even to use) a FSCL requires careful consideration. Placement of the FSCL should strike a balance so as not to unduly inhibit operating tempo while maximizing the effectiveness of organic and joint force interdiction assets. **The optimum placement of the FSCL varies with specific AO circumstances, but considerations include the ground force positions and anticipated scheme of maneuver during the effective time period of the FSCL and their indirect fire support systems' range limits where typically the preponderance of lethal effects on the AO shifts from the ground component to the air component.** In this way, the FSCL placement maximizes the overall effectiveness of the joint force, and each component will suffer only a small reduction in efficiency. The proper location for the FSCL may also shift from one phase of the combat operation (or campaign) to the next, depending on the scale and scope of each component's contribution during that phase.

See JP 3-09, Joint Fire Support, for further discussion of the FSCL.

c. Kill Boxes

(1) **Purpose.** A kill box is a three-dimensional FSCM with an associated ACM used to facilitate the integration of fires. A kill box is a measure, not a mission. Kill boxes are established to support AI efforts as part of the JFC's joint targeting process. Kill boxes allow lethal attack against surface targets without further coordination with the establishing commander and without the requirement for terminal attack control. When used to integrate

air-to-surface and subsurface/surface-to-surface indirect fires, the kill box will have appropriate restrictions. These restrictions provide a three-dimensional block of airspace in which participating aircraft are deconflicted from friendly surface fires. The restrictive measures also prevent non-participating aircraft and maneuver forces from entering the kill box. The goal is to reduce the coordination required to fulfill support requirements with maximum flexibility (permissive attributes), while preventing friendly fire incidents (restrictive attributes). Fires executed in a kill box must comply with ROE and law of war targeting constraints; designation of a kill box is not authorization to fire indiscriminately into the area.

(2) **Establishment.** A kill box is established and adjusted by supported component commanders in consultation with superior, subordinate, supporting, and affected commanders, and is an extension of an existing support relationship established by the JFC. Requirements for kill boxes and other control measures are determined using normal component targeting and planning processes and are established and approved by commanders or their designated staff. Information about the type, effective time, duration, and other attributes will be published and disseminated using existing voice and digital C2 systems. Component commanders, acting on JFC authority, establish and adjust kill boxes within their AO in consultation with higher, subordinate, supporting, and affected commanders. Requirements for kill boxes and other control measures are determined using normal component targeting and planning processes.

See JP 3-09, Joint Fire Support, and ATP 3-09.34 [FM 3-09.34]/MCRP 3-25H/NTTP 3-09.2.1/AFTTP 3-2.59, Multi-Service Tactics, Techniques, and Procedures for Kill Box Employment, for further information.

3. Assessments

a. Assessment is used to measure progress of the joint force toward mission accomplishment. Commanders continuously assess the operational environment and the progress of operations, and compare them to their initial vision and intent. Commanders adjust operations based on their assessment to ensure objectives are achieved and the desired end state is attained.

b. At the tactical level, combat assessment is composed of three related elements: BDA, munitions effectiveness assessment, and future targeting or reattack recommendations. Combat assessment typically focuses on task accomplishment and target engagement. Joint interdiction operations should include both pre-engagement and post-engagement target reconnaissance efforts in order to facilitate combat assessment. When combat assessment is linked to current and reliable intelligence, the JFC can accurately assess what was accomplished, the overall effect on the enemy and whether or not the enemy has accomplished system reconstitution or an effective workaround solution. Information gained from combat assessment provides input for follow-on interdiction efforts.

For more information on assessment, see JP 5-0, Joint Planning, and JP 3-60, Joint Targeting. Each publication describes the assessment process in detail and includes an appendix on the subject.

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APPENDIX A REFERENCES

The development of JP 3-03 is based upon the following primary references.

1. General Publications

- a. National Security Presidential Directive-17/Homeland Security Presidential Directive-4, *National Strategy to Combat Weapons of Mass Destruction*.
- b. Presidential Policy Directive-18, *Maritime Security Policy*.
- c. *Memorandum of Agreement Between the Department of Defense and the Department of Homeland Security for Department of Defense Support to the United States Coast Guard for Maritime Homeland Security*.

2. Department of Defense Publications

- a. Department of Defense Directive (DODD) 1400.31, *DOD Civilian Work Force Contingency and Emergency Planning and Execution*.
- b. DODD 3000.03E, *DOD Executive Agent for Non-Lethal Weapons (NLW), and NLW Policy*.
- c. DODD 3600.01, *Information Operations (IO)*.
- d. DODD 5100.01, *Functions of the Department of Defense and Its Major Components*.

