**Academic Year 2018 - 2019**
**Marine Corps University Research Topic Nominations**

**Note: If you select one of the following research topics, please contact the POC identified for research resources and to coordinate the submission of your research.*

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## Aviation Research

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Amphibious Seaplane Capability for the USMC

*TOPIC DESCRIPTION: Study the viability of creating an amphibious seaplane capability in 1st MAW

*DATE SUBMITTED: 5 June, 2018

*EXTENDED TOPIC DESCRIPTION: Other than ship-based helo assets US has no aviation platforms that can search for and recover downed pilots/ adrift personnel. In addition, what other capabilities could be exercised: mobile C2, Recon insert/extract, MEDEVAC, low density item re-supply etc.

*DESIRED OBJECTIVES OF THE RESEARCH:

- Is there a natural risk aversion on the part of aircrew operating inside the WEZ knowing there is no way to recover them if they ditch at sea?

-Is there enough parts and training commonality between the JMSDF US-2 and KC-130J to mitigate DOTMLPF acquisition concerns?

-Does this capability have a role in emerging naval maritime concepts (DMO, LOCE & EABO)?

-What internal A/C configurations would be desirable and what current capability gaps would they fill?

*REQUESTING/SPONSORING ORGANIZATION: III MEF

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DESIRED RESEARCH COMPLETION DATE:  May 2019

*CLASSIFICATION: Unspecified

*RESEARCH TOPIC TITLE: Can future Operational Support Airlift (OSA) requirements in PACOM be met without a long-range midsize jet?

*TOPIC DESCRIPTION: AS the C-20G and UC-35D reach the end of its service life, there is growing interest in eliminating the midsize, long-range jet from the future OSA aviation plan, I.e. and all C-40 and C-12W OSA fleet. In the face of a pacing threat, the context of EABO as a concept and the critical need for connector in PACOM capable of reaching any location within the AO on short-notice, time-critical logistics missions, can the Marine Corps accept the gap in capability created by eliminating a midsize, long-range jet form the Pacific AO?

*DATE SUBMITTED: 20180611

*EXTENDED TOPIC DESCRIPTION: The PACOM AOR spans more than six thousand miles. The need for a midsize, long range jet is necessitated by long, overwater distances that traverse several Flight Information Region (FIR) boundaries (requiring diplomatic clearance). The C-12W (propeller aircraft) is unable to range Hawaii and cannot fly more than 2000 natural miles in one day due to aircrew day limitations. A midsize, long-range jet is able to range the entire AO in one aircrew crew day and also service same-day, round trip missions to Guam, Australia and Thailand from Okinawa. Additionally, certain midsize, long-range jets can even take-off and land on runways less than 40000 feet, whereas the C-40, for example, requires, at least 6000 feet of runway. Also worth noting, the Futenma Replacement Facility, slated for operational utilization as early as 2023, has been designed with dual runways, each approximately 3900 feet in length. This research topic is an opportunity to conduct a deep dive into the niche capability gained or lost by MCIPAC OSA in considering the need for midsize, long-range jet as a logistical connector in the Pacific AO.

*DESIRED OBJECTIVES OF THE RESEARCH: -Isolate OSA requirements in PACOM given a pacing threat in the context of EABO.

-Determine if PACOM OSA requirements can be met without a long-range midsize jet.

-Determine if MCIPAC OSA requirements in PACOM should be considered differently than the rest of the OSA fleet.

*REQUESTING/SPONSORING ORGANIZATION: Marine Corps Installations Pacific (MCIPAC)

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*CLASSIFICATION: Unspecified

*RESEARCH TOPIC TITLE: Compositing of F/A-18 Squadrons

*TOPIC DESCRIPTION: Consideration for maintaining both ‘C’ model and ‘D’ model aircraft squadrons as the F/A-18 platform sundowns.

*DATE SUBMITTED: 20180611

*EXTENDED TOPIC DESCRIPTION: As the hornet airframe ages and approaches the end of its service life within the USMC, consideration for combining both ‘C’ and ‘D’ model aircraft into each squadron should be taken to maintain the healthiest, most combat ready and capable units.

*DESIRED OBJECTIVES OF THE RESEARCH: -Establish a T&R that encompasses both TMS training objectives.

-Develop a manning solution for both aircrew and maintainers that establishes a T/O supportable across the remaining F/A-18 community.

*REQUESTING/SPONSORING ORGANIZATION: VMFA (AW)-533

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*CLASSIFICATION: FOUO

*RESEARCH TOPIC TITLE: Safe operational levels of [SO2] for USMC aircrew while conducting rescue operations around volcanic activity

*TOPIC DESCRIPTION: Recent volcanic activity in HI lead to FEMA requesting USMC airlift support to stand by for emergency evacuation of civilians if needed. A knowledge gap was identified when the local AMSO tried to reconcile OHSA / NIOSH SO2 exposure guidelines and the risk benefit analysis of aircrew operating with AR5 respiratory protective equipment with [SO2] between 5-20 ppm.

*DATE SUBMITTED: 4 JUNE 2018

*EXTENDED TOPIC DESCRIPTION: The current concern by the operational unit is that the risk of wearing the AR5 equipment at [SO2] > 5 ppm is greater than short time periods of unprotected exposure for [SO2] up to 20 ppm.

*DESIRED OBJECTIVES OF THE RESEARCH: Determine if there are reasonable safe aircraft operating time limits in areas with [SO2] concentration levels between 5-20ppm without the use of the AR5 flight gear.

*REQUESTING/SPONSORING ORGANIZATION: Marine Aircraft Group 24, Medical Department

*POINT OF CONTACT: CDR Richard T. Grossart

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DESIRED RESEARCH COMPLETION DATE: July 2020

AVAILABLE FUNDING, IF ANY: ???

COMMENTS: We would appreciate any information you could provide.

## Command and Control

*CLASSIFICATION: Unspecified

*RESEARCH TOPIC TITLE: Airborne C2 Systems

*TOPIC DESCRIPTION: To overcome line-of-sight communications restrictions, the Marine Air Ground Task Force requires a new airborne command, control, and communications (C3) platform to support expeditionary and combat operations.

*DATE SUBMITTED: 20180611

*EXTENDED TOPIC DESCRIPTION: With the sundown of the KC-130F/R/T series of aircraft, the Marine Corps lost-compatible platforms for the AN/UYQ-3B Direct Air Support Center Airborne System. That system provided a shelter, radios, and operator stations for Marines in the cargo area of a KC-130F/R/T to execute command control of aircraft across wide range of operations with greatly enhanced line-of-sight communication range due to the altitude of the hosting aircraft. While the Marine Crops' airborne C3 capability has disappeared, a requirement persists for an airborne C3 platform supporting both ground and aviation operations at extended ranges from ground command control nodes. An analysis of available airborne C3 alternatives, to include but not limited to; unmanned, radio relay modules, and airborne radar systems, capable of improving MAGTF situational awareness and connectivity to distant locations is desired.

*DESIRED OBJECTIVES OF THE RESEARCH: Identify and assess feasibility of available airborne C3 systems

*REQUESTING/SPONSORING ORGANIZATION: MACG-18

*POINT OF CONTACT: Maj Matthew LaVallee

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*CLASSIFICATION: Unclassified for Official use Only

*RESEARCH TOPIC TITLE: Electronic Warfare Command and Control across the Battlespace

*TOPIC DESCRIPTION: The Marine Corps is expanding its ground and airborne electronic attack platforms and needs to develop a plan to control those fires at the battalion, regiment, and division level.

*DATE SUBMITTED: 14 June 2018

*EXTENDED TOPIC DESCRIPTION: The Marine Corps' plan to control electro-magnetic spectrum (EMS) fires in the future battle space is underdeveloped. The use of the MIG and command and control in the information environment (C2IE) to monitor and control these fires may be sufficient at the macro level but ignores the control and integration of fires at the lower level unit. Explore the potential for EW expertise within infantry fires elements to exploit the EMS on the battlefield at all levels.

*DESIRED OBJECTIVES OF THE RESEARCH: Recommend how Marine units can command and control EW tools on the battlefield. This must include cross-boundary fires, integration of joint EW assets, integration with lethal fires, and spectrum management (Signal Intelligence, Communications). Recommend methods in which Marine units can integrate EW with the same efficient they are able to integration indirect fire and aviation fires with maneuver.

*REQUESTING/SPONSORING ORGANIZATION: III MEF G-3 FECC

*POINT OF CONTACT: Maj Eric Rogers

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*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Expansion of Joint C2 Standards

*TOPIC DESCRIPTION: Explore Opportunities for Joint C2 Standards Beyond Common Operational Picture Management

*DATE SUBMITTED: 20180614

*EXTENDED TOPIC DESCRIPTION: The DoD has implemented GCCS-J/GCCS-JE to provide cross-service standards for the management and services supporting the Common Operational Picture. What additional areas of currently-stove piped Joint C2 would benefit from DoD-wide standards of information exchange, or software platforms? Example areas to investigate: logistics management, electronic warfare, cyberspace operations, etc.

*DESIRED OBJECTIVES OF THE RESEARCH: Identify Joint C2functions suffering from friction duet to a lack of inter-service system interoperability. Provide an in-depth analysis of pros/cons of unified DoD standards to reduce these C2 friction points, paying particular attention to the impact to USMC MAFTG operations and funding impacts. Incorporate considerations for bandwidth utilization, information exchange requirements, and C2D2E against a peer adversary.

*REQUESTING/SPONSORING ORGANIZATION: III MEF G-3

*POINT OF CONTACT: Captain Jason Noble

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AVAILABLE FUNDING, IF ANY: None

*CLASSIFICATION: The study will likely require secret classification.

*RESEARCH TOPIC TITLE: Ground Fires Command and Control in a Contested Maritime Environment

*TOPIC DESCRIPTION: As the Marine Corps develops new operational and organizational concepts it has looked at ways of employing ground fires in contested maritime environments. A key component of any emerging concept will be the C2 of ground fires.

*DATE SUBMITTED: 14 June 2018

*EXTENDED TOPIC DESCRIPTION: As the Marine Corps develops new operational and organizational concepts it has looked at ways of employing ground fires in contested maritime environments. A key component of any emerging concept will be the C2 of ground fires. The C2 structure of the fires chain has procedural, organizational and battlespace ownership implications that have not yet been thoroughly examined. Ground fires are rarely employed in isolation, so any proposed C2 structure should be versatile enough to enable the facilitation of simultaneous air and other surface fires.

*DESIRED OBJECTIVES OF THE RESEARCH: The research should identify options for command and control of ground fires in a contested maritime environment. It should utilize emerging Marine Corps concepts such as Expeditionary Advance Based Operations. It should examine kill chains, the routing and authorities required for airspace/surface clearance and deconfliction of ground fire, the suitability of existing fire support agencies, and battlespace ownership implications. It should make recommendations for any DOTMLPF changes required to facilitate the C2 of ground fires in a contested maritime environment.

*REQUESTING/SPONSORING ORGANIZATION: III Marine Expeditionary Force G3 Fires and Effects Coordination Center (FECC)

*POINT OF CONTACT: LtCol Neil J. Owens Fires and Effects Coordinator III MEF

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DESIRED RESEARCH COMPLETION DATE: Summer CY19

AVAILABLE FUNDING, IF ANY: None

*CLASSIFICATION: Unspecified

*RESEARCH TOPIC TITLE: Improving the Efficiency of Command and Control systems Bandwidth Usage

*TOPIC DESCRIPTION: USMC Command and Control (C2) and web-based systems require significant amounts of bandwidth compared to what our expeditionary communications systems are able to provide. Bandwidth requirements for these capabilities needs to be reduced to an appropriate level so organize USMC equipment can feasibly support.

*DATE SUBMITTED: 20180611

*EXTENDED TOPIC DESCRIPTION: Command and Control and web-based systems extend situational awareness, enable information exchange, and manage how we fight. These systems were developed to provide a service in austere environments, however, their bandwidth requirement was designed for an uncongested environment with unlimited network capability. Additionally, today's networks are highly congested and there is limited bandwidth available to support the mission, especially in an austere environment. The Marine Corps systems are so reliant on bandwidth, that in a reduced/limited bandwidth environment, some C2 systems are unable to properly function or become inoperable. Additionally, Marine Corps organize equipment is unable to support multiple high bandwidth C2 system requirements an austere environment. Bandwidth prioritization affects not only our C2 systems, but the end users as well, and our end users usually have the lowest priority.

*DESIRED OBJECTIVES OF THE RESEARCH: Applicable and realistic means to reduce the bandwidth requirements of Command and Control and web-based systems while still enabling the same capability to the Commander.

*REQUESTING/SPONSORING ORGANIZATION: 1st Marine Aircraft Wing G-6

*POINT OF CONTACT: 1stLt Kristina Nunes

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*CLASSIFICATION: Unspecified

*RESEARCH TOPIC TITLE: Live Tracking of Aircraft in the Battlespace

*TOPIC DESCRIPTION: To maintain situational awareness across the range of aviation operations, a real-time tracking system for non-Link-16 aircraft is required.

*DATE SUBMITTED: 20180611

*EXTENDED TOPIC DESCRIPTION: While fixed wing aircraft at normal operating altitudes can be tracked by radar and most TACAIR platforms are now participants in the Link-16 network, other airframes such as helicopters, unmanned systems, and tilt-rotor aircraft are frequently masked from friendly radar coverage by terrain or distance and are typically not Link-16 participants. Previous efforts included the Flue Force Tracker (BFT) family of 16 different systems reliant on line-of-sight communications for GPS signals. While some BFT systems were employed on aircraft, others were never certified airworthy and many were rendered ineffective by electromagnetic interference from rapidly-acquired active improvised explosive device defeat systems. With BFT systems no longer in use for aviation operations, the Air Combat Element (ACE) commander possesses only partial awareness of aircraft locations as a whole and only a temporary span of accuracy when individual aircraft report their location. A means of live tracking for non-Link-16 aircraft would greatly enhance the ACE commander's situational awareness.

*DESIRED OBJECTIVES OF THE RESEARCH: Identify and assess feasibility of available aircraft tracking systems, focused on rotary wing and tilt-rotor aircraft.

*REQUESTING/SPONSORING ORGANIZATION: MACG-18

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## Fires

*CLASSIFICATION: Unclassified for Official Use Only

*RESEARCH TOPIC TITLE: Fires and Effects Coordination Center and MEF Information Group Integration

*TOPIC DESCRIPTION: How will the operations of the MIG coordinate and integrate with the MEF G-3 Fires and Effects Coordination Center. What responsibilities will fall under the MIG, and what will remain with the FECC?

*DATE SUBMITTED: 14 June 2018

*EXTENDED TOPIC DESCRIPTION: How the MIG will integrate its capabilities with the MEF is unclear. Each MEF has developing its own approach to this problem, but many questions remain. What responsibilities will remain with the MEF FECC? What responsibilities will remain with the MIG? How does the MIG provide information environment operations (IEO) support to the Division, Wing, or Group? How do the MSCs request support? In terms of lethal fires or Aviation requirements support is coordinate through the FECC, but how this will be done in non-lethal terms needs to be explored.

*DESIRED OBJECTIVES OF THE RESEARCH: -Recommend FECC-MIG relationships for control of Information Environment Operations. Include boards, bureaus, centers, cells, and working groups (B2C2WG) representation, facilitation, and chairs.

-Recommend responsibilities to maintain with the MEF G3, and those to give to the MIG commander. Consider the implications, or make recommendations, for responsibilities for the MEF G2 and G6 and their relationships with the MIG commander as well.

*REQUESTING/SPONSORING ORGANIZATION: III MEF G3 FECC

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DESIRED RESEARCH COMPLETION DATE: April 2019

COMMENTS: Each MEF is currently experimenting with this issue and developing a plan to attack the problem.

*CLASSIFICATION: Sensitive but Unclassified

*RESEARCH TOPIC TITLE: Frightening Scenarios of Cyber Attacks on US Infrastructure

*TOPIC DESCRIPTION: Cybersecurity Vulnerabilities that could Cripple the US

*DATE SUBMITTED: 6/5/2018

*EXTENDED TOPIC DESCRIPTION: The Next World Major Conflict may likely begin long before the first round is fired, and by that time, there may already be fatal affects and major infrastructure destroyed.

*DESIRED OBJECTIVES OF THE RESEARCH: -Identify vulnerable industries -Identify weaknesses within those industries -Identify the dangers of ignoring Advanced Persistent Threat (APT) -Describe the country under a 24-hour power shutdown

*REQUESTING/SPONSORING ORGANIZATION: PEO LS

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COMMENTS: Just a suggestion

## Force Structure

*CLASSIFICATION: Unclassified//For Official Use Only

*RESEARCH TOPIC TITLE: Legal restraints and public perception impact of Communication Strategy and Operations (CommStrat) support of influence operations

*TOPIC DESCRIPTION: The Operations in the Information Environment concept and the merge of the Combat Camera (COMCAM) and Public Affairs (PA) occupational fields into the CommStrat field have resulted in CommStrat being in direct support of influence operations within the MEF Information Group (MIG). Historically, COMCAM has been aligned under Operations, potentially supporting influence operations, while PA has been aligned within the special staff conducting inform operations.

Concerns have been raised regarding potential negative impact to CommStrat objectivity and credibility if CommStrat engages in support of influence operations within the MIG.

The U.S. Army, which has greater personnel resources, attaches Visual Information soldiers directly to Military Information Support Operations (MISO) companies within their Psychological Operations (PSYOP) battalions. This allows VI soldiers to provide production support to influence operations with no potential for mission creep into inform operations.

What doctrine, policy, and best practices can the Marine Corps develop along with the implementation of the MIG to properly and effectively employ CommStrat support to both inform and influence operations while adhering to legal constraints and maintaining positive public perceptions of objectivity and credibility?

*DATE SUBMITTED: 6/12/2018

*DESIRED OBJECTIVES OF THE RESEARCH: Confirm/identify legal restraints of CommStrat support to influence operations.

Identify best practice of U.S. Army visual information support to influence operations.

Propose doctrine, policy, and best practices for employment of CommStrat capabilities within the MIG.

*REQUESTING/SPONSORING ORGANIZATION: III MIG CommStrat Company

*POINT OF CONTACT: Capt Barr, Benjamin E.

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*CLASSIFICATION: Classification could potentially vary depending on the levels of depth within research. Recommend keeping it at the unclassified level.

*RESEARCH TOPIC TITLE: Liaison Requirements in the MOC and Force 2025

*TOPIC DESCRIPTION: ANGLICO Units: Liaison Requirements in the MOC and Force 2025

*DATE SUBMITTED: 14 June 2018

*EXTENDED TOPIC DESCRIPTION: N/A (Same as above)

*DESIRED OBJECTIVES OF THE RESEARCH: Does ANGLICO's METL support its Mission Statement to integrate with the JIIM in the environment described in the MOC? If not, what capabilities are required?

*REQUESTING/SPONSORING ORGANIZATION: 5Th ANGLICO

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DESIRED RESEARCH COMPLETION DATE: No Desired Research Completion Date

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Mitigating MCF 2025 LCE Reductions

*TOPIC DESCRIPTION: Identify and recommend methods to mitigate capability and capacity losses resulting from approved Marine Corps Force (MCF) 2025 reductions to the Logistics Combat Element (LCE).

*DATE SUBMITTED: 11 Jun 2018

*EXTENDED TOPIC DESCRIPTION: By using Marine Logistics Group (MLG) personnel structure as a principal “bill payer” for increases in Information/Cyber Warfare capabilities in the Marine Information Group (MIG) and across the MAGTF, MCF 2025 imposed capability and capacity losses to the LCE, predominantly in the logistic functions of Engineering and Supply, that may adversely affect MAGTF sustainability in major combat operations. These reductions may have been premised on anticipated innovations and technology that have yet to materialize, and on risk assessments that may be obsolete in view of the new Marine Corps Operating Concept (MOC) and related Naval operating concepts such as Littoral Operations in a Contested Environment (LOCE) and Expeditionary Advanced Base Operations (EABO). Accordingly, the Service would benefit greatly from a study of the impacts of these reductions. The study should also identify and recommend rapidly actionable (i.e., low barrier/cost) methods to mitigate these impacts.

*DESIRED OBJECTIVES OF THE RESEARCH:
1. Determine the adverse impacts of MCF 2025 reductions on LCE ability to support the MOC (including LOCE, EABO, etc.)

2. Identify or develop a methodology for assessing and rank-ordering (based on costs/benefits) potential mitigation methods to offset those adverse impacts.

3. Identify potential mitigation methods (DOTMLPF) and assess/rank-order them.

4. Make appropriate recommendations.

*REQUESTING/SPONSORING ORGANIZATION: MARFORCOM (G-4)

*POINT OF CONTACT: Mr. Robert Lain, G-4 Ops/Plans Branch Head

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DESIRED RESEARCH COMPLETION DATE: No later than May 2019

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: The 31st MEU – “We’re Just Different”

*TOPIC DESCRIPTION: Current manning and equipping of the 31st MEU is insufficient due to the fact that the MEU unlike the East and West Coast MEUs is consistently forward deployed and stood up. The constant state of readiness that the 31st MEU is in exacts a tax not only on the MEU, but the entire MEF as a whole. This readiness tax and the risk to force must be addressed and mitigated in a different way.

*DATE SUBMITTED: 20180615

*EXTENDED TOPIC DESCRIPTION: The nature of the constantly forward deployed and stood up mission differentiates the 31st MEU for the other six MEUs in the Marine Corps. Current manning and equipping of the 31st MEU is insufficient due to the fact that the 31st MEU is consistently on alert and ready. The constant state of readiness that the 31st MEU is in exacts a tax not only on the MEU, but the entire MEF as a whole. The 31st MEU TO&E must be evaluated and then separated from the remaining MEU TO&Es to ensure the unit is resourced correctly with the proper manpower and equipment to avoid the cannibalization of III MEF assets and ultimately reduce risk for the MEU Commander and the III MEF commanders supporting the MEU.

*DESIRED OBJECTIVES OF THE RESEARCH: Recommend that an analysis of the 31st MEU training and deployment cycle be compared to the other 6 standing MEUs. Recommend an in depth look at the amount of risk the commanders assume because of that training and deployment cycle. What effects does the training and deployment cycle have on the 31st MEUs manpower and equipment readiness. Evaluate the readiness inspections cycles and the PCS Cycles and how it negatively affects the 31st MEU Mission. What are the 2nd and third order effects of the current model on the Major Subordinate Elements in III MEF. How do we find a better model that increases readiness and decreases risk for the MEU and MEF?

*REQUESTING/SPONSORING ORGANIZATION: 31st Marine Expeditionary Unit

*POINT OF CONTACT: LtCol Michael R. Hyde

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DESIRED RESEARCH COMPLETION DATE:  Summer of 2019

## Logistics

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Defense Logistics Agency War Reserve Integration

*TOPIC DESCRIPTION: This study will evaluate the viability of a closer USMC/DLA partnership in validating and executing the War Reserve Functions in order to eliminate the excessive inventories.

*DATE SUBMITTED: 8 Jun 2018

*EXTENDED TOPIC DESCRIPTION: War Reserve Functions include; management, selection criteria, requirements determination, sourcing positioning acquisition and distribution. The USMC manages its WRM in conjunction with DLA. Each MEF determines how many DOS it wants to own and manage at the MEF level. The majority of USMC WRM supplies, however, are owned and managed by DLA and are positioned at DLA Distribution Centers around the World (90% of WRMR).

The MOC, the new NDS, and emerging concepts such as EABO, lead the Marine Corps to consider developing a more agile logistics enterprise, including with its WRM. To reduce its WRM, the USMC and DLA will need to work more closely in partnership to validate WRM functions, current requirements, and perhaps a different balance of what is force held and what DLA is on the hook for providing.

*DESIRED OBJECTIVES OF THE RESEARCH: By using existing WRM forces held inventories within the MARFORs, conduct a cost benefit analysis in transitioning some of those inventories to DLA distribution centers. The assessment will capture initial capital expenditure reductions, reduced distribution costs, improved order ship time (and other supply chain management metrics to be determined) and conduct a thorough risk analysis ensuring that the level of WRM support does adversely impact of the named CONPLANS and OPLANS.

*REQUESTING/SPONSORING ORGANIZATION: MARFORCOM

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DESIRED RESEARCH COMPLETION DATE: 1 Jan 2019

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Defining USMC “expeditionary” Contract Line Item Numbers (CLINs) on existing global contracts that support the GCC’s AoR or portions of GCC’s AoR.

*TOPIC DESCRIPTION: Determine the feasibility of establishing well-defined CLINs on non-USMC Theater, External and System-Support Contracts that are tailored to CULs derived from all possible scale variations of the potential MAGTF's operational AOR in order to expedite commercial Logistics Support Supplies and Services (LSSS) in support of all spectrums of military operations.

*DATE SUBMITTED: 6/8/2018

*EXTENDED TOPIC DESCRIPTION: Research requires an analysis of all existing Theater, External and System-Support Contracts supporting the Geographic Combatant Command (GCC) in which the Marine Corps’ Service Component falls under.

Research includes the analysis of contracts specifically supporting the MARFORs’ AoR; other GCC contracts that possess adequate scope to support MARFORs’ CULs; and CULs of potential MAGTFs (all scale variations) in which MARFOR could potentially operate; and whether or not those contracts can be modified to add USMC well-defined CLINs that can support steady state Phase Zero and Phase One operations.

Research should identify MARFORs and MAGTFs CULs to be translated into “expeditionary” CLINs as well as requirements to establish CLINs; i.e., Statement of Work (SOW), Performance Work Statements (PWS), Independent Government Estimates, etc.; as well as systems, e.g., contingency Acquisition Support Module (cASM), Global Combat Support Systems-Joint (GCSS-J), and Synchronize Pre-deployment Operational Tracker (SPOT), used to leverage, monitor, and report contract support. Research should also identify applicable stakeholders needed to synchronize and execute required actions.

Research requires analysis of a Service-level Program Objective Memorandum (POM) in order to fully capture funding requirements for steady state Phase Zero and Phase One USMC CUL CLINs; implementation timeline; and requisite Service-level guidance to execute the leveraging of USMC Operational-level contract support at the Component and tactical levels.

Research must identify processes and procedures with regard to Contract Support Integration (CSI) at the Service Component and MAGTF levels as well as Contractor Management, and Contract oversight reporting. Consulting of the Joint Publication 4-10, Operational Contract Support and the Chairman of the Joint Chief of Staff Manual (CJCSM) 4301.01, Planning for Operational Contract Support, is required. Coordination is required with each contracting activity responsible for awarding Theater, External and System-support contracts that support the GCC AoR.

*DESIRED OBJECTIVES OF THE RESEARCH: Develop a codified process that demonstrates how to effectively leverage GCC Theater, External, and System Contracts from the Service Component and Tactical MAGTF level.

*REQUESTING/SPONSORING ORGANIZATION: HQMC I&L, LPC

*POINT OF CONTACT: Major Sheldon Webb, Colonel Raftery

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703-604-0038

DESIRED RESEARCH COMPLETION DATE: NLT MAY 2020

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Ground Supply Using Unit Capacity Study

*TOPIC DESCRIPTION: The Marine Corps 'Force 2025' decision to grow the Marine Corps Cyber and Intelligence communities resulted-in compensation from the 3043 and 3051 specialties. This resultant compensation did not take into account the subsequent FY17 Marine Corps audit, with previously unforeseen conclusions to introduce additional Financial Information and Audit Readiness (FIAR) specific roles and responsibilities to the tactical-level assigned 30xx community. These same additional roles and responsibilities remain further exacerbated by the community's unfamiliarity with the multitude of Marine Corps Orders (i.e. 4400.201), CMC-authored White Letters, NAVMCs, User Manuals. (i.e. GCSS-MC), and HQMC-originated procedural guidance.

*DATE SUBMITTED: June 6, 2018

*EXTENDED TOPIC DESCRIPTION: The 30xx OccFld requires a personnel calculation tool to better enable Commanders at the tactical-level to conduct informal 30xx Troop-to-Tasks.

*DESIRED OBJECTIVES OF THE RESEARCH: The desired objectives of this 'tool' is a report defining a measurable standard capacity model for the using unit supply sections and determine personnel requirements supporting a determined capacity. The report should also describe the effect of supply capacity on individual unit readiness and what risks are assumed at lowering capacity levels.

*REQUESTING/SPONSORING ORGANIZATION: HQMC, I&L, LPC2

*POINT OF CONTACT: MGySgt Brady L. Wentlandt

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DESIRED RESEARCH COMPLETION DATE: 30 December 2018 for planning in support of the February 2019 Authorized Strength Report.

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Logistics Support to EABO

*TOPIC DESCRIPTION: Describe the unique challenges of EABO and whether sustaining EABO is feasible given current logistics structure, resources, training, infrastructure, and C2 capabilities.

*DATE SUBMITTED: 5 JUN 2018

*EXTENDED TOPIC DESCRIPTION: EABO is an emerging concept that is oriented on a new threat environment. Research will explore whether current logistics capabilities are able to effectively support EABO and what new capabilities or what structure changes should the Service consider to make EABO viable from a sustainment perspective. Research should also consider prepositioned equipment and whether current MPF concepts support EABO, or should we alter the MPS composition/load-outs to be optimized for a different threat environment than currently envisioned.

*REQUESTING/SPONSORING ORGANIZATION: 3d Marine Divison G-4

*POINT OF CONTACT: LtCol Omar Randall

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DESIRED RESEARCH COMPLETION DATE: JUN 2019

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Medical Consumable Industrial Base Capacity Analysis

*TOPIC DESCRIPTION: Examine the commercial capacity to produce and deliver consumable medical supplies to the point of need for US forces

*DATE SUBMITTED: 14 June 2018

*EXTENDED TOPIC DESCRIPTION: The DOD currently uses a supply strategy for medical consumable supplies that depends on commercial vendors to deliver required items beyond 15 days of supply at the time of crisis. This "surge contract" method of supply has never been tested in a manner that simulates the large demand signal of all four Services' simultaneous requirements in support of major combat operations. The goal of the study is to examine the commercial capacity to produce and deliver consumable medical supplies to the point of need for US forces based on requirements from existing Operations and Contingency Plans.

*DESIRED OBJECTIVES OF THE RESEARCH:
- What are the current medical consumable requirements for US forces?
- What is the US commercial capability to produce the required medical consumables?
- How are medical consumable supplies transported and how resilient is the medical consumable supply chain?
- Are there non-US sources for medical consumable supplies that can provide extra capacity for US forces?

*REQUESTING/SPONSORING ORGANIZATION: III MEF

*POINT OF CONTACT: Col Hank Lutz: henry.w.lutz@usmc.mil: DSN 315-637-2069

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DESIRED RESEARCH COMPLETION DATE: May 2019

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Merging of the Combat Service Support MOS's

*TOPIC DESCRIPTION: Logistics Officers, Engineers, and Supply Officers serve alongside each other throughout their career paths. At the Lt level their jobs are distinctly different, but at the Capt level they begin to merge and from a monitor perspective they can be interchangeable. Is there value to merging the MOS's at the Capt or Major level and create a MAGTF Logistics Officer MOS?

*DATE SUBMITTED: 5 JUN 2018

*EXTENDED TOPIC DESCRIPTION: The combination of MOS's within the logistics community is not without precedence. In the 1990's the logistics community also contain 3502 (Motor Transport) which ultimately merged into the 0402 MOS. There is value in retaining certain CSS MOS's at the Lt level and possibly growing more as it benefits the platoons/sections they lead. For example, the Marine Corps could reintroduce the 3502 MOS. Is there value to adopting a similar model to that of the intel community? Lt's start out with drastically different MOS's but at the Capt level they attend school and merge into a singular MOS. At some point LogOs, SuppOs, and Engineers combine similar duties and responsibilities. Engineers, SuppOs and LogOs have all taken command of MWSS's and CLB's. Is the revalue to just creating a singular MOS of a MAGTF logistician at either the Capt or Major level?

*DESIRED OBJECTIVES OF THE RESEARCH: Is there a model which the Marine Corps could adapt which would retain certain CSS MOS's at the Lt level and then merge them at the Captain level similar to that of the Intel community? Is there value to this based upon the 2025Force Model? Define what the school pipeline would look like and recommend what MOS's would be required at the Lt/Capt level.

*REQUESTING/SPONSORING ORGANIZATION: 3d Marine Division G-4

*POINT OF CONTACT: Maj Scott Beatty, MRB OIC, 3d Marine Division

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DESIRED RESEARCH COMPLETION DATE: JUN 2019

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Reduction of the 3002 – Ground Supply Officer and Growth of the 3010 – Ground Supply Operations Officer Communities

*TOPIC DESCRIPTION: Restricted Officers in the supply community possess a greater wealth of knowledge of both supply fields and GCSS-MC. With the increase in complexity of the system combined with a greater degree of inspections from multiple agencies ensuring regulatory compliance, is there any value in shrinking or eliminating the overall 3002 community and growing the 3010 restricted supply MOS field so they can assume Supply Officer roles throughout the MAGTF?

*DATE SUBMITTED: 5 JUN 2018

*EXTENDED TOPIC DESCRIPTION: Current utilization of the 3010 community is relegated to Supply Battalions, Maintenance Battalions, and supporting establishment positions. The systems utilized in today's Marine Corps is far more complex in comparison to 20 years ago and requires consistent usage and maintenance of skills to stay relevant. Does the unrestricted community provide the dedicated time in the MOS to maintain relevance and expertise or should these roles e shifted to a growth in the restricted community?

*DESIRED OBJECTIVES OF THE RESEARCH: Is a restaffing of the Supply Officer community utilizing more restricted officers appropriate for modern logistics systems requiring more technical expertise?

*REQUESTING/SPONSORING ORGANIZATION: 3d Marine Division G-4

*POINT OF CONTACT: Maj Scott Beatty, MRB OIC, 3d Marine Division

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DESIRED RESEARCH COMPLETION DATE: JUN 2019

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Resiliency in Logistics IT systems

*TOPIC DESCRIPTION: Identify methods to protect information contained in unclassified logistics IT systems

*DATE SUBMITTED: 14 June 2018

*EXTENDED TOPIC DESCRIPTION: The majority of logistics information systems use unclassified networks that are vulnerable to attack and disruption by the enemy. USMC forces require methods to protect information contained in the logistics IT systems and prevent disruption to logistics operations while still allowing information exchange over the unclassified networks. Logistics IT systems also must facilitate information exchange with commercial entities that do not have access to secure networks.

*DESIRED OBJECTIVES OF THE RESEARCH: -What protections are available to secure data transmission over the internet?

-How can logistics IT systems prevent data spoofing and corruption by enemy actions?

-Will commercial encryption capabilities will help protect USMC logistics data transmission over unclassified networks?

-Can logistics data be masked or hidden within other data transmitted via commercial networks?

*REQUESTING/SPONSORING ORGANIZATION: III MEF

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DESIRED RESEARCH COMPLETION DATE: May 2019

## Policy

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Compliance vs Readiness: How does compliance with Service policy impact combat readiness

*TOPIC DESCRIPTION: Do Service level policies and procedures contribute to – or impede – combat readiness at the unit level? Programs and requirements such as FSMAO and FIAR require significant effort on the part of unit commanders and unit personnel, which detracts from the unit's preparation and training for wartime missions. Does compliance place an undue burden on the unit commander and are units appropriately staffed and trained effectively balance requirements of FSMAO and FIAR with combat readiness?

*DATE SUBMITTED: 5 JUN 2018

*EXTENDED TOPIC DESCRIPTION: With the advent of GCSS-MC, a labor-intensive system requiring a large degree of user experience to be proficient, units are consistently training new users and managing their commands' profiles, the aforementioned tasks require considerable time and effort to properly execute. Simultaneously, in recent years inspection optempo has increased in comparison to the early 2000's. The result is a labor-intensive system which is now being inspected via FSMAO, FIAR, CGRI, and internal inspections multiple times per year. This equates to a greater degree of focus shifting from combat readiness to inspection readiness, which may be contradictory in nature. If units are consistently preparing for and receiving inspections to ensure compliance, there is a potential that commanders will spend a majority of their time preparing for inspections instead of focusing on mission accomplishment.

*DESIRED OBJECTIVES OF THE RESEARCH: Enable better understanding of the costs associated with audit readiness and policy compliance, and to understand whether many of the policies with which units must comply, impacts unit readiness. Does the Service have the right balance between policies and inspection processes to properly balance the requirements of accountability and readiness?

*REQUESTING/SPONSORING ORGANIZATION: 3d Marine Division G-4

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DESIRED RESEARCH COMPLETION DATE: JUN 2019

*CLASSIFICATION: Unspecified

*RESEARCH TOPIC TITLE: Enlisted B-Billets

*TOPIC DESCRIPTION: The requirement for all enlisted Military Occupational Specialties (MOS) to serve in a B-Billet is outdated and discourages some Marines from reenlisting in the Marine Corps.

*DATE SUBMITTED: 20180611

*EXTENDED TOPIC DESCRIPTION: As an example, there are 72 Crewmaster Level One Plane Captains in the Marine Corps, only 47 (65 percent) of those Marine currently serve in the fleet. Admittedly, we need top Marines as recruiters and drill instructors; however, some communities are healthier than others, and the Marine Corps must do a better job keeping qualified Marines in their primary MOS and ultimately to retain our top performers in the Marine Corps.

*DESIRED OBJECTIVES OF THE RESEARCH: -Revamp the Special Duty Assignment process.

-Better way forward (incentives to gain volunteers for DI and Recruiter).

*REQUESTING/SPONSORING ORGANIZATION: Marine Air Group-12

*POINT OF CONTACT: Maj Kevin Herrmann / Maj Matthew Stozenberg

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*CLASSIFICATION: SECRET

*RESEARCH TOPIC TITLE: “Fight Tonight” Combat Readiness vs. Phase 0 in the Western Pacific: What is the right balance of service level training while achieving theater security engagement goals?

*TOPIC DESCRIPTION: III MEF consistently deals with the challenge of achieving “Fight Tonight” combat readiness while at the same time working to meet the desired level of engagements in the Combatant Command theater security cooperation plan. In a resource constrained environment, what is the right to balance to best achieve the optimal balance between the two?

*DATE SUBMITTED: 14 June 2018

*EXTENDED TOPIC DESCRIPTION: III MEF as the Marine Corps’ forward deployed MEF in the Western Pacific faces a difficult challenge between maintaining combat readiness and theater security cooperation engagements. Whether responding to a KTO scenario or other Pacing threat in the AOR, III MEF is constrained by the requirements to constantly maintain a high level of combat readiness, and yet at the same time to engage in an extensive theater engagement program that while useful to maintaining relationships and access does not often produce readiness. The other two MEFs are larger in size and do not have as extensive theater security engagement requirements levied against them. In the future, if III MEF will not gain additional structure and future defense budgets do not grow, what is the optimum level of service training needed to achieve adequate readiness in the Western Pacific while at the same time meeting theater security cooperation engagements?

*DESIRED OBJECTIVES OF THE RESEARCH: Is III MEF sized and resourced appropriately against future operating concepts and threats for future operations in the Western Pacific?

What types of training against future operating concepts are required for a geographically dispersed MEF to gain combat readiness?

What types of training against future operation concepts and threats will produce the most readiness and still allow for TSC engagement? Where should this training occur to drive engagement requirements for TSC?

Where and when should TSC engagement take precedence over combat readiness?

How does the current state of amphibious shipping impact both combat readiness and TSC engagement in the Western Pacific?

*REQUESTING/SPONSORING ORGANIZATION: III MEF G-37

*POINT OF CONTACT: Col Christopher H. Oliver

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AVAILABLE FUNDING, IF ANY: None

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Fleet to Fleet? Why change Units?

*TOPIC DESCRIPTION: Manning in our current fiscally constrained environment continues to become difficult. HQMC has approved, likely amongst many T/M/S, but specifically the FW Tacair Community the ability to go “Fleet-to-Fleet” IOT combat and fix a robust manning problem and/or shortfall. Request a cost/benefit analysis be conducted concerning why Marine Aviators must change coasts/units while executing a Fleet-to-Fleet move. What benefits does this provide the USMC? What benefit does this provide service members and families?

*DATE SUBMITTED: 6/4/2018

*EXTENDED TOPIC DESCRIPTION: N/A

*DESIRED OBJECTIVES OF THE RESEARCH: An all-encompassing and in-depth analysis stating and explaining the pros and cons associated with HQMC maintaining the status quo and continuing a robust, expensive, and time consuming PCS process, or adapting and identifying the nearest threat or modifying a long-standing tradition to adapt and overcome the current manning deficit.

*REQUESTING/SPONSORING ORGANIZATION: VMFA(AW)-242

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*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Healthy Food Options

*TOPIC DESCRIPTION: The Marine Corps advertises our organization as the “elite” and we often identify as “military athletes”, however the food options that are provided within our organization are not commensurate with that messaging. Our food court options consist of Burger King, Popeyes, Pizza Hut, Dominos, Panda Express, Taco Bell, Charlies Subs, and Subway (the healthier of the group). Our chow hall options are often not consistent but do a better job of trying to hit the intent of providing heathy options. Of course, the actions of the Marines are what truly matter. If a Marine simply chooses to eat with unhealthy intent, then that is his/her decision, but the Marine Corps is not doing them any favors with the options provided. On top of the food court choices provided, we often restrict our Marines living in the barracks due to the inability to utilize cooking appliances in the spaces; also the lack of sufficient food storage appliances. III MEF specific restrictions (SOFA driver license) also make it difficult/inconvenient for the young Marines to visit the commissary or local markets (having to pay taxi fees).

*DATE SUBMITTED: 6/12/18

*EXTENDED TOPIC DESCRIPTION:

*DESIRED OBJECTIVES OF THE RESEARCH:

1. To identify different options available for food options within the base facilities and food courts.
2. To improve the Marine’s options to better food choices and reinforce our mindset of “military athlete”
3. To initiate conversations through contracting and facility chains of command regarding the subject.

*REQUESTING/SPONSORING ORGANIZATION: 3d Intelligence Battalion

*POINT OF CONTACT: Major Christopher M. Gowgiel, Executive Officer

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315-623-4861 (DSN)

DESIRED RESEARCH COMPLETION DATE: TBD based on student curriculum

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Law of Armed Conflict for Special Operations Forces

*TOPIC DESCRIPTION: This project will examine the law of armed conflict (LOAC) in the context of full-spectrum special operations forces (SOF) operations IOT make LOAC more useful to operators.

*DATE SUBMITTED: 13 June 2018

*EXTENDED TOPIC DESCRIPTION: LOAC is complex. The DoD Law of War Manual is over 1200 pages of dense material. Gary Solis' book (The Law of Armed Conflict) is over 800.

As LOAC becomes more and more complex, commanders and units are less likely to learn and apply it. This risk undermines the discipline's very purpose. And this risk is heightened in the conduct of SOF operations.

Operational lawyers need to be able to provide an executive summary, so to speak, for use in SOF operations. The difficulty is in avoiding oversimplification. Overcoming this difficulty requires focused research.

*DESIRED OBJECTIVES OF THE RESEARCH: The end state is a carefully researched and clearly written professional product that operational commanders and MARSOF Marines can refer to for LOAC. It will use vignette narratives to provide historical context to the content required for specialized training under MCO 3300.4A (Marine Corps Law of War Program) and so would benefit all of the Marine Corps. Ideally, the Operational Law Branch, Judge Advocate Division, would endorse it as an official reference.

*REQUESTING/SPONSORING ORGANIZATION: MARSOC

*POINT OF CONTACT: Capt Tyrone N. Collier, USMCR, Assistant Staff Judge Advocate/Operational Law Officer, MARSOC

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COMMENTS: C&SC (8901) introduces students to LOAC. But the "Always Forward" Marines of MARSOF must maintain a more thorough understanding, especially with operating environments becoming more and more complex.

This project as proposed is worthwhile for several reasons.

1. This project is important, especially to the Marine Corps. All who have learned LOAC remember the four principles. The DoD LOW Manual of 2015 added a

fifth: honor. It is no coincidence that the new Marine Corps Manual (to be issued in 2018) offers the following note on honor:

"Marines, individually and collectively, 'keep our honor clean.' Marines conduct all military operations in accordance with all applicable laws, regulations, and polices. In particular, Marines comply with the law of war, whether operating alone or with joint/combined forces."

2. This project is in line with MARSOC's perspective for MARSOF's challenges

a. First, MajGen Mundy, in his Gazette article from January, emphasized that "[o]ne sure way" to make the Marine Corps "more capable and more relevant overall" is "to increase the ability of our human capital to perform and make decisions in the complex, uncertain, and politically charged situations that the future will bring." This ability demands a deeper understanding of the LOAC, with its far-reaching and lasting strategic-level consequences.

b. Second, this project would apply quite well to the concept of The Cognitive Operator as described in MARSOF 2030.

3. Research in this area is already moving alongside SOF interests, not only with respect to direct action and special reconnaissance (in which the application of LOAC is clearest), but also Foreign Internal Defense and support to Unconventional Warfare.

a. FID. In 2016, JSOU Press published a monograph by Patrick Paterson (a nonlawyer
professor of national security studies) on Training Surrogate Forces in International Humanitarian Law [IHL], JSOU Report 16-9. Among Paterson's recommendations to USSOCOM was to "[d]evelop a training manual on essential components of human rights and IHL."

b. UW. The "priority topics" featured in Special Operations Research Topics 2018 includes "Educating SOF for 21st century unconventional warfare (UW) and countering UW."

4. Other reasons support the merits of this project as proposed

a. Marines have a strong legacy of advancing operational law and LOAC

(1) First, note that, according to the DON's OJAG site on the history of the U.S. Navy's JAG Corps, "Colonel William Butler Remey, USMC, was the first uniformed chief legal officer of the Navy, in 1878."

(2) Second, Marine Colonel (USMCR, retired) W. Hays Parks helmed the 20-year committee that coordinated and wrote the DoD's LOW Manual.

(3) Third, Gary Solis, a retired Marine LtCol (USMCR), wrote the most prominent textbook on LOAC.

(4) Finally, the author of the seminal book on the practice of national security law, In the Common Defense, and the co-author of the only book on Regulating Covert Action, is Jamie Baker, a former Marine infantry officer and former Chief Judge of the Court of Appeals for the Armed Forces.

b. Capt Collier is the most-highly qualified person to complete this project

(1) Capt Collier is currently the Assistant Staff Judge Advocate/Operational Law Officer at MARSOC. He has already gotten started on this research, due to his longstanding interest in humanitarian law and the duties of his current billet.

(2) He has just completed his first year of C&SC (nonresident) and will continue his second year in AY18-19.

(3) Capt Collier is a recent graduate of Georgetown Law's National Security Law Program. Gary Solis — probably the most preeminent scholar on LOAC — is a professor at Georgetown Law. Capt Collier will be able to arrange for Mr. Solis' mentorship and oversight, especially with the sponsorship of MARSOC and the Marine Corps.

(4) Capt Collier is a resident of northern Virginia in the vicinity of metropolitan Washington, DC, in proximity to the Gray Research Center in Quantico, the Library of Congress, and Georgetown University Law Center. He plans to pursue Georgetown Law's National Security Fellowship. If he's selected, he'll be able to pursue his own research, which would align quite well with the timeline and nature of this project. Throughout this time, he will remain a member of MARSOC OSJA's IMA detachment.

(5) Capt Collier has recently won two research and writing awards, one conferred by USSOCOM's Special Operations Judge Advocate, Colonel Philip Wold, USAF (a competition open to all SOF lawyers) and the other conferred by Marine Corps University's Center for Advanced Operational Culture Learning (a competition open to all MCU students, resident and nonresident).

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Positive Impact of Provided Alternative Medical Care to Active Duty and Dependents

*TOPIC DESCRIPTION: Alternative medical care, to include chiropractic, therapeutic massage, and acupuncture, provide non-invasive means to correct injuries and skeletal/muscular imbalances. Currently, AD can have chiropractic care at military medical facilities; however, the waits are typically long as there is not significant staffing and those on independent duty are not allotted the opportunity. The provision of chiropractic, therapeutic massage, and acupuncture by Tricare can reduce injuries, reduce light duty/limited duty, and improve fitness, mental acuity, and emotional stability of service members. Additionally, this lowers the out-of-pocket medical cost for Active Duty members.

*DATE SUBMITTED: 6/13/18

*DESIRED OBJECTIVES OF THE RESEARCH:

1. To identify percentage of military personnel who use alternative medical care.
2. To identify percentage of military personnel who would use alternative medical care if paid for by Tricare.
3. To identify the amount paid by service members to cover alternative medical care.
4. To identify the scientifically identified benefits of alternative medical care and show how it would benefit service member productivity and deployability.
5. To identify cost savings through the elimination of physical therapy and injury rehabilitation through early mitigation with alternative medical care.

*REQUESTING/SPONSORING ORGANIZATION: 3d Intelligence Battalion

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DESIRED RESEARCH COMPLETION DATE: TBD based on student curriculum

*CLASSIFICATION: Unspecified

*RESEARCH TOPIC TITLE: Setting New Marines up for Failure

*TOPIC DESCRIPTION: Young Marines are being set up for failure in our recruiting and screening processes.

*DATE SUBMITTED: 20180611

*EXTENDED TOPIC DESCRIPTION: We are setting our Marines for failure in the manner in which we recruit. Recruiters are stressed to meet recruiting quotas. At times, recruiters are recruiting young high school students who are overweight, have various mental issues, and medical issues. They are told to “cover up” the issue on enlistment and medical paperwork. The young man or woman completes recruit training and is given to a fleet as, an already, broken product. Within the first enlistment, Marines are having issues maintaining weight, struggling to adapt to the military lifestyle, and are quickly administratively separated from the military.

*DESIRED OBJECTIVES OF THE RESEARCH: A well-disciplined force that is set for success and able to be globally deployable.

*REQUESTING/SPONSORING ORGANIZATION: Marine Aviation Logistics Squadron-12

*POINT OF CONTACT: Maj Ronald Hess

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*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: SIGINT, Electronic Warfare (EW), and Cyber Programs of Record (POR) versus Commercial off the Self (COTS) solutions.

*TOPIC DESCRIPTION: Are SIGINT/EW/Cyber Programs of Record (POR) more effective compared to Commercial Off the Shelf (COTS) like solutions, when considering rapid changes in technologies and development costs over a five year period?

*DATE SUBMITTED: 20180611

*EXTENDED TOPIC DESCRIPTION: Current antiquated bureaucratic processes impair the Conventional SIGINT/EW/Cyber Community within the Marine Corps from procuring the necessary equipment and software to keep up with a rapidly advancing technological environment. One of the current solutions for procuring the equipment needed for mission accomplishment is purchasing a COTS solution. This allows for a more expeditious procurement of equipment that aligns with the SIGINT/EW/Cyber support taking place throughout specific areas of operations. With the expectation that the Marine Corps SIGINT/EW/Cyber community to support the MAGTF and Joint Force it is imperative that the procurement and acquisition process be revised.

*DESIRED OBJECTIVES OF THE RESEARCH: Determine if it is more efficient and effective to invest in SIGINT/EW/Cyber equipment through COTS versus POR.

*REQUESTING/SPONSORING ORGANIZATION: 3d Radio Battalion, III MIG, III MEF

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DESIRED RESEARCH COMPLETION DATE: 20190601

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Title 10 vs. Title 50 Authorities in Support SIGINT and Electronic Warfare Operations

*TOPIC DESCRIPTION: The USMC enterprise operations largely occur in a gray area between title 10 Authorities and Title 50 Authorities. These need to be more clearly delineated to expedite approval process and decentralize command and control of SIGINT/EW/CYBER operations. Doing so will ensure national and tactical partners are on the same page when it comes to SIGINT/EW/CYBER support to military operations.

*DATE SUBMITTED: 20180613

*EXTENDED TOPIC DESCRIPTION: As the Commandant of the Marine Corps pushes for a greater emphasis on EW capabilities across the MAGTF to meet the Future Force 2025 end state the lines between Title 10 and title 50 operations are becoming increasingly blurred. Thus increasing the risk for intelligence oversight problems and decreasing the effectiveness of intelligence support operations to Military Commanders. Within the current construct a Title 10 intelligence operation and a Title 50 intelligence operation could look identical. What makes an operation Title 10? What makes an operation Title 50? Clear delineation of what operations fall under Title 10 and Title 50 authorities will expedite approval process and grants military commanders a better understanding of where the oversight process needs to fall. The line between Title 10 and Title 50 must be identified across the SIGINT/EW/CYBER enterprise. This will better online how SIGINT/EW/CYBER operations can support each other. It will also reduce congestion in approval process by pushing approvals for Title 10 operations to the lowest levels while ensuring oversight is being conducted by the proper authorities.

*DESIRED OBJECTIVES OF THE RESEARCH: Determine where Title 10 and Title 50 authorities begin and end. Provide recommendations based on those findings to outline approval processes across the SIGINT/EW/CYBER enterprise. Specifically how it is approved to support of military operations.

*REQUESTING/SPONSORING ORGANIZATION: 3d Radio Battalion, III MIG, III MEF

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DESIRED RESEARCH COMPLETION DATE: 20190601

*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Unaccompanied Marines 36-month OCONUS Tour for 02XX

*TOPIC DESCRIPTION: The high-turnover for OCONUS stationed Marines (24 months for single, unaccompanied Marines), is detrimental to the mission set and high-tempo operations of 02XX Marines. Additionally, many Marines are identified to serve in FAP/CAP, removing them from their MOS for 6-12 months, leaving them at 1.5 year to one year tours inside their MOS. Shifting critical MOS Marines (specifically 02XX) to required 36-month orders and adding incentives (such as $800 bonus and 20 days of block leave during the second year), cuts the cost of single-Marine moves by 33%; allows the appropriate time to build subject matter expertise; helps transition the focus of effort to PACOM, following Force 2025; and provides Marines with an opportunity to return home during their tour.

-24 month orders for unaccompanied, married Marines can be issued.

-12 month dependent-restricted orders will not be issued for this MOS.

*DATE SUBMITTED: 6/13/18

*EXTENDED TOPIC DESCRIPTION: Focus on a specific unit for comparisons (in this case, 3d Intel Bn)

*DESIRED OBJECTIVES OF THE RESEARCH:

1. To identify the overall turnover percentage at 3d Intel Bn vice 1st/2nd Intel Bn.
2. To identify the cost associated with this turnover.
3. To identify the new turnover percentage if this is enacted.
4. To identify the new cost associated with the change.
5. To identify the opportunities for increased productivity and contribution to III MEF efforts with a decreased turnover.

*REQUESTING/SPONSORING ORGANIZATION: 3d Intelligence Battalion

*POINT OF CONTACT: Captain Danielle Falcon, Assistant Operations Officer

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DESIRED RESEARCH COMPLETION DATE:  TBD based on student curriculum

*CLASSIFICATION: Unspecified

*RESEARCH TOPIC TITLE: USMC Systems Acquisition Process Review and Modification Capability

*TOPIC DESCRIPTION: Analysis of the ability to review, modify, and adjust currently approved and funded USMC acquisition programs to ensure that most up-to-date and technologically advanced systems are being utilized prior to final production and delivery.

*DATE SUBMITTED: 20180611

*EXTENDED TOPIC DESCRIPTION: Due to the length of time to develop, produce, and deliver USMC systems, the capability which was initially developed becomes obsolete/outdated as what is available upon final production or delivery. If program managers had the ability to modify the final capability of a system throughout the developmental process to ensure the most accurate capability is incorporated into a program before final production, the ability to save money in the long run based on the requirement to update systems to new technology shortly after final production or even initial delivery may prove beneficial.

*DESIRED OBJECTIVES OF THE RESEARCH: Provide the most technologically up-to-date systems to support USMC programs and systems during development stages to support USMC operations.

*REQUESTING/SPONSORING ORGANIZATION: Marine Wing Headquarters Squadron 1

*POINT OF CONTACT: LtCol Donald McCowan

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## Technology

*CLASSIFICATION: Unspecified

*RESEARCH TOPIC TITLE: Alternate Timing Capability in a Degraded Communications Environment

*TOPIC DESCRIPTION: The Global Positioning System (GPS) is our sole source of timing for communication and information systems. They are susceptible to interference in a jamming or GPS spoofing environment and there are no secondary means of provide timing for our communication systems.

