# POINT DEFENSE OF AIR BASES



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Today's joint air defense capability and capacity, combined with air component schemes of maneuver such as Agile Combat Employment (ACE), will stress air defense resources. The emergence of asymmetric threats such as small unmanned aircraft systems (sUAS), loitering munitions, and hypersonics present complex problems for defending air bases both at home and abroad. With appropriately delegated authorities, an air base commander may conduct point defense (PD) of their installation using organic Air and Missile Defense (AMD) capabilities. Air base commanders may execute PD either independently or as part of a broader integrated AMD system under the authority of the Joint Force Commander (JFC) and Area Air Defense Commander (AADC) in operational theaters, or when authorized by law in the homeland. This doctrine advisory outlines:

- Doctrinal terminology to define PD of air bases in the context of joint AMD and force protection (FP) doctrine.
- The authorities nested in joint and service doctrine for PD of air bases.
- **O** The potential to integrate current and future PD capabilities into joint AMD procedures.

#### Point Defense

PD protects limited areas, normally in defense of vital elements of forces or installations. For example, SAM unit or electronic jammer positioned to protect an airfield or carrier strike group is considered PD (JP 3-01, *Countering Air and Missile Threats*, and AFDP 3-01, *Counterair Operations*).

# A BRIEF HISTORY

There is a common misconception among Airmen that the US Army is solely responsible for the air defense of air bases. This view stems in part from a 1984 *Memorandum of Understanding (MOU) on United States Army & USAF Responsibilities for Air Base Air Defense.*<sup>1</sup> The MOU established the Joint Air Base Air Defense Working Group, made global air base air defense a joint responsibility, and gave the Army primary responsibility for air defense, unless there was inadequate resourcing. In that case the Air Force could pursue organic "point air defense" capability. However, the services did not renew the MOU, and it has since expired. Moreover, DoD guidance requires all Services to organize, train, and equip forces to contribute to AMD and FP.<sup>2</sup> Ultimately, joint doctrine provides guidance to the JFC for the protection of our forces, capabilities, and installations in any area of operations (AO) where forces are assigned.

<sup>&</sup>lt;sup>1</sup> Davis, Richard G., *The 31 Initiatives: A Study in Air Force and Army Cooperation*. Office of Air Force History, Washington D.C., 1987.

<sup>&</sup>lt;sup>2</sup> For additional information on directed functions of Service components, see DoDD 5100.01, *Functions of the Department of Defense and Its Major Components.* 

#### Historical PD Example: USAF Security Police FIM-92 "Stinger" Program

The USAF Security Police Stinger Program went operational on 1 June 1984 and was decommissioned on 19 January 1996. The program was designed to provide a flexible and responsive PD capability for the bases where they were assigned. Stinger was a special duty assignment for Security Police NCO's and Airmen. The units were only deployed to the 8 SPS at Kunsan AB and the 51 SPS at Osan AB in Korea. A third unit planned for the 3 SPS at Clark AB in the Philippines but was canceled as a result the 1991 Mount Pinatubo eruption (USAF Police Alumni Association).

# PROTECTION

The joint function of **protection** encompasses the JFC's efforts to secure and defend the effectiveness and survivability of mission-related military and nonmilitary personnel, equipment, facilities, information, and infrastructure deployed or located within or between the boundaries of a given AO to maintain mission effectiveness.<sup>3</sup> This includes FP, force health protection, and other protection activities and tasks such as:

- Providing air, missile (including hypersonics), and space defense, including all space segments and unmanned aircraft system satellite communication operations.
- Providing physical security to protect forces, bases, joint security areas (JSAs), posts, infrastructure that enables power projection, and lines of communications (LOCs).

# Self-Defense

Self-defense is conducted by friendly forces to defend themselves against direct attack or threat of attack using organic weapons and systems. Inherent to all rules of engagement (ROE) and weapon control procedures is the right of self-defense. Importantly, employment in self-defense may or may not extend to defense of others. Such instructions are normally detailed in special instructions (SPINS) and other authoritative guidance (Joint Publication (JP) 3-01, *Countering Air and Missile Threats*, and Air Force Doctrine Publication (AFDP) 3-01, *Counterair Operations*).

<sup>&</sup>lt;sup>3</sup> For additional information on protection, see JP 3-0, *Joint Campaigns and Operations*.

