

# Joint Publication 3-52



## Joint Doctrine for Airspace Control in the Combat Zone



30 August 2004



# PREFACE

## 1. Scope

This publication provides broad doctrinal guidance for joint forces involved in the use of airspace over the combat zone and contiguous areas. Airspace control as described in this publication includes the varied airspace of the combat zone — foreign continent, high seas, amphibious objective area, littoral, or the North American Continent outside the United States, as well as contiguous areas such as the communications zone. Airspace control as described in this publication applies to the broadest interpretation of areas where combat forces are required to conduct operations, including operations other than war. The inherent nature of air operations demands strict compliance with terrestrial boundaries. Therefore, airspace control functions must ensure smooth transition from noncombat air traffic control to integrated air operations in the combat zone.

## 2. Purpose

This publication has been prepared under the direction of the Chairman of the Joint Chiefs of Staff. It sets forth doctrine to govern the joint activities and performance of the Armed Forces of the United States in joint operations and provides the doctrinal basis for interagency coordination and US military involvement in multinational operations. It provides military guidance for the exercise of authority by combatant commanders and other joint force commanders (JFCs) and prescribes doctrine for joint operations and training. It provides military guidance for use by the Armed Forces in preparing their appropriate plans. 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 the overall mission.

## 3. Application

a. Doctrine and guidance established in this publication apply to the commanders of combatant commands, subunified commands, joint task forces, and subordinate components of these commands. These principles and guidance also may apply when significant forces of one Service are attached to forces of another Service or when significant forces of one Service support forces of another Service.

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 for the activities of joint forces 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 United States, 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:

A handwritten signature in black ink, appearing to read 'T. J. Keating', written in a cursive style.

T. J. KEATING  
Vice Admiral, USN  
Director, Joint Staff

**SUMMARY OF CHANGES**  
**REVISION OF JOINT PUBLICATION 3-52, DATED 22 JULY 1995**

- **Adds a discussion of multinational airspace control considerations where applicable**
- **Changes the term “airspace control measures” to “airspace coordinating measures”**
- **Discusses liaison requirements between all airspace users**
- **Covers distribution of the airspace control plan and the air defense plan to forces providing direct delivery**
- **Discusses the integration of combat zone airspace control and civil air traffic control operations**
- **Covers airspace deconfliction and joint fires**
- **Provides guidance on airspace control considerations for theater missiles**
- **Broadens coverage of combat zone airspace control in maritime operations**
- **Adds a discussion of airspace control considerations for urban operations**
- **Adds an appendix on airspace control order development**

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## EXECUTIVE SUMMARY COMMANDER'S OVERVIEW

- **Provides Basic Principles for Airspace Control in the Combat Zone**
  - **Discusses General Organization and Responsibilities**
  - **Covers Elements and Considerations for Airspace Control in the Combat Zone**
  - **Discusses Airspace Control for Specified Missions**
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### Fundamental Considerations

*Combat zone airspace control increases combat effectiveness by promoting the safe, efficient, and flexible use of airspace with minimum restraint placed upon the airspace users.*

*The airspace of the combat zone is a crucial part of the battlespace and is used by all components of the joint and multinational forces.*

Airspace control includes coordinating, integrating, and regulating airspace to increase operational effectiveness. **The joint force commander (JFC) designates the airspace control authority (ACA) and defines the relationship between the ACA and component commanders.** The ACA does not have the authority to approve, disapprove, or deny combat operations. That authority is only vested in operational commanders. Matters on which the ACA is unable to obtain agreement will be referred to the JFC for resolution. Combat zone airspace control provides the JFC operational flexibility to employ forces effectively.

A high concentration of friendly surface, subsurface, and air-launched weapon systems must share this airspace without unnecessarily hindering the application of combat power in accordance with the JFC's intent. **The primary goal of combat zone airspace control is to enhance combat effectiveness of the joint force.** Basic principles of airspace control in the combat zone are listed below:

The airspace control system (ACS) must support JFC objectives and facilitate **unity of effort.**

A major reason for close coordination between airspace control, air traffic control (ATC), and air defense elements is to **reduce the risk of friendly fire and increase the effectiveness of air defense.**

**Close liaison and coordination among all airspace users inside and outside the operational area is necessary to promote timely and accurate information flow to airspace managers.**

Airspace control procedures provide maximum flexibility through an effective **mix of positive and procedural control measures.**

**Procedural control measures need to be uncomplicated** and readily accessible to all forces.

The ACS in the combat zone must have a **reliable, jam-resistant, and secure communications network.**

**Air control assets comprising the overall ACS need to be survivable and redundant** because they are likely to be prime targets for an attacker.

The structure of the ACS needs to be **responsive to developing enemy threats and to the unfolding operation.**

Airspace control functions in the combat zone rely on **airspace management resources**, but these functions are separate and distinct from real-time control of air vehicles and the terminal ATC environment.

**Flexibility and simplicity** must be emphasized throughout to maximize the effectiveness of forces operating within the system.

Combat zone airspace control needs to **support 24-hour operations in all-weather and environmental conditions.**

### Organization

#### *Joint force commander.*

**The JFC is principally responsible for airspace control in the operational area.** His airspace control plan (ACP) and airspace control order express how the airspace will be used to support mission accomplishment.

*Joint force air component commander.*

The JFC will normally designate a joint force air component commander (JFACC) and assign responsibilities. The JFACC's responsibilities normally include, but are not limited to: planning, coordinating, and monitoring joint air operations, and the allocation and tasking of joint air operations forces based on the JFC's concept of operations and air apportionment decision. **When the JFC designates a JFACC, the JFACC normally assumes the area air defense commander (AADC) and ACA responsibilities since air defense and airspace control are an integral part of joint air operations.** As the designated commander for joint air operations, the responsibility for planning, coordinating, and developing airspace control procedures and operating an ACS also rests with the JFACC.

*Component commanders.*

**Component commanders advise the JFC on the employment of component forces** and the direction and control of those forces. Each component commander plans and executes a portion of the total air effort and interacts with other components.

*Airspace control authority.*

**The JFC designates the ACA.** The ACA develops policies and procedures for airspace control and for the coordination required among units with the operational area. **The ACA establishes an ACS** that is responsive to the needs of the JFC, integrates ACS with the host nation, and coordinates and deconflicts user requirements. **The ACA develops the ACP,** and after JFC approval, distributes it throughout the operational area and to all supporting airspace users.

*Area air defense commander.*

**The JFC designates the AADC.** The AADC is responsible for defensive counterair (which includes both air and missile threats) operations.

### **Planning for Airspace Control in the Combat Zone**

*Each operational area has specific operational requirements for combat zone airspace control.*

Operational area requirements must be determined as early as possible and incorporated in the overall joint force planning effort. Political constraints, national and military airspace management systems and procedures and their capabilities and limitations are important considerations. Rules of engagement (ROE), disposition of air defense weapons, fire support plans, and procedures for identification of US and multinational aircraft are also important items to consider. **Every joint/multinational force is different, and the forces assigned will have specific operational requirements for airspace.** The following broad principles of planning are essential to effective combat zone

airspace control: interoperability; mass and timing; unity of effort; integrated planning cycles; and, degraded operations.

### Methods of Airspace Control in the Combat Zone

*The methods of airspace control vary throughout the range of military operations.*

**The methods of airspace control range from positive control of all air assets in an airspace control area to procedural control of all such assets, or any effective combination of the two.** ACPs and systems need to accommodate these methods based on component, joint, and national capabilities and requirements. **Positive control** relies on radars, other sensors, identification, friend or foe/selective identification feature, digital data links, and other elements of the air defense system to positively identify, track, and direct air assets. **Procedural control** relies on airspace coordinating measures such as comprehensive air defense identification procedures and ROE, low level transit routes, minimum-risk routes, aircraft identification maneuvers, fire support coordinating measures, coordinating altitudes, restricted operations zones/restrictive fire areas, standard use Army aircraft flight route, and high-density airspace control zones.

### Combat Zone Airspace Control in Maritime Operations

*In joint maritime operations, specific control and defensive measures may differ from those used in a land-based operation.*

The maritime commander may be designated the control authority for a specific airspace control area or sector for the accomplishment of a specific mission. The massing of maritime forces into a battle force of combined arms (air, surface, and subsurface) under a single commander reduces the front to be defended, enhances mutual support, and simplifies identification and deconfliction of friendly aircraft and other air defense measures. To ensure unity of effort and minimal interference along adjacent boundaries, **the commander responsible for maritime airspace control should coordinate with the ACA.**

In joint operations composed of **adjacent maritime and land environments**, specific control and defensive measures may be a composite of those measures normally employed in each environment. The JFC for such operations needs to ensure detailed coordination of control and defensive measures with the affected air, land, and maritime component commanders.

## Airspace Control in the Combat Zone During Military Operations Other Than War

*Joint forces must be ready to undertake a variety of missions.*

Because of the complexity of military operations other than war (MOOTW) operations, to include the greater interaction required between military forces and civilian agencies and organizations, airspace control planning becomes much more intensive, often requiring the establishment of detailed airspace control procedures. **Depending on the environment, mission, and location throughout the range of military operations, the degree of control may need to be rigorous and the ROE may be more restrictive.** This is especially true in a MOOTW or post combat operations environment that can transition quickly from combat to noncombat and back again.

### CONCLUSION

This publication provides broad doctrinal guidance for joint forces involved in the use of airspace over the combat zone and contiguous areas. Airspace control as described in this publication includes the varied airspace of the combat zone — foreign countries, high seas, amphibious objective area, littoral, or the North American Continent outside the United States, as well as contiguous areas such as the communications zone. Airspace control as described in this publication applies to the broadest interpretation of areas where combat forces are required to conduct operations, including operations other than war. The inherent nature of air operations mitigates strict compliance with terrestrial boundaries. Therefore, airspace control functions must ensure smooth transition from noncombat air traffic control to integrated air operations in the combat zone.

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## CHAPTER I INTRODUCTION

*“Gulf lesson one is the value of air power . . . we must retain combat superiority in the skies.”*

President George H. W. Bush

### 1. General

a. This joint publication (JP) prescribes doctrine for joint airspace control in the combat zone. The prescribed doctrine is broadly stated to fit a wide range of situations primarily involving **the control of airspace in areas where the use of combat forces is required**. International agreements, enemy and friendly force structures and deployments, commanders’ concepts of operations, and operating environments such as foreign countries, the high seas, and amphibious objective areas (AOAs) will necessitate different specific arrangements for joint airspace control in the combat zone.

b. **This publication outlines fundamental principles, relationships, and broad operational-level guidelines.** It is not intended to limit commanders’ authority over and responsibility for their forces, but is intended to provide the basic framework upon which to build an airspace control system (ACS) for an operational area.

c. Upon indication of, or receipt of, tasking from higher commanders, the joint force commander (JFC), through the joint force air component commander (JFACC) and/or airspace control authority (ACA) and area air defense commander (AADC), develops a specific airspace control plan (ACP) that synchronizes with the JFC’s overall operational plan. The plan must take into consideration the likelihood of multinational operations, as well as the need for developing policies and procedures to ensure compatibility and interoperability of support systems and methods to accommodate potential alliances and coalitions. US forces participating in multinational operations may be subject to command arrangements and authorities established in international agreements.

### 2. Joint/Multinational Airspace Control in the Combat Zone\*

\*For the purposes of this publication, the terms “airspace control in the combat zone,” “combat zone airspace control,” and “airspace control” are synonymous.

Combat zone airspace control increases combat effectiveness **by promoting the safe, efficient, and flexible use of airspace with minimum restraint placed upon the airspace users.** Airspace control includes coordinating, integrating, and regulating airspace to increase operational effectiveness. The JFC designates the ACA and defines the relationship between the ACA and component commanders. The ACA does not have the authority to approve, disapprove, or deny combat operations. That authority is only vested in operational commanders. Matters on which the ACA is unable to obtain agreement will be referred to the JFC for resolution. **Combat zone airspace control provides the**



*A safe, efficient, and flexible combat zone airspace control system must exist within the operational area prior to the onset of air operations.*

**Combat zone airspace control provides the JFC operational flexibility to employ forces effectively.** Fundamental considerations are shown in Figure I-1.

### 3. Basic Principles

**The airspace of the combat zone is a crucial part of the battlespace** and is used by all components of the joint and multinational forces. A high concentration of friendly surface, subsurface, and air-launched weapon systems must share this airspace without unnecessarily hindering the application of combat power in accordance with the JFC's intent. **The primary goal of combat zone airspace control is to enhance combat effectiveness of the joint force.** Basic principles of airspace control in the combat zone are listed in Figure I-2 and described below.

a. The ACS must support JFC objectives and facilitate **unity of effort**. A coordinated and integrated combat ACS is essential to the conduct of successful operations.

b. A major reason for close coordination between airspace control, air traffic control (ATC), and air defense elements is to **reduce the risk of friendly fire and increase the effectiveness of air defense**. Identification requirements for airspace control must be compatible with those for air defense. Combat zone airspace control, air defense, ATC, supporting procedures, equipment, and terminology need to be compatible, mutually supporting, and interoperable.

## FUNDAMENTAL CONSIDERATIONS OF AIRSPACE CONTROL IN THE COMBAT ZONE

- The need for each Service or functional component within the joint force to operate a variety of air vehicles and weapon systems, both high and low speed, rotary- and fixed-wing (manned and unmanned), within the combat zone airspace control area.
- The need for each Service and functional component to use the airspace with maximum freedom consistent with the degree of risk operationally acceptable to the joint force commander.
- The need for airspace control activities to be performed in congruence with air defense operations to integrate and synchronize surface-to-air defense weapons and air defense aircraft for maximum effectiveness.
- The need to discriminate quickly and effectively between friendly, neutral, and enemy air operations and vehicles.
- The need for the combat zone airspace control system to be responsive to the requirements of the joint force. The airspace control system needs to be capable of supporting high-density traffic and surge operations as may be required by the joint force commander.
- The need for close coordination and integration of surface force operations, supporting fires, air operations, air defense operations, special operations, and airspace control activities.
- The need to accommodate US, host-nation, and multinational airspace control activities within the joint combat zone.
- The need to recognize the saturation levels and limitations of airspace control networks.
- The need for temporary restrictive airspace control measures for certain areas of airspace to allow subordinate commanders maximum freedom of action.
- The need to incorporate, in detail, coordinated offensive operations using electronic warfare elements, strike aircraft, and missiles to ensure that defensive elements of procedures of the force do not unacceptably inhibit or degrade offensive capabilities.
- The need to ensure that the airspace control network remains survivable and effective.
- The need to provide maximum opportunities to employ deception measures.
- The need to standardize communications data, format, and language requirements in multinational operations to reduce the possibility of differences in interpretation, translation, or application of airspace control procedures during multinational operations.
- The need to support 24-hour operations in all weather and environmental conditions.

Figure I-1. Fundamental Considerations of Airspace Control in the Combat Zone

c. **Close liaison and coordination among all airspace users inside and outside the operational area is** necessary to promote timely and accurate information flow to airspace managers. Effective liaison and coordination may directly relate to the success of the campaign or operation.

d. **Airspace control procedures provide maximum flexibility through an effective mix of positive and procedural control measures.** The control structure must encourage close coordination between joint force components to allow rapid concentration of combat power.

