

Air Intelligence Is a MAGTF Critical Enabler

Let's resource it that way
by Col Michael Lindemann

Air intelligence elements of the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE) are currently inadequate for the fight envisioned in the 2018 National Defense Strategy (NDS).¹ Not only are these units generally inadequate to meet the specific needs required to conduct successful air operations in that fight, shortfalls in air intelligence broadly undermine the effectiveness of the ACE in supporting both the MAGTF and the joint force. When properly resourced and employed, air intelligence can be a critical enabler for MAGTF combat operations against a peer adversary in a multi-domain contested environment. However, absent the investment and operational integration seen across the rest of the MCISRE in the years immediately following 11 September 2001, air intelligence will remain a weak link in the MAGTF chain.

In the wartime years following the 11 September terrorist attacks, Marine Corps intelligence rapidly matured and performed in ways that leaders could have only aspired to achieve in preceding years. New requirements drove a substantial growth in structure, the development of advanced capabilities, and the transformation in how intelligence elements functioned for commanders within their operations. This outcome reflected the necessity of the situation. Combat operations against determined foes in places such as Afghanistan and Iraq demanded effective intelligence. Anything less resulted in reduced op-

"The Joint Force must be able to strike diverse targets inside adversary air and missile defense networks to destroy mobile power-projection platforms. This will include capabilities to enhance close combat lethality in complex terrain."

"Investments will prioritize ground, air, sea, and space forces that can deploy, survive, operate, maneuver, and regenerate in all domains while under attack. Transitioning from large, centralized, unhardened infrastructure to smaller, dispersed, resilient, adaptive basing that include active and passive defenses will also be prioritized."

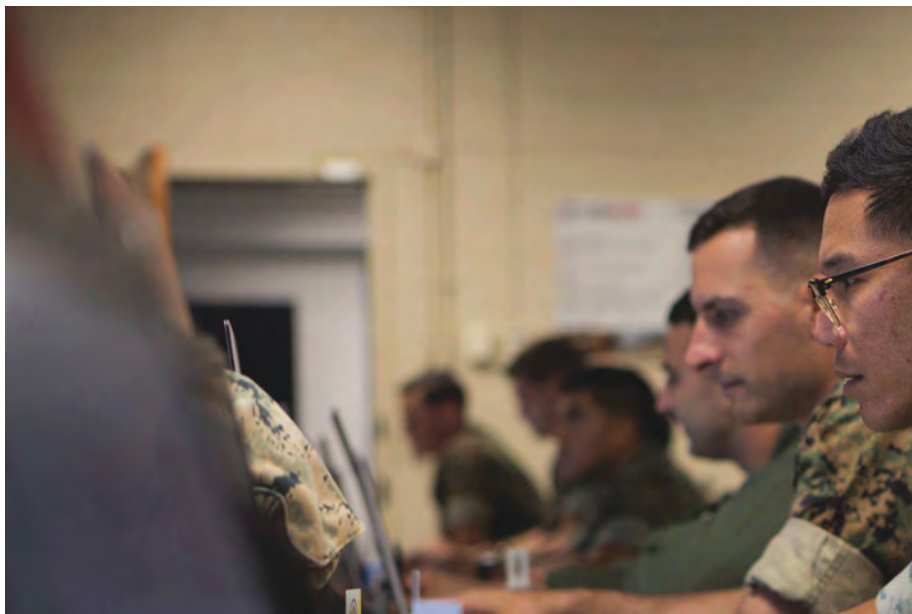
—National Defense Strategy

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erational effectiveness and avoidable casualties in some cases. However, the nature of the counterinsurgency and counterterrorism fight did not stimulate the equivalent maturing of Marine Corps air intelligence capabilities and their operational employment. At most, this conflict prompted the MAGTF to

become more proficient in employing aerial ISR capabilities available from the joint force and the modest resources of the ACE.

