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Air Force Under Fire: Time To Own Base Defense

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Foreword

It was a clear morning, and the sun had just begun to rise over the air base, casting a golden glow over the rows of aircraft. The base's personnel started to bustle around to meet the day's tasks. In an instant, the tranquility was shattered by the thunder of explosions and then the scream of incoming cruise missiles and the buzz of one-way attack drones. Airmen scattered to try to take cover in the confusion. The base, not properly prepared or defended, was caught off guard by a surprise air attack. Even as the strike ended, the sounds of chaos and panic continued to fill the air as personnel rushed to respond to the disaster, but it was too late, as the damage was done. Aircraft were damaged or destroyed, their metal skins torn apart by shrapnel and flames. The base's fuel storage facilities were ablaze, its runways cratered and unusable. Worse yet was the effect on human life; the toll was stunning, with many killed or injured in the blasts. The results were nothing short of catastrophic.

How had this happened? The Air Force was relying on the Army to provide protection for the base and assumed the Army's air defense assets would be sufficient to deter or defeat any potential threats. However, the Army was stretched thin, its limited assets already committed to supporting other joint and high-priority missions, and many of the Army's systems were too logistically cumbersome to meet the Air Force's needs. Despite the Air Force's requests, the Army was unable to allocate its scarce resources to defend every air base, leaving many installations, including this one, vulnerable to attack. As a result, the base faced disastrous consequences.

As the hours turned into days, the true extent of the disaster became clear: the base was unable to generate combat power sorties, leaving its ability to project airpower crippled. The once-thriving air base was now a shadow of its former self, a haunting reminder of the importance of robust defenses and mitigation measures, as well as the terrible consequences of being unprepared for the expected. The tragedy served as a stark warning to Air Force leaders: they should not assume others would provide for their defense.

The Air Force must take charge of providing its own force protection to cover the gaps in joint force coverage by improving and modernizing its air and missile defense (AMD) and air base ground defense capabilities, and it must be funded accordingly. The alternative is to accept the possibility of the scenario above, in which valuable air bases could be rendered useless—unable to generate combat power or protect high-value air assets and personnel in the air or on the ground. Without theater air bases to project power and establish air superiority, U.S. forces can conduct very few, if any, joint operations in contested environments.

The party responsible for the air defense of bases, despite the importance of the mission, seems ambiguous, as it has for decades; regardless, it is not budgeted for accordingly. Many believe the Army is responsible for providing point defenses for Air Force installations.[1] Various leaders have been quoted, and many media articles state that the Army is responsible for the air defense of air bases in accordance with the Key West Agreement or Department of Defense (DoD) directives.[2] However, that is only partly true. The 1948 Key West Agreement, which defined the roles and missions of the U.S. armed services, never explicitly gave that mission to the Army.[3] It does state that one of the primary functions of the U.S. Army was to "provide Army forces as required for the defense of the United States against air attack."[4] However, it also lists primary functions of the U.S. Air Force that include "be responsible for the defense of the United States against air attack…" and "provide Air Force forces for land-based air defense, coordinating with the other Services in matters of joint concern."[5] The closest delineator of responsibility for air defense of air bases in writing was a memorandum of understanding signed by the Army and the Air Force in 1984 stating that the Army would be primarily responsible for air defense of air bases. It also included an important caveat, though: if inadequate funding was applied to the mission, the Air Force could conduct its own point defense.[6] A joint air base working group was also directed. However, the Army did not increase its support, and the working group never met. Regardless, those agreements have expired. Furthermore, per DoD Directive 5100.01, "Functions of the DoD & Its Major Components," missile defense (and force protection and base defense as a whole) is a common military function for all the services.[7] The Army is tasked to "conduct air and missile defense to support joint campaign and assist (emphasis added) in achieving air superiority," but the directive also states that the Air Force will "conduct offensive and defensive ops, to include appropriate air and missile defense (emphasis added), to gain/maintain air superiority." Even if the Army was tasked more explicitly by Congress or the Department of Defense to provide air defense of air bases, history shows that something will occur during the conflict to cause the diversion of these assets elsewhere. In fact, a great deal of research on air defense of air bases over the years, to include several RAND studies, urged the Air Force to take a more active role in its base defense.[8] As far back as 30 years ago, RAND asserted that "Air Base Defense commanders cannot count on other U.S. or allied forces being available to support their operations; in an operationally meaningful sense, they will be on their own."[9]