# **AIR DEFENSE AUTHORITIES**

The JFC appoints both the Joint Force Air Component Commander (JFACC) and the AADC, who is responsible for defensive counterair (DCA) planning and operations. DCA encompasses AMD for the joint force and the associated joint operating area (JOA). The AADC controls the air defense battle using approved authorities (e.g., ID, commit, and engagement) and the flexibility of the components of the integrated air defense system.

To decentralize execution, the AADC may delegate their air defense authorities to the Regional Air Defense Commander or Sector Air Defense Commander (RADC/SADC) level if established.<sup>4</sup> The AADC assigns protection missions for theater level air defense assets (e.g., Patriot battery), via the JFC's Critical Asset List/Defended Asset List (CAL/DAL). Air defense authorities should be delegated to the lowest practical level consistent with the ROE, the DAL, the area air defense plan (AADP), SPINS, and the authority of the JFC. Authority to conduct PD, including defense against sUAS, is often delegated to the service components.

Tactical air defense systems (e.g., Phalanx, Avenger, counter-sUAS systems [C-sUAS]) are normally employed at the component level in coordination with the RADC/SADC and may be assigned to protect assets other than those on the CAL/DAL. The AADC specifies conditions and limits based upon the threat level and the complexity of engagements within which AADC authority can be executed by distributed control nodes.

For battle management, the AADC or a qualified RADC/SADC uses three tools for which the authorities may be delegated further down to the tactical level: air defense warning conditions (ADWCs), weapons control status (WCS), and fire control orders.<sup>5</sup> In addition, Air Force Tactics, Techniques & Procedures (AFTTP) 3-2.17, *Theater Air-Ground System (TAGS)*, articulates how USAF elements are integrated into the existing joint theater air control system. A USAF Control & Reporting Center (CRC), Battle Control Center (BCC), an Air Battle Manager aboard an airborne warning and control system (AWACS), or other specially trained and designated personnel are considered capable of being delegated RADC/SADC authority by the AADC.<sup>6</sup>

# JOINT SECURITY COORDINATOR

In high-threat environments, the JFC normally designates a Joint Security Coordinator (JSC), typically a component commander with the appropriate capabilities and force structure, to focus on security within the JSA. The JSC normally coordinates base security requirements and priorities with the JFACC/AADC, including issues such as base boundaries and Base Defense Zones (BDZ). JP 3-10, *Joint Security Operations in Theater*, states the airspace above the JFC-designated JSA is normally not included in the JSA. This airspace is normally governed by established joint force or civil airspace

<sup>&</sup>lt;sup>4</sup> For additional information on Regional Air Defense Commander or Sector Air Defense Commander, see Air Force Doctrine Publication (AFDP) 3-01, Counterair *Operations*.

<sup>&</sup>lt;sup>5</sup> For additional information on AADC or RADC/SADC authorities, see JP 3-01, *Countering air and Missile Threats,* and AFDP 3-01.

<sup>&</sup>lt;sup>6</sup> For additional information on the projected capability of the BCC, see AFDP 3-0.1, *Command and Control.* 

control procedures. The evolving need for active measures for C-sUAS may require detailed coordination with the airspace control authority. In this manner, the AADC and Base Defense leadership authorities complement one another to allow for AMD (e.g., establishing BDZ entry and exit procedures).

# POINT DEFENSE OF AIR BASES

The base commander designation is determined by the JFC (Note: determined by the DoD or Service components in CONUS). This is based on the classification of the base and by the functions and unique security requirements of the individual services. The service designated with base command responsibilities, also called base operating support (BOS) (or BOS integrator [BOS-I] for locations with multiple service components present) provides the command and control (C2) structure for FP, security, and defense operations within the base boundary. In instances where the USAF is given both BOS and defense responsibilities, the USAF determines the overall base FP structure and scheme of defense.

# Base Defense Zone (BDZ) and Base Boundary

BDZ is 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. A BDZ provides airspace users with location of the engagement zone for the air defense systems defending a base (JP 3-52, *Joint Airspace Control*).

Base Boundary is a line that delineates the surface area of a base for the purpose of facilitating coordination and deconfliction of operations between adjacent units, formations, or areas. The base boundary is normally assigned by the JFC or their designated representative (JP 3-10, *Joint Security Operations in Theater*, and AFDP 3-10, *Force Protection*).

