



# CURTIS E. LEMAY CENTER

FOR DOCTRINE DEVELOPMENT AND EDUCATION



## ANNEX 3-52 AIRSPACE CONTROL

### EXECUTION CONSIDERATIONS

Last Updated: 21 July 2014

As a guiding principle for all operations, a host nation retains [airspace control](#) authority and the joint forces primarily use existing international or host nation aeronautical information publications for airspace procedures or guidelines. Airspace, navigation services and radio frequencies are the sovereign right and responsibility of the host nation. General considerations when addressing airspace functions across the range of military operations include:

- ✦ Command and Control( C2)/Air traffic control (ATC)/airspace planners should be involved from the outset in planning and executing C2, air traffic control, and airspace management. This ensures airspace requirements are coordinated and approved by the proper agencies.
- ✦ Planning should consider the establishment of an ATC cell to liaise with the current host nation infrastructure. Establishing relationships with key host nation and neighboring nations' air traffic control is critical. Establishing an aircraft diplomatic clearance process (e.g., for US Embassy personnel) should be accomplished as early as possible during the planning process. Key issues to resolve during this planning include:
  - ✦ Identifying key personnel and their contact information.
  - ✦ Identifying existing agreements (e.g., aeronautical information publications and site surveys).
  - ✦ Identifying rules, regulations, and existing international, multilateral, or bilateral agreements or arrangements governing proposed operations (e.g., ICAO, FAA, regional organization, or host nations). For planning purposes, this type of information may be located in the [Foreign Clearance Guide](#) (Authorized by DODD 4500.54E, [DOD Foreign Clearance Program](#)).
  - ✦ Identifying special operating rules or waivers needed for certain types of aircraft or operations that will need to operate within host nation airspace (e.g., rules for unmanned aircraft systems [UAS]).

✪ Establishing requirements to integrate liaison officers, equipment, processes, and functions.<sup>1</sup>



### **Airspace Implementation**

The [airspace control plan](#) (ACP) provides specific planning guidance and procedures for the airspace control system throughout the joint operations area (JOA). The ACP may be distributed as a separate document or as an annex to the operations plan. The airspace control order (ACO), which implements the ACP, is normally disseminated as a separate document. The ACO provides the details of airspace coordination measures for the next air tasking cycle and includes fire support coordination measures (FSCM), air defense areas, and air traffic areas along with other airspace information. Changes to the ACO are published on an as-needed basis.

### **Airspace Deconfliction Procedures**

Airspace deconfliction at the operational level normally occurs within the [air operations center](#) (AOC). The AOC's [combat plans division](#) usually resolves airspace conflicts during the theater air tasking cycle pre-air tasking order (ATO)/ACO publication while the combat operations division handles post air tasking order (ATO)/ACO publication and real-time airspace control order changes. Deconfliction at the tactical level is executed by elements of the airspace control system capable of providing airspace control functions (e.g., control and reporting center (CRC), airborne warning and control system (AWACS), joint surveillance target attack radar system (JSTARS), tactical air control party (TACP), ATC) and achieved by directing time, position, altitude, and other deconfliction methods to airspace users.

### **Integration with Air Defense**

The air defense functions of weapons control, surveillance, and identification are inherent in the theater air control system (TACS), from the oversight and direction provided by the AOC, down through the execution capability of the AWACS and the CRC. The area air defense plan should provide [detailed engagement procedures](#) consistent with the ACP; the area air defense plan should incorporate air defense capabilities from all functional components and airspace control system elements. Airspace control and area air defense operations should be capable of functioning in a degraded C2 environment. Detailed engagement procedures and clear delegation of authority to subordinate commanders are keys to success in a degraded environment.

### **Integrated Air and Missile Defense (IAMD)**

Integrated Air and Missile Defense (a subset of the Counterair construct) is the integration of capabilities and overlapping operations to defend the Homeland and US national interests, protect the joint force, and enable freedom of action by negating an adversary's ability to achieve adverse effects from their air and missile capabilities. IAMD activities include direct actions such as ballistic missile defense, counter rockets, artillery and mortars, offensive counterair OCA attack operations and air and cruise missile defense, as well as foundational support functions such as intelligence, networking, command and control and logistics and passive defense measures.