As a result, the intelligence personnel structure, systems capabilities, and operational integration within the ACE substantially lagged or atrophied rela-



Enemy positions were provided to the ACE during Exercise BOLD ALLIGATOR, May 2017. (Photo by LCpl Koby Saunders.)

tive to counterparts in other elements of the MAGTF and various intelligence disciplines. Even worse, while intelligence was viewed as integral to other aspects of the fight, a 2011 RAND study titled *Alert and Ready* noted a “vicious cycle in aviation: intelligence not well prepared to support aviators; aviators view intelligence as irrelevant.”² Arguably, an equally difficult perspective to overcome is the complacent belief that receiving a few geopolitical briefs and regular presentations regarding threat weapons systems is the hallmark of a good air intelligence section. Although there have been several notable improvements in subsequent years, both as a community and as a functional area, Marine Corps air intelligence is currently not postured to support mission accomplishment within an airspace contested by a peer threat.³

As the Marine Corps assesses the implications of the NDS and designs the future force, it should address this deficiency in air intelligence. Because MCISRE air intelligence is only one element of several interrelated war-fighting systems, it is possible to draw incorrect conclusions by trying to identify specific requirements for MCISRE air intelligence directly from the NDS. Any consideration for specific air intelligence requirements must be made

within a broader context of how the future MAGTF will contribute to the joint force and how the ACE will likewise evolve to support that MAGTF. Since that framework is itself subject to the upcoming force design review, this article is anchored in the following three assumptions:

- The Marine Corps will prepare to engage in multi-domain operations against a peer threat.
- The Marine Corps may substantially change the overall composition of the MAGTF, but the Corps will remain committed to the fundamental proposition that an enduring competitive advantage is its ability to provide task forces that integrate combat elements for command and control (C2), ground, air, logistics, and information warfare.
- The MAGTF will be committed to future battles before the joint force has established air superiority or substantively reduced the threat of long-range missiles.

With these assumptions in place, there are broad tenets regarding the role of air intelligence which clearly align to the guidance of the NDS. These tenets are also applicable to current and emerging concepts for joint force employment and the upcoming Marine Corps force design effort. If properly resourced and

integrated, air intelligence will contribute to the ACE and MAGTF role with in the NDS by embracing the following arguments.

Make the ACE more lethal and survivable. Marine Corps concepts to operate within the threat of advanced enemy integrated air defenses dramatically increase the demands on air intelligence to support mission planning and execution. This also includes both the offensive and defensive aspects of ACE operations in the information environment. These requirements are additive to existing intelligence requirements associated with addressing low-altitude threats to close air support and assault support missions.

Contribute to ACE capability for forward force maneuver and posture resilience. Air intelligence capabilities and capacity are integral to the implementation of Marine Corps concepts for distributed operations, expeditionary advanced base operations, and advanced naval bases. Even while attempting to minimize the overall “footprint” at any given site, these concepts will necessitate a net increase in the aggregate intelligence capacity to provide adequate capability and posture resilience across a distributed force.

Make the ACE and MAGTF more agile and adaptive. Tactical agility for the ACE includes building an increased capacity for dynamic targeting and cooperative engagements that support high-tempo operations in complex terrain. It also includes consideration for potential increases in reactive requirements that are infrequently exercised at scale, such as intelligence support for the recovery of downed aircraft and personnel. Being operationally adaptive includes building sufficient capacity that can be realigned when mission requirements change. In one scenario, there may be increased intelligence requirements associated with supporting the Marine Corps’ air control group in performing sector air defense coordinator responsibilities.

Provide the MAGTF and the joint force with situational awareness and predictive analysis regarding threat air and air defense. These aspects of air intelligence become increasingly important to the entire MAGTF when

the enemy poses a credible offensive air support threat or possesses advanced air defenses that challenge freedom of action for MAGTF offensive air support and assault support. The larger the overall effort in terms of the size of the battlespace, the quantity and capability of threat forces, and the diversity of domains contested, the greater the need to expand existing modest air intelligence capabilities within the MAGTF.

Present the combat reporting and sensor data of the ACE to the MAGTF and potentially the broader joint force and intelligence community. The ACE is gaining dramatically increased capabilities to sense the battlespace. While most of these sensors have the primary purpose of assisting the lethality and survivability of aircraft or helping with airspace control, nearly all are capable of generating data of potential intelligence value. This capability becomes increasingly important if the majority of theater-level ISR assets are unable to operate within contested airspace. While ACE sensors may not all be “tasked,” as is the case with traditional ISR collection management, there will be a continued need to manage how the battlespace and intelligence requirements are covered by sensors, assemble and manage the vast databases and sensor feeds, and identify signatures and patterns of interest to translate into combat information and intelligence reports the MAGTF and joint force can act on.