Base commanders with active airfields should identify threat systems (e.g., sUAS, mortars, etc.) and plan to secure air operations using organic PD capabilities. Unlike the BDZ, which is an airspace coordination measure, USAF commanders use the planning construct of the base security zone to help mitigate ground threats to air operations originating outside the base boundary.<sup>7</sup> Ideally, the base commander has sufficient forces and a large enough base boundary to counter these threats. Commanders must also consider that air base defense is not merely the protection of air assets but the **protection of base infrastructure and personnel to preserve the ability to generate air power**.

<sup>&</sup>lt;sup>7</sup> USAF uses the planning construct of the base security zone (BSZ)—the multi-dimensional space around the base from which the enemy might impact air operations by launching an attack against approaching or departing aircraft, or personnel and resources located on the base. For additional information on force protection, see AFDP 3-10, *Force Protection*.

In the notional integrated IAMD example depicted in the figure below, the USAF base commander has been delegated authority, via the airspace control order (ACO), to employ organic PD capabilities inside a BDZ.<sup>8</sup> In this example, the base commander plans, directs, integrates, coordinates, and controls PD activities through the base defense operations center (BDOC) as the focal point for base defense and security.<sup>9</sup>



Air base point defense within a notional IAMD construct

Joint doctrine advises commanders and planners to arrange adequate protection and defensive measures; coordinate and deconflict operational procedures; and establish sufficient roles, responsibilities, and authorities for defense against low-altitude air threats. For example, AFTTP 3-2.31, *Air and Missile Defense*, lays out many doctrinal approaches for both passive and active C-sUAS planning considerations and control measures. Future unit-of-action commanders **should not assume that joint capabilities** will be available or sufficient and may need to plan to leverage organic capabilities for the PD of widely dispersed operating locations under an ACE scheme of maneuver.

The doctrinal concepts and command relationships detailed above will be generally applicable within the homeland or other airspace environments controlled by civil agencies with the added complexity of increased requirements for interagency coordination and approval, particularly during steady-state or peacetime operations. Additionally, airspace control and airspace coordinating measure terminology may be different. As an example, Federal Aviation Administration (FAA) Prohibited or Restricted airspace areas may be analogous to a BDZ when established over an installation that

<sup>&</sup>lt;sup>8</sup> For additional information on airspace control orders, see JP 3-52, *Joint Airspace Control* and AFDP 3-52, *Airspace Control*.

<sup>&</sup>lt;sup>9</sup> For additional information on base defense operations centers, see JP 3-10, *Joint Force Protection*.

possesses PD capabilities, defined coordinating measures, C2 systems, appropriate authorities (e.g., ID, commit, and engagement), and established ROE. CONUS prohibited or restricted airspace must be defined, approved, and established by the FAA. In the absence of an activated OPLAN or National Command Authority (NCA) order, CONUS installation commanders employ defensive capabilities (including PD capabilities) against threats in accordance with the standing rules for the use of force<sup>10</sup> or the authority of federal law rather than COCOM (i.e., NORAD/USNORTHCOM) authority.

#### US Navy Strategic Weapon Facility (SWF) Prohibited Airspace

An airspace construct similar to a BDZ exists over the US Navy's Ballistic Missile Submarine Bases at Kings Bay, GA and Bangor, WA. Prohibited areas P-50 (Kings Bay, Feb 2006) and P-51 (Bangor, Dec 2005) were established by the FAA to replace existing Temporary Flight Restriction (TFR) areas. According to the FAA, these prohibited areas support the installation commanders' scheme of defense against airborne threats by "reducing low altitude overflights of the facility and provide a better means of identifying potentially hostile aircraft." Installation security forces employ prohibited airspace areas as part of a layered scheme of defense. Prohibited airspace incursions alert the security force to employ defensive capabilities to counter potential hostilities via pre-planned or immediate response tactics, techniques, and procedures. Authorities for SWF C-sUAS activities are derived from Title 10 U.S.C. § 130i.



<sup>&</sup>lt;sup>10</sup> For additional information on the use of force, See CJCSI 3121.01B, *Standing Rules of Engagement/Standing Rules for Use of Force for US Forces.* 

#### INTEGRATING FUTURE AIR FORCE AIR DEFENSE CAPABILITIES

The joint force contributes capabilities to provide air defense of air bases, such as the Army's AMD systems (THAAD, Patriot, short-range air defense [SHORAD], and Indirect Fire Capability System [IFPC]) and Navy AEGIS destroyers providing ballistic missile defense of vital areas. A properly organized, trained, and equipped air component can also provide critical PD capabilities and contribute to joint layered defense. PD must be executed within the existing ROE set by the AADC and conducted in accordance with the TTPs outlined in the existing AFTTP 3-2.17, *TAGS*.