3. Chairman of the Joint Chiefs of Staff Publications

- a. CJCSI 3160.01, *No Strike and the Collateral Damage Estimation Methodology*.
- b. CJCSI 3210.01, *Joint Information Operations Proponent*.
- c. CJCSI 3520.02B, *Proliferation Security Initiative (PSI) Activity Program*.
- d. CJCSI 5120.02D, *Joint Doctrine Development System*.
- e. JP 1, *Doctrine for the Armed Forces of the United States*.
- f. JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*.
- g. JP 2-0, *Joint Intelligence*.
- h. JP 2-01, *Joint and National Intelligence Support to Military Operations*.
- i. JP 3-0, *Joint Operations*.

- j. JP 3-01, *Countering Air and Missile Threats*.
- k. JP 3-02, *Amphibious Operations*.
- l. JP 3-05, *Special Operations*.
- m. JP 3-06, *Joint Urban Operations*.
- n. JP 3-08, *Interorganizational Cooperation*.
- o. JP 3-09, *Joint Fire Support*.
- p. JP 3-12, *Cyberspace Operations*.
- q. JP 3-13, *Information Operations*.
- r. JP 3-13.1, *Electronic Warfare*.
- s. JP 3-14, *Space Operations*.
- t. JP 3-15, *Barriers, Obstacles, and Mine Warfare for Joint Operations*.
- u. JP 3-18, *Joint Forcible Entry Operations*.
- v. JP 3-30, *Command and Control of Joint Air Operations*.
- w. JP 3-40, *Countering Weapons of Mass Destruction*.
- x. JP 3-52, *Joint Airspace Control*.
- y. JP 3-59, *Meteorological and Oceanographic Operations*.
- z. JP 3-60, *Joint Targeting*.
- aa. JP 3-61, *Public Affairs*.
- bb. JP 4-0, *Joint Logistics*.
- cc. JP 5-0, *Joint Planning*.
- dd. JP 6-0, *Joint Communications System*.

4. Service Publications

- a. ATP 3-52.2 (FM 3-52.2)/MCRP 3-25F/NTTP 3-56.2/AFTTP 3-2.17, *Multi-Service Tactics, Techniques, and Procedures for the Theater Air-Ground System*.
- b. ATP 3-60.1/MCRP 3-16D/NTTP 3-60.1/AFTTP 3-2.3, *Multi-Service Tactics, Techniques, and Procedures for Dynamic Targeting*.

- c. ATP 3-60.2/MCRP 3-23C/NTTP 3-03.4/AFTTP 3-2.72, *Multi-Service Tactics, Techniques, and Procedures for Strike Coordination and Reconnaissance*.
- d. ATP 3-91.1/AFTTP 3-2.86, *The Joint Air Ground Integration Center*.
- e. MCRP 3-25J/NTTP 3-20.8/AFTTP 3-2.74, *Multi-Service Tactics, Techniques, and Procedures for Air Operations in Maritime Surface Warfare*.
- f. NTTP 3-07.11M/CGTTP 3-93.3/MCIP 3-33.04, *Visit, Board, Search, and Seizure Operations*.

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APPENDIX B

ADMINISTRATIVE INSTRUCTIONS

1. User Comments

Users in the field are highly encouraged to submit comments on this publication to: Joint Staff J-7, Deputy Director, Joint Education and Doctrine, ATTN: Joint Doctrine Analysis Division, 116 Lake View Parkway, Suffolk, VA 23435-2697. These comments should address content (accuracy, usefulness, consistency, and organization), writing, and appearance.

2. Authorship

The lead agent for this publication is the US Air Force. The Joint Staff doctrine sponsor for this publication is the Director for Operations (J-3).

3. Supersession

This publication supersedes JP 3-03, *Joint Interdiction*, 14 October 2011.

4. Change Recommendations

- a. Recommendations for urgent changes to this publication should be submitted:

TO: Deputy Director, Joint Education and Doctrine (DD JED), Attn: Joint Doctrine Division, 7000 Joint Staff (J-7), Washington, DC, 20318-7000 or email: js.pentagon.j7.list.dd-je-d-jdd-all@mail.mil.

- b. Routine changes should be submitted electronically to the Deputy Director, Joint Education and Doctrine, ATTN: Joint Doctrine Analysis Division, 116 Lake View Parkway, Suffolk, VA 23435-2697, and info the lead agent and the Director for Joint Force Development, J-7/JED.

- c. When a Joint Staff directorate submits a proposal to the CJCS that would change source document information reflected in this publication, that directorate will include a proposed change to this publication as an enclosure to its proposal. The Services and other organizations are requested to notify the Joint Staff J-7 when changes to source documents reflected in this publication are initiated.