---

<sup>1</sup> AFTTP 3-2.78, *MTTP for Airspace Control*

JP 3-01, [Counteracting Air and Missile Threats](#), lays out the counterair missions within a framework that addresses all requirements for gaining control of the air domain. Through the counterair framework, the joint force air component commander (JFACC) ensures that items on the joint force commander's (JFC) defended asset list and critical asset list are protected from attack while simultaneously minimizing fratricide risk between friendly forces. The JFACC integrates joint air and missile defense sensor and shooter platforms through effective command and control, to include positive and procedural airspace deconfliction procedures. In accordance with unity of command as a principal of war, the JFACC and his staff should fulfill the roles of [area air defense commander](#) (AADC) and [airspace control authority](#) (ACA). This enables a fully synchronized effort to employ Counterair capabilities in support of JFC objectives, and fully supports the command and control requirements to effectively manage IAMD. Planning products that support the joint air operations plan (JAOP) and ensure integrated operations among joint air and missile defense platforms are the area air defense plan (AADP) and the [airspace control plan](#) (ACP). The AADP contains the specific supporting relationships that the Army, Navy, and Marine Corps agree to fulfill by providing forces for either [offensive counter air](#) (OCA) or [defensive counter air](#) (DCA). The ACP details guidance and restrictions that support the efficient and effective use of airspace by all joint counterair players. In joint operations, the AADP and ACP are JFC-approved documents that flow directly from the commander's authority.

For further information on this subject reference JP 3-01, [Counteracting Air and Missile Threats](#) Chapters III-V, Annex 3-01, [Counterair Operations](#), and AFTTP 3-2.31, *Integrated Air Defense System*.

### **Airspace Coordinating Measures**

Airspace coordinating measures are employed to facilitate efficient use of airspace to accomplish air operations and fires and simultaneously provide safeguards for friendly forces. ACMs are approved by the Airspace Control Authority (ACA) and promulgated via the ACO. ACMs support the most efficient use of airspace in support of JFC objectives. Use of ACMs should include an awareness of risks associated with engagement of targets. ACMs have specific usages that further help refine use and assist with effective planning, integration and execution. The ACP should list other Coordination Measures (CM) categories besides ACMs. Examples of CM categories are Fire Support Coordination Measures (FSCM), Air Reference Measures (ARM), Air Defense Measures (ADM), Maneuver Control Measures (MCM), Maritime Defense Measures (MDM) and Air Traffic Control Measures (ATCM). The [coordinating altitude](#) (CA) is a type of airspace coordinating measure. It represents a vertical boundary that delineates airspace to facilitate the coordination and deconfliction of operations between airspace users and controlling agencies. The decision on where to place (or even to use) a CA requires careful consideration due to its impact on the integration of C2 agencies, fires, and maneuver. Placement should strike a balance between maximizing the effectiveness of air component and organic forces while not unduly inhibiting those same operations. The optimum CA (specified as above ground level) varies with

specific operational area circumstances but should address the following: the respective C2 agencies' ability to provide airspace C2 below the designated CA, the anticipated ground scheme of maneuver during the effective time period established for the CA, and affected indirect fire support systems' range and altitude limits. The CA may change from one phase of an operation (or campaign) to the next, depending on the scale and scope of each component's requirement during that phase. The ACA establishes the CA through consultation with supported and supporting commands, specified in the ACP, published in the ACO, and may include a buffer zone. All airspace users should coordinate with the appropriate airspace control.

A more complex airspace coordination measure is the [high density airspace control zone](#) (HIDACZ). 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 directing a more restrictive weapons status because of the large volume and density of fires within the described HIDACZ. The volume of air traffic demands careful coordination to limit the potential conflict among mission essential aircraft and other airspace users.

### **Fire Support Coordination Measures<sup>2</sup>**

FSCMs are measures employed by land, amphibious or special operations commanders to facilitate the rapid engagement of targets and simultaneously provide safeguards for friendly forces (JP 1-02). FSCMs are usually activated for a limited time and refer to areas where indirect fires may be active, restrictive or prohibited. FSCMs define a boundary area on the ground and relate to airspace because of ordnance flight paths. The requirement to deconflict airspace in support of ground fire missions requires the determination of the firing locations, the impact location, and the airspace impacted by the projectile during flight. Those projectile parameters are deconflicted with other airspace users. Service liaisons and airspace control agencies work closely to ensure that appropriate airspace coordination measures and FSCMs deconflict surface operations and other airspace operations. See AFTTP 3-2.78, *MTTP for Airspace Control*, for a more detailed example of HIDACZ planning.