*DATE SUBMITTED: 20180611

*EXTENDED TOPIC DESCRIPTION: A great deal Marine Corps equipment rely heavily on GPS to provide synchronous timing. This timing is crucial for information systems to function, synchronize and share information. In a degraded communication environment, where orbiting satellite may be susceptible to jamming, interference or spoofing, our communications equipment lose synchronization and the network and its information systems would become inoperable. If this were to happen, there are no secondary timing sources keeping the equipment synced and operational.

*DESIRED OBJECTIVES OF THE RESEARCH: Identify alternate means of providing timing to USMC equipment that would be survivable in a communications degraded environment and resistant to interference.

*REQUESTING/SPONSORING ORGANIZATION: 1st Marine Aircraft Wing G-6

*POINT OF CONTACT: CWO2 Antonio Parker

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*CLASSIFICATION: Unspecified

*RESEARCH TOPIC TITLE: Harnessing Humidity for Life Support Services

*TOPIC DESCRIPTION: AS the USMC advances in its operational capabilities, requirement for Marine life support and equipment continues to grow. AS an unintended consequence, fuel and energy consumptions grows as well. The Marine Corps needs to explore alternative and renewable options to provide power and life support services in a deployed environment using natural resources that do not require logistics support.

*DATE SUBMITTED: 20180611

*EXTENDED TOPIC DESCRIPTION: Most of the places the Marine Corps operates in are humid environments. The Marine Corps needs to view humidity as a resource and learn to exploit it. Atmospheric water generators function like a dehumidifier and are becoming ever more popular and efficient, but little military research has been conducted to explore the capability. A capability like this would decrease logistical requirements, subsequently decreasing fuel consumption, and improve availability of life support services. This capability would be most effective if it was man portable and designed to support a platoon size or smaller. The ideas is this would function like a dehumidifier but retain the water captured for additional use.

*DESIRED OBJECTIVES OF THE RESEARCH: The objective of this research would be to conceptualize and develop a man portable atmospheric water generator that could be employed in an expeditionary fashion.

*REQUESTING/SPONSORING ORGANIZATION: 1st MAW G-6

*POINT OF CONTACT: Capt Andrew Adkinis

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*CLASSIFICATION: Enterprise Logistics Automated Information Systems (LOG AIS)

*RESEARCH TOPIC TITLE: LOG AIS for Additive Manufacturing

*TOPIC DESCRIPTION: Additive Manufacturing (AM) provides supply support options to the lowest operational level to improve equipment readiness and combat effectiveness. To leverage AM, an AIS is required to serve as a repository for components developed using AM and a web based interactive tool which can communicate to DLA's parts registry and database for future requisitions and disposition of AM parts.

*DATE SUBMITTED: 13 June 2018

*EXTENDED TOPIC DESCRIPTION: Enterprise solutions are lagging behind AM activity at the operational level and requires immediate action.

*DESIRED OBJECTIVES OF THE RESEARCH: An actionable approach to develop a requirement and material solution for a LOG AIS which ties in AM.

*REQUESTING/SPONSORING ORGANIZATION: PfM GCES

*POINT OF CONTACT: Anton R. Stubbs, APfM-L, PfM GCES

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*CLASSIFICATION: Unspecified

*RESEARCH TOPIC TITLE: USMC Effective Use/incorporation of 3D Printing

*TOPIC DESCRIPTION: The rapidly developing technology of 3D printing is currently not being effectively leveraged by the Marine Corps. Conduct cost benefit and incorporation analysis for safe, efficient incorporation of 3D printing into the USMC.

*DATE SUBMITTED: 20180611

*EXTENDED TOPIC DESCRIPTION: 3D printing could be effectively utilized to reduce the shipping delays and cost of maintenance parts.

*DESIRED OBJECTIVES OF THE RESEARCH: Develop a plan to effectively incorporate 3D printing in the USMC to reduce the cost and shipping delays relating to maintenance.

*REQUESTING/SPONSORING ORGANIZATION: MWSS - 171

*POINT OF CONTACT: Maj Leslie Braddy

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*CLASSIFICATION: Unclassified

*RESEARCH TOPIC TITLE: Use of Artificial Intelligence in Wargaming

*TOPIC DESCRIPTION: Research will look to understand state of practice in AI and it's applicability to wargaming.

*DATE SUBMITTED: 15 Jun 2018

*EXTENDED TOPIC DESCRIPTION: Wargaming is a simulation of selected aspects of a conflict situation IAW predetermined rules, data and procedures to provide decision-making experiences/information that is applicable to real world situations (McHugh, 1966). Typical wargames consist of a blue cell representing friendly forces, a red cell representing adversary forces, and a white cell that adjudicates the outcomes of the moves performed by the players. This topic will look at the current and forecasted state of AI to determine if it can be used to provide either a realistic substitute for human players in either red or blue cells, and/or a means to perform adjudication in real-time/near real-time in the face of unforeseen moves by the players.

*DESIRED OBJECTIVES OF THE RESEARCH:
- Understand state of the art and practice in AI, both current and forecasted in FY23
- Practicality of using AI in wargaming, particularly for adjudication
- Availability of people/companies, process and tools

*REQUESTING/SPONSORING ORGANIZATION: PM Wargaming Capability, Marine Corps Systems Command

*POINT OF CONTACT: Mr. John Maurer

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DESIRED RESEARCH COMPLETION DATE: 30 Mar 2019

AVAILABLE FUNDING, IF ANY: Reasonable travel funds are available.

## Training

*CLASSIFICATION: Unspecified

*RESEARCH TOPIC TITLE: Comparative Assessment: US Army vs USMC Force-on-Force Training

*TOPIC DESCRIPTION: Compare and contrast the force on force training techniques of the US Army and USMC. Using the MCCRE as a benchmark of Marine Corps unit-level training and assessment, does the MCCRE adequately evaluate the combat preparedness of the unit against a near-peer adversary? Explore how the Marine Corps could utilize simulated/constructive/and live training forces to achieve force on force training.

*DATE SUBMITTED: 20180611

*EXTENDED TOPIC DESCRIPTION: The topic hypothesis is the units and unit commanders will learn best how to lead and employ their unit when there is a real opportunity to fail during execution. The research should compare and contrast the Marine Corps and Army approach to force-on-force training. To my knowledge the Marine Corps does not employ constructed/simulated or live training at a near-peer level for higher than the company level of training. Battalions do not engage other infantry battalions (or a comparable formation) at ITX.

-Marine Corps Combat Readiness Evaluations (MCCREs) on the aviation and ground side have evolved into evaluating internal readiness instead of testing the unit's ability to emerge victorious in combat against a near-peer, thinking enemy. One-sided training without a realistically portrayed opponent results in negative training and a false sense of accomplishment during the conduct of MCCRE.

-MCCREs provide an unparalleled opportunity for battalion-level units to receive attachments, training money, and support to evaluate METs but there is not a real opportunity to tactically fail the MCCRE. Units fail MCCREs for lack of logistic planning, failure to execute SOPs, or other mistakes but usually not for lack of sound tactical decisions. MCCREs last for a pre-planned number of days covering a pre-coordinated set of training areas with a pre-allocated amount of class I/III/V of supply. None of this is realistic; of this, the staff does not get multiple repetitions at the 6000-level of T&R events.

-The Army has a history of battalion and regimental-sized force-on-force training at the National Training Center (NTC). Much of their ability to do so stems from the sheer size and number of battalions and regiments and brigades within the Army.

-The research and subsequent analysis should identify the relative merits, applicability, and requirements for such training. It should also cover innovations ways to use simulated and/or constructed forces to enable force-on-force training.

*DESIRED OBJECTIVES OF THE RESEARCH: -Assess whether the Army approach to force-on-force training has applicability within the Marine Corps.

-Evaluate the relative merit of utilizing constructive, simulated, and live training environments at different levels of the MAGTF.

-Answer whether battalion-level and higher staffs benefit more from fewer, live-fire training venues or more simulated training venues.

-Recommend to CD&I and/or TECOM on both the utility of force on force training as well as a way ahead to integrate innovative ways of force-on-force training.

*REQUESTING/SPONSORING ORGANIZATION: 1st Marine Aircraft Wing G-2

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DESIRED RESEARCH COMPLETION DATE: Summer 2019