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MILITARY SEALIFT COMMAND'S COMBAT LOGISTICS FORCE IN CONTESTED ENVIRONMENTS

Submitted by:

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12 May 2017

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Contents Page

Paper Abstractiii
Introduction1
Contested Environments2
The U.S. Merchant Marine, Military Sealift Command and the Combat Logistics Force
Operational and Tactical Proficiency7
Civilian Manning Construct10
The Military Detachment Solution14
Counter Argument; Utilize Strategic Sealift Reserve Officers
Conclusion17
Appendix A18
Notes
Bibliography

Paper Abstract

Military Sealift Command's Combat Logistics Force in Contested Environments

A shift from operating uncontested to contested in the maritime domain has identified deficiencies in the U.S. Navy's Military Sealift Command (MSC) Combat Logistics Force (CLF) ships ability to tactically operate. This places the fleet at risk of detection and targeting by the adversary. Military Detachments (MILDET) which were responsible for the tactical operations and communications are no longer billeted aboard CLF ships and there are not enough trained and qualified Civilian Mariners (CIVMAR) billeted in these roles to meet the same level of operational proficiency. To meet the challenges required to operate effectively and tactically integrate with the U.S. Navy in contested environments, MSC must re-employ active duty MILDETs aboard the CLF ships.

INTRODUCTION

For the first time since the Cold War, the U.S. Navy no longer enjoys uncontested freedom on the high seas. The U.S. Navy dominated the maritime domain since the fall of the Soviet Union until now. The United States is facing a return to "great power competition" as stated by the Chief of Naval Operations in his 2016 *Design for Maintaining Maritime Superiority*.¹ China, Russia, Iran, North Korea, and Violent Extremist Organizations each have acquired the capabilities to target the U.S. Navy at sea and every strategic chokepoint connecting the high seas. While the U.S. Navy will continue operating across the globe, it must now contend with these emerging threats.

The Combat Logistics Force (CLF) ships operated by the U.S. Navy's Military Sealift Command (MSC) civil service mariners (CIVMARs) are the supply lines to the U.S. Navy at sea. This fleet comprised of oilers, fast combat support ships, fleet ordnance and dry cargo ships enable the Navy fleet to remain at sea and on station for extended periods of time. The CLF ships provide everything from fuel, food, ordnance, spare parts, to mail, transferring everything at sea via underway replenishment (UNREP).² By virtue of the forward, onstation services the CLF fleet provides to the U.S. Navy, MSC must also contend with the same security threats that now exist. To meet the challenges required to operate effectively and tactically integrate with the U.S. Navy in the contested environment, MSC must reemploy active duty Military Detachments (MILDET) aboard the CLF ships.

The Commander of MSC (COMSC), Rear Admiral Dee L. Mewbourne recognizes the emerging security challenges. He acknowledges MSC will, by necessity, be required to operate in a contested maritime domain to assure continued global maritime services are

delivered to the warfighter. He calls upon all members of MSC to think about and contribute possible solutions to meet the challenges of operating in contested environments.³

CONTESTED ENVIRONMENTS

The Chairmen of the Joint Chief of Staff Marine Corps General Joseph Dunford uses the term "four-plus-one" to describe the "threat baseline; Russia, China, Iran, North Korea and violent extremism. Four are nation states that cause varying degrees of concern. The fifth threat, terrorism, can flare up in any part of the world.".⁴ Specifically, the contested environments where the four-plus-one activity threatens U.S. Naval forces can be correspondingly linked to each actor by five geographic locations. From East to West, these areas are North Korea/Sea of Japan, the South China Sea, the Persian Gulf, the Bab-El-Mandeb, and the Black Sea.⁵ Each adversary is rapidly developing the capability and doctrine to effectively employ naval forces, layered defenses systems, surveillance, and counter-surveillance systems to contest the U.S. Navy.