### **Providing an Air Picture for the Joint Force**

The JFACC is normally expected to incorporate data from various air, ground, and space sensors into a recognized air picture, to enable planning and decision making for air operations in the JOA. Feeds from data links are managed by the joint interface control officer (JICO) at the AOC and combined with other sources into a common operating picture. This fused picture is shared for mission planning and execution at all appropriate levels of command.

### **Integration of Air Defense and Airspace Control in the AOC**

Airspace control and air defense functions are integrated in both the combat plans and combat operations divisions of the AOC. In the [combat plans division](#), the C2 plans

---

<sup>2</sup> Planners should be aware that US Forces Korea employ the joint fires area construct (similar to the kill box construct) as a three-dimensional FSCM to facilitate the engagement of targets with respect to location and time in an effects area and concurrent airspace.

officers integrate air defense considerations such as minimum-risk route; identification friend or foe/selective identification feature (IFF/SIF) procedures, and missile, fighter, and joint engagement zones. In the combat operations division, the airspace manager is responsible for the execution of airspace control while the senior air defense duty officer is responsible for the execution of air defense operations. This organizational arrangement and further description of the specific duties of the positions in the AOC are found in AFI 13-1AOC, Vol 3, [Operational Procedures-Air Operations Center](#), and AFTTP 3-3.AOC, *Operational Employment—Air Operations Center*.

### **Integration and Synchronization with Surface Operations**

Airspace control procedures increase in complexity and detail when air forces operate in proximity to, or in conjunction with, surface forces. To prevent both air-to-surface and surface-to-air fratricide, integrated joint operations are necessary. Liaison elements are vital when integrating air and surface elements in close proximity. Each surface component's area of operations (AO) may be defined with specific boundaries. These boundaries are normally defined by maneuver control measures including fire support coordination line, forward line of own troops, fire support coordination measures, airspace coordination measures, or multiples of these during nonlinear operations.

Deconfliction of airspace and joint fires normally occurs during mission planning when fire support coordination measures and airspace coordination measures are disseminated through command and fire support channels. Combat dynamics make the real time coordination, deconfliction, and integration of airspace and joint fires C2 nodes essential. Projectile parameters should be integrated with other airspace users. Within the AOC, the Army's BCD monitors and interprets the land battle for the JFACC staff and AOC. The BCD also helps integrate defensive counterair operations with ground air defense systems. Airspace planners in the SOLE also keep the JFACC staff abreast of their ongoing surface operations. See JP 3-09, [Joint Fire Support](#), for further details.

### **Electromagnetic Spectrum Use**

Airspace operations rely heavily on equipment using the EMS – GPS, Radio Navigation, ATC Radar, Weather Radar, Voice, etc. The EMS is a finite yet vital resource that is currently constrained by the technologies that access it. The rapid growth of sophisticated weapons systems, as well as intelligence, operations, and communications systems, greatly increases demand for EMS access. Lack of proper, pre-planned EMS coordination and consideration of electromagnetic environmental effects (E3) will have an adverse effect upon the safe, efficient, and flexible use of airspace. EMS availability and supportability is further constrained by international and national regulatory guidelines designed to protect the rights of sovereign governments by requiring approval prior to transmission in any portion of the spectrum that lies within a particular country's national borders.

In joint military operations EMS requirements may exceed the amount of spectrum resources available in a given electromagnetic operational environment (EMOE). As a result, CJCSI 3320.01C, *Electromagnetic Spectrum Use in Joint Military Operations* issues policy and guidance for efficient management, control, and use of the EMS to

ensure airspace control operations, among other operations, are conducted with minimal unintentional electromagnetic interference (EMI) and without negative E3. The Joint or Theater level Joint Frequency Management Office (JFMO) or Joint Spectrum Management Element (JSME) should be consulted for all EMS issues. See JP 6-01, *Joint Electromagnetic Spectrum Management Operations (JMSMO)* for further details.