## BASIC PRINCIPLES OF AIRSPACE CONTROL IN THE COMBAT ZONE

- **Unity of effort**
- **Reduce the risk of friendly fire and optimize the effectiveness of air defense**
- **Maintain close liaison and coordination among all airspace users**
- **Require common combat zone airspace control procedures**
- **Require uncomplicated procedural control measures**
- **Require reliable, jam-resistant and secure communications networks**
- **Require survivable and redundant airspace control systems**
- **Respond to developing enemy threat conditions and to the unfolding operation**
- **Airspace control functions rely on airspace management resources but these functions are different than the air traffic control environment**
- **Emphasize flexibility and simplicity**
- **Support 24 hour operations in all-weather and environmental conditions**

**Figure I-2. Basic Principles of Airspace Control in the Combat Zone**

e. **Procedural control measures need to be uncomplicated** and readily accessible to all forces and disseminated in the airspace control order (ACO) and special instructions (SPINS) of the air tasking order (ATO). Use of these single-source documents are essential for integration of rotary-wing and fixed-wing operations.

f. The ACS in the combat zone must have a **reliable, jam-resistant, and secure communications network**. However, care must be exercised to avoid control procedures that rely heavily on voice communications. Emphasis should be placed on simple, flexible airspace management procedures. Airspace management provisions should allow for possible degradation in control capability. In this manner, flexibility and battlefield responsiveness are preserved. Coordinated and detailed planning is required to ensure that communications systems and procedures are compatible among all airspace managers and users.

g. **Air control assets comprising the overall ACS need to be survivable and redundant** because they are likely to be prime targets for an attacker.

h. The structure of the ACS needs to be **responsive to developing enemy threats and to the unfolding operation**. The design, responsiveness, and procedures of the ACS in the combat zone supports the rapid massing of combat power.

i. Airspace control functions in the combat zone rely on **airspace management resources**, but these functions are separate and distinct from real-time control of air vehicles and the terminal ATC environment.

j. The system developed for combat airspace control is generally based on compromise between a wide variety of conflicting demands for airspace use. **Flexibility and simplicity** must be emphasized throughout to maximize the effectiveness of forces operating within the system. This flexibility must include the ability to incorporate a civil air traffic structure where no host nation (HN) capability exists.

k. Combat zone airspace control needs to **support 24-hour operations in all-weather and environmental conditions.**

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## CHAPTER II

### GENERAL ORGANIZATION AND RESPONSIBILITIES

*“Generally, management of the many is the same as management of the few. It is a matter of organization.”*

Sun Tzu

#### 1. General

a. Consistent with the provisions of JP 0-2, *Unified Action Armed Forces (UNAAF)*, a **JFC has the authority to organize forces to accomplish the assigned mission based on the concept of operations (CONOPS)**. The organization of forces will depend on the mission assigned, the manner in which the mission is to be fulfilled, and the capabilities and strength of the component elements of the forces assigned. **Consequently, the organizational form of the ACS may vary.**

b. **The following organizational arrangements apply to combat zone airspace control for joint forces.** When circumstances dictate, appropriate modification may be prescribed by the JFC.

#### 2. Organization

**The following descriptions of broad duties are central to effective airspace control in the combat zone.** Understanding the roles of the JFC, the JFACC, the other component commanders, the ACA, and the AADC is essential. Other key combat zone airspace control definitions are addressed in Annex B to Appendix C, “Airspace Coordinating Measures,” and in the glossary.

a. **Joint Force Commander.** **The JFC is principally responsible for airspace control in the operational area.** His ACP and ACO express how the airspace will be used to support mission accomplishment.

b. **Joint Force Air Component Commander.** The JFC will normally designate a JFACC and assign responsibilities. The JFACC’s responsibilities normally include, but are not limited to: **planning, coordinating, and monitoring joint air operations, and the allocation and tasking of joint air operations forces based on the JFC’s CONOPS and air apportionment decision.** When the JFC designates a JFACC, the JFACC normally assumes the AADC and ACA responsibilities since air defense and airspace control are an integral part of joint air operations. **As the designated commander for joint air operations, the responsibility for planning, coordinating, and developing airspace control procedures and operating an ACS also rests with the JFACC.** When the situation dictates, the JFC may designate a separate AADC and/or ACA. **In those joint operations where separate commanders are required and designated, close coordination is essential for unity of effort, prevention of friendly fire, and deconfliction of joint air operations.**

*For additional details on the organization and functioning of a JFACC, see JP 3-30, Command and Control for Joint Air Operations.*

**c. Component Commanders. Component commanders advise the JFC on the employment of component forces** and the direction and control of those forces. Each component commander plans and executes a portion of the total air effort and interacts with other components. **Subject to the authority of the JFC, each component commander within a joint force:**

(1) **Employs air defense weapons systems** in accordance with the rules of engagement (ROE), and the air defense plan (ADP) and other operational guidance.

(2) **Coordinates and deconflicts operations with other component commanders when appropriate.** Coordination for combat zone airspace control may be facilitated through collocation of key airspace control, air defense, and fire support coordination agencies. When collocation is not possible, such facilities need to be connected with appropriate secure communications. Liaison personnel should be exchanged. This coordination is especially important during the planning phases of an operation.

(3) **Provides airspace control** in designated areas in accordance with the ACP. Is prepared to assume airspace control in other areas when combat or other factors degrade the ACS.

(4) **Forwards requests for airspace coordinating measures (ACMs)** in accordance with the ACP.

(5) **Develops detailed airspace control instructions, plans, and procedures** in accordance with ACP guidance. These detailed instructions, plans, and procedures must be consistent with JFC-approved airspace control guidance in the ACP.

(6) **Provides necessary facilities and personnel** for airspace control functions in assigned areas and identifies these facilities and personnel for inclusion in the ACP.

**d. Airspace Control Authority. The JFC designates the ACA.** The ACA coordinates and integrates the use of the airspace under the JFC's authority. The ACA develops policies and procedures for airspace control and for the coordination required among units within the JOA. The ACA establishes an ACS that is responsive to the needs of the JFC, integrates ACS with the HN, and coordinates and deconflicts user requirements. The ACA develops the ACP, and, after JFC approval, distributes it throughout the JOA and to all supporting airspace users. The ACP begins with the distribution of the ACO, and is executed when components and users comply with the ACO as described in JP 3-30, *Command and Control for Joint Air Operations*. ACA responsibilities are summarized in Figure II-1.

**e. Area Air Defense Commander. The JFC designates the AADC.** The AADC is responsible for defensive counterair (DCA) (which includes both air and missile threats) operations. The AADC must identify those volumes of airspace and control measures that

## AIRSPACE CONTROL AUTHORITY RESPONSIBILITIES

- Coordinate and integrate the use of the airspace.
- Develop policies and procedures of airspace control and for the coordination required among units within the operational area.
- Establish an airspace control system that is responsive to the needs of the joint force commander, provide for integration of the airspace control system with that of the host nation, assist in establishing a civil structure where none exists, and coordinate and deconflict user requirements.
- Develop the airspace control plan and, after joint force commander approval, distribute it throughout the operational area. Implement the airspace control plan through the airspace control order.
- Provide necessary facilities and personnel for airspace control functions in assigned areas and identify these facilities and personnel for inclusion in the airspace control plan.

Figure II-1. Airspace Control Authority Responsibilities

support and enhance DCA operations, identify required airspace management systems, establish procedures for systems to operate within the airspace, and ensure they are incorporated into the ACS. The AADC may also designate regional air defense commanders and sector air defense commanders to allow for ease of command and control (C2) of airspace based on the size and scope of the mission/operation.



*Airspace control activities must synchronize surface-to-air defense weapons and defensive counterair aircraft for maximum effectiveness.*

### 3. Liaison Requirements

**Close coordination and liaison among all airspace users is necessary.** Liaison requirements may vary based on the nature of air operations. Liaison officers (LNOs) can facilitate timely exchange of airspace control information. Joint and/or multinational LNOs often provide crucial cross-communication of necessary airspace control information. Identifying and satisfying liaison requirements are key in planning and conducting airspace control activities.

### 4. Airspace Control Plan

**The ACP establishes procedures for the ACS in the operational area.** An example of the topics that should be considered when developing an ACP is provided in Appendix A, “Airspace Control Plan Development.” The JFC approves the ACP. **To provide effective operational procedures the ACP and ADP must be integrated with the JFC’s operation plan (OPLAN) and orders. Both plans should complement available C2 systems and capabilities.** The ACP must consider procedures and interfaces with the international or regional air traffic systems necessary to effectively support air operations, augmenting forces, and JFC objectives. As a consequence, the ACP should be preplanned as much as possible and be put in a simplified, understandable format. Because the airspace control area normally coincides with air defense boundaries, coordination between combat zone airspace control and area air defense operations is essential. Key factors to consider are listed in Figure II-2.

a. **The ACP should be coordinated with HN representatives if it addresses their airspace.**

b. **Planning factors to be addressed when developing the ACP include** familiarity with the basic OPLAN or operation order (OPORD), combined with knowledge of host and multinational political constraints, capabilities and procedures of civil and military airspace management systems, and general locations of friendly and enemy forces.

c. **The ACP needs to support an orderly transition between peacetime and combat operations.** Such a transition could occur during a period of increasing tensions or suddenly without much warning.

d. **The ACP specifies ACMs to be used in the operational area** and how these measures will be distributed and implemented. The ACP should provide guidance on what fire support coordinating measures (FSCMs) will be placed on the ACO. The ACP should also provide guidance on component-unique ACMs, terms, or graphics that may be included in the ACO.

e. The ACP provides procedures to fully **integrate the resources of military ATC facilities responsible for terminal-area airspace control or en route air traffic control.** ATC facilities should be interfaced and linked with ACS communications to form a system that ensures the safe and efficient flow of air traffic.

## AIRSPACE CONTROL PLAN CONSIDERATIONS

- Procedures that include rules of engagement and disposition of air defense weapon systems such as air defense fighters, air defense artillery, surface-to-air missiles, and air defense command and control operations.
- Limitations or adverse conditions within air, land, and maritime situations in the operational area, such as existing equipment limitations, electronic warfare, and command, control, communications, and computer requirements that may adversely affect the airspace control plan.
- Anticipated restricted areas based on initial deployment of friendly air, land, maritime, and special operations forces and bases.
- Existing air traffic control areas, base defense zones, controlled or uncontrolled airspace, and overflight of neutral nations.
- Mission profiles, combat radii, and identification friend or foe (IFF) or other identification capability of aircraft that will operate in the operational area.
- Enemy air defense weapons capabilities and deployment.
- Electronic attack and deception capabilities.
- Emergency procedures for aircraft experiencing difficulties (including IFF problems).
- Procedures for day or night operations and for aircraft experiencing adverse weather.
- En route and terminal-area air traffic control procedures for aircraft transiting to and from the operational area.
- Procedures to support surge operations requiring high volumes of air traffic.
- Enemy offensive air capabilities. Additionally, the vulnerability of friendly aircraft to enemy surface-to-air missiles and the vulnerability of friendly surface-based air defenses to enemy long-range indirect fires are important planning and execution considerations.
- Procedures, routes, and restricted areas for air mobility assets performing direct combat support of forces, logistic resupply, aerial refueling, or aeromedical evacuation.
- Civil air traffic corridors and procedures.

Figure II-2. Airspace Control Plan Considerations

f. **The ADP shall include detailed engagement procedures.** Combat zone airspace control and area air defense operations must plan for operations in a degraded communications environment. Detailed engagement procedures and decentralized weapons control procedures (as applied to air defense) are key to operations in a degraded environment. **Integration of air defense forces within the overall ACP is critical to effective combat zone airspace control.** The geographic arrangement of weapons and the location of specific types of air defense operations, as well as specific procedures for identification of aircraft, are critical factors to include in the ACP.

g. The ACP and ADP must be distributed to all forces providing direct delivery (intertheater) and/or intratheater support to the theater. The air assets performing these missions will be operating within the operational area. Not understanding or following the ACP and ADP may result in hazardous air traffic situations, cause confusion between aircraft and control agencies, and increase the risk of friendly fire.

## 5. Airspace Control Order

The ACP provides general guidance for the control of the airspace, but the ACO implements specific control procedures for established time periods. **The ACO is an order that provides the details of the approved requests for ACMs.** It is published either as part of the ATO or as a separate document. It defines and establishes airspace for military operations as deemed necessary by the appropriate military authority. It notifies all agencies of the effective time of activation and the composite structure of the airspace to be used. The ACO may include ACMs and FSCMs such as air routes, base defense zones (BDZs), coordinating measures/lines, drop zones, pickup points, restricted areas, etc. A change to the ACO should be distributed whenever a new area is established or an existing area deleted. Appendix B, “Airspace Control Order Development,” contains more information relevant to ACO development.

*For further implementation guidance and formats on ACOs, refer to Joint Interoperability Engineering Organization (JIEO) Circular 9152, Repository of United States Message Text Format (USMTF) Program Items for US Implementation Guidance, and Military Standard (MIL-STD)-6040, US Message Text Formatting Program.*

## CHAPTER III

### ELEMENTS AND CONSIDERATIONS OF AIRSPACE CONTROL IN THE COMBAT ZONE

*“Now those skilled in war must know where and when a battle will be fought. They measure the roads and fix the date. They divide the army and march in separate columns. Those who are distant start first, those who are nearby, later. Thus the meeting of troops from far distances takes place at the same time. It is like people coming to a city market.”*

Tu Yu (735-812 AD)

#### 1. Peacetime to Combat Considerations

Combatant commanders should have an ACP that is continually updated in peacetime and throughout the evolution of an operation, and a standing ACO to provide airspace control in the event of surprise attack. **Peacetime airspace rules and organizations change during conflict**, and the nature of these changes differs from theater to theater. During military operations other than war (MOOTW), normal airspace control and air defense operations may be in place. **The ACP needs to provide simple and easy to follow instructions when transitioning from peacetime to combat operations.**

#### 2. Planning for Airspace Control in the Combat Zone

**Each operational area has specific operational requirements for combat zone airspace control.** These requirements must be determined as early as possible and incorporated in the overall joint force planning effort. Political constraints, national and military airspace management systems and procedures and their capabilities and limitations are important considerations. ROE, disposition of air defense weapons, fire support plans, and procedures for identification of US and multinational aircraft are also important items to consider. **Every joint/multinational force is different, and the forces assigned will have specific operational requirements for airspace. The following broad principles of planning** (see Figure III-1) **are essential to effective combat zone airspace control:**

a. **Interoperability.** Airspace control should be exercised in the joint and multinational environments during peacetime and in conflict. Planning for combat zone airspace control must include planning for interoperability of equipment, as well as personnel and terminology.

b. **Mass and Timing.** Planning for combat zone airspace control should include the aircraft traffic volume needed for the anticipated offensive operations and the timing constraints placed on those operations. Planning also should be fully integrated with the needs of air defense operations in order to respond quickly and with adequate force to counter enemy intrusion.

c. **Unity of Effort.** Liaison requirements, especially between joint force components and multinational forces should be identified and exercised prior to hostilities. Representatives from



**Figure III-1. Principles for Planning Airspace Control in the Combat Zone**

different components and coalition/multinational forces need to integrate information flow throughout the system and provide expertise to the designated combat zone ACAs.

d. **Integrated Planning Cycles.** The airspace planning cycle should be integrated with the overall planning cycle for the joint campaign or operation. Input from all organizations involved in the conflict must be consolidated, and the final ACP devised and disseminated to users in the ACO. The ACP can be added as an appendix to the operations annex to the joint force OPLAN or OPORD.

e. **Degraded Operations.** Plans should anticipate the effects of electronic warfare (EW), combat losses, and communications degradation on system operations. An effective combat zone ACS needs to plan for the full spectrum of communications from no degradation to full degradation. Plans also should consider the effects of weather and darkness.