China and Russia are both amassing naval force and capability at sea. According to the U.S. Navy's Office of Naval Intelligence (ONI), the Peoples Liberation Army Navy (PLA(N)) have been building and acquiring an array of advanced naval vessels and submarines employing new and sophisticated anti-ship ballistic missiles like the DF-21, and developing the world's first anti-ship ballistic missile system specifically designed to defeat U.S. carrier strike groups.⁶ The Iranian regime utilizes its Navy and the Iranian Revolutionary Guard (IRG) to show force in an attempt to demonstrate control of the Strait of Hormuz.⁷ Violent extremist organizations are able to acquire anti-ship missile capability, as demonstrated off the coast of Yemen in October of 2016. Houthi rebels struck the former U.S. High-Speed Vessel-2 SWIFT, under UAE flag, transiting the Bab-el-Mandeb from the

coast of Yemen.⁸ North Korea also possesses anti-ship missiles, able to reach the U.S. warships stationed off the coast of the Korean Peninsula.

U.S. MERCHANT MARINE, MILITARY SEALIFT COMMAND AND THE COMBAT LOGISTICS FORCE

The U.S. Merchant Marine is a broad term used to describe the U.S. civilian workforce that collectively serve aboard all U.S. flagged, owned, and operated vessels that move U.S. commerce, goods, and services by sea. They also support the U.S. Department of Defense (DoD) needs for Strategic Sealift in times of war. The Merchant Marine also refers to the actual fleet of all U.S. commercial and federally owned ships. These ships carry every imaginable type of cargo around the world in support of American economic and defense interests. The U.S. Merchant Marine has served the U.S. in peace and war since July 12th, 1775, when Jeremiah Obrien and his crew of civilian Merchantmen from Maine courageously won the first naval battle of the American Revolution against the British Navy.⁹

Military Sealift Command (MSC) is an organization of the U.S. Navy, responsible for up to 120 active and reserve noncombatant ships that provide marine transportation services to all branches of the Armed Forces and other U.S. government agencies around the globe. The U.S. Navy and MSC have turned to the U.S. Merchant Marine civilian workforce to man and operate this entire fleet. Civilians provide an economic and efficient manning solution to meet the missions of the Command.

MSC carries out five mission sets with this fleet of ships; Combat Logistics Force (CLF), Service and Command Support, Special Missions, Prepositioning, and Sealift.¹⁰ Each mission is unique in the type of service provided, the method of delivery employed, and the customer requirements the service is tailored to meet. CLF ships are the in-theater provider

to the fleet for force sustainment, solely provided by MSC. CLF ships are permanently forward deployed and sustain the U.S. Navy underway. These ships allow Carrier Strike Groups (CSG), Surface Action Groups (SAG), Amphibious Ready Groups (ARG), and Expeditionary Forces to remain at sea and on station to carry out their tasking. Staying at sea also allows these groups to reduce their exposure to the risks of entering port. The U.S. is one of the few countries that maintains operational aircraft carriers and can provide the logistics to support them.

The unique capability of the CLF ships that differentiate them from nearly all other merchant ships that operate is the ability to conduct underway replenishment (UNREP). This is a system developed by the U.S. Navy that allows transfer of fuel and products between vessels connected by a tensioned wire. UNREP is conducted between the CLF ships and the U.S. Navy warships at sea moving at a speed of advance of 13 knots with a separation of 160 to 240 feet from the other. This is one of the most dangerous evolutions conducted at sea. The noncombatant, civilian-crewed ships of MSC have become extremely specialized and skilled at executing this delivery method, which is a critical sustaining function, supplying the fleet at sea with everything from fuel, food, mail, ammo, and replacement parts.

MSC ships also have flight decks, helicopters, and a full complement of either a civilian or Navy aviation detachment, which maintain and fly the helicopters. The helicopters are specifically tailored for vertical replenishment (VERTREP). This is another capability utilized for cargo transfer and serves as an additional method of delivery for the MSC CLF supply ship. VERTREP can be conducted simultaneously while the supply ship is connected to a customer warship, and is often utilized for transferring personnel between ships and

ashore, delivery of time sensitive supplies, classified material, emergency equipment, medical supplies, or any other unique requirement.

CLF ships sail into the contested environment and remain there supplying the fleet at sea. All other types of sealift do not remain and operate in the contested environment. Strategic Sealift, specifically, is defined by the United States' Department of Transportation Maritime Administration as "a ready source of 'surge' shipping, available when needed by the Department of Defense's U.S. Transportation Command, to support rapid deployment of U.S. military forces.".¹¹ MSC maintains and sources commercially operated ships to meet the DoD requirements. Strategic Sealift provides the lift capacity to move large amounts of war supplies from the U.S. to a foreign Sea Port of Debarkation. Sealift cargo, for example, may contain up to 300,000 square feet of equipment, such as one entire Army Heavy Brigade..¹² The cargo is deployed at the behest of strategic level decision-making and serves to meet national objectives.