### **Global Area Reference System (GARS)**

[GARS](#) is the DOD standard area reference system as established in CJCSI 3900.01C, [Position \(Point and Area\) Reference Procedures](#). GARS is an operational-level administrative measure used to coordinate geographic areas for rapid operational deconfliction and synchronization. While providing a common language between the Services and components, GARS is not a replacement for position-reference procedures or systems. It is not used to describe exact geographic locations or to express precise positions for guided weapon employment, or to describe areas smaller than five minutes by five minutes. It simply provides the two-dimensional construction from which control and coordination measures can be constructed. GARS uses a grid system with a simple, universal identifier recognizable by each component and their associated C2 and attack assets. Three numbers followed by two letters describe a unique 30-minute by 30-minute area. The areas are read right (west to east, 1-720) then up (south to north, AA-QZ). A detailed discussion of GARS is located in JP 2-03, [Geospatial Intelligence Support to Joint Operations](#).<sup>3</sup>

### **Common Geographic Reference System (CGRS)**

In addition to GARS, there is another standardized geographic reference system known as the CGRS. CGRS predates GARS and may still be in use. This system uses a theater determined origin/starting point vice the global point referenced by GARS. Because both CGRS and GARS reference common terms with different meanings, there is a high risk of confusion. The ACP should define the theater-specific area reference system in use, as well as procedures for definition and activation of airspace dimensions.

### **Common Geographic Reference System**

*During Operation ENDURING FREEDOM, Air Force aircrews and forward air controllers improved upon a system to deconflict aircraft and other weapon systems in the congested airspace over Afghanistan. Reference systems to help manage the battlespace are not new. During the siege of Khe Sanh in Viet Nam, pre-established restricted and free fire zones were used. During Operation DESERT STORM, a common grid overlay system known as a "kill box" was developed. The kill box concept was also adopted for air operations over the Balkans, then further refined in Operations ENDURING FREEDOM and IRAQI FREEDOM.*

<sup>3</sup> AFTTP 3-2.17, *MTTP for the Theater Air Ground System*

CGRS is a two-dimensional construct to improve joint weapons integration over the battlespace. The system divides airspace into cells which are then further divided into nine keypads, which can be further subdivided into quadrants.<sup>4</sup> Some applications of the CGRS can be made three-dimensional by adding altitude restrictions. Forces in Korea define CGRS airspace by 30x30 minute squares, further divided into nine 10x10 minute sections. Each section is commonly referred to as a “keypad,” similar to a telephone keypad. For further details see AFTTP, 3-2.59, *MTTP for Kill Box Planning and Employment*.

### **Theater Specific Area Reference System**

If GARS is not used, the ACP should define the theater-specific area reference system in use, as well as procedures for definition and activation of airspace dimensions. Normally airspace boundaries between component or coalition airspace control agencies coincide with GARS boundaries. However, in certain situations (such as amphibious objective areas), the ground forces may request to control the airspace over its AO with the airspace boundary corresponding to a terrain feature (such as a river). In those circumstances, procedures for airspace control and handoffs between the adjacent airspace control agencies should be clearly coordinated to prevent loss of situational awareness and potential conflicts.

Procedures and authority for activating GARS airspace vary from theater to theater, based on the needs and intent of the JFC. The type of system used is less important than ensuring all components use the same reference system and procedures. GARS airspace may include associated FSCMs. Other FCSMs and ACMs may also be used in addition to GARS.

### **Integration of Expeditionary Airfields**

As an operation flows through its various phases, expeditionary airfields normally open and close as forces reposition. These airfield changes should be integrated and synchronized with ongoing airspace control and regional air movement coordination center (RAMCC) procedures. An AFFOR airfield operations cell normally stands up to facilitate the opening of new airfields. Their key actions include installation of required airfield systems, sourcing of personnel, and the development and inspection of flight procedures. The timely establishment of all-weather instrument procedures is crucial for base logistics and operations.

### **Communication and Information**

Although the airspace C2 infrastructure has not changed much over time, the communications network has improved significantly, enhancing the reliability, security, and timeliness of information flow. Information that might previously have stopped at the AWACS or CRC is now sent to the AOC enhancing situational awareness. In addition, broad-bandwidth communications using satellite and internet protocol communications have substantially increased both the ACS C2 coverage and ‘reachback’ capabilities.<sup>5</sup> This provides the JFACC with a variety of employment

---

<sup>4</sup> AFTTP 3-2.78, *Airspace Control*

<sup>5</sup> AFTTP 3-3.AOC, *Operational Employment—Air Operations Center*

options. Secure voice systems (ultra-high, very high, and high frequencies) are highly reliable means of communication. They were used as the primary means to communicate among airborne elements during Operations ENDURING FREEDOM and IRAQI FREEDOM.