### 3. Integration of Combat Zone Airspace Control and Civil Air Traffic Control Operations

Integration of combat zone airspace control and civil ATC is vital to successful joint/multinational air operations. **The ACP should provide procedures to fully integrate the resources of the military and civil ATC facilities responsible for terminal-area airspace control or en route air traffic control when required.** Civil ATC integration may require detailed negotiations through the State Department, or national and local ATC agencies. All ATC elements or their liaisons must be involved from the outset in planning and executing airspace management. They ensure airspace requirements are coordinated with and approved by the appropriate agencies. Elements may participate in the development and integration of a HN airspace infrastructure. ATC personnel may also provide planning, terminal, airspace information, and forward-area support services to aviation assets conducting nation assistance.

### 4. Integration of Combat Zone Airspace Control and Air Defense Operations

Integration of combat zone airspace control and air defense is also vital to successful joint/multinational air operations.

a. **Prioritization and integration of combat zone airspace control and air defense activities is essential.** Airspace control procedures will be used to assist in aircraft identification, facilitate engagement of enemy aircraft, and provide safe passage of friendly aircraft.

b. ROE and procedures must give air defense forces freedom to engage hostile aircraft and missiles, correctly identify friendly aircraft, limit delays in offensive operations, and prevent friendly fire. However, **procedures must be established in the ACP and promulgated in the ACO to allow identification of friendly aircraft, to prevent delays in offensive operations and friendly fire. These procedures need to be simple to execute for both aircrews and ground operations personnel** and may include visual, electronic, geographic, and/or maneuver means for sorting friend from foe. Air defense operations should not cause delays in air operations by creating an unnecessarily complicated or lengthy air route structure. ACMs should not unduly restrain surface-to-air weapons. Airspace control procedures objectives are shown in Figure III-2.

c. Air defense forces and systems are vulnerable to massed attacks across narrow frontages, therefore a flexible and adaptable ACP with well thought out airspace control procedures is essential to providing the JFC freedom of maneuver within the operational area. The procedures should allow coordinated employment of air, land, or maritime air defense systems against the threat, and use the inherent flexibility of air defense airborne platforms to mass forces to meet the enemy attackers.

## 5. Airspace Deconfliction and Joint Fires

**Close coordination is required to deconflict airspace use with the employment of joint fires.** Component fire support agencies establish FSCMs. Deconfliction of airspace and joint fires normally occurs during mission planning and FSCMs and ACMs are disseminated through command and fire support channels. Real-time coordination and deconfliction of airspace and joint fires with airspace control agencies and C2 nodes is often necessary in fluid situations.

*See JP 3-09, Joint Doctrine for Fire Support, for further detail.*

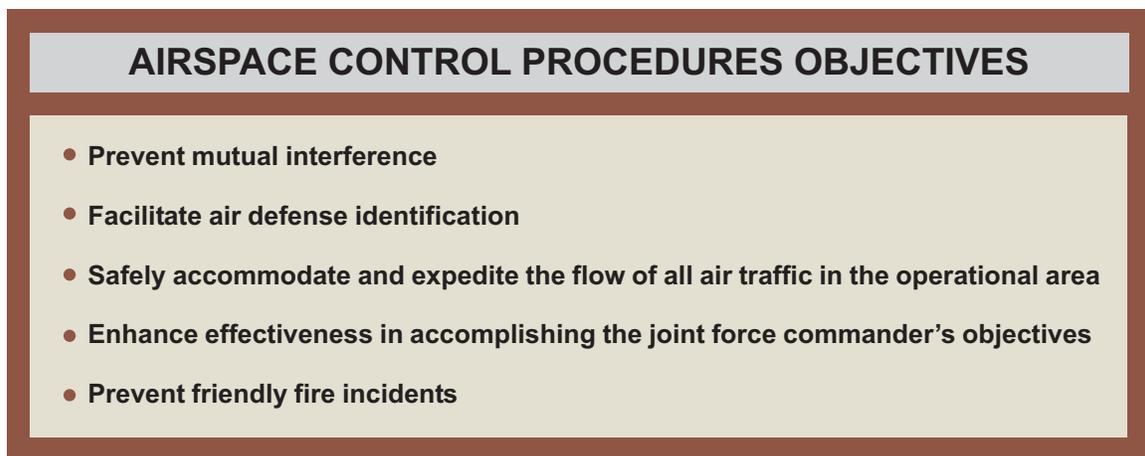


Figure III-2. Airspace Control Procedures Objectives

## 6. Methods of Airspace Control in the Combat Zone

The methods of airspace control vary throughout the range of military operations. They range from positive control of all air assets in an airspace control area to procedural control of all such assets, or any effective combination of the two. ACPs and systems need to accommodate these methods based on component, joint, and national capabilities and requirements. Positive control relies on radars, other sensors, identification, friend or foe (IFF)/selective identification feature (SIF), digital data links, and other elements of the air defense system to positively identify, track, and direct air assets. Procedural control relies on ACMs such as comprehensive air defense identification procedures and ROE, low level transit routes, minimum-risk routes (MRRs), aircraft identification maneuvers, FSCMs, coordinating altitudes, restricted operations zones/restrictive fire areas, standard use Army aircraft flight route, and high-density airspace control zones. Procedural ACMs are used for Army Tactical Missile Systems (ATACMS), Tomahawk land attack missiles (TLAMs), and other cruise missile systems. Examples include special corridors, surface-to-surface missile system measures, restricted operations areas, and altitude reservations. Figure III-3 summarizes positive and procedural methods of airspace control. A list of procedural ACMs with accompanying descriptions, discussion of uses, and considerations is contained in Appendix C, “Procedural Airspace Coordinating Measures.” **The airspace control structure needs to be responsive to evolving enemy threat conditions and changing tactical situations.** Enemy forces will attempt to degrade airspace control capabilities by direct attack and electronic measures.

## 7. Enemy Engagement Operations

Engaging enemy air vehicles with friendly air, land, and maritime assets must be fully coordinated to optimize all aspects of friendly combat power. This reduces uncoordinated simultaneous engagements, unengaged penetrators, and friendly fire.

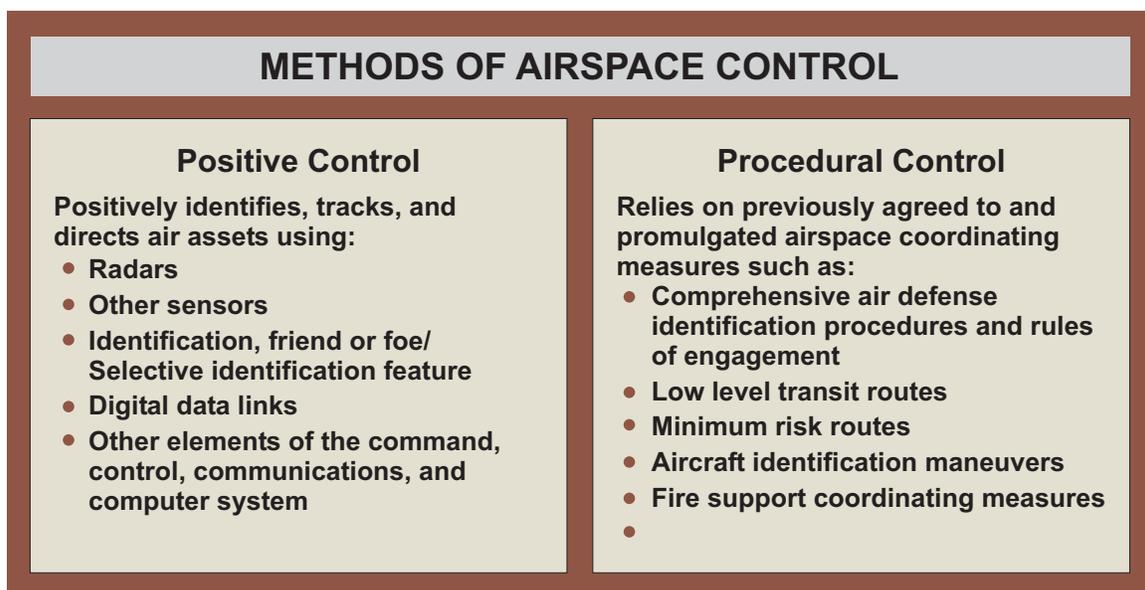


Figure III-3. Methods of Airspace Control

a. **Joint Engagement Zone (JEZ) Operations.** These operations involve the employment and integration of multiple air defense systems in order to simultaneously engage enemy targets in the operational area. Targets within the JEZ may be prioritized for engagement based on friendly weapons system strengths; for example, fighters could be designated to primarily engage enemy aircraft, while concurrently, surface-based missiles would be designated to primarily engage enemy missile threats in the same zone. However, **successful JEZ operations depend on correctly identifying friendly, neutral, and enemy aircraft.** Positive control may ensure that real-time engagement taskings are based on comprehensive situational awareness. Under procedural control, all air defense systems must be capable of accurately discerning between enemy, neutral, and friendly air vehicles in a highly complex environment before full joint engagement operations can occur. If these conditions cannot be met, separate zones for missile and fighter engagement should be established. **JEZ operations require effective C2.** Positive control is normally used within a JEZ during maritime operations.

b. **Fighter Engagement Zone (FEZ) Operations.** These operations usually take place above and beyond the range of surface-based (land and sea) air defenses. Effective FEZ operations are highly dependent on coordination and flexibility within the ACS in the combat zone. **FEZ operations enable the JFC to respond immediately with fighter assets** to an enemy air offensive regardless of its location. FEZ and missile engagement zone (MEZ) operations present the enemy with the dilemma of defending against two entirely different weapon systems, greatly decreasing enemy survivability. FEZ operations within the airspace control area should not result in undue restraints on the ability of surface-based air defense systems to engage the threat.

c. **MEZ Operations.** These operations are ideal for point defense of critical assets, protection of maneuver units in the forward area, and area coverage of rear operations. **MEZ operations offer the JFC the ability to engage the enemy with a high- and low-altitude, all-weather capability.** Advanced surface-to-air missile systems have long-range, high-firepower capability that can engage enemy aircraft beyond the forward line of own troops or disrupt massed enemy air attacks prior to committing fighter assets. Properly employed, **MEZ operations are effective across the full range of air defense operations and enemy threats. MEZ operations need to be designed to maximize the full range and capabilities of various systems.** MEZ operations within the airspace control area should not result in undue restraints on the flexibility and ability of friendly air assets to respond to changing enemy threats.

d. **Coordination for Engagement Operations.** The following general guidelines apply for coordination of engagement operations:

(1) For urgent or emergency combat situations, **the ACA can authorize deviations from established policies and procedures.** In these situations, all affected air defense assets and airspace users should be notified prior to authorizing deviations. The ACA and AADC also should be informed as soon as possible.

(2) When the circumstances of a contingency situation necessitate the rapid deployment and employment of forces for which there are no approved OPLAN or previously established ACPs, a

**temporary ACS** responsive to immediate tactical or operational requirements will be established.

e. **Combat Zone Airspace Control and Integration of Friendly EW and Suppression of Enemy Air Defenses (SEAD). The JFC will integrate EW and SEAD into the overall planning effort.** This integration could degrade the effectiveness of some combat zone airspace control assets, degrade some of the positive control aspects of the system, and reduce the capability to identify aircraft. Proper coordination of procedural control measures will compensate for this degradation. **Thorough planning is required** to preclude EW efforts from unduly degrading air defense and airspace control efforts.

### 8. Multinational Integration Issues

During multinational operations, international agreements, enemy and friendly force structures, commanders' CONOPS, and the operating environment will determine specific arrangements for airspace control. **Effective coordination between all multinational forces is essential to mission success and to avoid friendly fire.** All multinational aircraft involved in the operation should appear on the daily ATO to help ensure deconfliction and effective airspace control.

*See JP 3-16, Joint Doctrine for Multinational Operations, and Allied Joint Publication 3.3.5, Doctrine for Airspace Control in Times of Crisis and War, for more information regarding the responsibilities and requirements of ACSs during multinational operations.*

### 9. Unmanned Aerial Vehicles

Unmanned aerial vehicles (UAVs) may be operated in the airspace control area by each joint force component. **The established principles of airspace management used in manned flight operations will normally apply to UAV operations.** However, UAVs may be difficult to visually acquire and do not always provide a clear radar or electronic signature, presenting a potential hazard to other aircraft. Therefore, UAV operations require some special considerations in terms of airspace control and usage. Specific volumes of airspace need to be included in the ACO. Additionally, the ACO should provide times of activation of airspace for UAV operations (where a standing ACO is used, UAV operations are addressed in the ATO/SPINS). In cases where a standing ACO is used, specific details will be addressed in the ATO/SPINS. In either case, efforts should be made to integrate UAVs with manned flight operations to enable a more flexible and adaptable airspace structure.

### 10. Theater Missiles

Theater missiles (e.g. conventional air launched cruise missiles, ATACMS, and TLAM) are standoff weapons fired from a launch point on a pre-programmed flight profile to a designated target. Because these missiles have a small radar cross-section, they are difficult to track with normal radar units conducting theater airspace control. Therefore, positive control is not an effective means to deconflict theater missile operations from other air operations. **It is imperative that procedural ACMs be established in the ATO, ACO, or SPINS.** Procedural ACMs for

theater missiles normally include the establishment of restricted operations zones (ROZs) from launch point to target, air corridors, and time deconfliction.

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## CHAPTER IV

### AIRSPACE CONTROL FOR SPECIFIED MISSIONS

*“The way of the warrior is to master the virtue of his weapons.”*

**Miyamoto Musashi, *A Book of Five Rings***

#### 1. General

**A portion of airspace may be assigned to a commander to accomplish a specified mission or to facilitate decentralized execution.** This airspace control arrangement may be at the direction of the JFC or implemented in accordance with procedures contained in the ACP. In this situation, the commander becomes the control authority for the specified airspace area. **Under these circumstances the responsible commander must coordinate to ensure:**

- a. **Unity of effort** and minimizing interference along adjacent boundaries.
- b. **Agreement on procedures** for coordination of flight information, clearance of aircraft to enter and depart the airspace, and coordination of combat zone airspace control services.