Sealift ships, therefore, only sail into the contested environment for a brief period of time to deliver their cargo. Once the cargo is discharged, the vessel will depart the area as expeditiously as possible, returning to the base of operations, typically the Continental United States. When they are transiting the contested environment, they will be provided U.S. Navy protection for as long as the transit takes. Sealift and Combat Logistics are equally important functions, however they are very different in the service provided and method of delivery. The CLF ships remain in the threat environment indefinitely, and therefore, the protection problem is considerably different than Strategic Sealift.

CLF supply is executed as a tactical function, however, failure to supply the fleet may have strategic implications, such as forcing the CSG off station if it runs out of fuel and

supplies. The CLF ships are not equipped with organic self-defense capabilities, and thus must rely on operational security and protection from the fleet at all times. To nest under the protective shielding of the fleet, the CLF ships must know how and be able to operate in accordance with U.S. Navy tactics and procedures in contested environments. Operating near and within the fleet requires knowledge of these methods to reduce the risk of detection and targeting by the adversary. If the CLF ships do not have a baseline proficiency of tactical ability to operate as prescribed by the fleet, they will remain vulnerable to the threat environment.



Figure 1. Coral Sea (Aug. 2, 2013) AS-332 Super Puma helicopters fly near the Military Sealift Command dry cargo and ammunition ship USNS WALLY SCHIRRA (T-AKE 8), left, the fleet replenishment oiler USNS YUKON (T-AO 202) and the amphibious transport dock ship USS DENVER (LPD 9) in the Coral Sea ahead of the amphibious assault ship USS BONHOMME RICHARD (LHD 6) during an underway replenishment. (U.S. Navy photo by Mass Communication Specialist Seaman Apprentice Edward Guttierrez III/Released)

OPERATIONAL AND TACTICAL PROFICIENCY

A defensive tactic to mitigate risk while operating in a contested environment is avoiding detection and targeting. There is nothing new to this concept, but the tactics and skill necessary to operate undetected or "in the dark" through emission control (EMCON) procedures require certain skills, training, resources, and an additional level of planning to execute effectively.¹³

The U.S. Navy has neglected these tactical skills and proficiencies for the last two decades because it was not necessary in the benign maritime domain that previously existed. As threats increased, the U.S. Navy responded. In July of 2013, the U.S. Navy produced a Fleet EMCON Operations Tactical Memorandum. This memo proposes fleet tactics to counter an adversary's intelligence, surveillance, and reconnaissance (ISR) capabilities.

"It consolidated existing EMCON doctrine and codified Carrier Strike Group (CSG) level EMCON planning considerations, and tactics, techniques, and procedures. It also provides an introduction to the emerging concept of Signature Control, which allows commanders to approach counter-ISR planning and assessment in a holistic, logical manner.".¹⁴

There is a conscious effort being made to return the fleet to a force that can operate effectively in an emissions restricted capacity. Being able to reduce predictable movements for defensive purposes is also a critical requirement to reduce offensive first strike ability of the adversary.

It is just as necessary for the CLF ships to operate with the same level of emissions control restrictions, skill, and discipline, and be involved in the advanced planning facilitated by the warfighting units. The CLF ships often operate in steaming formation with the task groups, and if not in formation, are transiting to and away from the task group's location at sea. When steaming to and away from the fleet, the CLF ships can become indicators providing clues as to the location of the fleet. Taking into consideration a shift towards the distributed lethality concept, greater demand will be placed on the CLF ships. Longer distances will be covered alone to provide the logistical support between a more distributed fleet. If the surface fleet is attempting to operate undetected, restricting emissions to avoid giving away their position, or deceive the enemy, the supply ship will need to be part of these efforts. Attention must be given to address the current gaps and weaknesses of the CLF ships.