Air defense capabilities organic to or assigned to USAF units of action may be employed independently or be integrated into the existing joint AMD framework under the authority of the AADC or federal law depending on the situation. Units of action need personnel, training, capability, and procedures similar to an Army SHORAD battery or a brigade air defense artillery fire control officer (BDE ADAFCO).<sup>11</sup>

When integrating organic air defense capabilities into an AO where the airspace is controlled by another authority, these systems will likely serve as PD against a limited range of threats such as sUAS, rockets, mortars, rotary-wing aircraft, or loitering munitions. This would also require the air component, or its units of action, to acquire and employ C2 systems and fire control procedures for coordinating defensive actions within the joint airspace as a RADC/SADC.

The homeland presents a unique and challenging context for PD operations. Engagement parameters, authorities, and requirements for coordination amongst various local, state, and federal agencies constitute constraints and restraints for PD capability employment. These factors have the potential to introduce delay into the PD kill chain and risk response effectiveness if not accounted for in advance. Employment of future PD capabilities requires detailed coordination and plans that reflect the appropriate level of detail and jurisdictional guidance to enable commanders to defend their installations. Proper alignment of PD authorities and capabilities holds the potential to contribute to vertical integration of a layered homeland AMD system such as the "Iron Dome For America."<sup>12</sup>

Doctrine supports the integration of future organic air defense capabilities, including those intended primarily for PD of USAF bases and assets, into joint AMD. Capabilities should be developed with the understanding of their role within the TAGS and the realization that the AADC may assume tactical control (TACON) of any capability able to service theater-level targets or CAL/DAL priorities. Additionally, commanders with organic PD capabilities must be well-versed in the legal and operational risks, responsibilities, and engagement authorities involved in the use of these systems for self-defense in the event of a direct attack upon the air base. Future USAF air defense systems should incorporate joint interoperable C2 and operators should be trained to operate in a joint environment.

<sup>&</sup>lt;sup>11</sup> For additional information on US Army air defense, see Field Manual (FM) 3-01.44, *Short Range Air Defense Operations,* and AFTTP 3-2.31, *Air and Missile Defense.* 

<sup>&</sup>lt;sup>12</sup> For additional information on Iron Dome for America, see "The Iron Dome For America" executive order, 27 January 2025.

# REFERENCES

All websites accessed 10 September 2024

# Doctrine can be accessed through links provided at: <u>https://www.doctrine.af.mil/</u>

# DEPARTMENT OF DEFENSE DIRECTIVES

- DoDD 5100.01, Functions of the Department of Defense and Its Major Components
- CJCSI 3121.01B, Standing Rules of Engagement/Standing Rules for Use of Force for US Forces

# US AIR FORCE DOCTRINE: https://www.doctrine.af.mil/

- AFDP 3-0, Operations
- AFDP 3-0.1, Command and Control
- AFDP 3-01, Counterair Operations
- AFDP 3-10, *Force Protection*
- AFDP 3-52, Airspace Control

# JOINT DOCTRINE

Joint Electronic Library (JEL): <u>https://www.jcs.mil/Doctrine/</u>

JEL+ (CAC Required): <u>https://jdeis.js.mil/jdeis/index.jsp?pindex=2</u>

- JP 3-0, *Joint Campaigns and Operations*
- JP 3-01, Countering Air and Missile Threats
- JP 3-10, Joint Force Protection
- JP 3-30, *Joint Air Operations*
- JP 3-52, <u>Joint Air Space Control</u>

# DOCTRINE FROM OTHER SERVICES

US Army: Current Doctrine (army.mil)

Section 201.44, <u>Short Range Air Defense Operations</u>

# TACTICAL DOCTRINE

# Multi-Service Tactics, Techniques, and Procedures (MTTPs):

https://www.alssa.mil/

- AFTTP 3-2.31, <u>Multi-Service Tactics, Techniques, and Procedures for Air and</u> <u>Missile Defense</u>
- AFTTP 3-2.17, <u>Multi-Service Tactics, Techniques, and Procedures for Theater Air-Ground System</u>