### **Communications Planning**

Planning is an essential element of effective airspace C2. Detailed radar and radio signal analysis ensures that surveillance and communications systems provide appropriate coverage within the airspace using a combination of fixed and mobile systems. Detailed analysis of joint network and joint infrastructure requirements is crucial in order to enable system integration across component and allied operational capabilities. These needs are normally met by installing a combination of organic and commercial communications systems prioritized to meet the commander's mission. The goal is to maximize the use of military capabilities and expand use of commercial systems to increase capacity and reliability and to generate greater freedom of action. [Communications planners](#) should perform an [operational security](#) (OPSEC) vulnerability analysis to determine procedures that will protect sensitive unclassified information from exploitation. All EMS planning and coordination should be accomplished in accordance with [CJCSI 3320.01C](#), *Electromagnetic Spectrum Use in Joint Military Operations*.

### **Airspace Communications Systems**

Airspace control agencies primarily communicate with airspace users via voice communications. Principal transmission should be through secure and jam-resistant radio equipment. The TAGS communication capabilities include line of sight, beyond line of sight and satellite systems, but planners should also ensure that radio relays are considered to enhance over-the-horizon radio communications. Networking technologies may also increase the capabilities of C2 nets to disseminate information with unprecedented speed and accuracy. Additionally, increased reliance on internet relay chat requires specific configurations, protocols, and tactics, techniques, and procedures to ensure effective communications among internet relay chat users. Specific procedures for the use of internet relay chat or other non-voice communication systems for airspace coordination should be included in the ACP. When communications cannot be secured through technical means, OPSEC should be applied to all forms of unsecured communications.

### **Data**

Tactical data links (TDLs) are standardized communication links suitable for transmission of digital information. All Services, including the Air Force, use these links for situational awareness to support battle management, C2, and combat airspace integration. Since air defense nodes also provide airspace control, they enhance the situational awareness and effectiveness of link-equipped aircraft. Rapid data transmission means they can also support airspace control as an ancillary function.

### **Gateways**

With the debut of ASOC Gateway machines, ASOCs have increased situational awareness and the technological means to digitally communicate vital combat airspace

information to appropriately equipped aircraft. Gateways provide the means to translate and forward tactical data to allow interoperability/information exchange among disparate TDL systems.

### **Joint Interface Control Officer**

The JICO works with the AOC's C2 plans division and component liaisons to develop and publish the theater's integrated data link architecture and operations guidance. Circumstances may allow or require the delegation of some data link management functions to regional levels. Chairman of the Joint Chiefs of Staff Manual (CJCSM) 6610.01E, *Tactical Data Link Standardization and Interoperability*, provides a detailed description of data links. AFTTP 3-2.23 *MTTP for Joint Air Traffic Control*, AFTTP 3-2.17, *MTTP for the Theater Air-Ground System*, and AFTTP 3-2.31, *MTTP for an Integrated Air Defense System* provide further information on data links and the key role they play enabling effective airspace control and air defense.

### **Engagement, Cooperation, and Deterrence Operations**

While normal and routine, operations designed around [engagement, cooperation and deterrence](#) discourage potential adversaries and assure or solidify relationships with friends and allies. Various joint, multinational, and interagency airspace activities are executed with the intent to enhance international legitimacy and gain cooperation in support of defined military and national strategic objectives. They are designed to assure success by shaping perceptions and influencing the behavior of both adversaries and allies, developing allied and friendly military capabilities for self-defense and coalition operations, improving information exchange and intelligence sharing, and providing US forces with peacetime and contingency airspace access.

Additionally, the host nation may retain overall airspace control or the [ACA may transfer airspace control](#) to the host nation giving the JFC and ACA a less direct voice in the daily conduct of airspace control for continuing JFC operations. As part of theater security cooperation, the tasks and responsibilities of the ACA become crucial to ensuring access and enabling strategic and operational partnerships.