In April 2016, the oiler USNS LEROY GRUMMAN participated in the USS EISENHOWER Carrier Battle Group Composite Training Unit Exercise (COMTUEX). The USNS GRUMMAN was expected to fully participate, conducting tactical maneuvering, twenty-four hours per day secret internet protocol router (SIPR) chat, EMCON operations, and EMCON Replenishment at Sea (RAS) during the day and night. Training and assistance were provided to the CIVMARs to include setting EMCON, stationing and formation procedures. A critical requirement for independent maneuvering with extended EMCON operations was coordination with the CSG/Destroyer Squadron (DESRON) in advance. Daytime RAS included full use of flag signaling and nighttime RAS required flashing light signaling.

The COMTUEX hot wash unveiled that the current CLF manning was insufficient for these operations. Additional trainers were required onboard to achieve tactical proficiency for continuous CSG operation. Major CSG coordination requires CLF representation in the planning meetings. Lastly, the current MSC Operations training course needs refinement to include flag signaling, flashing light, and day/night EMCON RAS procedures.¹⁵

This exercise served as a preliminary survey to collect data and observe critical gaps that require attention. The MSC lead for the CLF Tactical Readiness Cross Functional Team (CFT) shared a list of additional requirements, findings, and recommendations. The CLF ships require tactical improvement in the areas of command and control (C2), information operations, and communications to include tactical communication and signaling proficiency, the use of deceptive lighting, formation steaming baseline knowledge and skill, maintaining tactical situations, and "River City" operations. Additional skills are required for Anti-Submarine Warfare (ASW), including ASW tactical maneuver, torpedo evasion, quiet ship operations, and degaussing operations.¹⁶

For future operations, the CFT believes that reallocation of MSC personnel and resources will be necessary to meet the current required operational capabilities and projected operational environment. Specific recommendations provided by the CFT include modifying the CLF manning construct to add two additional Operations Chiefs, add "tactical competencies" for Officers and Operations Chiefs, and modify the basic operations course to cover advanced tactical topics at the classified level. Leveraging Navy training for future tactical training may be a way forward..¹⁷

Admiral Mewbourne promulgated his "Navigation Track" in February of 2017, which guides and unifies the efforts of MSC towards assuring global support to the joint warfighter.

One of his strategic themes is titled "Developing Tactical Capabilities that Support Future Warfighting." To accomplish this end, lines of operation are listed (See appendix A for the tasks that are pending progress)..¹⁸ These pending tasks are all the means and ways to improve tactical proficiency of the CLF ships operating in the contested environment. Task completion is incumbent upon the CIVMAR force delivering results. Success requires additional training, time, and an increased level of specialization from these individuals. Unfortunately, the dependence on the CIVMAR force is a mistake and will result in MSC being unable to meet the desired benchmarks for tactical proficiency operating in the contested environment. Instead, re-employing military personnel to meet the requirements identified will provide a long-term, lasting, and thoroughly capable solution.

CIVILIAN MANNING CONSTRUCT

MSC CLF ships are operated entirely by the CIVMAR force. This was not always the case. In 1949, the Military Sea Transportation Service (MSTS) became the single managing agency for the DoD's ocean transportation needs.¹⁹ MSTS officially opened for business October 1st, 1949, assuming all assets and personnel from the Naval Transportation Service. This initial fleet consisted of 6 troop transports, 3 attack transports, 12 attack cargo ships, and 16 tankers. The U.S. Navy commissioned these vessels, prefixed their names with USS, and manned them with military crews.²⁰ This fleet of forward deployed ships remained as a U.S. Navy force until the 1970s. In 1970, MSTS was renamed to Military Sealift Command (MSC) and in 1972, following a series of performance tests, the Navy fleet oiler USS TALUGA was transferred to the MSC as the first Naval Fleet Auxiliary Force ship.²¹ The transfer of U.S. Navy logistics ships continued up until 2004 when the last Navy SUPPLY-class fast combat support ship USS BRIDGE was transferred to MSC.²² Every ship retained military detachments that handled all communication duties and combat stores management. However, these detachments were then phased off MSC ships completely. The final OPNAV Notice issued in August 2014 disestablished all military departments on MSC ships.²³ Today, every skill set that was at one time performed by highly trained Navy Sailors specialized in particular ratings has been replaced by the CIVMARs aboard the same ships. The Navy corporate skillsets that are now CIVMARs functions originated from the original Navy ownership and execution of these functions, and through this transition were passed on to the current CIVMAR force. CIVMAR personnel are technically competent but not technically focused. Due to the disestablishment of the MILDET aboard the CLF ships, tactical proficiency of the CLF required in contested environments has been degraded.

When U.S. Navy sailors crewed the AO class oilers there were 324 military personnel (MILPERS) onboard. When the ship transitioned to a civilian crew, the crew size was reduced to 106 CIVMARs and 21 MILPERS. Today it is manned by only 89 CIVMARs. The U.S. Navy ran the AOE class supply ships with 583 MILPERS. The transition to civilian crew reduced the crew size to 160 CIVMARs and 28 MILPERS, and today the ships are manned by only 168 CIVMARs..²⁴ Combat systems and weapons were removed during the transition from USS to USNS status, which accounts for the drastic reduction in crew requirements, however, the tactical operations, including planning and execution, Navy communications, and EMCON requirements remain just as necessary and demanding today as when these ships were operating as commissioned Navy ships. With the reality of the maritime domain contested today, these functions cannot be overlooked.

Currently, the civilian-manning construct established to cover the responsibilities of communications and operations is a division of labor between the Communications and Deck Departments. The Communications Department is responsible for maintaining all communications systems, information technology services including networking and internet connectivity, and all transmissions on-board the ship. The Deck Department is responsible for all other responsibilities and proficiencies that contribute to the tactical operation of the CLF ships.

The Communications Department is adequately manned to meet the requirements of the department's responsibilities. Furthermore, the communications department personnel are not licensed mariners but are hired specifically with the required prerequisite skills and training in information technology and network management.²⁵

The Deck Department, however, is not adequately manned to meet the requirements of the department's responsibilities beyond the scope of current operations in an uncontested environment. The current manning structure will fail in a contested environment in an attempt to meet the tactical requirements desired by COMSC and the Navy assets working with the CLF ships because there are insufficient numbers of these personnel onboard. Only two members of the Deck Department under the direction of the ship's Master are responsible for all these responsibilities. One 2nd Mate, the "Navigator/Operations Officer (NAVOPS)," and one unlicensed seaman, the "Operations Chief" assumes responsibility for all navigation, tactical operations, and Navy communications. This is not enough to meet the requirements of operating in a contested environment.

MSC developed a cadre of Deck Department individuals, licensed and unlicensed, to meet current operational demands. The "Basic Operations Manual for Operations

Officers/Operations Chief" was written out of necessity and serves as a "how to guide" to perform all the basic duties and responsibilities of the two positions. ²⁶ It is all encompassing but should be considered a survival guide only, as each area of knowledge requires a deeper dive into the specific Navy publications that cover operations and procedures. The prerequisite qualifications for employment as an Operations Chief also require prior Navy experience in the field, but is vague with regards to actual experience at sea. Further, the MSC training course is only one week, which is inadequate to prepare a newly hired employee for their first afloat assignment.²⁷

To meet the demand signal required for greater tactical proficiency to include EMCON operations and fleet integrations in contested environments, the amount of trained and employed CIVMARs will have to triple. For evolutions that require a full or modified maneuvering detail, such as UNREPs, formation steaming, straits transits, and transits to and from port, one Operations Chief is simply not enough. Each ship will require an additional two Operations Chiefs per ship. This is necessary so that SIPR chat and other communication frequencies can be monitored on a 24/7 schedule. Two additional Operations Chiefs would allow the ship to maintain full manning around the clock as would be required during a contested situation. The challenge of increasing the number of Operations Chief billets required onboard is that this is a specialized position. The most desirable individuals are those with prior Navy enlistment with the Operations Specialist rating and over five years of experience at sea in this position.