Whereas the Army has historically provided most of the air defense for air bases due to a variety of factors, this assumption and expectation are unfortunately no longer valid, especially for countering small UAS and cruise missiles. The tacit understanding that the Army has the responsibility to protect Air Force air bases may endure because they fielded Patriot and Terminal High Altitude Area Defense (THAAD) batteries at many Air Force installations in the Middle East and

elsewhere. Importantly, the Army does have an organize, train, and equip responsibility to assist in achieving air superiority, in accordance with DoD Directive 5100.01, and Combatant Commands traditionally allocate air defense units to air bases, as they are high on the critical asset list. However, the reality of bases in the Western Pacific theater, especially given the dynamics of basing in agile combat employment (ACE), suggests that the Army is likely not able to adequately support the Air Force. The Air Force must increasingly rely on smaller bases with small footprints and logistics tails, and such bases cannot support the fielding and maintenance of large pieces of equipment like Patriot, THAAD, or even the relatively smaller indirect fire protection capability (IFPC) batteries. Even if the airfields can accommodate the aircraft needed to move such large systems, the number of aircraft needed may place too great a demand on the limited number of mobility air assets available to be considered a wise use of resources. The Air Force needs to return to the days of providing some of its own organic, service-retained air defense as it did during the Cold War in order to defend its bases from small UAS and cruise missiles while still relying on the Army to defend the Air Force's larger bases from ballistic missiles and more exquisite threats. Air bases are the center of gravity for the Air Force's ability to execute most of its assigned core missions to support joint force operations, and as the air threat grows more grave, there is no sanctuary. This emerging reality is particularly concerning when considering the U.S. pacing challenge, the ongoing conflicts in Ukraine and the Middle East, and increasing threats to base defense from small UAS. In short, the Air Force must plan for a more active role in AMD to cover the gaps in the joint force's coverage, and Congress and the Department of Defense have a duty to allocate the necessary funding and manpower for the Air Force to effectively execute this mission.

An active AMD point defense plan must employ passive defenses and mitigation measures as well as integrate multi-domain fires. These measures, which include space and cyber effects, should align the most apt tools and tactics at the appropriate time and space during the enemy's targeting cycle to reduce the effectiveness of its kill chain or disrupt the intended effects of a strike. In a future fight, the Air Force can expect to encounter thousands of missiles dedicated to suppressing combat sortie generation from its air bases. Consequently, the Air Force must take a comprehensive approach to base defense starting with passive defenses and mitigation measures like disrupting the enemy's automatic target recognition systems, which assist in processing data collected through its command, control, computers, communications, cyber, intelligence, surveillance, reconnaissance, and targeting (C5ISRT) efforts. The Air Force can also ensure timely warning to all bases of operations, including small airstrips essential to the ACE concept. The service should likewise ensure aircraft are on the ground as little as possible, heeding to Italian General Giulio Douhet's warning that "it is easier and more effective to destroy the enemy's aerial power by destroying his nests and eggs on the ground than to hunt his flying birds in the air."[10] When aircraft are on the ground, the Air Force can make sure they are dispersed, protected with revetments or hardened shelters, protected underground where possible, or concealed and defended by other passive measures. These efforts should extend to the often-overlooked critical logistical supplies and support assets needed to generate combat power. Examples include the use of camouflage (adaptive camouflage as well); concealment (even obscurant sprays); decoys; cyber/space-based activities; and, arguably the most critical, better airfield recovery options. Some of these methods counter the enemy's missiles and drones by disrupting its most likely type of

Figure 1: A Marine Air Defense Integrated System (MADIS) fires at a small UAS during a training exercise in January of 2025.
Credit: U.S. Marine Corps photo by Sgt. Jacqueline C. Parsons.

terminal sensors and target verification systems (including enemy's optical sensors), decreasing both their lethality and overall effectiveness. Potentially the most important passive defense measures nowadays are emissions control (EMCON) and communications security (COMSEC) discipline. This means every Air Force installation needs to recognize and understand how to manipulate its own signatures. Individual Airmen must be well-aquatinted and trained with reducing signals as much as possible to help the base appear as a low-priority target. Additionally, the services should look at systematically employing decoys to mimic signals across the electromagnetic spectrum and teach personnel to keep communications short, transmitted via highly secure bursts of text, face-to-face, or other similar methods. Finally, the Air Force must look to disrupt enemy battle damage assessment (BDA) attempts, thereby imposing costs on the enemy's time and resources by moving assets after an attack, "maneuvering" in the electromagnetic spectrum, and employing cyber and space effects.

However important, passive defenses and mitigation measures alone will not lead the Air Force to successful base defense. The Air Force must also be given the necessary funding to invest in its own active AMD defense, primarily for drone and cruise missile threats, as it cannot rely on the joint community. Moreover, passive defenses and mitigation measures generally work best when complemented by some active defense. ACE operations increase and disperse the aimpoints the enemy must regard, which complicates the enemy's targeting. If multiple ACE locations have AMD point defenses, this proliferation creates an even greater challenge for enemy weaponeering, which must overwhelm each AMD threat. The Army and the Marine Corps are already in pursuit of several weapons that could present the Air Force with viable active defense options, to include the Multi-Domain Artillery Cannon (MDAC), if the Army can work out engineering issues; the Medium-Range Intercept Capability (MRIC); and the Marine Air-Defense Integrated System (MADIS). Anti-aircraft artillery, machine

Figure 2: The Medium-Range Intercept Capability (MRIC) has been tested by Marine Corps Systems Command for fielding. MRIC could provide another tactical solution airbase defense.
Credit: Photo by Lance Cpl. Michael Bartman.