Having affirmed the criticality of air intelligence in enabling MAGTF multi-domain operations against a peer adversary, force design also entails the evaluation of required capabilities and capacity for air intelligence. MAGTF air intelligence efforts can be broadly grouped into three categories: support to planning and debriefing of each air mission (or sortie), support to the broader ACE-level operations planning and execution, and support to MAGTF and joint force operations planning and execution.

Mission-level support is typically accomplished at a squadron-level or group-level flightline intelligence center. This support is exercised infrequently at the scale or tempo associated with actual combat operations. In the case

of 3d MAW, there are approximately 300 aircraft assigned across 4 MAGs. In a combat situation, these MAGs will likely generate between 250 and 400 sorties per day, with the potential to surge to over 600 when needed. To support this requirement, the MAGs and subordinate squadrons are assigned a total of approximately 200 intelligence Marines; however, they are typically staffed at lower levels ranging from 160 to 180 Marines. This level of staffing was adequate during the last eighteen years where the primary air threat was man-portable surface-to-air missiles and optically guided guns, and ACE aircraft operated from a few consolidated airbases. Despite this, the current staffing model is inadequate to meet the challenges of the emergent threat and resulting *Marine Corps Operating Concept*.⁴

A significant increase in the MAGTF capacity for mission-level air intelligence integration is required to mitigate enhanced threat capabilities, increase ACE collection of intelligence-related combat reporting and sensor data, and support employment of aircraft from distributed, dispersed, and frequently shifting bases. It is important to note that because mission-level intelligence support is directly linked to aircrew interaction, it generally must be physically co-located. These numbers also do not address intelligence support to establishing and operating air bases (expeditionary advanced bases through major airfields) or sector air defense. While there are a small number of Marines associated with the Marine wing support group and Marine air control group responsible for these missions, they are not staffed to address these tasks in the type of conflict envisioned in the NDS.

ACE-level operational planning and execution is typically associated with the MAW G-2 and its air combat intelligence section as well as the few intelligence personnel of the Marine air control group. Extending the previous example, 3d MAW G-2 assigned structure includes just over 40 all-source intelligence officers and Marines in addition to nearly 15 geospatial and signals intelligence analysts. With this pool of personnel, the MAW G-2 must assign

representatives to support the operational-level planning of MAGTF air operations, to C2 airspace and air operations by the agencies of the Marine air C2 system, and to perform a variety of critical underlying intelligence functions. This structure is adequate to replicate key functions for limited periods of time such as in an exercise (which typically only replicates a fraction of the activity), combat reporting, and intelligence traffic associated with the simulated conflict. For actual combat operations against a peer adversary, this structure is demonstrably inadequate to perform critical functions in the face of the substantially greater volume and velocity of information as well as the level of detail necessary to support the wing-level tasking, support, and assessment of combat operations across an extended battlespace.

During most exercises and current real-world operations, only a couple of Marines are available to maintain situational awareness of threat air defense as well as threat air locations and activities. Looking to future conflicts, where the MAGTF may face threats such as multiple highly mobile advanced surface-to-air missile battalions and peer-threat air forces capable of offensive air support, there will be a demand to develop and maintain the greatest possible situational awareness of that threat. Solving this challenge will entail additional personnel to supplement awareness provided in the theater common intelligence picture by closely tracking multiple other sources of sensor data, combat reporting, and intelligence updates to maintain the greatest fidelity of current situational awareness for the MAGTF.

The ability to develop enhanced situational awareness will be of limited value if the threat cannot be quickly targeted. The intelligence section's inability to substantively support targeting at the scale and tempo associated with combating a peer threat is another pronounced shortfall. Currently, the ACE does little targeting and target development. Its role in targeting is to strike targets directed by the joint force or MAGTF. To accomplish this role, the ACE still employs a modest target intelligence section to assist with the

assignment of specific targets to each air mission. It must ensure executing units have current intelligence regarding the disposition of each target and track initial battle damage assessments to support reattack decisions. In a fight where the MAGTF operates in a contested airspace, the ACE must identify which shaping fires (lethal and non-lethal) are necessary to set conditions for planned operations. The effects of shaping against a peer threat likely will be temporary because of a combination of active efforts by the enemy to present a robust and resilient air defense threat and our own reliance on a mix of destructive and disruptive means to temporarily gain access to a given airspace. Based on these factors, there will be an increased demand for rapid target analysis and target development to support high-tempo ACE operations and accomplish MAGTF objectives in the deep battle.