5. Lessons Learned

The Joint Lessons Learned Program (JLLP) primary objective is to enhance joint force readiness and effectiveness by contributing to improvements in doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy. The Joint Lessons Learned Information System (JLLIS) is the DOD system of record for lessons learned and facilitates the collection, tracking, management, sharing, collaborative resolution, and dissemination of lessons learned to improve the development and readiness of the joint force. The JLLP integrates with joint doctrine

through the joint doctrine development process by providing lessons and lessons learned derived from operations, events, and exercises. As these inputs are incorporated into joint doctrine, they become institutionalized for future use, a major goal of the JLLP. Lessons and lessons learned are routinely sought and incorporated into draft JPs throughout formal staffing of the development process. The JLLIS Website can be found at <https://www.jllis.mil> or <http://www.jllis.smil.mil>.

6. Distribution of Publications

Local reproduction is authorized, and access to unclassified publications is unrestricted. However, access to and reproduction authorization for classified JPs must be IAW DOD Manual 5200.01, Volume 1, *DOD Information Security Program: Overview, Classification, and Declassification*, and DOD Manual 5200.01, Volume 3, *DOD Information Security Program: Protection of Classified Information*.

7. Distribution of Electronic Publications

a. Joint Staff J-7 will not print copies of JPs for distribution. Electronic versions are available on JDEIS Joint Electronic Library Plus (JEL+) at <https://jdeis.js.mil/jdeis/index.jsp> (NIPRNET) and <http://jdeis.js.smil.mil/jdeis/index.jsp> (SIPRNET), and on the JEL at <http://www.dtic.mil/doctrine> (NIPRNET).

b. Only approved JPs are releasable outside the combatant commands, Services, and Joint Staff. Defense attachés may request classified JPs by sending written requests to Defense Intelligence Agency (DIA)/IE-3, 200 MacDill Blvd., Joint Base Anacostia-Bolling, Washington, DC 20340-5100.

c. JEL CD-ROM. Upon request of a joint doctrine development community member, the Joint Staff J-7 will produce and deliver one CD-ROM with current JPs. This JEL CD-ROM will be updated not less than semi-annually and when received can be locally reproduced for use within the combatant commands, Services, and combat support agencies.

GLOSSARY

PART I—ABBREVIATIONS AND ACRONYMS

AAGS	Army air-ground system
ACM	airspace coordinating measure
AFTTP	Air Force tactics, techniques, and procedures
AI	air interdiction
AO	area of operations
AOC	air operations center
ASOC	air support operations center
ASOG	air support operations group
ASOS	air support operations squadron
ATACMS	Army Tactical Missile System
ATO	air tasking order
ATP	Army techniques publication
BCD	battlefield coordination detachment (Army)
BDA	battle damage assessment
C2	command and control
CAS	close air support
CGTTP	Coast Guard tactics, techniques, and procedures
CJCSI	Chairman of the Joint Chiefs of Staff instruction
CO	cyberspace operations
COA	course of action
COG	center of gravity
COMAFFOR	commander, Air Force forces
CONOPS	concept of operations
DASC	direct air support center
DHS	Department of Homeland Security
DOD	Department of Defense
DODD	Department of Defense directive
EA	electronic attack
EMIO	expanded maritime interception operations
EMOE	electromagnetic operational environment
EMS	electromagnetic spectrum
EP	electronic protection
ES	electronic warfare support
EW	electronic warfare
FB	forward boundary
FLOT	forward line of own troops
FM	field manual (Army)
FSCL	fire support coordination line

FSCM	fire support coordination measure
GLD	ground liaison detachment
IO	information operations
IRC	information-related capability
ISR	intelligence, surveillance, and reconnaissance
J-3	operations directorate of a joint staff
JACCE	joint air component coordination element
JADOCS	Joint Automated Deep Operations Coordination System
JAGIC	joint air-ground integration center
JAOC	joint air operations center
JFACC	joint force air component commander
JFC	joint force commander
JFE	joint fires element
JFLCC	joint force land component commander
JFMCC	joint force maritime component commander
JFSOCC	joint force special operations component commander
JOA	joint operations area
JP	joint publication
JSOACC	joint special operations air component commander
JSTARS	Joint Surveillance Target Attack Radar System
JTCB	joint targeting coordination board
LEA	law enforcement agency
LEDET	law enforcement detachment (USCG)
LEO	law enforcement operations
LOC	line of communications
MACCS	Marine air command and control system
MAS	maritime air support
MCIP	Marine Corps interim publication
MCO	major combat operation
MCRP	Marine Corps reference publication
MDA	maritime domain awareness
MIO	maritime interception operations
MISO	military information support operations
MOTR	maritime operational threat response
Navy TACC	Navy tactical air control center
NTACS	Navy tactical air control system
NTTP	Navy tactics, techniques, and procedures
OEF	Operation ENDURING FREEDOM
OIF	Operation IRAQI FREEDOM
OPCON	operational control