guns, and shoulder-fired missiles could also be utilized for some drones and cruise missiles as well. Whatever the Air Force employs, it must have the capability to be rapidly deployable (using as few C-130s as possible) and affordable from a cost-imposition perspective, unlike the Air Force's only current active defense option: providing defensive counter air with airborne fighters. Notably, many areas may be ultimately indefensible in the Indo-Pacific theater, and it may be better to focus on allied and partner capabilities and some long-range fires outside of the second island chain. The threats close in may simply be too dense. However, active AMD point defense systems will still prove beneficial in areas of the Pacific and other theaters of the world based on their relatively lower threat density. Active measures are especially important as it is becoming easier for drones to overcome electronic warfare capabilities. Furthermore, Air Force leaders (specifically, its Security Forces Defense Force Commanders [DFC]) must understand AMD point defense and assets available to support air bases, to include those of the other services, as they are ultimately responsible for integrating all base defense assets and for understanding each of its capabilities in order to defend air bases from ground and air threats. This integration responsibility must also extend to being the target engagement authority for threats in conjunction with collocated air defense operations personnel. Attacks will likely be multi-pronged, and the DFC is in the best position to prioritize resources based on the threat and assets available.

The Air Force must not only consider air threats; the future fight will also see threats from the ground and the sea, and the service must plan accordingly. In modern conflicts like the one in Ukraine, ground-based unmanned systems, irregular warfare tactics, and threats from all domains contribute to suppressing Ukraine's and Russia's ability to generate combat air power from their fixed bases. All of these threats are currently receiving minimal consideration from the greater Air Force establishment. Facing this

multidimensional threat environment, the Air Force must make several changes. ACE has the potential to complicate adversary targeting, but it will require tradeoffs for air base defense (i.e., mobility vs. fortifications, desired effects vs. compliance, small vs. large footprints). Consequently, the Air Force must leverage technology to make up for the lack of manpower and fixed locations. The Air Force should invest in rapidly deployable cameras, sensors, "through armor sighting" technologies for personnel to see outside through a vehicle's exterior from inside the vehicle, and unmanned systems for battlefield orientation and to provide indications and warnings and employ fires. As fixed positions are increasingly easy to identify and target, command posts and defenses in expeditionary environments will most likely need to be mobile. U.S. forces also need to have a "back to basics" approach to force protection planning and consider spacing, manual hardening like sandbags, and simple survivability training. Finally, as the speed of warfare continually accelerates, the Air Force should employ tactical artificial intelligence capabilities to aid targeting during firefights, determine enemy courses of action, and calculate where to employ fires and onto which target, for example. Of course, to develop and field these active and passive measures, the Air Force must not only wholeheartedly accept its mission responsibility but also have the resources and budget for the job.

The vignette at the beginning of this piece depicted a tragic event for Air Force personnel and assets. Should it come to pass, it will be due to the lack of preparation and resources necessary for the Air Force. However, this fictional event is not a preordained affair in a possible future conflict. The national security establishment should understand the importance of air bases to combat power generation and all joint operations, and that their defense cannot rely on the Army. The old adage that the best defense is a good offense still holds true; however, an offense still needs an offensive line to project its offensive power. The Air Force is doctrinally responsible for its own force protection, and with it comes the need for the resources to field effective service-retained active (especially for small UAS and cruise missiles) and passive defenses. Now is the time for meaningful action. ✪

Endnotes

1 Joseph Trevithink, "Railgun Ammo-Firing 155mm Air Defense Cannon Set To Be Awarded To BAE Systems," *The War Zone*, December 23, 2024.
2 Joseph Trevithink, "Lack Of Hardened Aircraft Shelters Leaves U.S. Airbases Vulnerable To China New Report Warns," *The War Zone*, January 8, 2025.
3 Office of the Secretary of Defense (OSD), "Functions of the Armed Forces and the Joint Chiefs of Staff," April 21, 1948. [The Key West Agreement]
4 The Key West Agreement, p. 7.
5 The Key West Agreement, p. 11.
6 See Department of the Army and Department of the Air Force, "Memorandum of Understanding on United States Army (USA)/United States Air Force (USAF) Responsibilities for Air Base Air Defense," Washington, DC: Headquarters, U.S. Army and Headquarters, U.S. Air Force, July 13, 1984, as reproduced in Richard G. Davis, *The 31 Initiatives: A Study in Air Force–Army Cooperation* (Washington, DC: Office of Air Force History, 1987), pp. 120–124; and Department of the Army and Department of the Air Force, "Joint Service Agreement on United States Army (USA)/United States Air Force (USAF) Agreement for the Ground Defense of Air Force Bases and Installations," Washington, DC: Headquarters, U.S. Army and Headquarters, U.S. Air Force, April 25, 1985, as reproduced in Davis, *The 31 Initiatives*, pp. 125–131.
7 "Functions of the Department of Defense and Its Major Components," DOD Directive 5100.1, December 21, 2010.
8 David A. Shlapak and Alan J. Vick, *Check Six Begins on the Ground* (Santa Monica, CA: RAND Corporation, 1995); and Alan J. Vick et al., *Air Base Defense: Rethinking Army and Air Force Roles and Functions* (Santa Monica, CA: RAND Corporation, May 29, 2020).
9 Shlapak and Vick, *Check Six Begins on the Ground*.
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