### **Coordination with the Host Nation, Regional Authorities, and International Civil Aviation Organizations**

When the host nation retains airspace control authority, joint forces primarily use existing international, host nation, or DOD aeronautical information publications for airspace procedures or guidelines. Airspace and navigation services are the sovereign right and [responsibility of the host nation](#). Joint forces operating within the airspace of any host nation use these airspace services with the sovereign consent of that nation, under the provisions of respective national aeronautical information publications or other appropriate agreements.

Although combat operations may not be in execution, the JFC should consider appointing an ACA, (normally the COMAFFOR) for airspace management, air traffic control, and navigation aids issues within the AOR/JOA. The commander, Navy forces is normally assigned responsibility for airspace procedures applicable to fleet air

operations over international waters within the operational area and only advises the JFC's lead agent as appropriate. As lead agent, the COMAFFOR is [delegated the authority](#) to develop joint force airspace requirements in coordination with the other Service components and represent those joint force airspace requirements to the DOD, interagency, international, or host nation authorities as appropriate. Additionally the lead executive agent normally serves as the focal point to:

- ✦ Provide assistance to the JFC, components, Services, and supporting commands on airspace, air traffic, and navigation aid matters.
- ✦ Develop appropriate airspace coordinating measures in support of JFC contingency planning to include airspace requirements for UAS.
- ✦ Ensure current and future airspace and navigation aid availability for components and supporting commands through joint mission essential task listing inputs.
- ✦ Coordinate host nation navigation aids inspections with HQ Air Force Flight Standards Agency, FAA/ICAO aviation system standards, and the DOD program management office for flight inspection.
- ✦ Ensure navigation aids are included on the DOD essential foreign-owned navigation aids list if deemed an enduring requirement.
- ✦ Develop and establish procedures for airspace actions or issues that cannot be resolved by component commands consistent with applicable DOD, JFC, component, international, and host nation guidance.
- ✦ Ensure altitude reservations are coordinated for all DOD aircraft transiting or operating within the operational area.
- ✦ Develop friendly host nation airspace capabilities through the joint force theater engagement plan, training, and exercises.
- ✦ Submit changes to DOD aeronautical/flight information publications to the National Geospatial-Intelligence Agency on a timely basis.

### **Normal and Routine Military Airspace Considerations**

In addition to ensuring the continuation of routine DOD flight operations, joint force airspace planners should establish effective relationships with key AO airspace authorities, develop specific ACPs in preparation for future operations, and build airspace planning expertise.<sup>6</sup> Regular DOD or joint force interaction with host nation authorities and participation in regional airspace conferences establishes relationships with the host nation for quick resolution of issues and effective coordination of airspace requirements.

---

<sup>6</sup> AFTTP 3-2.23, *MTTP for Joint Air Traffic Control*

Development of ACPs should include airspace control considerations from peace to combat operations and through all follow-on phases of the operations plan. Additionally, the ACP should integrate known international or host nation air traffic airspace and air defense capabilities. [Primary planning considerations](#) include identification of airspace required for joint force operations and the proposed coordination process for obtaining that airspace. Joint operation planning should consider procedures to transfer airspace control authority from the host nation to the ACA. This would include: rerouting of airways, ACA responsibilities for continuity of civil aviation operations, and host nation notification of ACA areas of control through NOTAMS or aeronautical information publication entries.

Developing joint force airspace control expertise for the design of airspace control systems and procedures is also crucial during normalized operations. Airspace managers should receive formal training prior to arriving at an Air Force component headquarters or AOC, preferably at the AOC formal training unit. Additionally, theater-specific training on airspace control ensures full mission qualification. Exercises provide key opportunities for airspace control planners to practice joint C2 procedures and familiarize themselves with the basic operation plan. Bilateral or regional exercises with host nations are effective in improving cooperation with and understanding of host nation capabilities for improved planning accuracy and interoperability.

### **Transition to Deterrence**

The transition to deterrence operations begins with the identification and determination of a crisis situation requiring joint force action and crisis action planning to develop appropriate plans with ACPs. Available joint force airspace planners develop or revise the ACPs for airspace actions required in the initial execution of operations as well as considerations and planning for follow-on operations.