#### 2. Combat Zone Airspace Control in Maritime Operations

a. In **joint maritime operations**, specific control and defensive measures may differ from those used in a land-based operation. The maritime commander may be designated the control authority for a specific airspace control area or sector for the accomplishment of a specific mission. The massing of maritime forces into a battle force of combined arms (air, surface, and subsurface) under a single commander reduces the front to be defended, enhances mutual support, and simplifies identification and deconfliction of friendly aircraft and other air defense measures. To ensure unity of effort and minimal interference along adjacent boundaries, **the commander responsible for maritime airspace control should coordinate with the ACA.**

b. In joint operations composed of **adjacent maritime and land environments**, specific control and defensive measures may be a composite of those measures normally employed in each environment. **The JFC for such operations needs to ensure detailed coordination of control and defensive measures with the affected air, land, and maritime component commanders.** The exchange of liaison personnel will facilitate coordination and lead to:

(1) Assignment of airspace allows the JFC to exercise C2 of forces, deconflict high volumes of different types of aircraft and missiles, and defend forces. **During maritime operations such as amphibious operations, the maritime component commander is normally designated the control authority for a specific airspace control area during amphibious operations.** The complexity and size of an amphibious operation directly determines the amount of airspace allocated.

(2) The level of air control allocated to the amphibious force depends on the degree of air control measures approved for the operation. **If only an area of operations is established,**

**the amphibious force may request that the ACA establish a high-density airspace control zone (HIDACZ) over this geographic area.** A HIDACZ is airspace designated in an ACP or ACO in which there is a concentrated employment of numerous and varied weapons and airspace users. Access is normally controlled by the maneuver commander who can direct a more restrictive weapons status within the designated area. The items shown below should be considered when establishing a HIDACZ.

- (a) Airspace control capabilities of the maritime force.
- (b) Procedures for expeditious movement of aircraft into and out of the HIDACZ.
- (c) Range and type of naval surface fire support available.
- (d) Coordination of fire support, as well as air defense weapons control orders or status within and in the vicinity of the HIDACZ.
- (e) Entry and exit routes and procedures into and out of the HIDACZ and to the target area.
- (f) Air traffic advisory as required. Procedures and systems must also be considered for ATC service during instrument meteorological conditions.
- (g) Location of enemy forces inside and in close proximity to the HIDACZ.
- (h) At a minimum, the HIDACZ should cover the amphibious task force (ATF) sea echelon areas and extend inland to the landing force's fire support coordination line. Additionally, the HIDACZ should be large enough to accommodate the flow of fixed-wing aircraft into and out of the amphibious airspace.

(3) Under the ATF, the Navy tactical air control center, is normally the agency responsible for controlling all air operations within the allocated airspace regardless of mission or origin, to include supporting arms. An airborne element or surface combatant with the requisite air C2 capabilities may also serve this function. Regardless of where actual airspace control is exercised, close and continuous coordination between airspace control and air defense agencies is essential in any amphibious operation. Emphasis will be placed on simple, flexible ATC plans and a combination of positive and procedural airspace control. Most amphibious operations will take place in a radar environment, allowing for increased control over air missions. There are three types of control: procedural, positive, and a combination of the two. Amphibious forces operating in a non-radar environment will rely exclusively on procedural control. Amphibious air control plans employ a combination of positive and procedural control methods.

*For further details on airspace control in amphibious operations, refer to JP 3-02, Joint Doctrine for Amphibious Operations.*

### 3. Airspace Control in the Combat Zone During Military Operations Other Than War

**Joint forces must be ready to undertake a variety of missions.** Because of the complexity of MOOTW operations, to include the greater interaction required between military forces and civilian agencies and organizations, airspace control planning becomes much more intensive, often requiring the establishment of detailed airspace control procedures. Depending on the environment, mission, and location throughout the range of military operations, **the degree of control may need to be rigorous and the ROE may be more restrictive.** This is especially true in a MOOTW or post combat operations environment that can transition quickly from combat to noncombat and back again. Consequently, as a minimum, in MOOTW environments prone to such fluctuations, **all air missions, including both fixed- and rotary-wing of all components, should appear on the appropriate ATO or flight plan, if an ATO is not produced.** In addition, **all aircraft must maintain contact with airspace control agencies and operate on designated IFF modes and codes,** which must be appropriately checked prior to mission start. **This type of rigorous control is necessary** because the mix of friendly, enemy, and neutral aircraft and mission constraints require the JFC to strictly control flights in the operational area. No matter what methods the JFC chooses, they need to be continually evaluated for effectiveness and efficiency as the environment and mission change.

a. **Foreign Internal Defense (FID).** Participation by civilian and military agencies of a government in any of the action programs taken by another government to free and protect its society from subversion, lawlessness, and insurgency.

(1) **Combat zone airspace control** in FID is based on air traffic regulations and control of civil and military airspace users. In FID, **the ATC system of the HN frequently provides the framework** upon which most of the combat zone airspace control function takes place. A theater air control system may or may not be established. The existing ACS may require some modification as the specific situation requires.

(2) **Bilateral and international agreements often establish obligations affecting the use of airspace** and the conduct of ATC activities by operational and civilian organizations. Any requested changes to or waivers of obligations imposed by these agreements or by HN law, as well as problems that result from restrictions to military operations, should be forwarded to the JFC and may be referred through diplomatic channels for resolution.

(3) **Procedural ACMs**, such as weapons-free zones, BDZs, air routes or transit routes, coordinating altitudes, and identification requirements, **may or may not be required.** Although the threat, friendly surface-to-air weapons systems, and density of friendly air operations are not as significant a consideration in FID as in higher intensity forms of combat, **effective control of the airspace remains as important as in any other military operation.** First consideration is given to national sovereignty and HN laws and procedures. If such procedures or capabilities are inadequate to support military operations, specialized training and/or ATC liaison should be conducted, or HN capabilities should be augmented by equipment, personnel, or both.

Augmentation is the least desirable course of action. **Wherever possible, the HN should solve its problems with its own resources**, thus reinforcing its sovereignty.

(4) **Airspace control in FID operations** primarily focuses on providing ATC services, coordinating military airspace requirements with HN civil air operations, and integrating and coordinating air operations with ground activities. Air traffic services may be expanded to provide greater positive control of airspace users.

**b. Peacekeeping Operations.** Peacekeeping operations are military operations undertaken with the consent of all major parties to a dispute, designed to monitor and facilitate implementation of an agreement and support diplomatic efforts to reach a long-term political settlement. Peacekeeping forces are interposed between two or more belligerents. This force may be composed of international contingents.

(1) **Terms of reference will govern participation in the peacekeeping mission.** They dictate how the airspace control function is accomplished and establish the policies and procedures governing the use of airspace. The fundamental consideration is that the airspace belongs to the belligerent entities involved. Use of that airspace by the peacekeeping force is governed by the terms of reference between the belligerents.

(2) **Airspace control activities in this environment are largely related to air traffic regulation and control.** Special identification procedures and air traffic regulation may require that all flight operations be planned and coordinated with the appropriate ATC systems of the nations involved. Adherence to International Civil Aviation Organization (ICAO) regulatory procedures must be considered.

**c. Antiterrorism.** Antiterrorism operations will overlap all aspects of military operations to some degree. Antiterrorism measures can have an impact on airspace management and on the operations of air terminals, aerial ports, airfields, and heliports. The use of restricted and/or prohibited areas around sensitive facilities is commonplace.

**d. Other Types of MOOTW. Joint forces may be called on to participate in operations to resolve situations that involve US security for intelligence missions, raids, rescue missions, or other limited uses of military forces.** In these operations it may not be possible to implement some of the airspace control procedures described in this publication. When conducting these missions, joint forces may encounter opposing military forces whose capabilities and potential for hostilities vary widely, so the airspace control function will have to vary accordingly. **Planning for these operations, however informal or brief, should include:**

(1) **Deconfliction** between units and aircraft performing the military mission and other types of air traffic.

(2) **Timely and effective implementation** of appropriate airspace control procedures if hostilities ensue.

#### 4. Urban Operations

Combat operations occurring within the urban environment present unique airspace challenges. **Urban operations often necessitate more stringent ROE and a greater tendency for positive (vice procedural) control.** Concerns regarding collateral damage due to the significant potential for noncombatants in the area, coupled with the increased requirements for force protection/antiterrorism measures may be the driving force behind revised airspace control procedures.

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## APPENDIX A

### AIRSPACE CONTROL PLAN DEVELOPMENT

#### 1. Purpose

This appendix provides an example of the topics that should be considered when developing an ACP.

#### 2. Airspace Control Plan Topics

Every ACP will be different and must be based on the objectives of the military operations, the capabilities and limitations of both friendly and enemy forces, and the contributions and complexities introduced by HN and multinational forces, as well as the access required to the airspace by nonbelligerent aircraft. ACP topics include:

a. Description of the conditions under which the guidance and procedures in the ACP are applicable (e.g., the exercise, OPLAN, OPORD, military operation).

b. Description of the operational area within which the ACP applies.

c. Appointment of the ACA; location of ACA headquarters (HQ) (if required).

d. List of the capabilities that exist within the joint force and in the operational area that provide airspace control (ground sites, airborne capability) and the means of communicating with those airspace control elements.

e. Description of the duties and responsibilities of:

(1) The ACA.

(2) Each airspace user within the joint force (to include requirements for liaison to and coordination with the ACA).

(3) Each element used in the ACS (site, facility, or airborne platform) and agency specific duties. The plan should delineate whether the agency provides procedural or positive control and its assigned sector.

f. Description of the interface between commanders and coordination elements and the procedures adopted to coordinate and deconflict air defense and operational requirements.

g. Description of the interface with the Federal Aviation Administration, HN ATC System, and/or ICAO.

h. Description of the interface among the tactical air control system(s) and the elements within those systems for ATC.

i. If operations include forces from other nations, description of the interfaces between US and multinational forces to coordinate and deconflict airspace requirements.

j. Plans to provide for continuity of airspace control operations under degraded conditions (alternate HQ, alternatives for key radar or C2 nodes, and other required capabilities).

k. Description of the positive ACMs and procedures for the joint force.

l. Description of the procedures to propose, approve, modify, and promulgate each procedural ACM available for use within the operational area (i.e., HIDACZ, JEZ, FEZ, MEZ, MRR, coordinating altitude, air refueling tracks, corridors, ROZs, and other appropriate procedures).

m. Description of IFF/SIF procedures.

n. Description of orbit procedures with retrograde plans.

o. Description of procedures and systems to compile and promulgate the ACO that provides airspace control procedures and/or guidance in effect for a specified time period. The ACO would normally contain:

(1) Modifications to guidance and/or procedures contained in the ACP.

(2) Active or current IFF/SIF procedures.

(3) Location and procedures associated with active procedural ACMs (HIDACZ, JEZ, FEZ, MEZ, MRR, coordinating altitude, corridors, ROZs, and other appropriate procedures).

(4) Procedures for entering and transiting active ROZs (e.g., AOA).

(5) Location of active orbit areas.

(6) Active UAV launch, recovery, and mission areas.

(7) Launch and impact ROZs for surface-to-surface missiles.

(8) FSCMs, both restrictive and permissive (e.g., fire support coordination lines, no-fire areas, restrictive-fire areas, free-fire areas).

(9) Applicable ground force control measures (e.g., battle positions, engagement areas, air axes of advance).

*For further implementation guidance on ACOs, refer to JIEO Circular 9152, Repository of USMTF Program Items for US Implementation Guidance.*

p. Description of the interface with agencies/commands providing intertheater air mobility support for the purpose of coordinating and distributing airspace control information/procedures.

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## APPENDIX B

### AIRSPACE CONTROL ORDER DEVELOPMENT

1. While the ACP provides general guidance on the airspace control function, the ACO implements airspace control procedures for specified time periods and is distributed as part of the ATO or as a separate document. Normally, the ACO is published and distributed daily and contains activated airspace measures and/or procedures published in the ACP. The ACO activates and deactivates procedural control measures and updates positive control measures.

2. Procedures for developing and updating the ACO are included in the ACP. Normally, component commanders consolidate, deconflict, and forward their airspace requests to the ACA by a specified time for further consolidation with other inputs. All inputs are integrated and conflicts among the components are resolved. Planners should be aware that not all information that goes into the ACO is the result of a request for airspace. Guidance should be given, depending on the level and the number of forces in theater, on what other information should be included, e.g. FSCMs and other control measures.

3. The JFC may elect to delegate specific authority for airspace control to the component commanders through ACP guidelines. The JFC may also elect to task the component commanders to generate individual ACOs for their assigned sectors. Regardless, the ACA is tasked with providing continuity along sector boundaries and ensuring integration of each sector authority's ACO within the ACP guidelines.

4. The ACA remains responsible for airspace control for the entire operational area. The decision to develop a single ACO or multiple ACOs will be situation-dependent. Normally, a single ACO is used.

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**APPENDIX C**  
**PROCEDURAL AIRSPACE COORDINATING MEASURES**

- Annex A Airspace Control Request Representative Format
- B Airspace Coordinating Measures

## PROCEDURAL AIRSPACE COORDINATING MEASURES

Guidance for formatting an airspace control request is provided in Annex A, “Airspace Control Request Representative Format.” ACMs are in Figure C-B-1 in Annex B, “Airspace Coordinating Measures.” The figure provides a description of the coordinating measures and, where necessary, the uses and planning considerations for each. This figure is provided to aid in developing airspace control requests, orders, and plans. The description for each coordinating measure is extracted from JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*, MIL-STD-6040, *US Message Text Formatting Program*, or Allied Tactical Publication-40(B), *Doctrine for Airspace Control in Times of Crisis and War*.

**ANNEX A TO APPENDIX C**  
**AIRSPACE CONTROL REQUEST REPRESENTATIVE FORMAT**

TO:

FROM:

SUBJECT: Request for Airspace

- (A) Airspace Coordinating Measure Requested
- (B) Location (Lat/Long)
- (C) Altitude(s)
- (D) Valid/Void Times (normally ZULU)
- (E) Type Aircraft/Mission
- (F) Controlling Agency
- (G) Comments

NOTE: This format is representative of the appropriate USMTF. Refer to MIL-STD-6040, *US Message Text Formatting Program*, and associated directives for detailed instructions.

