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The Running Estimate (RE) for the MEF Command Element

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NPS NRP Executive Summary

Title: Running Estimate for the MEF Command Element (Space)
Report Date: 10/11/19; Project Number (IREF ID): NPS-19-M103-B
Naval Postgraduate School/School: GSOIS, Information Sciences



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RUNNING ESTIMATE FOR THE MEF COMMAND ELEMENT

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EXECUTIVE SUMMARY

Project Summary

The United States Marine Corps (USMC) space cadre strategy is not keeping pace with the requests for and access to space-based capabilities being made by the Marine Expeditionary Force (MEF) Information Group (MIG) to Marine Corps Force Strategic Command. Lack of properly billeted and too small of a quantity of space-smart Marines have resulted in the Corps taking a back seat to other services during the development of space policy, and does not promise optimal integration with the future Space Force. Premier assets and space-based capabilities go to waste due to classification time delays and ignorance of their existence. The Corps relies on a robust request process or the attachment of an Army Space Support Team. By examining the current status of the use of space operations by the MIG, this thesis will be able to put forth recommendations for bolstering the Marine Corps use of space assets, preparing to integrate into multi-domain Command and Control (C2) with space information overlays, and finding a more efficient use and billeting, manning, and training of USMC space cadre.

Keywords: *space systems, running estimate, MIG COC, MAGTF IE Ops, COP, space cadre, ARSST, MSST*

Background

The Marine Air Ground Task Force (MAGTF) Information Environment (IE) Operations Concept of Employment (USMC, 2017) introduces a comprehensive approach to fighting and winning in and through the information environment. This approach seeks to extend the maneuver warfare warfighting philosophy into the information space, intending to improve the MAGTF's ability to coherently plan and execute integrated actions in and through the IE. This requires operationalizing the IE as a maneuver space, commanding and controlling information capabilities integrally to achieve objectives, and providing MEF commanders with dedicated organization, tools, and experts to ensure rapidly advancing information capabilities can be planned and executed effectively via a unified, whole-of-MAGTF functional approach.

However, the Marine Corps is currently not organized, trained, or equipped to meet these requirements in the area of space operations. The demands of a future operating environment characterized by complex terrain, technology proliferation, information warfare, the need to shield and exploit signatures, and an increasingly non-permissive maritime domain remain beyond the Corps' current capabilities. Indeed, there are inadequate mechanisms in place for the MAGTF commander to comprehensively understand, plan, and execute Space Ops as an integral component of operations. This research will offer recommendations for helping to create such mechanisms.

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Findings and Conclusions

Methodology

A series of meetings with US Army and Air Force Space organizations in Colorado as well as at the National Reconnaissance Office in Washington, DC were arranged in order to get a baseline for how other services address Space Operations. In addition, time was spent with I MEF and its MIG to discuss Marine Space Operations. The Naval Space Operations Course was attended by Capt. Abercrombie (thesis student) in San Diego to provide further background.

Three documents were used as primary sources:

1. An unpublished (soon to be published) I MIG Space Operations Standard Operating Procedures that detail the roles and responsibilities of Space Ops Officers (used with permission of I MIG).
2. The MAGTF IE Operations Concept of Employment (USMC IE COE, 2017), a document which addresses the following:
 - a. Assurance of Enterprise C2 and Critical Systems
 - b. IE battlespace awareness
 - c. The controlling of information warfare capabilities, resources, and activities
3. USMC Order 5400.53, National Security Space Policy (MCO 5400.53, 2009), an order which is used to demonstrate that procedures for the MAGTF space staff are limited in scope and tend to be on the vague side in guidance.

Findings

A number of recommendations for improvement are submitted for consideration.

1. If the Marine Corps acquires tactical satellites, then changes need to be made to the current space systems architecture, training, and toolsets.
2. The MIG Information Coordination Center (ICC) is not equipped to support digital interoperability and information flow in the space domain.
3. The future strategy to attack information management problems should be more technology- and training-focused and less concerned with increased manpower.
4. Continue to emphasize the importance of space domain through IE Concept of Employment and visionary space concept documents.
5. A singular information suite must be developed regarding the MIG ICC running estimate.
6. Additional emphasis on space personnel needs to be put into place. The USMC space personnel total just 1% of the Army's, while the total force is at 40% of the Army's level. This has led to gaps in billeting and deficiencies in MIG Space Ops information-related capabilities.
7. Specific recommendations have been made for USMC Space Cadre personnel training and billeting in various organizations, including a Marine Space Support Team (MSST).
8. An Integrated C2 System design is proposed.
9. Develop link architecture from space apps into a singular Common Tactical Picture.
10. Space Operations need to be developed and improved to provide a bridge between IE Battlespace Awareness and Operations.
11. The following are examples of critical information that would be provided by improved space operations support:

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- a. Signature management in support of military deception and operations security
- b. Blue, Grey, Red Surveillance
- c. GPS Degradation.

Recommendations for Further Research

Each of the recommendations made in this research should be examined for more incorporation into future operations.

Acronyms/Abbreviations

ARSST	Army Space Support Team
C2	Command and Control
COC	Combat Operations Center
COP	Common Operational Picture
ICC	Information Coordination Center
IE	Information Environment
MAGTF	Marine Air-Ground Task Force
MEF	Marine Expeditionary Force
MIG	MEF Information Group
MSST	Marine Space Support Team
USMC	United States Marine Corps