### **Deterrence**

Normally a demonstration of joint force capabilities and resolve, deterrence seeks to avert undesirable adversary action. Largely characterized by preparatory actions, deterrence operations specifically facilitate the execution of consecutive operations or theater campaigns. Airspace control contributes to these operations by supporting the combatant commander's (CCDR) deterrence strategy. Specific airspace actions may include developing the finalized ACP and airspace database for ACO publication; obtaining initial overflight and airspace permission; and assignment of joint force airspace liaison personnel to Department of State, US embassies, multinational, or host nation organizations to coordinate airspace requirements for subsequent phases of the operation. Liaisons can facilitate a timely exchange of airspace control information, especially in a multinational environment where language barriers can impede crucial cross-communication necessary for safe and effective airspace control.

The JFACC (or JFC's executive agent for airspace management) establishes a dedicated airspace planning team to finalize the ACP and area air defense plan, and develops airspace control orders for current and future operations. The ACP and area

air defense plan should complement each other and ensure the orderly transition from peacetime operations to combat operations. The JFACC (executive agent) may:

- ★ Coordinate with the JFC, components, interagency, coalition, and host nation to define airspace boundaries for inclusion in the ACP (if granted liaison authority from the JFC).
- ★ Request airspace planning augmentation from components, Services, interagency or multinational organizations as required for planning efforts, AOC operations, or liaison functions.
- ★ Establish key relationships or agreements with appropriate international and regional airspace control agencies concerning ACA authority and coordination during joint force operations.
- ★ Identify required joint force airspace control systems and personnel required to support airspace control through phased operations and deploy those assets as required.
- ★ Coordinate DOD/FAA/ICAO NOTAM system availability to support intertheater dissemination of flight operating information and Air Force/FAA flight check aircraft for air traffic facility inspection.
- ★ Identify the desired concept for the airspace control system in post major combat operations and consider placing critical components of the enemy air control system on the restricted target list to preserve them for future use.

### **Airspace Considerations**

For deterrence, the ACP should contain procedures to fully integrate the resources of military and civil air traffic control facilities responsible for terminal-area airspace control or en route air traffic control. Airspace management personnel should coordinate the ACP with representatives of the host nations in whose airspace the operations will take place and with civil air activities that may occur in or near the airspace. Broad areas of concern for developing the ACP include familiarity with the basic OPLAN, knowledge of host and multinational capabilities, procedures of military and civil airspace control and air traffic control systems, and general locations of friendly and enemy forces.

Additionally, planners should be familiar with any host nation agreements that could impact air operations and should be prepared to identify any new requirements to negotiate and formalize with the host nation. Host nation agreements concerning airspace control may only be negotiated by authorized personnel in accordance with Air Force instructions and ICAO protocols. Planners should integrate surface-to-air weapons and air defense aircraft for maximum effectiveness. Proper coordination with civil air operations is especially important during transitions into or out of wartime status or during non-wartime periods of heightened tensions. Political constraints, national and military airspace control systems and procedures, and the capabilities and

limitations of these systems are important considerations in planning for required joint force airspace control. Applicable information from the ACP should be distributed to joint and coalition forces as well as host nations, allies, and international organizations such as ICAO.

### **Homeland Operations**

Natural or man-made disasters and special events can temporarily overwhelm local, tribal, state, and non-military federal responders. The DOD has a long history of supporting civil authorities in the wake of catastrophic events. When directed by the President or the Secretary of Defense, USNORTHCOM and Service components respond to the requests of civil authorities to save lives, prevent human suffering, and mitigate great property damage. The Joint Strategic Capabilities Plan (JSCP) directs CDRUSNORTHCOM to prepare a plan to support the employment of DOD forces to provide defense support of civil authorities ([DSCA](#)) in accordance with the National Response Framework, applicable federal law, DODDs, and other policy guidance. The plan should include those hazards defined by the national planning scenarios not addressed by other JSCP tasked plans. DSCA is a subset of DOD civil support that is performed within the parameters of the National Response Framework.

### **Authorities**

With some exceptions noted previously (e.g., DOD declaration of ESCAT), the FAA governs US airspace. Title 49, U.S.C., section 40103 directs the administrator of the FAA to “develop plans and policy for the use of the navigable airspace and assign by regulation or order the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace. The administrator may modify or revoke an assignment when required in the public interest.” This section also directs the administrator to prescribe air traffic regulations on the flight of aircraft (including regulations on safe altitudes) for:

- ✦ Navigating, protecting, and identifying aircraft.
- ✦ Protecting individuals and property on the ground.
- ✦ Using the navigable airspace efficiently.
- ✦ Preventing aircraft collision between aircraft, between aircraft and land or water vehicles, and between aircraft and airborne objects.