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**ANNEX B TO APPENDIX C**  
**AIRSPACE COORDINATING MEASURES**

| <b>AIRSPACE COORDINATING MEASURES</b>                         |        |
|---|--------|
| <b>AIR DEFENSE AREA (ADAREA)<br/>(Mapped Usages)</b>          |        |
| Air Defense Identification Zone                               | ADIZ   |
| Base Defense Zones  | BDZ    |
| High Density Airspace Control Zones                           | HIDACZ |
| High-Altitude Missile Engagement Zone                         | HIMEZ  |
| Joint Engagement Zone   | JEZ    |
| Joint Operational Area  | JOA    |
| Land Fighter Engagement Zone                                  | LFEZ   |
| Land Missile Engagement Zone                                  | LMEZ   |
| Low-Altitude Missile Engagement Zone                          | LOMEZ  |
| Short-Range Air Defense Engagement Zone                       | SHORAD |
| Weapons Free Zone   | WFZ    |
| <b>AIR DEFENSE OPERATIONS AREA (ADOA)<br/>(Mapped Usages)</b> |        |
| Air Defense Action Area                                       | ADAA   |
| Amphibious Defense Zone                                       | ADZ    |
| Amphibious Operations Area                                    | AOA    |
| Approach Corridor   | APPCOR |
| Coordinated Air Defense Area                                  | CADA   |
| Carrier Control Zone  | CCZONE |
| Crossover Zone  | COZ    |
| Fire Umbrella   | FIRUB  |
| Falcon Radials  | FRAD   |
| Identification Safety Range                                   | ISR    |
| Maritime Fighter Engagement Zone                              | MFEZ   |
| Missile Arc   | MISARC |
| Maritime Missile Engagement Zone                              | MMEZ   |
| Positive Identification Radar Advisory Zone                   | PIRAZ  |
| Return to Force   | RTF    |
| Safety Sector   | SAFES  |
| Ship Control Zone   | SCZ    |

**Figure C-B-1. Airspace Coordinating Measures**

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b>         |        |
|--|--------|
| <b>AIR TRAFFIC CONTROL (ATC)<br/>(Mapped Usages)</b>   |        |
| Advisory Route   | ADVRTE |
| Airway   | ARWY   |
| Conditional Route                                      | CDR    |
| Class-A Airspace                                       | CLSA   |
| Class-B Airspace                                       | CLSB   |
| Class-C Airspace                                       | CLSC   |
| Class-D Airspace                                       | CLSD   |
| Class-E Airspace                                       | CLSE   |
| Class-F Airspace                                       | CLSF   |
| Class-G Airspace                                       | CLSG   |
| Control Zone   | CONTZN |
| Crossover Zone   | COZ    |
| Control Area   | CTA    |
| Danger Area  | DA     |
| Flight Information Region                              | FIR    |
| Area Navigation Route                                  | NAVRTE |
| Prohibited Area  | PROHIB |
| Restricted Area  | RA     |
| Terminal Area Control                                  | TCA    |
| Terminal Radar Service Area                            | TRSA   |
| Warning Area   | WARN   |
| <b>AIR CORRIDOR/ROUTE (CORRTE)<br/>(Mapped Usages)</b> |        |
| Air Corridor   | AIRCOR |
| Air Route  | AIRRTE |
| Minimum Risk Route                                     | MRR    |
| Standard Army Aircraft Flight Route                    | SAAFR  |
| Special Corridor                                       | SC     |
| Safe Lane  | SL     |
| Transit Corridor                                       | TC     |
| Temporary Minimum Risk Route                           | TMRR   |
| Transit Route  | TR     |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b>       |        |
|--|--------|
| <b>PROCEDURAL CONTROL (PROC)<br/>(Mapped Usages)</b> |        |
| Airspace Coordination Area                           | ACA    |
| Altitude Reservations                                | ALTRV  |
| Boundary   | BNDRY  |
| Coordinated Fire Line                                | CFL    |
| Coordination Level                                   | CL     |
| Deep Battle Synchronization Line                     | DBSL   |
| Forward Edge of the Battle Area                      | FEBA   |
| Free Fire Area                                       | FFA    |
| Forward Line of Own Troops                           | FLOT   |
| Fire Support Coordination Line                       | FSCL   |
| IFF Switch Off Line                                  | IFFOFF |
| IFF Switch On Line                                   | IFFON  |
| Restricted Fire Area                                 | RFA    |
| Restricted Fire Line                                 | RFL    |
| Safe Area for Evasion                                | SAFE   |
| Traverse Level                                       | TL     |
| <b>REFERENCE POINT (REFPT)<br/>(Mapped Usages)</b>   |        |
| Air Control Point                                    | ACP    |
| Bulls-Eye Points                                     | BULL   |
| Contact Point  | CP     |
| Entry/Exit Gate                                      | EG     |
| Hand Over Gate                                       | HG     |
| Identification Safety Point                          | ISP    |
| Marshalling Gate                                     | MG     |
| Search and Rescue Point                              | SARDOT |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b>              |       |
|---|-------|
| <b>RESTRICTED OPERATIONS ZONE (ROZ)<br/>(Mapped Usages)</b> |       |
| Air-to-Air Refueling Area                                   | AAR   |
| Airborne Command and Control Area                           | ABC   |
| Airborne Early Warning                                      | AEW   |
| Combat Air Patrol   | CAP   |
| Close Air Support Holding Area                              | CASHA |
| Drop Zone   | DZ    |
| Electronic Combat   | EC    |
| Landing Zone  | LZ    |
| No Fire Area  | NFA   |
| Pickup Zone   | PZ    |
| Reconnaissance Area   | RECCE |
| Restricted Operations Area                                  | ROA   |
| Special Electronic Mission Area                             | SEMA  |
| Special Operations Forces                                   | SOF   |
| Training Area   | TRNG  |
| Unmanned Aerial Vehicle                                     | UAV   |
| <b>SPECIAL USE AIRSPACE (SUA)<br/>(Mapped Usages)</b>       |       |
| Airspace Control Subarea/Sector                             | ACSS  |
| Alert Area  | ALETA |
| Airspace Control Area                                       | ASCA  |
| Force Air Coordination Area                                 | FACA  |
| Forward Arming and Refueling Point                          | FARP  |
| Forward Operations Location                                 | FOL   |
| Military Operation Area                                     | MOA   |
| No Fly Area   | NOFLY |
| No Fire Area  | NFA   |
| Surface-to-Surface Missile System                           | SSMS  |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |   |  |
|--|---|--|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>  | <b>USES/PLANNING CONSIDERATIONS</b>  |
| Advisory Route (ADV RTE)                       | A designated route along which air traffic advisory service is available.   |  |
| Aerial Air Refueling Area (AAR)                | Airspace of defined dimensions set aside for aerial refueling operations, excluding special operations forces (SOF) aerial air refueling missions. (MIL-STD-6040)   | AAR tracks are typically set up in a race track configuration.   |
| Airborne Command and Control Area (ABC)        | Airspace of defined dimensions established specifically for airborne platforms conducting battlefield command and control. Generally, it is designed for aircraft such as the Airborne and Warning Control System (AWACS) or the Joint Surveillance Target Attack System (JSTARS). (MIL-STD-6040) |  |
| Airborne Early Warning Area (AEW)              | Airspace of defined dimensions established specifically for airborne platforms conducting airborne early warning. Generally, it is designed for aircraft such as the Airborne Warning and Control Systems, E-2C and E-3. (MIL-STD-6040)   |  |
| Air Control Point                              | A point defined by latitude and longitude used for navigation, command and control, and communication. A series or matrices of points may be used to designate a route structure such as spider routes (search and rescue routes) or minimum-risk routes. (MIL-STD-6040)                          | Unmanned aerial vehicle (UAV) routing is normally accomplished through existing air control points.  |
| Air Corridor (AIRCOR)                          | A restricted air route of travel specified for use by friendly aircraft and established for the purpose of preventing friendly aircraft from being fired on by friendly forces. (JP 1-02)   | Air corridor procedures are used to route aviation combat elements between such areas as forward arming and refueling points, holding areas, and battle positions. Altitudes of an air corridor do not exceed the coordinating altitude, if established. |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |   |   |
|--|---|---|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>  | <b>USES/PLANNING CONSIDERATIONS</b>   |
| Air Corridor (cont'd)                          |   | If a coordinating altitude has been established, an air corridor is implemented by the using authority. If a coordinating altitude has not been established, an air corridor is established by the airspace control authority (ACA) at the request of the appropriate ground commander.   |
| Air Defense Action Area (ADAA)                 | An area and the airspace above it within which friendly aircraft or surface-to-air weapons are normally given precedence in operations except under specified conditions. (JP 1-02) | An ADAA is used for preference of a specific weapon system over another without excluding the other from use under certain operational conditions. From an airspace control perspective, it provides airspace users with the location of air defense areas for mission planning purposes.   |
| Air Defense Identification Zone (ADIZ)         | Airspace of defined dimensions within which the ready identification, location, and control of airborne vehicles are required. (JP 1-02)  | Associated with nations or areas of operation, the ADIZ is normally the transition between procedural control areas (outside) and the positive control areas (inside). Typically, ADIZ is used for sovereign national boundaries, or in the case of areas of operations, for identification in the rear areas.<br><br>See flight information publications/ International Civil Aviation Organization for theater-specific ADIZ and associated procedures and limitations. |
| Airspace Control Area                          | Airspace that is laterally defined by the boundaries of the operational area. The airspace control area may be subdivided into airspace control sectors. (JP 1-02)                  | Airspace control areas are a means of planning or dividing responsibility.<br><br>Geographically defined, an airspace control area may include political boundaries.  |
| Air Route (AIRRTE)                             | Established to route non-operational and operational support traffic through air defenses. For further US implementation guidance, see JIEO Circular 9152, Item 40.                 |   |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |  |   |
|--|--|---|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>   | <b>USES/PLANNING CONSIDERATIONS</b>   |
| Airspace Control Sector                        | A subelement of the airspace control area, established to facilitate the control of the overall area. Airspace control sector boundaries normally coincide with air defense organization subdivision boundaries. Airspace control sectors are designated in accordance with procedures and guidance contained in the airspace control plan in consideration of Service component, host-nation, and multinational airspace control capabilities and requirements. (JP 1-02) | <p>An airspace control sector provides airspace control of an area by a component or other airspace control-capable entity best able to provide control in that geographic area.</p> <p>An airspace control sector interface with the airspace control system needs to be developed.</p> <p>Airspace control sectors are designated by the ACA in consideration of joint force component, host-nation, and multinational airspace control capabilities and requirements.</p>  |
| Airspace Coordination Area (ACA)               | A three-dimensional block of airspace in a target area, established by the appropriate ground commander, in which friendly aircraft are reasonably safe from friendly surface fires. The airspace coordination area may be formal or informal. (JP 1-02)   | <p>An airspace coordination area is used primarily in close air support situations for high-volume fire. Friendly aircraft are reasonably free from friendly surface fires, with artillery, helicopters, and fixed-winged aircraft given specific lateral or vertical airspace within which to operate.</p> <p>Timely implementation of the area is dependent on the ground situation. Burden of deconfliction rests with the ground commander.</p> <p>It is established by the appropriate ground commander.</p> <p>For further US implementation guidance, see joint interoperability engineering organization (JIEO) Circular 9152, items 34 and 35.</p> |
| Air Traffic Service Route (ATS RTE)            | A specified route for channeling the flow of traffic as necessary for the provision of air traffic services.   |   |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |   |  |
|--|---|--|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>  | <b>USES/PLANNING CONSIDERATIONS</b>  |
| Airway (ARWY)                                  | A control area or portion thereof established in the form of a corridor marked with radio navigational aids. (JP 1-02)  | For further US implementation guidance, see JIEO Circular 9152, Item 50.   |
| Alert Area (ALERTA)                            | Airspace which may contain a high volume of pilot training activities or an unusual type of aerial activity, neither of which is hazardous to aircraft. (MIL-STD-6040)  | For further US implementation guidance, see JIEO Circular 9152, item 50.   |
| Altitude Reservations (ALTRV)                  | A block of altitude reserved for aircraft to transit or loiter. (MIL-STD-6040)  | For further US implementation guidance, see JIEO Circular 9152, items 34 and 40.   |
| Amphibious Defense Zone (ADZ)                  | An area encompassing the amphibious objective area and adjoining airspace as required for the accompanying naval force for the purpose of air defense.  | An ADZ provides an anti-air warfare area for protection of the amphibious task force. If an amphibious defense zone overlaps other land-based air defense areas, appropriate coordination for division of responsibilities and boundaries must be conducted. For further US implementation guidance, see JIEO Circular 9152, item 34. (MIL-STD-6040)   |
| Amphibious Objective Area (AOA)                | A geographical area (delineated for command and control purposes in the order initiating the amphibious operation) within which is located the objective(s) to be secured by the amphibious force. This area must be of sufficient size to ensure accomplishment of the amphibious force's mission and must provide sufficient area for conducting necessary sea, air, and land operations. (JP 1-02) | It allows the Commander, Amphibious Task Force freedom of air operations within the AOA.<br><br>Coordination with nonorganic aircraft for entry into and exit from the AOA, and deconfliction within the AOA with operations just outside the AOA normally requires the continuous, active involvement of the affected commanders and staffs.<br><br>For further US implementation guidance, see JIEO Circular 9152, items 34, 35, and 40. |
| Approach Corridor (APPCOR)                     | Airspace established for the safe passage of land-based aircraft joining or departing a maritime force. (MIL-STD-6040)  | For further US implementation guidance, see JIEO Circular 9152, item 40.   |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |  |   |
|--|--|---|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>   | <b>USES/PLANNING CONSIDERATIONS</b>   |
| Area Navigation Route (NAVRTE)                 | An air traffic services route established for the use of aircraft capable of employing area navigation.  |   |
| Base Defense Zone (BDZ)                        | An air defense zone established around an air base and limited to the engagement envelope of short-range air defense weapons systems defending that base. Base defense zones have specific entry, exit, and identification, friend or foe procedures established. (JP 1-02)                      | A BDZ provides airspace users with location of the engagement zone for the air defense systems defending a base for mission planning purposes.<br><br>For further US implementation guidance, see JIEO Circular 9152, items 34, 35, and 40. |