The scale of emerging air intelligence requirements cannot be solved solely through the allocation of more personnel; it will necessitate a comprehensive approach. Inherent in this solution is the need to develop air intelligence personnel with the expertise to address increasingly technically and tactically complex aspects of these requirements, properly equip them, and integrate them into operations and realistic exercises. There are no panaceas that sidestep the need to increase the allocation of personnel to match the increase in mission. The following alternatives will assist, but not resolve, this shortfall:

Reliance on the joint force and intelligence community. Any intelligence operation has inherent dependencies on the foundational data, ongoing collections, subject-matter expertise, advanced tools, and assessments of the intelligence community. Intelligence agencies often provide support teams to assist with the integration of their capabilities with tactical formations. However, these teams generally are not assigned to conventional units below flag-level commands. Any move to request robust air intelligence teams from a Service or national agency to support the needs of each MAGTF will come with a corresponding sourcing require-

ment back to the Marine Corps. Similarly, while the MAGTF must leverage air intelligence provided by the joint intelligence operations centers and air operations centers, they are not structured to provide any of the mission-level intelligence integration and only a fraction of that associated with ACE-level operational requirements.

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Reliance on MAGTF assets. There are multiple models for a division of labor between intelligence elements within a MAGTF. Increasingly, the ACE is viewed as a contributor of air intelligence to the MAGTF and MC-ISRE. There is an argument to be made whether air intelligence is better performed by units organic to the ACE or sourced by an intelligence battalion and radio battalion. Regardless, it is a moot point as the intelligence battalions have previously evidenced a modest capacity to meet even initial growth in air intelligence requirements. The radio battalions recently gained an air support platoon for the primary purpose of supporting F-35B/C squadrons, which is a start, yet this is an incomplete solution.

Increased integration of automation and machine learning. The application of machine learning technologies to assist with tasks such as threat recognition, sensor cross-cuing, and automated report generation is not likely in the near term to significantly reduce personnel requirements so much as to increase the demand to use everything available. Additional intelligence Marines will be needed to manage the resulting collection of huge volumes of content and leverage the capabilities of Marine-machine teaming to exploit the value it offers to the ACE, the MAGTF, and the joint force.

Potential conflicts envisioned in the NDS necessitate that the MAGTF possesses air intelligence capabilities that are substantively greater than what is available today. At the risk of oversimplification, the shift in air intelligence requirements is analogous to the differences between supporting a battalion attacking a single objective with three company maneuver units and supporting the same unit conducting numerous squad-sized infiltrations to attack multiple objectives. Most importantly, air intelligence is not “just” about intelligence, nor is it exclusively for the ACE. Air intelligence contributes to the ACE’s integration within and support to the MAGTF. If the MAGTF intends to operate within the threat of peer-level air and air defense forces, it will also need greater air intelligence capabilities. Likewise, air intelligence will serve as a key enabler for the MAGTF’s sensing of the information environment and ACE participation in MAGTF operations in the information environment. While air intelligence will not be the driving consideration in Marine Corps force design review, there needs to be a well-resourced paradigm shift to recognize air intelligence as a key enabler for multi-domain operations by all elements of the MAGTF against a peer adversary.

Notes

1. Department of Defense, *Summary of the 2018 National Defense Strategy of the United States of America*, (Washington, DC: 2018).
2. Christopher Paul, et al., *Alert and Ready: An Organizational Design Assessment of Marine Corps Intelligence*, (Santa Monica, CA: RAND Corporation, 2011).
3. For more information regarding the capabilities of a peer adversary to contest multiple domains, see “China Military Power: Modernizing a Force to Fight and Win,” *Defense Intelligence Agency*, (Online: 2018), available at <https://www.defense.gov>.
4. Headquarters Marine Corps, *Marine Corps Operating Concept: How an Expeditionary Force operates in the 21st Century*, (Washington, DC: September 2016).