Additionally, the administrator establishes security provisions to encourage and maximize the use of navigable airspace by civil aircraft consistent with national security and in consultation with the Secretary of Defense. These responsibilities require the administrator to establish areas in the [national airspace](#) where in the interest of national defense, by regulation or order, restrict or prohibit flight of civil aircraft that the administrator cannot identify, locate, and control with available facilities in those areas. Finally, Title 5, U.S.C., sections 551–559, [Administrative Procedure](#), requires public

notice before the FAA can carry out certain airspace management actions, including military actions.

### **Emergency Security Control of Air Traffic (ESCAT)**

ESCAT replaced Security Control of Air Traffic and Air Navigation Aids (SCATANA). It is an emergency preparedness plan of the United States which prescribes the joint action to be taken by appropriate elements of the Department of Defense, Federal Aviation Administration, and the Federal Communications Commission in the interest of national security in order to effectively control air traffic and air navigation aids under emergency conditions. The plan has been implemented exactly once. On September 11, 2001, SCATANA was implemented ordering that all US air traffic be grounded after the attacks against the World Trade Centers and the Pentagon.

Implementation of ESCAT is intended to meet threat situations such as:

(1) An emergency resulting in the declaration of an Air Defense Emergency by the appropriate military authority. Under this condition, NORAD and USPACOM Commanders have authority to implement ESCAT.

(2) An adjacent Combatant Command is under attack and an Air Defense Emergency has not yet been declared. Under these conditions, NORAD and USPACOM Commanders may direct implementation of ESCAT for their own AORs individually, if airspace control is warranted and agreed upon by DoD/DHS/DOT.

(3) Emergency conditions exist that either threaten national security or national interests vital to the US, but do not warrant declaration of Defense Emergency or Air Defense Emergency. Under these conditions, NORAD and USPACOM Commanders may direct implementation of ESCAT for their own AORs individually, if airspace control measures are warranted and agreed upon by DOD/DHS/DOT. (Federal Register /Vol. 71, No. 203/ Friday, October 20, 2006/ Rules and Regulations 61889, Department of Defense Office of the Secretary [DOD-2006-OS-0133]RIN 0790-AI0632 CFR Part 245)

### **Incident Awareness and Assessments (IAA)**

IAA is similar to the DOD's definition of ISR. However, ISR is conducted outside the United States over foreign territory or within the United States during homeland defense events, while IAA is conducted within the United States in support of [DSCA](#) operations. The different terminology is necessary to make it clear the DOD does not collect intelligence on American citizens. IAA operations focus on providing timely and usable information to all levels of command and to local, state, civil, and federal leaders in order to save lives, reduce human suffering and protect property. The three mission sets of IAA are broad area coverage, damage assessment, and situational awareness. 1AF AFNORTH's tasks in support of IAA include:

- ✦ Assisting USNORTHCOM in identifying, sourcing, sustaining and employing airborne IAA assets. Additionally, if the DSCA situation requires dynamic movement and tactical control of airborne assets, 1AF AFNORTH also assists USNORTHCOM in identifying the need for a dynamic ground control capability (like a JTAC).

✦ Executing collection operations management for assigned airborne IAA through the AFNORTH AOC.

✦ Coordinating and integrating DOD IAA collection efforts with non-DOD federal, state government, local government, and non-government airborne collection assets to increase efficiencies. This effort is greatly facilitated when all parties elect to participate in the contingency response air support schedule process.

### **Homeland Defense Airspace Operations**

Operation NOBLE EAGLE, the defense of America's skies after the attacks of September 11, 2001, and military support operations after Hurricane Katrina demonstrated the need for a clear understanding of responsibilities and effective coordination between civil and military airspace control agencies during homeland defense or civil support operations. Specific information for homeland airspace coordination considerations is included in JP 3-27, [Homeland Defense](#), JP 3-28, [Defense Support of Civil Authorities](#), and Annex 3-27, [Homeland Operations](#).

---