| Buffer Zone (BZ)                               | Airspace designed specifically to provide separation between various airspace control measures. (MIL-STD-6040)   |   |
| Bullseye (BULL)                                | An established reference point from which the position of an object can be referenced. (JP 1-02)<br>A reference point from which bearing and distance are given. (MIL-STD-6040)  |   |
| Carrier Control Zone (CCZONE)                  | An area activated around a ship operating aircraft, which is not to be entered by friendly aircraft without permission. See ship control zone. (ATP-40(B))   |   |
| Class-A Airspace (CLSA)                        | Generally, airspace from 18,000 feet mean sea level (MSL) up to and including flight level 600, including airspace overlying the waters within 12 nautical miles of the contiguous states and Alaska. Visual Flight Rules (VFR) operations are not permitted in Class A airspace. (MIL-STD-6040) | For further US implementation guidance, see JIEO Circular 9152, item 50.  |
| Class-B Airspace (CLSB)                        | Generally, airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports in terms of airport operations or passenger enplanements. ATC provides separation between all aircraft inside Class B airspace. (MIL-STD-6040)   | For further US implementation guidance, see JIEO Circular 9152, item 50.  |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |   |  |
|--|---|--|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>  | <b>USES/PLANNING CONSIDERATIONS</b>                                      |
| Class-C Airspace (CLSC)                        | Generally, airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by radar approach control, and that have a certain number of instrument flight rules (IFR) operations or passenger enplanements. ATC provides separation between VFR and IFR inside Class C airspace. (MIL-STD-6040)  | For further US implementation guidance, see JIEO Circular 9152, item 50. |
| Class-D Airspace (CLSD)                        | Generally, airspace from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration of each Class D airspace is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures. Prior to entering Class D airspace, two-way radio communication must be established and maintained with the ATC facility providing air traffic service. (MIL-STD-6040) | For further US implementation guidance, see JIEO Circular 9152, item 50. |
| Class-E Airspace (CLSE)                        | Generally, if the airspace is not class A, B, C, or D and it is controlled airspace, it is class E airspace. Also includes federal airways. (MIL-STD-6040)  | For further US implementation guidance, see JIEO circular 9152, item 50. |
| Class F Airspace (CLSF)                        | An airspace in which instrument flight rule and visual flight rule flights are permitted; all participating instrument flight rule flights receive an air traffic advisory service and all flights receive flight information service if requested. Other nations may use ICAO or their own definition of Class-F airspace.   | For further US implementation guidance, see JIEO Circular 9152, item 50. |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |   |  |
|--|---|--|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>  | <b>USES/PLANNING CONSIDERATIONS</b>                                      |
| Class G Airspace (CLSG)                        | An airspace in which instrument flight rule and visual flight rule flights are permitted; all flights receive flight information service if requested. Other nations may use ICAO or their own definition of Class-G airspace.        | For further US implementation guidance, see JIEO Circular 9152, Item 50. |
| Close Air Support (CAS) Holding Area (HA)      | Airspace designed for holding orbits and used by rotary- and fixed-wing aircraft which are in close proximity to friendly forces. (MIL-STD-6040)  | For further US implementation guidance, see JIEO Circular 9152, item 56. |
| Combat Air Patrol (CAP)                        | An anti-air warfare activity conducted in support of air operations.  | For further US implementation guidance, see JIEO Circular 9152, Item 35. |
| Conditional Routes (CDR)                       | A non-permanent air traffic service route or portion thereof which can be planned and used only under certain conditions.   |  |
| Contact Point (CP)                             | In air operations, the position at which a mission leader makes radio contact with an air control agency. (JP 1-02)<br><br>A point which is used for control purposes in air refueling and close air support missions. (MIL-STD-6040) |  |
| Control Area (CTA)                             | A controlled airspace extending upwards from a specified limit above the earth.   |  |
| Control Zone (CONTZN)                          | A controlled airspace extending upwards from the surface of the Earth to a specified upper limit. (JP 1-02)   |  |
| Coordinated Air Defense Area (CADA)            | A mutually defined block of airspace between a land-based air commander and a naval commander when their forces are operating in close proximity to one another.  | For further US implementation guidance, see JIEO Circular 9152, Item 40. |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |  |  |
|--|--|--|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>   | <b>USES/PLANNING CONSIDERATIONS</b>  |
| Coordinating Altitude                          | A procedural method to separate fixed- and rotary-wing aircraft by determining an altitude below which fixed-wing aircraft normally will not fly. (MIL-STD-6040)   | For further US implementation guidance, see JIEO Circular 9152, item 40.   |
| Crossover Zone (COZ)                           | Airspace beyond the missile engagement zone into which fighters may pursue targets to complete interception. (MIL-STD-6040)  | For further US implementation guidance, see JIEO Circular 9152, item 40.   |
| Danger Area (DA)                               | An airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times.  |  |
| Drop Zone (DZ)                                 | Airspace of defined dimensions which is set aside specifically for air drops. This zone can include single or multiple drop sites. (MIL-STD-6040)<br><br>A specific area upon which airborne troops, equipment or supplies are airdropped. (JP 1-02) | For further US implementation guidance, see JIEO Circular 9152, item 57.   |
| Entry/Exit Gate (EG)                           | The point to which an aircraft will be directed to commence the transit inbound/outbound from an airfield or force at sea. (MIL-STD-6040) (ATP-40(B))  | For further US implementation guidance, see JIEO Circular 9152, item 40.   |
| Falcon Radials (FRAD)                          | Planned magnetic bearings along which aircraft depart or return to aviation-capable ships. (MIL-STD-6040)  | Falcon radials provide tracking, control, and assistance to friendly aircraft within the anti-air warfare surveillance area of the battle group.<br><br>For further US implementation guidance, see JIEO Circular 9152, item 34. |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |  |  |
|--|--|--|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>   | <b>USES/PLANNING CONSIDERATIONS</b>  |
| Fighter Engagement Zone (FEZ)                  | In air defense, that airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with fighter aircraft. (JP 1-02)  | <p>These operations usually take place in airspace above and beyond the engagement ranges of surface-based (land and sea), short-range air defense systems, and are an alternative type of engagement operation if the detailed control aspects of joint engagement operations cannot be met.</p> <p>A FEZ normally is used when fighter aircraft have the clear operational advantage over surface-based systems. These advantages could include range, density of fire, rules of engagement, or coordination requirements. From an airspace control perspective, it provides airspace users with location of the engagement zone for fighter aircraft for mission planning purposes.</p> <p>Coordination and flexibility within the combat airspace control system may be a limiting factor. Under FEZ operations, surface-to-air missile systems will not be allowed to fire weapons unless targets are positively identified as hostile and assigned by higher authority, or unless they are firing in self defense.</p> |
| Fire Umbrella (FIRUB)                          | The airspace over a naval force at sea within which the fire of ships' anti-aircraft weapons can endanger aircraft, and within which special procedures are established for identification and operation of friendly aircraft. | For further US implementation guidance, see JIEO Circular 9152, item 34.   |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b>   |  |   |
|--|--|---|
| <b>COORDINATING MEASURE</b>  | <b>DEFINITION/ DESCRIPTION</b>   | <b>USES/PLANNING CONSIDERATIONS</b>   |
| Fleet Air Defense Identification Zone (FADIZ) (formerly Positive Identification Radar Advisory Zone) | An area within which Navy ships distinguish friendly from hostile aircraft.  | A FADIZ provides tracking, control, and assistance to friendly aircraft within the anti-air warfare surveillance area of the battle group.<br><br>For further US implementation guidance, see JIEO Circular 9152, items 34 and 35.  |
| Flight Information Region (FIR)  | Airspace of defined dimensions within which flight information service and alerting service is provided to aircraft operating within its boundaries.   | For further US implementation guidance, see JIEO Circular 9152, Item 50.  |
| Force Air Coordination Area  | An area surrounding a force within which air coordination measures are required to prevent mutual interference between all friendly surface and air units and their weapon systems. (MIL-STD-6040) |   |
| Hand-Over Gate (HG)  | The point at which the control of the aircraft, if radar hand-over is used, changes from one controller to another. (MIL-STD-6040/ATP 40(B))   | For further US implementation guidance, see JIEO Circular 9152, items 35 and 40.  |
| High-Altitude Missile Engagement Zone (HIMEZ)  | In air defense, that airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with high-altitude surface-to-air missiles. (JP 1-02)             | HIMEZ normally is used when a high-altitude missile system has a clear operational advantage over using aircraft. These advantages could include range, command and control, rules of engagement, or response time. It provides airspace users with location of the engagement zone of a high-altitude missile system for mission planning purposes.<br><br>Design of the HIMEZ is contingent on specific weapon system capabilities.<br><br>For further US implementation guidance, see JIEO Circular 9152, item 40. |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |   |   |
|--|---|---|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>  | <b>USES/PLANNING CONSIDERATIONS</b>   |
| High-Density Airspace Control Zone (HIDACZ)    | Airspace designated in an airspace control plan or airspace control order, in which there is a concentrated employment of numerous and varied weapons and airspace users. A high density airspace control zone has defined dimensions, which usually coincide with geographical features or navigational aids. Access to a high density airspace control zone is normally controlled by the maneuver commander. The maneuver commander can also direct a more restrictive weapons status within the high density airspace control zone. (JP 1-02) | <p>HIDACZ allows ground/Marine air-ground task force commanders to restrict a volume of airspace from users not involved with ongoing operations. It restricts use of the airspace because of the large volume and density of fires supporting the ground operations within the described geographic area.</p> <p>The volume of air traffic demands careful coordination to limit the potential conflict among aircraft needed for mission essential operations within the HIDACZ and other airspace users. When establishing a HIDACZ, consider the following:</p> <ol style="list-style-type: none"> <li>(1) Minimum-risk routes (MRR) into and out of the HIDACZ and to the target area.</li> <li>(2) Air traffic advisory as required. Procedures and systems also must be considered for air traffic control (ATC) service during instrument meteorological conditions.</li> <li>(3) Procedures for expeditious movement of aircraft into and out of the HIDACZ.</li> <li>(4) Coordination of fire support, as well as air defense weapons control orders or status within and in the vicinity of the HIDACZ.</li> <li>(5) Location of enemy forces inside of and within close proximity to the HIDACZ.</li> </ol> |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b>               |   |   |
|--|---|---|
| <b>COORDINATING MEASURE</b>                                  | <b>DEFINITION/ DESCRIPTION</b>  | <b>USES/PLANNING CONSIDERATIONS</b>   |
| High-Density Airspace Control Zone (HIDACZ) (cont'd)         |   | HIDACZ is nominated by the ground commander and approved by the ACA.<br><br>For further US implementation guidance, see JIEO Circular 9152, items 34, 35, and 40.   |
| Identification Safety Point (ISP)                            | A point at which aircraft, on joining a maritime force, will attempt to establish two-way communications with the surface force and commence identification procedures. (MIL-STD-6040)  | For further US implementation guidance, see JIEO Circular 9152, item 40.  |
| Identification Safety Range (ISR)                            | The minimum range to which an aircraft may close to a maritime force without having been positively identified as friendly. (MIL-STD-6040)<br><br>The minimum range to which aircraft may close to a maritime force without having been positively identified as friendly. (ATP-40(B))  | For further US implementation guidance, see JIEO Circular 9152, item 40.  |
| Identification, Friend or Foe (IFF) Switch Off Line (IFFOFF) | The line demarking where friendly aircraft stop emitting an IFF signal. (MIL-STD-6040)  | For further US implementation guidance, see JIEO Circular 9152, item 40.  |
| IFF Switch On Line (IFFON)                                   | The line demarking where friendly aircraft start emitting an IFF signal. (MIL-STD-6040)   | For further US implementation guidance, see JIEO Circular 9152, item 40.  |
| Joint Engagement Zone (JEZ)                                  | In air defense, that airspace of defined dimensions within which multiple air defense systems (surface-to-air missiles and aircraft) are simultaneously employed to engage air threats. (JP 1-02)<br><br>Airspace in which friendly surface-to-air missiles and fighters are simultaneously employed and operated. (MIL-STD-6040) | A JEZ provides airspace users with a location for mission planning purposes.<br><br>JEZs are highly dependent on correct differentiation between friendly, neutral, and enemy aircraft.<br><br>For further US implementation guidance, see JIEO Circular 9152, items 34 and 35. |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |   |   |
|--|---|---|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>  | <b>USES/PLANNING CONSIDERATIONS</b>                                     |
| Joint Operations Area (JOA)                    | Area of land, sea, and airspace, defined by a geographic combatant commander or subordinate unified commander, in which a joint force commander (usually a joint task force commander) conducts military operations to accomplish a specific mission.   |   |
| Joint Special Operations Area                  | A restricted area of land, sea, and airspace assigned by a joint force commander to the commander of a joint special operations force to conduct special operations activities. The commander of joint special operations forces may further assign a specific area or sector within the joint special operations area to a subordinate commander for mission execution. The scope and duration of the special operations forces' mission, friendly and hostile situation, and politico-military considerations all influence the number, composition, and sequencing of special operations forces deployed into a joint special operations area. It may be limited in size to accommodate a discrete direct action mission or may be extensive enough to allow a continuing broad range of unconventional warfare operations. Also called JSOA. (JP 1-02). |   |
| Landing Zone (LZ)                              | Airspace of defined dimensions which is set aside specifically for airlift landings.  | For further US implementation guidance, see JIEO Circular 9152, Item 57 |