PGM	precision-guided munition
PNT	positioning, navigation, and timing
ROE	rules of engagement
SCAR	strike coordination and reconnaissance
SOAGS	special operations air-ground system
SOF	special operations forces
SOLE	special operations liaison element
SR	special reconnaissance
SUWC	surface warfare commander
TA	target acquisition
TACON	tactical control
TACP	tactical air control party
TACS	theater air control system
TAGS	theater air-ground system
TGO	terminal guidance operations
TST	time-sensitive target
UA	unmanned aircraft
UNCLOS	United Nations Convention on the Law of the Sea
USC	United States Code
USCG	United States Coast Guard
USG	United States Government
USN	United States Navy
WMD	weapons of mass destruction

PART II—TERMS AND DEFINITIONS

air interdiction. Air operations conducted to divert, disrupt, delay, or destroy the enemy's military surface capabilities before it can be brought to bear effectively against friendly forces, or to otherwise achieve objectives that are conducted at such distances from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required. Also called **AI**. (Approved for incorporation into JP 1-02.)

axis of advance. None. (Approved for removal from JP 1-02.)

battlefield coordination detachment. An Army liaison located in the air operations center that provides selected operational functions between the Army forces and the air component commander. Also called **BCD**. (JP 1-02. SOURCE: JP 3-03)

diversion. 1. The act of drawing the attention and forces of an enemy from the point of the principal operation; an attack, alarm, or feint that diverts attention. 2. A change made in a prescribed route for operational or tactical reasons that does not constitute a change of destination. 3. A rerouting of cargo or passengers to a new transshipment point or destination or on a different mode of transportation prior to arrival at ultimate destination. 4. In naval mine warfare, a route or channel bypassing a dangerous area by connecting one channel to another or it may branch from a channel and rejoin it on the other side of the danger. (JP 1-02. SOURCE: JP 3-03)

forward line of own troops. A line that indicates the most forward positions of friendly forces in any kind of military operation at a specific time. Also called **FLOT**. (JP 1-02. SOURCE: JP 3-03)

interdiction. 1. An action to divert, disrupt, delay, or destroy the enemy's military surface capability before it can be used effectively against friendly forces, or to achieve enemy objectives. 2. In support of law enforcement, activities conducted to divert, disrupt, delay, intercept, board, detain, or destroy, under lawful authority, vessels, vehicles, aircraft, people, cargo, and money. (Approved for incorporation into JP 1-02.)

maritime interception operations. Efforts to monitor, query, and board merchant vessels in international waters to enforce sanctions against other nations such as those in support of United Nations Security Council Resolutions and/or prevent the transport of restricted goods. Also called **MIO**. (JP 1-02. SOURCE: JP 3-03)

precision-guided munition. A guided weapon intended to destroy a point target and minimize collateral damage. Also called **PGM**, **smart weapon**, **smart munition**. (JP 1-02. SOURCE: JP 3-03)

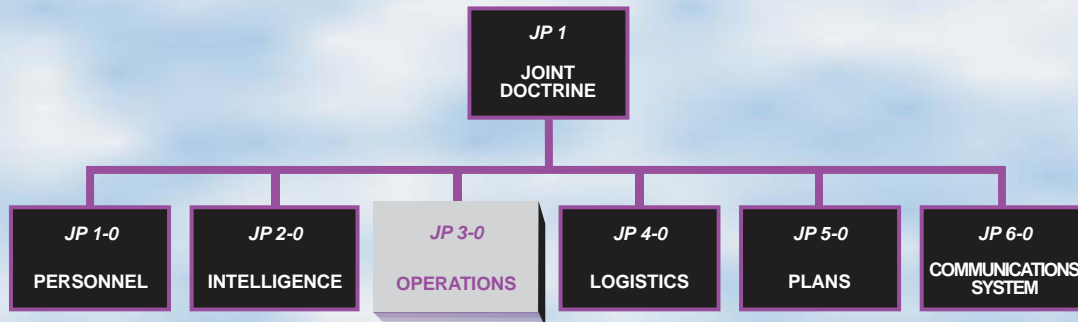
strike coordination and reconnaissance. A mission flown for the purpose of detecting targets and coordinating or performing attack or reconnaissance on those targets. Also called **SCAR**. (JP 1-02. SOURCE: JP 3-03)

terminal guidance. 1. The guidance applied to a guided missile between midcourse guidance and arrival in the vicinity of the target. 2. Electronic, mechanical, visual, or other assistance given an aircraft pilot to facilitate arrival at, operation within or over, landing upon, or departure from an air landing or airdrop facility. (JP 1-02. SOURCE: JP 3-03)

use of force policy. Policy guidance issued by the Commandant, United States Coast Guard, on the use of force and weapons. (Approved for incorporation into JP 1-02.)

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JOINT DOCTRINE PUBLICATIONS HIERARCHY



All joint publications are organized into a comprehensive hierarchy as shown in the chart above. **Joint Publication (JP) 3-03** is in the **Operations** series of joint doctrine publications. The diagram below illustrates an overview of the development process:

