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# **FUTURE WAR PAPER**

Developing New Strength:  
A Critique of MAGTF Information Environment Operations

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Richard L. Evans, a clergyman and host of an inspirational talk radio show, said, “The undertaking of a new action brings new strength.”<sup>1</sup> However, at present, it does not appear that the Marine Corps’ new concept regarding operations in the information environment (IE) will generate new strength in the long term. In September 2016, the Marine Corps updated the *Future Operating Environment 2015-2025* and released the *Marine Corps Operating Concept*, recognizing the IE as part of the battlespace and identifying information as a weapon. The Marine Corps acted on these documents by changing the Marine Air Ground Task Force’s (MAGTF) table of organization to include a Marine Expedition Force (MEF) Information Group (MIG) and releasing the *MAGTF Information Environment Operations Concept of Employment* in the summer of 2017. While these changes are a good start, the functionally-organized MIG does not adequately posture the MAGTF to operate in the future information environment of “gray zone”<sup>2</sup> conflicts and major theater war. Furthermore, the concept of employment does not adequately address shaping operations (Phase 0) and deterring operations (Phase I), failing to capitalize on the interconnected nature of the IE. An investigation using a subset of the Doctrine, Organization, Training, Materiel, Leadership and education, Personnel, Facilities and Policy (DOTMLPF-P) framework reveals changes to doctrine, organization, leadership and education, and training that may be necessary to achieve this goal. In the end, in order to generate new strength, the Marine Corps must evolve the MAGTF to maintain superiority at the tactical level in the information environment in 2027 and beyond during both gray zone conflicts and major theater wars.

Before elaborating on the problem further, it is important to acknowledge the risks introduced by information environment operations (IEO) at the tactical level and the associated assumptions necessary to make intellectual progress toward evolving the MAGTF. The first risk

of tactical IEO is that IE tactical actions can have international and global implications due to the interconnected nature of the IE. For the purposes of this investigation, we must assume that the gains from tactical IEO will outweigh this risk. The second risk is that IEO depends heavily on technology and information networks, both of which are prime targets for future adversaries. As a result, we must assume that the MAGTF will be capable of conducting IEO in a network-contested environment. The final risk is that IEO advocates may tend to overemphasize the effectiveness or applicability of new capabilities as was the case in the early days of air power. We therefore must assume that the Marine Corps will avoid this pitfall and evolve the MAGTF in a balanced way, instead of attempting to make IEO the principal mechanism of its approach to warfighting. In addition to the above risks and assumptions, a DOTMLPF-P analysis must include discussion about materiel, personnel, facilities and policy. In order to maintain a focus on evolving the MAGTF, we must assume necessary solutions and changes will follow from the remaining elements of the DOTMLPF-P analysis. Accepting the above risks and assumptions clears the way to further investigation of the shortcomings of the MIG and the associated concept of employment.

The Marine Corps recognizes the requirement to be able to operate across the range of military operations (ROMO), that is, between the two extremes of major theater war and gray zone conflicts. *Future Operating Environment 2015-2025* contains two vignettes, one involving China and the other involving Russia. In both cases, these near-peers have the ability to conduct operations across the ROMO using both hard and soft power.<sup>3</sup> In that regard, the Defense Science Board published a report in 2016, *Seven Defense Priorities for the New Administration*, which included “maintaining information superiority” and “preparing for gray zone conflicts.” It

follows then that the MAGTF of the future should be postured to operate effectively in the IE regardless of the type of operation.

Unfortunately, due to the functional organization of the MIG, the MAGTF is not well postured to act quickly in the IE during major theater wars or gray zone conflicts. The functional organization of the MIG in separate battalions therefore requires re-organization into a task-organized detachment each time the MIG deploys. This re-organization takes time and will result in a lack of continuity. In addition, this functional organization focuses only on the MEF command element (CE) and not the whole of the MAGTF, creating a gap in the support of the ground combat element (GCE), the air combat element (ACE), and the logistics combat element (LCE). Furthermore, the current functional organization resembles the old force providing MEF Headquarters Group too closely, placing infantry officers with little to no IEO background in command of two of the three MIGs. The end result is that the MIG is not able to quickly deploy, provides limited support to a portion of the MAGTF, and is not optimal in terms of experienced and trained leadership.

In addition to the shortcomings of the MIG structure as noted above, the *MAGTF Information Environment Operations Concept of Employment* does not adequately address Phase 0 or Phase I operations. These two phases are where tactical IEO could provide the most benefit,<sup>4</sup> particularly in gray zone conflicts where operations encompass actions short of war. Moreover, by definition, these phases are in themselves gray zone conflicts, so the concept of employment underappreciates one end of the ROMO. By essentially ignoring these phases, the MIG must gain information superiority at the same time supporting Phase II MAGTF operations instead of leveraging the persistence and interconnectedness of the IE to achieve this in Phase 0 or Phase I. This gap must be closed in order for future MAGTFs to be able to gain and maintain information

superiority across the ROMO. Thus, the MAGTF must evolve through changes in doctrine, organization, leadership, and education and training in order to maintain information superiority in gray zone conflicts and major theater wars in 2027 and beyond.

Our analysis begins with doctrine because doctrine captures the Marine Corps' fundamental beliefs about information environment operations.<sup>5</sup> Current official doctrine<sup>6</sup> does not sufficiently address IEO. This is readily apparent in Marine Corps Doctrinal Publication (MCDP) 1-0, *Marine Corps Operations*. MCDP 1-0 should, “[provide] a bridge between the maneuver warfare philosophy articulated in our first nine MCDPs and the tactics, techniques, and procedures [(TTPs)] contained in our warfighting and reference publications... [and focus] on how the largest of our Marine air-ground task forces (MAGTFs), the Marine expeditionary force, conduct[s] operations at the tactical level.”<sup>7</sup> MCDP 1-0 does mention information operations (IO) and cyber operations, but it under delivers with regards to scope and relevancy. It spends a combined total of three and half pages on these topics.<sup>8</sup> Moreover, since this document was written in 2011<sup>9</sup>, it characterizes IO as part of shaping and pays lip service to offensive capabilities as electronic warfare and physical attack and defensive capabilities as defensive cyber operations. Deception operations and public affairs operations are also mentioned, but not characterized as offensive or defensive, nor does MCDP 1-0 mention how they might be integrated into offensive or defensive operations. With regards to cyber operations, MCDP 1-0 does define them in the outdated terminology of 2011 and goes as far as to say that cyber operations should be carefully integrated and coordinate. The publication does not mention that the MAGTF conducts cyber operations or how cyber operations might support MAGTF operations. With this limited and outdated treatment of IEO, there is no link between the Marine Corps' warfighting philosophy and the TTPs for employing information related capabilities.

The reason that there is no link between the Marine Corps warfighting philosophy and the TTPs for IEO is because the topic is well addressed in the MCDP series. MCDP 1 *Warfighting* uses the word “information” ten times, but only describes its role in uncertainty, fluidity, disorder, complexity, philosophy of command, and decision making. MCDP 1 does not address how information might be used as a means of preparing for and fighting wars nor how it might fit into the style of maneuver warfare. MCDP 2 *Intelligence* uses the word “information” 124 times, but only discusses information with respect to translating information into understanding of the enemy. There is no discussion about knowing how the enemy perceives the information environment and how that might be used to our advantage. MCDP 3 *Expeditionary Operations* only uses the word “information” once, as one of the instruments of national power. The description of the MAGTF lacks any mention of information related capabilities (IRCs) or how they might be used in expeditionary operations. MCDP 4 *Logistics* contains the word “information” seventeen times, but confines the discussion to the challenges and benefits the information age provides to logistics. There is no mention about how information about logistics might be used by the enemy to disrupt our operations or the vulnerability of our many unclassified logistics information technology systems. MCDP 5 *Planning* used the word “information” eleven times in reference to the planning process, decision making, and orders development. There is no discussion of where IEO might fit in the planning hierarchy. Not surprisingly, MCDP 6 *Command and Control* contains the word “information” 223 times. However, the discussion is limited to two uses of information: creating situational awareness and directing and coordinating actions. There is no recognition of information as a means of warfighting or that information is something to be attacked or protected. MCDP 1-1 *Strategy* only makes reference to information as an instrument of power and not as a means of exercising

military power. MCDP 1-2 *Campaigning* mentions information as an instrument of power and that information can influence tempo, but there is no mention of how the information environment factors into a campaign. MCDP 1-3 *Tactics* mentions information and its role in decision making, speed and tempo; there is no mention of how it might be used to obtain a decision or gain an advantage. The near absence of this topic in this doctrinal series amounts to a lack of overarching doctrine to shape our collective organizational thinking about IEO and the role of information as part of maneuver warfare.

This is not to say that the Marine Corps has put little thought into developing doctrine about IEO. The Marine Corps has twelve publications that cover IEO to varying degrees. The most comprehensive coverage of the topic is in MCWP 3-32 *Marine Air Ground Task Force Information Operations*. While this is a comprehensive document, it was written before there was any MAGTF force structure in place focused on executing IEO. As a result, IO (not IEO) has become the domain of only those Marines who care to integrate into MAGTF operations. The other eleven publications cover the specific IRCs identified in MCWP 3-32. The main problem with these publications is that only four of eleven have been updated in the past five years, and only one has been updated in the last two years. The end result is a family of dated and stove-piped doctrinal publications. Thus, the Marine Corps' official doctrine does not sufficiently address IEO.

To address this gap in formal doctrine, the Marine Corps published several concepts as informal doctrine but no new official doctrine. The overarching concept is titled *Marine Air Ground Task Force Information Environment Operations Concept of Employment*. Three supporting, subordinate concepts have also been released, addressing Space Operations, Electro-Magnetic Spectrum Operations, and Signature Management. However, due to the informal status

of all four concepts, they are not readily available to the Marine Corps at large. Despite their informal status, these documents represent the Marine Corps' first tangible evidence of an effort to express fundamental beliefs about information environment operations and as such warrant investigation.

While the MAGTF concept of employment (COE) is a good start, it is of limited utility in evolving the MAGTF for IEO. The current concept of employment is focused on the CE and MAGTF Commander, ignoring the rest of the MAGTF. The authors even recognize this by stating, "This document provides enough detail to inform the stand up of a MIG and MIG COC."<sup>10</sup> Not only is the COE limited in scope, but it presents a complicated, confusing description of what constitutes IEO. The COE first presents the seven functions of IEO:

1. Assure enterprise command and control systems and critical systems
2. Provide information environment battle space awareness
3. Attack and exploit networks, system and information
4. Inform domestic and international audiences
5. Influence foreign target audiences
6. Deceive foreign target audiences
7. Control of information environment operations and capabilities, resources and activities<sup>11</sup>

This is followed by the six operational capability areas:

1. Electro-magnetic spectrum operations
2. Cyberspace operations
3. Space operations
4. Influence operations
5. Deception operations
6. Inform operations<sup>12</sup>

The COE states, "IE Ops are planned and executed in accordance with the seven functions, and grouped by operational capability areas." However, in the COE a single operation might include several functions with each function mapping to several operational capability areas. This is a confusing framework that at surface level mirrors the six functions of Marine Aviation, but fails

to achieve the clarity provided by the aviation framework. Lastly, the COE does address IEO as part of combined arms maneuver and Phase 0 operations, but with only a single paragraph on each topic and limited investigation into what this might entail; Phase I is not addressed at all. So, while the COE is a noteworthy document, its utility is limited to standing up the MIGs and does not truly capture Marine Corps fundamental beliefs that would contribute to the evolving the MAGTF.

Since the current official and unofficial doctrine insufficiently addresses IEO across the ROMO in future conflicts, the Marine Corps must update old doctrine and publish new doctrine that enables the MAGTF to evolve in order to gain and maintain information superiority. This doctrinal re-write must include changes to update all of the existing MCDPs. Most notably, MCDP 1 must be updated to include information as a means of preparing for and fighting wars and the role information plays in maneuver warfare. The other significant update that must occur is in MCDP 3; this publication must be updated to include an information combat element (ICE) as part of the Marine Information Air Ground Task Force (MIAGTF). In addition to these updates, the Marine Corps must publish MCDP 7 *Information* that describes the Marine Corps' theory and philosophy of, "understand[ing] and leverage[ing] the pervasive nature of information, its military uses, and its application during all military operations."<sup>13</sup> With this theory and philosophy as a doctrinal cornerstone, subordinate doctrine and concepts must follow the outlined path to create a complete set of publications that are current, integrated, and of sufficient scope.

These changes in formal doctrine must be followed by changes to informal doctrine. The Marine Corps must replace the MIG-centric concept of employment with a concept of employment for an ICE as part of a MIAGTF that integrates the ICE into maneuver warfare and

describes the ICE’s role in combined arms. Furthermore, this new COE must include a better framework than the hodgepodge of functions and operational capability areas. Moreover, the ICE COE must specifically address C2 for IEO in a more explicit and comprehensive manner that involves the whole MIAGTF and does not simply impose the Marine Air Command and Control System on the IE.<sup>14</sup> Having proposed new doctrine, we must now investigate the implications for the organization of the MAGTF.

The proposed comprehensive change to doctrine must be accompanied by an organizational change to MAGTF. The MIG’s functional organization, composition and span of control (see figure 1) do not allow the MAGTF to address gray zone conflicts nor to scale quickly for a major war. The functional organization is a holdover from the MHG, a headquarters unit focused on enabling and sustaining MEF operations. The composition of this functional organization includes functions that do not support IEO, such as law enforcement and air and naval gunfire liaison. The MIG’s span of control is seven subordinate units, 5 battalions and two independent companies. All three of these aspects must change in order for the MAGTF to operate effectively in the IE across the ROMO in all phases.

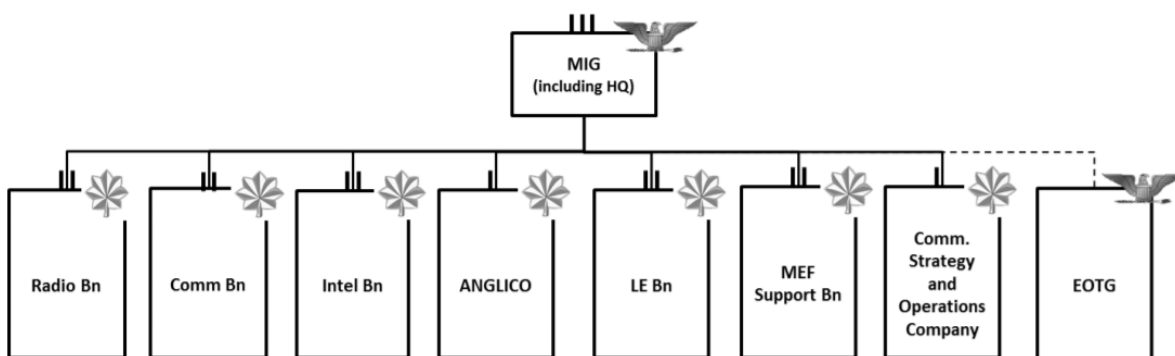


Figure 1. MIG Command Structure<sup>15</sup>

In order to evolve the MAGTF, the Marine Corps must create an ICE as part of a MIAGTF that is functionally and task organized, composed solely of units that conduct IEO, and has a narrower span of control. Figure 2 depicts these three changes. A MEF Information Regiment (MIR) solely retains IEO units from the MIG and functions as the ICE at the MEF level. A MEF Support Regiment (MSR) retains the non-IEO battalions and resembles the old MHG. The span of control for the MIR is also reduced from seven units to four units. Under this scheme, the MIR is both functionally organized due to the three functional battalions and task organized due to the new IEO Battalion consists of IEO companies. Each IEO company contains a mix of Marines from the functional battalions and the communications strategy company. These IEO companies are the base unit for IEO planning and execution (see figure 3). The IEO Battalion has enough IEO companies to support a deployed MEU, a MEU conducting work ups, and two to support the MEF and/or a MEB. Although not depicted, each MSC must receive an IEO platoon in order to complete the evolution of the MAGTF to the MIAGTF.

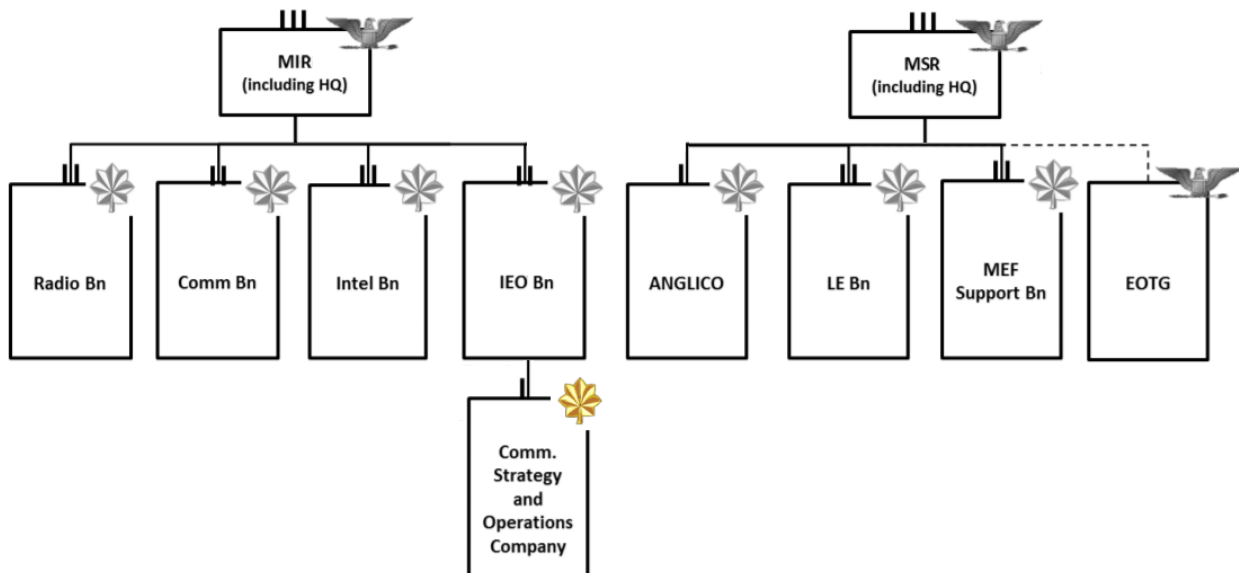


Figure 2. Recommended MIG reorganization as two separate units

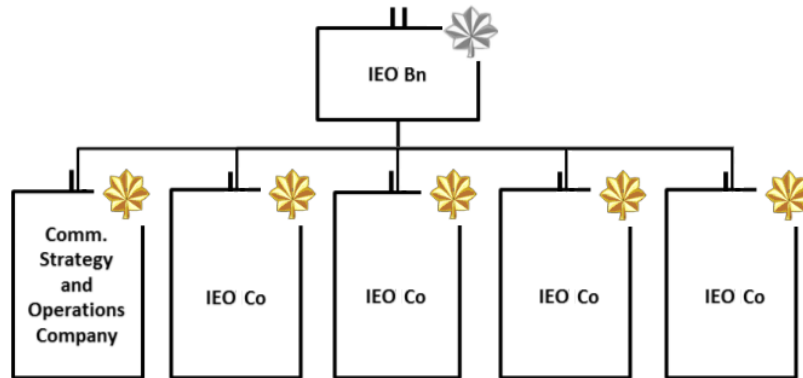


Figure 3. Recommended task organized IEO battalion

This change to the organization of the MAGTF will have implications for employment that are not addressed in the current COE, but warrant investigation. This new organization creates the opportunity for the MEF to support Phase 0 operations beyond the scheme in the current COE. In order to capitalize on this opportunity, the Marine Corps must create a UDP-type rotation for the IEO companies with the MARFORs, specifically MARFOREUR/AF, MARFORPAC, and MARCENT. With two IEO companies per MEF, this allows the MEF to conduct training and garrison IEO while being fully integrated to theater IEO at all times. This creates a seamless transition from Phase 0 to Phase I operations, not just for the MEFs the but also for the MEUs. This involvement in Phase 0 gives the Marine Corps the capability to respond to gray zone conflicts faster than any other service. In the event of major theater war the existing structure could be leveraged to create more task organized IEO units quickly. The scheme proposed above evolves the MAGTF to address gray zone conflicts and to scale up quickly for major theater war.

The ICE described above requires the Marine Corps to change the way ICE leaders are selected and the way all leaders are educated. The leadership model in use today to select MIG commanders is insufficient to provide the more robust MIR with the type of leadership required

to leverage its capabilities to their full potential. At present, all three MIG commanders have commanded at every level and have attended resident professional military education (PME) at every level. But, only one of them has IEO experience, as an intelligence officer and an Intelligence Battalion Commander; the other two are infantry officers with no IEO experience. While being a strong MAGTF officer may get a commander through these early days of standing up the MIG, this hardly spells the right approach to leveraging all of the capabilities of the MIG, let alone the robust capabilities of the MIR/ICE proposed in this essay.

Even with the requirement of IEO experience, finding the right commander to maximize the potential of the ICE will be a difficult task. The group under consideration for command of the MIRs must be a former Intelligence Officer, Communications Officer, Public Affairs, Technical Information Operations Officer, or Information Operations planner. From this group, the Marine Corps must only consider officers with IEO experience; service at the functional battalions, Marine Forces Cyber, Marine Cytological Battalion, MEF Information Operation section, and MIG headquarters may provide this experience or it may be acquired through some other assignment. Regardless of the source of experience, the Marine Corps should make an exhaustive search of its manpower pool to select the correct commander not only for the MIR but the IEO battalions and companies.

Even with a new model for picking ICE leaders based on experience, the Marine Corps must also make changes to the education of potential ICE commanders, other commanders, and IEO practitioners alike. Marine Corps schools must teach a comprehensive IEO approach at all of the IEO-related primary MOS schools. The Marine Corps must integrate IEO education into O-5 and O-6 commanders' training, as well as for new General Officers. The Marine Corps must also create a course that ties together the IRCs into a Basic IEO practitioner course for company

grade officers and an Advanced IEO practitioner course for field grade officers. These changes would help to create a baseline for future ICE commanders, MIAGTF commanders, and IEO practitioners.

The last element to be addressed regarding the evolution of the MAGTF is training. Necessarily, changes to doctrine, organization, leadership and education will lead to changes in training to conduct IEO. Current fleet exercises, war games, and PME planning exercise do not sufficiently account for IEO. In the future, each of these must include robust IEO portions against adversaries that have the same capabilities or even exceed our IEO capabilities. In addition to increasing the scope of IEO in each of these evolutions, the Marine Corps must make the depth of the IEO scenario deeper than the scenarios being used today. This could be easily achieved by using social media platforms, current news outlet, and other electronic means instead of relying on old, canned scenarios like the Treasure Coast and Centralia. With a new organization like the MIR and a supply of professionally educated, IEO-minded officers, improvements to training will no doubt exceed the low standards of today.

In conclusion, the gray zone conflicts and major theater wars of 2027 and beyond will require the Marine Corps to evolve the MAGTF to maintain information superiority at the tactical level. It follows then that the MAGTF of the future should be postured to operate effectively in the IE regardless of the type of operation. Unfortunately, due to the functional organization of the MIG, the MAGTF is not well postured to act quickly because the MIG is not able to quickly deploy, provides limited support to a portion of the MAGTF, and is not optimal in terms of experienced and trained leadership. In addition to the shortcomings of the MIG structure, its COE does not adequately address Phase 0 or Phase I operations. This gap must be closed in order for future MAGTFs to be able to gain and maintain information superiority

across the ROMO. In order to address these shortcomings, the Marine Corp must make changes to doctrine, the organization of the MAGTF, the way it selects and educates leader, and its approach to IEO training.

Current official doctrine does not sufficiently address IEO. The near absence of this topic in the MCDP series amounts to a lack of overarching doctrine to shape our collective organizational thinking about IEO and the role of information as part of maneuver warfare. The Marine Corps has 12 subordinate publications that cover IEO to varying degrees, with MCWP 3-32 providing the most comprehensive coverage. However, these publications only amount to a family of dated and stove-piped doctrinal publications, leaving Marine Corps official doctrine wanting for sufficient treatment of IEO.

The Marine Corps' unofficial IEO doctrine in the form of a MAGTF concept of employment is of limited utility in evolving the MAGTF for IEO. The current concept of employment focuses on the CE and MAGTF Commander; ignores the rest of the MAGTF; is limited in scope; presents a complicated, confusing description of IEO; and barely addresses IEO as part of combined arms maneuver and Phase 0 operations. So, even the Marine Corps informal doctrine is confined to standing up the MIGs and does not contribute to the evolving the MAGTF.

In order for the MAGTF to be capable of gaining and maintaining information superiority, the Marine Corps must update old doctrine and publish new doctrine that enables the MAGTF to evolve for operations in the IE. The existing MCDPs must be updated to include information as a means of warfighting, the role information plays in maneuver warfare, and an information combat element (ICE) as part of the Marine Information Air Ground Task Force (MIAGTF). In addition to these updates, the Marine Corps must publish MCDP 7 *Information*

that describes the Marine Corps' theory and philosophy concerning information as a warfighting function. Furthermore, the Marine Corps must replace the MIG-centric concept of employment with a concept of employment that integrates the ICE into maneuver warfare and describes the ICE's role in combined arms. This new COE must include a better conceptual framework and specifically address C2 for IEO in a more explicit and comprehensive manner.

With new doctrine, the Marine Corps would be forced to reorganize the MAGTF. The MIG's functional organization, composition and span of control (see figure 1) do not allow the MAGTF to address gray zone conflicts nor to scale quickly for a major war. Figure 2 depicts an MIR as the ICE in a MIAGTF that is functionally and task organized, composed solely of units that conduct IEO, and has a narrower span of control. With IEO companies as the base unit for IEO planning and execution (figure 3), the IEO Battalion has enough IEO companies to support a deployed MEU, a MEU conducting work ups, and the MEF and/or a MEB. In order to capitalize on opportunities in Phase 0, the Marine Corps must create a UDP-type rotation for the IEO companies with the MARFORs. This creates a seamless transition for Phase 0 to Phase I operations, not just for the MEFs the but also for the MEUs, giving the Marine Corps the capability to respond to gray zone conflicts faster than any other service. With the proposed scheme above, the MAGTF can evolve to address gray zone conflicts and to scale up quickly for major theater war.

However, the current leadership model to select MIG commanders is insufficient to provide the more robust MIR with the type of leadership required to leverage its capabilities to their full potential. The Marine Corps must select commanders with sufficient IEO experience to maximize the effectiveness of the ICE. Moreover, the Marine Corps must also make changes to the education of potential ICE commanders, other commanders, and IEO practitioners to create a

common IEO baseline among commanders and IEO practitioners. Subsequent, IEO training as part of fleet exercises, war games, and PME planning exercises must include robust IEO portions against adversaries that have the same capabilities or even exceed our IEO capabilities and must make the depth of the IEO scenario deeper than the scenarios being used today.

With our analysis complete, the Marine Corps and the MAGTF are not ready to conduct IEO across the ROMO today; however there is hope for the future. The Marine Corps has already taken action by creating a new organization, the MIG, and publishing an associated concept of employment. While this organization is inadequate and the COE is incomplete and confusing, these actions represent a beginning. As long as the Marine Corps adopts the actions contained in this essay and more, these actions will result in an evolved MAGTF, possibly even a MIAGTF, and new strength in the information environment.

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<sup>1</sup> Richard L. Evans, *Quotery*. Accessed December 15, 2017. <http://www.quotery.com/quotes/the-undertaking-of-a-new-action-brings-new-strength/>.

<sup>2</sup> Gray zone conflicts are “constrained military operations, short of all-out war” that use “tools and techniques [that] include information operations, using disinformation and strategic communication aimed at their populace, neighbors, and the world; ambiguity of forces; and coercion involving economics, energy and political corruption,” such as, “Russia in the Crimea, China’s island building in the South China Sea, and North Korean provocations.” Michael Anastasio et al. *Seven Defense Priorities for the New Administration* (Defense Science Board: Washington DC, 2016), 9-10.

<sup>3</sup> Soft power is “when one country gets other countries to want what it wants.” Hard power is one country, “ordering others to do what it wants.” Joseph S. Nye, “Soft Power,” *Foreign Policy*, no. 80 (1990), 166.

<sup>4</sup> Headquarters United States Marine Corps, *Marine Corps Operations*. MCDP 1-0 (Washington, D.C.: Headquarters United States Marine Corps, 2017), 3-20.

<sup>5</sup> Doctrine comprises “the fundamental beliefs of the Marine Corps on the subject of war, from its nature and theory to its preparation and conduct.” MCRP 5-12C, Marine Corps Supplement to the DOD Dictionary of Military and Associated Terms, II-22.

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<sup>6</sup> For the purposes of this essay, official doctrine includes doctrinal publications listed by the Deputy Commandant for Combat and Development Integration on the current publications list available at <https://www.doctrine.usmc.mil/currentPubsListing.asp>. All other publications are considered unofficial doctrine.

<sup>7</sup> MCDP 1-0, forward.

<sup>8</sup> *Ibid.*, 3-19-3-22.

<sup>9</sup> Change 1 was made in 2017, but did not address Information Operations or Cyber Operations.

<sup>10</sup> Deputy Commandant for Combat Development and Integration. *Marine Air Ground Task Force Information Environment Operations: Concept of Employment*. Concept (Quantico, VA: Deputy Commandant for Combat Development and Integration, 2017), 3.

<sup>11</sup> *Ibid.*, 11-6.

<sup>12</sup> *Ibid.*, 23-24.

<sup>13</sup> These words are a portion of the joint definition of information as a warfighting function. Department of Defense. *Doctrine for the Armed Forces of the United States*. JP 1 (Washington, DC: Department of Defense, July 12, 2017), I-19.

<sup>14</sup> Deputy Commandant for Combat Development and Integration, 5.

<sup>15</sup> *Ibid.*, 4.

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