**Figure C-B-1. Airspace Coordinating Measures (cont'd)**

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |   |  |
|--|---|--|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>  | <b>USES/PLANNING CONSIDERATIONS</b>  |
| Low-Altitude Missile Engagement Zone (LOMEZ)   | In air defense, that airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with low-to-medium-altitude surface-to-air missiles.   | LOMEZs provide airspace users with the location of the engagement zone of low-altitude missile systems for mission planning purposes.<br><br>The design of the LOMEZ is contingent on specific weapon system capabilities.<br><br>For further US implementation guidance, see JIEO Circular 9152, items 34 and 35. |
| Maritime Fighter Engagement Zone (MFEZ)        | The airspace beyond the crossover zone out to limits defined by the officer in tactical command, in which fighters have freedom of action to identify and engage air targets. (MIL-STD-6040)  | For further US implementation guidance, see JIEO Circular 9152, item 40.   |
| Maritime Missile Engagement Zone (MMEZ)        | A designated airspace in which, under weapons control status "weapons free," ships are automatically cleared to fire at any target which penetrates the zone, unless known to be friendly, adhering to airspace control procedures or unless otherwise directed by the anti-warfare commander. (MIL-STD-6040) | For further US implementation guidance, see JIEO Circular 9152, item 40.   |
| Marshalling Gate (MG)                          | The point to which aircraft fly for air traffic control prior to commencing an outbound transit after takeoff or prior to landing. (MIL-STD-6040)   | For further US implementation guidance, see JIEO Circular 9152, item 40.   |
| Military Operating Area (MOA)                  | Airspace established outside Class A airspace area to separate or segregate certain non-hazardous military from IFR traffic and to identify for visual flight rules (VFR) traffic where these activities are conducted. (MIL-STD-6040)  | For further US implementation guidance, see JIEO Circular 9152, item 40.   |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |  |   |
|--|--|---|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>   | <b>USES/PLANNING CONSIDERATIONS</b>   |
| Minimum-Risk Route (MRR)                       | A temporary corridor of defined dimensions recommended for use by high-speed, fixed-wing aircraft that presents the minimum known hazards to low-flying aircraft transiting the combat zone. (JP 1-02)   | MRRs are used primarily for cross-forward line of own troops operations. Close air support aircraft do not usually use MRRs in the vicinity of the target area.<br><br>MRRs are established based on known threats.<br><br>For further US implementation guidance, see JIEO Circular 9152, items 34 and 35. |
| Missile Arc (MISARC)                           | An area of 10-degrees or as large as ordered by the officer in tactical command, centered on the bearing of the target with a range that extends to the maximum range of the surface-to-air missile.   | For further US implementation guidance, see JIEO Circular 9152, Item 40.  |
| No Fly Area (NOFLY)                            | Airspace of specific dimensions set aside for a specific purpose in which no aircraft operations are permitted, except as authorized by the appropriate commander and controlling agency. (MIL-STD-6040)   |   |
| Pickup Zone (PZ)                               | Aerial Retrieval Area. (MIL-STD-6040)  |   |
| Prohibited Area (PROHIB)                       | A specified area within the land areas of a state or its internal waters, archipelagic waters, or territorial sea adjacent thereto over which the flight of aircraft is prohibited. May also refer to land or sea areas to which access is prohibited. (JP 1-02) |   |
| Reconnaissance Area (RECCE)                    | Airspace of defined dimensions established specifically for airborne platforms conducting reconnaissance. Generally, it is designed for aircraft such as the SR-71, U-2. (MIL-STD-6040)  |   |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |  |   |
|--|--|---|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>   | <b>USES/PLANNING CONSIDERATIONS</b>   |
| Reduced Coordination Area (RCA)                | A portion of defined dimensions within which general air traffic is permitted "off-route" without requiring general air traffic controllers to initiate coordination with operational air traffic controllers.   |   |
| Restricted Area (RA)                           | <p>Restricted areas (air) - Designated areas established by appropriate authority over which flight of aircraft is restricted. They are shown on aeronautical charts, published in notices to airmen, and provided in publications of aids to air navigation. (JP 1-02)</p> <p>An airspace of defined dimensions, above the land areas or territorial waters of a state, within which the flight of aircraft is restricted in accordance with certain specified conditions. (MIL-STD-6040)</p> |   |
| Restricted Operations Area (ROA)               | Airspace of defined dimensions, designated by the airspace control authority, in response to specific operational situations/requirements within which the operation of one or more airspace users is restricted. (JP 1-02)  | <p>A ROA is used to separate and identify areas. For example, artillery, mortar, naval surface fire support, UAV operating areas, aerial refueling, concentrated interdiction areas, areas of combat search and rescue (CSAR), SOF operating areas, and areas which the area air defense commander (AADC) has declared "weapons free."</p> <p>Commonly used for drop zones, landing zones, SAR areas, UAV launch and recovery sites, UAV mission areas, surface-to-surface missile launch sites, missile flight paths (if necessary), and predicted missile munitions impact locations, and special electronics mission aircraft.</p> |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b>   |  |  |
|--|--|--|
| <b>COORDINATING MEASURE</b>                      | <b>DEFINITION/ DESCRIPTION</b>   | <b>USES/PLANNING CONSIDERATIONS</b>  |
| Restricted Operations Area (ROA) (cont'd)        |  | ROA can adversely affect air defense operations; therefore, air defense missions generally have priority over ROAs.<br><br>For further US implementation guidance see JIEO Circular 9152, items 34 and 35.   |
| Return to Force (RTF)                            | Planned route profiles for use by friendly aircraft returning to an aviation-capable ship. (MIL-STD-6040)  | RTF provides a means for easily identifying friendly aircraft.<br><br>For further US implementation guidance, see JIEO Circular 9152, items 34 and 35.   |
| Safe Lane (SL)                                   | A bi-directional lane connecting an airbase, landing site and/or base defense zone to adjacent routes/corridors. Safe lanes may also be used to connect adjacent activated routes/corridors. (MIL-STD-6040)  | For further US implementation guidance, see JIEO Circular 9152, item 40.   |
| Safe Sector (SAFES)                              | A sector established to route friendly aircraft to maritime forces with minimum risk. (MIL-STD-6040)   | For further US implementation guidance, see JIEO Circular 9152, item 40.   |
| Search and Rescue Point (SARDOT)                 | A reference point used in search and rescue operations. (MIL-STD-6040)   |  |
| Ship Control Zone (SCZ)                          | An area activated around a ship operating aircraft, which is not to be entered by friendly aircraft without permission, in order to prevent friendly interference. (MIL-STD-6040)  | For further US implementation guidance, see JIEO Circular 9152, item 40.   |
| Short-Range Air Defense Engagement Zone (SHORAD) | In air defense, that airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with short-range air defense weapons. It may be established within a low- or high-altitude missile engagement zone. (JP 1-02) | A SHORADEZ is normally established for the local air defense of high-value assets. It provides airspace users with the location of the engagement zone of short-range air defense systems for mission planning purposes.<br><br>Centralized control of SHORADEZ may not be possible. |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b>            |  |   |
|---|--|---|
| <b>COORDINATING MEASURE</b>                               | <b>DEFINITION/ DESCRIPTION</b>   | <b>USES/PLANNING CONSIDERATIONS</b>   |
| Short-Range Air Defense Engagement Zone (SHORAD) (cont'd) |  | For further US implementation guidance, see JIEO Circular 9152, items 34 and 35.  |
| Special Corridor (SC)                                     | An area established to accommodate the special routing requirements of specific missions. (MIL-STD-6040)   | For further US implementation guidance, see JIEO Circular 9152, item 40.  |
| Special Electronic Mission Area (SEMA)                    | Airspace of defined dimensions established specifically for airborne platforms conducting special electronic missions. Generally, it is designed for aircraft such as Compass Call. (MIL-STD-6040)   |   |
| Special Use Airspace (SUA)                                | A term used to define airspace for a specific purpose. It may also designate airspace in which no flight activity is authorized. General subdivisions (regions, sectors, and AOA) are not special use airspace.  | Special use airspace is typically applied to BDZs and CAP/orbit areas.<br><br>It typically is a peacetime term contained in Federal Aviation Agency Handbook 7610.4, Special Military Operations, to include military operating areas, ATC assigned airspace, and other airspace.   |
| Standard Use Army Aircraft Flight Route (SAAFR)           | Routes established below the coordinating altitude to facilitate the movement of Army aviation assets. Routes are normally located in the corps through brigade rear areas of operation and do not require approval by the airspace control authority. (JP 1-02) | SAAFR is an airspace control measure used by Army assets for administrative and logistic purposes.<br><br>If altitudes are at or below the coordinating altitude, SAAFRs are implemented by the using authority. If a coordinating altitude has not been established, an air corridor is established by the ACA at the request of the appropriate ground commander.<br><br>See FM 100-10 for additional information.<br><br>For further US implementation guidance, see JIEO Circular 9152, items 34, 35, and 40. |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |   |  |
|--|---|--|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>  | <b>USES/PLANNING CONSIDERATIONS</b>  |
| Surface-to-Surface Missile System (SSMS)       | Airspace of defined dimensions designed specifically for Army Tactical Missile System and Tomahawk land-attack missile launch and impact points. (MIL-STD-6040)                           |  |
| Temporary Segregated Area (TSA)                | An airspace of defined dimensions within which activities require the reservation of airspace for the exclusive use of specific users during a determined period of time.                 |  |
| Terminal Control Area (TCA)                    | A control area or portion thereof normally situated at the confluence of air traffic service routes in the vicinity of one or more major airfields. (JP 1-02)                             | For further US implementation guidance, see JIEO Circular 9152, item 35.   |
| Terminal Radar Service Area (TRSA)             | Airspace surrounding designated airports wherein ATC provides radar vectoring, sequencing, and separation on a full-time basis for all IFR and participating VFR aircraft. (MIL-STD-6040) | For further US implementation guidance, see JIEO Circular 9152, item 50.   |
| Training Area (TRNG)                           | Airspace of defined dimensions created during contingency for the purpose of training. (MIL-STD-6040)   |  |
| Transit Corridor (TC)                          | A bi-directional corridor in the rear area. Air traffic services not normally provided. (MIL-STD-6040)  | Established to route aircraft through air defenses, in the rear area where appropriate, with minimum risk.<br><br>Pre-planned TCs will be published in ACPs, as will their horizontal and vertical dimensions.<br><br>For further US implementation guidance, see JIEO Circular 9152, item 40. |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

| <b>AIRSPACE COORDINATING MEASURES (cont'd)</b> |   |  |
|--|---|--|
| <b>COORDINATING MEASURE</b>                    | <b>DEFINITION/ DESCRIPTION</b>  | <b>USES/PLANNING CONSIDERATIONS</b>  |
| Transit Route (TR)                             | A temporary corridor of defined dimensions established in the forward area to minimize the risk to friendly aircraft from friendly air defenses or surface forces. (MIL-STD-6040)   | For further US implementation guidance, see JIEO Circular 9152, item 40.   |
| Traverse Level (TL)                            | That vertical displacement above low-level air defense systems, expressed both as a height and an altitude, at which aircraft can cross that area in order to improve the effectiveness of the air defense systems by providing an extra friendly discriminator. (MIL-STD-6040) | TLs normally will be used in conjunction with TCs as specified in ACPs.<br><br>For further US implementation guidance, see JIEO Circular 9152, item 40.  |
| Unmanned Aerial Vehicle (UAV)                  | Airspace of defined dimensions created specifically for UAV operations. Generally, this airspace will consist of the area in which UAV missions are conducted, not en route airspace. (MIL-STD-6040)  |  |
| Warning Area (WARN)                            | Airspace of defined dimensions extending from three nautical miles outward from the coast of the US that contains activity that may be hazardous to nonparticipating aircraft. (MIL-STD-6040)   | For further US implementation guidance, see JIEO Circular 9152, item 50.   |
| Weapons Free Zone                              | An air defense zone established for the protection of key assets or facilities, other than air bases, where weapons systems may be fired at any target not positively recognized as friendly. (JP 1-02)   | A weapons free zone is normally used for high-value assets defense and in areas with limited command and control authority. This zone provides airspace users with the location of a weapons free area for mission planning purposes.<br><br>The AADC declares weapons free with the ACA establishing the zone.<br><br>For further US implementation guidance, see JIEO Circular 9152, items 34, 35, and 40. |

Figure C-B-1. Airspace Coordinating Measures (cont'd)

*For further information on message interface and message text formats (MTFs) and employment procedures for joint operations center use, refer to Chairman of the Joint Chiefs of Staff Manual (CJCSM) 6120.5, Manual for Tactical Command and Control Planning Guidance for Joint Operations, Joint Interface Operational Procedures for Message Text Formats. For MTF examples approved for joint use, refer to MIL-STD-6040, US Message Text Formatting Program, and the Joint User Handbook — MTF.*

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## APPENDIX D REFERENCES

The development of JP 3-52 is based on the following primary sources:

1. Title 10, US Code, as amended by the Goldwater-Nichols Department of Defense Reorganization Act of 1986.
2. Department of Defense Directive 5100.1, *Functions of the Department of Defense and Its Major Components*.
3. CJCSM 6120.05, *Manual for Tactical Command and Control Planning Guidance for Joint Operations, Joint Interface Operational Procedures for Message Text Formats*.
4. JIEO Circular 9152, *Repository of USMTF Program Items for US Implementation Guidance*.
5. JP 0-2, *Unified Action Armed Forces (UNAAF)*.
6. JP 1-01, with Change 1, *Joint Doctrine Development System*.
7. JP 1-02, *DOD Dictionary of Military and Associated Terms*.
8. JP 3-0, *Doctrine for Joint Operations*.
9. JP 3-01, *Joint Doctrine for Countering Air and Missile Threats*.
10. JP 3-02, *Joint Doctrine for Amphibious Operations*.
11. JP 3-02.1, *Joint Tactics, Techniques, and Procedures for Landing Force Operations*.
12. JP 3-09, *Doctrine for Joint Fire Support*.
13. JP 3-16, *Joint Doctrine for Multinational Operations*.
14. JP 3-30, *Command and Control for Joint Air Operations*.
15. JP 3-60, *Joint Doctrine for Targeting*.
16. MIL-STD-6040, *US Message Text Formatting Program*.

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## APPENDIX E ADMINISTRATIVE INSTRUCTIONS

### 1. User Comments

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### 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 Operational Plans and Joint Force Development (J-7).

### 3. Supersession

This publication supersedes JP 3-52, 22 July 1995, *Doctrine for Joint Airspace Control in the Combat Zone*.

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**GLOSSARY**  
**PART I — ABBREVIATIONS AND ACRONYMS**

|        |   |
|--------|---|
| AADC   | area air defense commander                      |
| ACA    | airspace control authority                      |
| ACM    | airspace coordinating measure                   |
| ACO    | airspace control order                          |
| ACP    | airspace control plan                           |
| ACS    | airspace control system                         |
| ADP    | air defense plan                                |
| AOA    | amphibious objective area                       |
| ATACMS | Army Tactical Missile System                    |
| ATC    | air traffic control                             |
| ATF    | amphibious task force                           |
| ATO    | air tasking order                               |
|        |   |
| BDZ    | base defense zone                               |
|        |   |
| C2     | command and control                             |
| CJCSM  | Chairman of the Joint Chiefs of Staff manual    |
| CONOPS | concept of operations                           |
|        |   |
| DCA    | defensive counterair                            |
|        |   |
| EW     | electronic warfare                              |
|        |   |
| FEZ    | fighter engagement zone                         |
| FID    | foreign internal defense                        |
| FSCM   | fire support coordinating measure               |
|        |   |
| HIDACZ | high-density airspace control zone              |
| HN     | host nation                                     |
| HQ     | headquarters                                    |
|        |   |
| ICAO   | International Civil Aviation Organization       |
| IFF    | identification, friend or foe                   |
|        |   |
| JEZ    | joint engagement zone                           |
| JFACC  | joint force air component commander             |
| JFC    | joint force commander                           |
| JIEO   | joint interoperability engineering organization |
| JP     | joint publication                               |
|        |   |
| LNO    | liaison officer                                 |

## Glossary

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|         |                                    |
|---------|------------------------------------|
| MEZ     | missile engagement zone            |
| MIL-STD | military standard                  |
| MOOTW   | military operations other than war |
| MRR     | minimum-risk route                 |
| MTF     | message text format                |
|         |                                    |
| OPLAN   | operation plan                     |
| OPORD   | operation order                    |
|         |                                    |
| ROE     | rules of engagement                |
| ROZ     | restricted operations zone         |
|         |                                    |
| SEAD    | suppression of enemy air defenses  |
| SIF     | selective identification feature   |
| SPINS   | special instructions               |
|         |                                    |
| TLAM    | Tomahawk Land Attack Missile       |
|         |                                    |
| UAV     | unmanned aerial vehicle            |
| USMTF   | United States message text format  |

## PART II — TERMS AND DEFINITIONS

**active air defense.** Direct defensive action taken to destroy, nullify, or reduce the effectiveness of hostile air and missile threats against friendly forces and assets. It includes the use of aircraft, air defense weapons, electronic warfare, and other available weapons. (JP 1-02)

**airborne early warning.** The detection of enemy air or surface units by radar or other equipment carried in an airborne vehicle, and the transmitting of a warning to friendly units. Also called AEW. (JP 1-02)

**air corridor.** A restricted air route of travel specified for use by friendly aircraft and established for the purpose of preventing friendly aircraft from being fired on by friendly forces. (JP 1-02)

**air defense.** All defensive measures designed to destroy attacking enemy aircraft or missiles in the Earth's envelope of atmosphere, or to nullify or reduce the effectiveness of such attack. Also called AD. (JP 1-02)

**air defense action area.** An area and the airspace above it within which friendly aircraft or surface-to-air weapons are normally given precedence in operations except under specified conditions. (JP 1-02)

**air defense identification zone.** Airspace of defined dimensions within which the ready identification, location, and control of airborne vehicles are required. Also called ADIZ. (JP 1-02)

**air defense operations area.** None. (Approved for removal from the next edition of JP 1-02.)

**airspace control.** See airspace control in the combat zone. (JP 1-02)

**airspace control area.** Airspace that is laterally defined by the boundaries of the operational area. The airspace control area may be subdivided into airspace control sectors. (JP 1-02)

**airspace control authority.** The commander designated to assume overall responsibility for the operation of the airspace control system in the airspace control area. Also called ACA. See also airspace control; airspace control area; airspace control system. (JP 1-02)

**airspace control boundary.** The lateral limits of an airspace control area, airspace control sector, high density airspace control zone, or airspace restricted area. (This term and its definition modify the existing term and its definition and are approved for inclusion in the next edition of JP 1-02.)

**airspace control center.** The airspace control authority's primary airspace control facility, including assigned Service component, host nation, and/or multinational personnel and

equipment. (This term and its definition modify the existing term and its definition and are approved for inclusion in the next edition of JP 1-02.)

**airspace control facility.** Any of the several Service component, host nation, or multinational facilities that provide airspace control in the combat zone. (This term and its definition modify the existing term and its definition and are approved for inclusion in the next edition of JP 1-02.)

**airspace control in the combat zone.** A process used to increase combat effectiveness by promoting the safe, efficient, and flexible use of airspace. Airspace control is provided in order to reduce the risk of friendly fire, enhance air defense operations, and permit greater flexibility of operations. Airspace control does not infringe on the authority vested in commanders to approve, disapprove, or deny combat operations. Also called airspace control; combat airspace control. (This term and its definition modify the existing term and its definition and are approved for inclusion in the next edition of JP 1-02.)

**airspace control order.** An order implementing the airspace control plan that provides the details of the approved requests for airspace coordinating measures. It is published either as part of the air tasking order or as a separate document. Also called ACO. (This term and its definition modify the existing term and its definition and are approved for inclusion in the next edition of JP 1-02.)

**airspace control plan.** The document approved by the joint force commander that provides specific planning guidance and procedures for the airspace control system for the joint force operational area. Also called ACP. See also airspace control system; joint operations area. (This term and its definition modify the existing term and its definition and are approved for inclusion in the next edition of JP 1-02.)

**airspace control procedures.** Rules, mechanisms, and directions that facilitate the control and use of airspace of specified dimensions. See also airspace control authority; airspace control in a combat zone; airspace control order; airspace control plan. (Approved for inclusion in the next edition of JP 1-02.)

**airspace control sector.** A subelement of the airspace control area, established to facilitate the control of the overall area. Airspace control sector boundaries normally coincide with air defense organization subdivision boundaries. Airspace control sectors are designated in accordance with procedures and guidance contained in the airspace control plan in consideration of Service component, host nation, and multinational airspace control capabilities and requirements. See also airspace control area. (This term and its definition modify the existing term and its definition and are approved for inclusion in the next edition of JP 1-02.)

**airspace control system.** An arrangement of those organizations, personnel, policies, procedures, and facilities required to perform airspace control functions. Also called ACS. (JP 1-02)

**airspace coordinating measures.** Measures employed to facilitate the efficient use of airspace to accomplish missions and simultaneously provide safeguards for friendly forces. Also called ACMs. See also airspace control area; airspace control boundary; airspace control sector; airspace coordination area; high-density airspace control zone; weapons engagement zone. (Approved for inclusion in the next edition of JP 1-02.)

**airspace coordination area.** A three-dimensional block of airspace in a target area, established by the appropriate ground commander, in which friendly aircraft are reasonably safe from friendly surface fires. The airspace coordination area may be formal or informal. Also called ACA. (JP 1-02)

**airspace management.** The coordination, integration, and regulation of the use of airspace of defined dimensions. (JP 1-02)

**airspace restrictions.** Special restrictive measures applied to segments of airspace of defined dimensions. (JP 1-02)

**air tasking order.** A method used to task and disseminate to components, subordinate units, and command and control agencies projected sorties, capabilities and/or forces to targets and specific missions. Normally provides specific instructions to include call signs, targets, controlling agencies, etc., as well as general instructions. Also called ATO. (JP 1-02)

**air traffic control facility.** Any of the component airspace control facilities primarily responsible for providing air traffic control services and, as required, limited tactical control services. (JP 1-02)

**amphibious objective area.** A geographical area (delineated for command and control purposes in the order initiating the amphibious operation) within which is located the objective(s) to be secured by the amphibious force. This area must be of sufficient size to ensure accomplishment of the amphibious force's mission and must provide sufficient area for conducting necessary sea, air, and land operations. Also called AOA. (JP 1-02)

**area air defense commander.** Within a unified command, subordinate unified command, or joint task force, the commander will assign overall responsibility for air defense to a single commander. Normally, this will be the component commander with the preponderance of air defense capability and the command, control, and communications capability to plan and execute integrated air defense operations. Representation from the other components involved will be provided, as appropriate, to the area air defense commander's headquarters. Also called AADC. (JP 1-02)

**base defense zone.** An air defense zone established around an air base and limited to the engagement envelope of short-range air defense weapons systems defending that base. Base defense zones have specific entry, exit, and identification, friend or foe procedures established. Also called BDZ. (JP 1-02)

**campaign plan.** A plan for a series of related military operations aimed at accomplishing a strategic or operational objective within a given time and space. (JP 1-02)

**combat airspace control.** See airspace control in the combat zone. (JP 1-02)

**combat zone.** 1. That area required by combat forces for the conduct of operations. 2. The territory forward of the Army rear area boundary. (JP 1-02)

**combined operation.** An operation conducted by forces of two or more Allied nations acting together for the accomplishment of a single mission. (JP 1-02)

**concept of operations.** A verbal or graphic statement, in broad outline, of a commander's assumptions or intent in regard to an operation or series of operations. The concept of operations frequently is embodied in campaign plans and operation plans; in the latter case, particularly when the plans cover a series of connected operations to be carried out simultaneously or in succession. The concept is designed to give an overall picture of the operation. It is included primarily for additional clarity of purpose. Also called commander's concept or CONOPS. (JP 1-02)

**coordinating altitude.** A procedural airspace control method to separate fixed- and rotary-wing aircraft by determining an altitude below which fixed-wing aircraft will normally not fly and above which rotary-wing aircraft normally will not fly. The coordinating altitude is normally specified in the airspace control plan and may include a buffer zone for small altitude deviations. (JP 1-02)

**counterair.** A mission that integrates offensive and defensive operations to attain and maintain a desired degree of air superiority. Counterair missions are designed to destroy or negate enemy aircraft and missiles, both before and after launch. (JP 1-02)

**defensive counterair.** All defensive measures designed to detect, identify, intercept, and destroy or negate enemy forces attempting to attack or penetrate the friendly air environment. Also called DCA. (JP 1-02)

**fighter engagement zone.** See weapon engagement zone. (JP 1-02)

**fire support coordinating measure.** A measure employed by land or amphibious commanders to facilitate the rapid engagement of targets and simultaneously provide safeguards for friendly forces. Also called FSCM. See also fire support coordination. (JP 1-02)

**fire support coordination.** The planning and executing of fire so that targets are adequately covered by a suitable weapon or group of weapons. (JP 1-02)

**foreign internal defense.** Participation by civilian and military agencies of a government in any of the action programs taken by another government or other designated organization

to free and protect its society from subversion, lawlessness, and insurgency. Also called FID. (JP 1-02)

**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. The forward line of own troops (FLOT) normally identifies the forward location of covering and screening forces. The FLOT may be at, beyond, or short of the forward edge of the battle area. An enemy FLOT indicates the forward-most position of hostile forces. Also called FLOT. (JP 1-02)

**functional component command.** A command normally, but not necessarily, composed of forces of two or more Military Departments which may be established across the range of military operations to perform particular operational missions that may be of short duration or may extend over a period of time. See also Service component command. (JP 1-02)

**high-altitude missile engagement zone.** See weapon engagement zone. (JP 1-02)

**high-density airspace control zone.** Airspace designated in an airspace control plan or airspace control order, in which there is a concentrated employment of numerous and varied weapons and airspace users. A high-density airspace control zone has defined dimensions which usually coincide with geographical features or navigational aids. Access to a high-density airspace control zone is normally controlled by the maneuver commander. The maneuver commander can also direct a more restrictive weapons status within the high-density airspace control zone. Also called HIDACZ. (JP 1-02)

**identification, friend or foe.** A device that emits a signal positively identifying it as a friendly. Also called IFF. See also air defense. (JP 1-02)

**identification, friend or foe/selective identification feature procedures.** The directives that govern the use of identification, friend or foe selective identification feature equipment. See also identification, friend or foe. (JP 1-02)

**joint engagement zone.** See weapon engagement zone. (JP 1-02)

**joint force.** A general term applied to a force composed of significant elements, assigned or attached, of two or more Military Departments, operating under a single joint force commander. (JP 1-02)

**joint force air component commander.** The commander within a unified command, subordinate unified command, or joint task force responsible to the establishing commander for making recommendations on the proper employment of assigned, attached, and/or made available for tasking air forces; planning and coordinating air operations; or accomplishing such operational missions as may be assigned. The joint force air component commander is given the authority necessary to accomplish missions and tasks assigned by the establishing commander. Also called JFACC. (JP 1-02)

**joint force commander.** A general term applied to a combatant commander, subunified commander, or joint task force commander authorized to exercise combatant command (command authority) or operational control over a joint force. Also called JFC. (JP 1-02)

**joint operations area.** An area of land, sea, and airspace, defined by a geographic combatant commander or subordinate unified commander, in which a joint force commander (normally a joint task force commander) conducts military operations to accomplish a specific mission. Joint operations areas are particularly useful when operations are limited in scope and geographic area or when operations are to be conducted on the boundaries between theaters. Also called JOA. (JP 1-02)

**low-altitude missile engagement zone.** See weapon engagement zone. (JP 1-02)

**low level transit route.** A temporary corridor of defined dimensions established in the forward area to minimize the risk to friendly aircraft from friendly air defenses or surface forces. Also called LLTR. (JP 1-02)

**minimum-risk level.** None. (Approved for removal from the next edition of JP 1-02.)

**minimum-risk route.** A temporary corridor of defined dimensions recommended for use by high-speed, fixed-wing aircraft that presents the minimum known hazards to low-flying aircraft transiting the combat zone. Also called MRR. (JP 1-02)

**multinational operations.** A collective term to describe military actions conducted by forces of two or more nations, usually undertaken within the structure of a coalition or alliance. (JP 1-02)

**operational area.** An overarching term encompassing more descriptive terms for geographic areas in which military operations are conducted. Operational areas include, but are not limited to, such descriptors as area of responsibility, theater of war, theater of operations, joint operations area, amphibious objective area, joint special operations area, and area of operations. (JP 1-02)

**point defense.** The defense or protection of special vital elements and installations; e.g., command and control facilities or air bases. (JP 1-02)

**positive control.** A method of airspace control that relies on positive identification, tracking, and direction of aircraft within an airspace, conducted with electronic means by an agency having the authority and responsibility therein. (JP 1-02)

**procedural control.** A method of airspace control which relies on a combination of previously agreed and promulgated orders and procedures. (JP 1-02)

**restricted operations area.** Airspace of defined dimensions, designated by the airspace control authority, in response to specific operational situations/requirements within which the operation of one or more airspace users is restricted. Also called ROA. (JP 1-02)

**rules of engagement.** Directives issued by competent military authority that delineate the circumstances and limitations under which United States forces will initiate and/or continue combat engagement with other forces encountered. Also called ROE. (JP 1-02)

**Service component command.** A command consisting of the Service component commander and all those Service forces, such as individuals, units, detachments, organizations, and installations under that command, including the support forces that have been assigned to a combatant command or further assigned to a subordinate unified command or joint task force. (JP 1-02)

**short-range air defense engagement zone.** See weapon engagement zone. (JP 1-02)

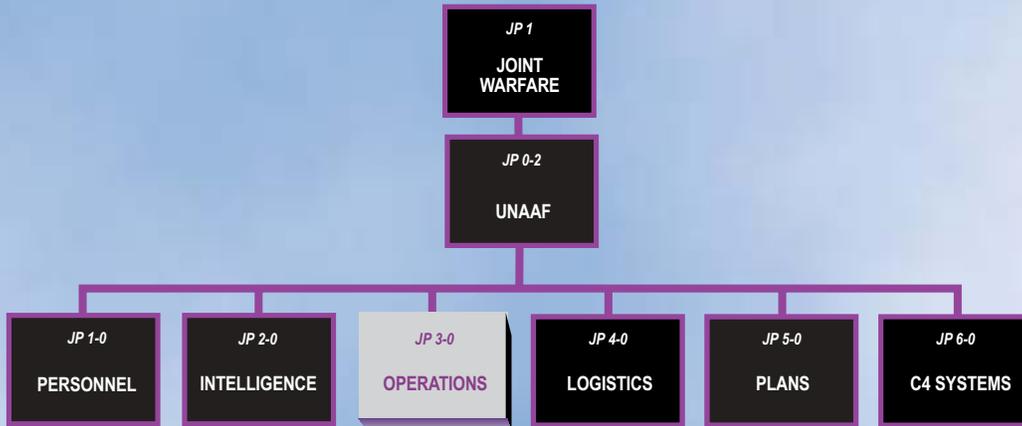
**standard use Army aircraft flight route.** Routes established below the coordinating altitude to facilitate the movement of Army aviation assets. Routes are normally located in the corps through brigade rear areas of operation and do not require approval by the airspace control authority. Also called SAAFR. (JP 1-02)

**unmanned aerial vehicle.** A powered, aerial vehicle that does not carry a human operator, uses aerodynamic forces to provide vehicle lift, can fly autonomously or be piloted remotely, can be expendable or recoverable, and can carry a lethal or nonlethal payload. Ballistic or semiballistic vehicles, cruise missiles, and artillery projectiles are not considered unmanned aerial vehicles. Also called UAV. (JP 1-02)

**weapon engagement zone.** In air defense, airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with a particular weapon system. Also called WEZ. a. fighter engagement zone. In air defense, that airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with fighter aircraft. Also called FEZ. b. high-altitude missile engagement zone. In air defense, that airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with high-altitude surface-to-air missiles. Also called HIMEZ. c. low-altitude missile engagement zone. In air defense, that airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with low- to medium-altitude surface-to-air missiles. Also called LOMEZ. d. short-range air defense engagement zone. In air defense, that airspace of defined dimensions within which the responsibility for engagement of air threats normally rests with short-range air defense weapons. It may be established within a low- or high-altitude missile engagement zone. Also called SHORADEZ. e. joint engagement zone. In air defense, that airspace of defined dimensions within which multiple air defense systems (surface-to-air missiles and aircraft) are simultaneously employed to engage air threats. Also called JEZ. (JP 1-02)

**weapons free zone.** An air defense zone established for the protection of key assets or facilities, other than air bases, where weapon systems may be fired at any target not positively recognized as friendly. (JP 1-02)

# JOINT DOCTRINE PUBLICATIONS HIERARCHY



All joint doctrine and tactics, techniques, and procedures are organized into a comprehensive hierarchy as shown in the chart above. **Joint Publication (JP) 3-52** is in the **Operations** series of joint doctrine publications. The diagram below illustrates an overview of the development process:

