

# Force Projection in the Modern A2/AD Environment

The future of MEU strike fighter aviation

by LtCol Eric A. Scherrer

The MEU Air Combat Element (ACE) is presently undergoing significant transition. While the MV-22, AH-1Z, and UH-1Y transition is complete, the CH-53K and F-35B remain in the early stages of the transition process. Designed to be more capable, these new aircraft offer a measurable increase in potential combat power and effectiveness for the MEU commander and the Amphibious Squadron (PHIBRON) commander. In particular, the F-35B Joint Strike Fighter carries a much greater capability than its predecessor, the AV-8B Harrier, in critical mission sets such as: anti-air warfare, offensive anti-air warfare, suppression of enemy air defenses, and intelligence, surveillance, and reconnaissance. Accordingly, the total composition and methods of use for F-35Bs on future MEUs will likely be scrutinized for both lethality and survivability.<sup>1</sup> Based upon an ever-changing operational environment, anti-access/area denial (A2/AD) mitigation, and increased participation in joint air operations, detailed analysis shows that allocating six F-35B aircraft as the fixed wing component of the ACE is not always the right answer. Accordingly, a critical look at how the ACE is structured based upon the most likely mission essential tasks (MET) assigned to the MEU commander by the combatant commander should be performed. While changes in the ACE composition may seem daunting at first glance, we will find these changes are not difficult and provide the best manner to mitigate

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risk and capitalize on the assets making up the MEU.

## A Changing Operational Environment

Effectively controlling sea lanes of communication and executing maneuver from the sea has become increasingly complex. *Expeditionary Force 21 (EF21)* “anticipates that the Marine Corps will face increased proliferation of anti-air and anti-ship threats as part

of the intensifying global trend.”<sup>2</sup> Both state and non-state actors have proven capabilities to bring A2/AD weapons to bear across the globe. This new reality brings with it a requirement to not only provide Defense of the Amphibious Task Force but also the reality of projecting force from beyond the littorals. As stated in *EF21*, “With increasing range and lethality of threat systems, the F-35B will bring the requisite response and provide regional combatant commanders (CCDRs) increased options when responding to crises.”<sup>3</sup> Further, *EF21* anticipates MEUs will increasingly conduct split and disaggregated operations compared to the manner in which the MEU was designed to oper-



The F-35B is more capable than any prior MEU aircraft. (Photo by Petty Officer 1st Class Rufus Hucks.)

ate.<sup>4</sup> In this manner, the MEU splits its assets over multiple numbered fleets in order to meet COCOM tasking. As a result, the manner in which the MEU allocates its assets must remain flexible and match the needs of the operational environment.<sup>5</sup>

The modern MEU concept is based off a reinforced infantry battalion (its GCE), a command element, an ACE, and a LCE.<sup>6</sup> Technological changes in both friendly and threat systems, peer abilities, and MEU employment over the past two decades provide a logical argument for restructuring the ACE. Emerging threats from peer and near-peer competitors require the MEU to break from a late-twentieth century model and embrace a composition model that allows for the greatest level of lethality. A recent RAND study noted,

emergent Marine Corps concepts and capabilities may be shifting the center of gravity for Marine combat power away from infantry toward aviation and artillery for certain scenarios, marking a significant break from the historical practice just described. The current expeditionary advanced base concepts suggest that in a conflict with an adversary with extensive A2/AD, infantry forces would largely serve as an enabler to power projection operations conducted by aviation, or sea control operations conducted by rocket artillery.<sup>7</sup>

Indeed, in this “new normal” described in *EF21*, the Marine Corps may be the first theater responder in situations where there is not time to wait for the full rollback of A2/AD systems before offensive action must be taken.<sup>8</sup>

### Mitigating Risk

Because of the changing threat environment, utilizing the historical MEU construct no longer represents an adequate option. With present and evolving threats that require greater standoff, counter air capabilities, and force projection, we should consider right sizing the MEU with an optimal number of aircraft for future deployments. A study conducted by Center for Naval Analysis (CNA) found,



**Many studies have been conducted to determine the right number of F-35Bs to support a MEU.**  
(Photo by Petty Officer 3rd Class Vance Hand.)

MEU planners have adequate flexibility with ten total F-35Bs and face elevated risk with fewer than eight: below this level the ACE is challenged to fully support GCE operations in the presence of A2/AD threats or provide continuous close air support (CAS) to distributed forces during the LHD/A flight deck window.<sup>9</sup>

Further, the F-35B fights in a different manner than its predecessor—the AV-8B. While the AV-8B primarily fights in a section of two aircraft across all of its METs, with the exception of CAS and armed reconnaissance, the F-35B is best employed as a division of four aircraft. The division requirement for F-35B is particularly important to the MEU MET of strike and the F-35 MET of Defense of the Amphibious Task Force, both realistic mission sets in the A2/AD environment. Historic mission-capable rates and maintenance-readiness rates of roughly 60 percent dictate that with only six F-35Bs embarked on the LHD, the MEU commander will be unable to generate the sorties required for MEU self-defense let alone force projection. Accordingly, with ten F-35Bs the MEU faces low risk; eight F-35Bs present the MEU commander with medium risk; and six F-35Bs drive the MEU commander to accepting high risk to operational success.<sup>10</sup> It may be noted that in

2018 VMFA-211 executed an extremely successful combat MEU in which they exceeded expectations with the standard complement of six F-35Bs. However, the low-intensity counter-insurgency fight VMFA-211 has been involved in must not be compared to the threat and sortie generation rates a high intensity peer and near-peer A2/AD conflict would produce and require.

During a 2015 operational planning team scenario, CNA found a MEU composed of six F-35Bs

could not generate enough sorties to conduct sustained CAS and nontraditional intelligence, surveillance, and reconnaissance (NTISR) coverage during flight quarters, especially for a dispersed force or when the objective area is located inland.<sup>11</sup>

Conversely, during this same operational planning team, the study concluded, with ten F-35Bs embarked, the MEU had the capacity to generate the required sorties to meet mission success.<sup>12</sup> It must be noted that in this study not all of the F-35Bs were embarked upon the LHD. Instead, six F-35Bs were located at sea, while the remaining four were on a landbased “tether.” These additional four F-35Bs, located within 100–300 miles from the LHD, provided the force augmentation the commander required to accomplish the mission.<sup>13</sup> Addition-

ally, a “tether” enables the LHD to rapidly transition to a “Lightning Carrier” if the operational need arises. Indeed, tether bases already exist in practice at locations such as Rota, Spain; Moron, Spain; Grottaglie, Italy; Bahrain; UAE; and Guam.

Currently, the F-35B table of organization provides a structure of ten aircraft. This number presents unique task organization options to the MEU commander. If we take the historical

Finally, if the task assigned to the MEU is a humanitarian assistance/disaster relief mission or embassy evacuation mission, the F-35Bs may be flown off amphibious shipping and placed at a landbase for additional tasking from the combatant commander. It is clear then, in order to mitigate risk, the MEU should task organize its strike capabilities based off the tasking assigned by the Combatant commander in the expected theatre of operations.

be noted that there may be concern with the JFACC taking F-35Bs away from the MAGTF commander and times where the MEU commander may not agree with the apportionment or allocation decisions made by the JFACC. However, in order to maintain DOD relevancy, the MEU must be positioned in the best manner by which they can support the joint fight. To this end, we see that the MEU supported by a full squadron of F-35Bs, regardless of how the F-35Bs are divided, provides the best answer to not only the MAGTF commander but also the joint commander.



**When a MEU enters into a fleet area of operations, it is common practice for the MEU's air assets to be employed by either the joint force maritime component commander or the joint force air component commander. (USN Courtesy Photo.)**

readiness rate of 60 percent as a sample metric, a MEU commander could employ six of the ten, or when conducting surge operations, eight, embarked F-35Bs to complete a complex mission set such as defense of the amphibious readiness group, offensive anti-air warfare, or anti-air warfare. This option enables a rapid transition to a true defensive or force projection capability, particularly when mutual support is provided via a guided missile cruiser or guided missile destroyer and sub-surface assets within the area of responsibility. If the mission dictated from a combatant commander does not require a robust F-35B capability, such as fixed-wing escort or close air support, the number of F-35Bs embarked could be reduced to six, providing four F-35Bs for MEU tasking.

### Increased Participation in Joint Force Air Operations

When a MEU enters into a numbered fleet area of operations or into another operational theater, it is not uncommon for the MEU's air assets to be utilized by either the joint force maritime component commander or the joint force air component commander (JFACC). Operation INHERENT RESOLVE and Operation ODYSSEY LIGHTNING provide the most recent examples of this type of combat tasking and support. Accordingly, in order to meet the requirements of both the MAGTF and the JFACC, it is in the best interest of the MEU to increase the number of F-35Bs attached to the MEU from six to ten in order to provide the best service to the supported commander. It must

### Fixed Wing and Assault Aircraft Balance

While tailoring the force to the fight is not a new concept to the Marine Corps,<sup>14</sup> the MEU itself has not changed the make-up of its aviation compliment since the 1990s.<sup>15</sup> Indeed, while the MEU can reasonably expect to conduct its main mission of low-intensity conflict engagement during the majority of its operational tasking, a shift in A2/AD threats, as well as the new capabilities now seen on modern MEUs, constitute the requirement for the MEU commander to conduct analysis on what kind of mission he may be tasked to carry out and then structure his MEU accordingly. The question to be asked of the combatant commander is “what role do you want the MEU to fulfill.” The answer the MEU commander must provide then, is how he will task organize his MEU to meet the mission requirements.

The fact remains that the ACE must retain the ability to lift a rifle company by air and move them from ship to shore. The process of how that is done requires mission analysis. If we presume, as *EF21* does, that the MEU may be tasked to respond prior to an A2/AD threat being neutralized, then discussions on how to lift a rifle company are meaningless. The focus of the ACE at this point is prioritized on the F-35B fifth generation strike fighter assets. Once the threat is neutralized, the focus may once again return to how the rifle company may be moved ashore via assault support.

Utilizing this example, if a modern A2/AD threat is required to be neutralized prior to moving the rifle company ashore, the MV-22s may be moved from the LHD and placed on a shore based “tether” while the F-35B squadron moves aboard the LHD in order to conduct the strike. In this manner, the F-35B conducts phase zero shaping operations to enable the later maneuver of the GCE into the battlespace. Once a permissible environment has been achieved, the balance of assault support to strike aircraft will shift. In this case, the LHD will retain six F-35Bs embarked aboard the ship to provide attached and detached assault support escort, with the remaining four F-35Bs sent ashore to the “tether” location. The MV-22s will then move back aboard the LHD in order to move the rifle company ashore. Some may argue that tethering aircraft and changing the make-up of the aircraft mix on the MEU while deployed would present a time consuming logistical challenge. While exchanging a strike heavy aircraft complement for an assault support heavy complement would take time, the time to conduct the structure change would be drastically reduced if trained to during work-ups.

### Command Relationships

If F-35Bs were to be deployed as operationally required, the issue of command relationships must be addressed. Currently, the ACE is commanded by a VMM O-5 commander with the other ACE elements sectored into detachments led by an O-4 detachment officer-in-charge. With a squadron worth of F-35Bs attached to the MEU, we are presented with one realistic scenario that fits in our modern and subsequently future fight. It is recommended that the VMM and VMFA O-5 commanders are equal in command authority under the O-6 MEU commander, mimicking the relationship of a Carrier Air Wing. The MEU commander then assigns supporting/supported relationship to each subordinate command based upon mission analysis. In this situation, the VMM will remain reinforced with the other assault support assets under his com-

mand authority while the VMFA will remain strike focused with only F-35B aircraft under his command authority.

### Global Force Commitments

An issue raised with attaching up to a full squadron of F-35Bs to the MEU is the potential for increased risk in meeting global force commitments and meeting the Commandant’s deployment to dwell ratio for personnel. There are two realistic ways we may mitigate this potential risk. The first method of mitigation is to critically analyze the level of operational commitments in CONUS. While OCONUS operational commitments are a must to meet the *National Security Strategy*, the *National Defense Strategy*, and the *Joint Force Strategy*, CONUS training commitments must be scrutinized to ensure the force is being managed in a manner that is both efficient and effective. Second, joining with a Department of the Navy investment in contract CAS, the Marine Corps will have another option with which to support Expeditionary Warfare Training Center events, Integrated Training Exercises. In short, in order to best mitigate risk at the operational and strategic level of warfare, we need to analyze our CONUS tactical commitments.

### Conclusion

Peer and near-peer A2/AD realities have changed along with Marine Corps ACE aircraft advances in technology and capability. However, the construct of how the MEU ACE is task organized has not. The simple answer of keeping the ACE construct at its current number of six F-35Bs is not in keeping with operational realities, risk mitigation, or joint requirements. Analysis shows that the MEU ACE must be task organized based upon mission analysis. In this manner, the MEU ACE will be able to meet the MEU’s mission essential task list requirements—from projecting power in a contested A2/AD environment to assisting in a humanitarian assistance/disaster relief mission.

### Notes

1. C.S. Nickerson and A.H. Brown, *Aviation in the Future ARG/MEU*, (Arlington, VA: CNA Analysis Solutions, May 2015).
2. Headquarters Marine Corps, *Expeditionary Force 21*, (Washington, DC: March 2014).
3. Ibid.
4. Ibid.
5. Headquarters Marine Corps, *Disaggregated Amphibious Ready Group/Marine Expeditionary Unit Concept of Employment*, (Washington, DC: August 2014).
6. Ibid.
7. S. Rebecca Zimmerman et al., *Movement and Maneuver: Culture and Competition Among the U.S. Military Services*, (Santa Monica, CA: RAND, 2019).
8. *Expeditionary Force 21*.
9. C.S. Nickerson and A.H. Brown, “Aviation in the future ARG/MEU,” CNA Analysis Solutions, (May 2015), available at <https://www.cna.org>.
10. Ibid.
11. Ibid.
12. Ibid.
13. Ibid.
14. Headquarters Marine Corps, *MCDP 1-0, Marine Corps Operations*, (Washington, DC: August 2011).
15. Jonathan D. Geithner, *Historical ARG/MEU Employment*, (Arlington, VA: CNA 2015).

> *Authors Note: This article reflects the thoughts of LtCol Scherrer and not that of MAWTS-1. This scope of this article does not provide the time to conduct a detailed study into the logistic and maintenance requirements that would also be affected. The intent of this article is to simply provide a catalyst for conversations regarding the future of ARG/MEU deployments in a peer/near-peer contest.*