In the current manning construct aboard CLF ships, the 2nd Mate is the Navigation Officer and also the Operations Officer. Most 2nd Mates are graduates of State Maritime Academies or the Federal Academy, the U.S. Merchant Marine Academy. Their academy

training pipeline does not teach them the Navy skills required of the Operations Officer position. Therefore, they resort to concentrating only on their specialty, navigation, and leave all operations duties to the only Operations Chief. The same one-week course offered to Operations Chiefs is offered to 2nd Mates, but again, this is not adequate to prepare an Officer to fully execute all the functions of the Operations Officer positions. It is therefore either learned on the job, or not at all. In the event either the 2nd Mate or Operations Chief fall ill, require emergency leave, or are no longer able to perform their duties for any other extenuating reason, there is no redundancy in the trained personnel onboard, and the responsibilities fall on the Master. He or she will delegate to another Deck Officer. Inevitably, that Deck Officer will then be overburdened with the responsibilities of two positions. In a contested environment, which will increase the operational tempo (OPTEMPO) and require increased tactical operations, the CLF ships may be unable to support the warfighter.

THE MILITARY DETACHMENT SOLUTION

To meet the challenges required to operate effectively and tactically integrate with the U.S. Navy in the contested environment, MSC must re-employ active duty military personnel aboard the CLF ships. Specifically, this detachment would be a small cadre of Operation Specialist rating enlisted sailors from E4-E6 petty officer to E8 senior chief to maintain a continuous watch schedule and situational awareness. These sailors shall be required to have completed at a minimum one tour at sea in the rating. This will ensure that they are fully qualified and with the sufficient amount of experience required to succeed on a CLF ship. If billeted and managed correctly, this tour will be high demand and competitive for sailors in this rate, considered expeditionary by nature, and set sailors up for future success.

In return, these sailors will bring to MSC experience from the fleet and time as operators in their rate, able to quickly adapt to life aboard a CLF with little supervision, and lots of opportunities to improve the tactical proficiency and operations of the CLF ship assigned.

The Military Detachments (MILDET) would ensure the CLF ship remains actively engaged with the fleet and focused on improving tactical proficiency and integration. They will be the lead on implementing EMCON bills and all associated training to reach proficiency benchmarks. They will remain current with advances in Navy doctrine, initiatives involving the CLF in distributed lethality operations, and all other operations in the contested environment and future conflict. Essentially, this team will be a force multiplier. They will work closely with the 2nd Mate and ship's Master and in turn, the mutual relationship will benefit both parties to meet the requirements of MSC to operate in the contested environment.

The sailors will be billeted at MSC headquarters, and forward deployed on sea duty assignments of 6 months at a time to ships in threat environments. When not deployed they will serve as watch-standers in the MSC Information Center to maintain proficiency and competitiveness within their rate. This structure differs from the past MILDET billeting which had the sailors attached directly to each ship, serving in that billet for a full tour, regardless of the ship's schedule, employment, or OPTEMPO. Being billeted directly at MSC headquarters provides the flexibility to move sailors to ships in the fleet that require the personnel, and would reduce the overall total number of enlisted sailors required. Currently there are 29 CLF ships in inventory; however, the actual ships requiring the military personnel would be far less considering the number not forward deployed and in maintenance repair periods.

The exact composition shall be no more than four enlisted sailors per ship, one Senior Chief leading a team of three sailors. The Senior Chief would report directly to the CIVMAR Master and work with the 2nd Mate NAVOPS. The CIVMAR Operations Chief position will be eliminated on all ships forward deployed. Reducing the CIVMAR manning requirements by one billet per ship will create a cost saving benefit that may be applied to offset the cost of the MILDET.

The CLF Tactical Readiness Cross Functional Team found a seventeen person MILDET per ship would address all tactical requirements, but at the highest cost, roughly \$1.25 million per year. Estimates for just a four person MILDET per CLF ship would cost approximately \$350,000 per year.²⁸ The addition of a four-person department would increase the Operations staff aboard the CLF ships by a net total of three sailors and adequately address the current gaps. A MILDET any larger than four persons is not required.

COUNTER-ARGUMENT: UTILIZE STRATEGIC SEALIFT RESERVE OFFICERS

An alternative solution to using active duty Navy sailors would be to augment ships with reservists from the Strategic Sealift Officer (SSO) Program. The SSO Program maintains a cadre of reserve component U.S. Navy officers that "support national defense sealift requirements and capabilities, as executed by MSC. SSOs are naval reserve officers who are licensed merchant marine officers with sealift, maritime operations, and logistics subject matter expertise."²⁹ These officers are directly commissioned from one of the maritime academies. There is currently a proof of concept test taking place, training a select group of reserve SSOs and Surface Warfare Officers (SWO) to serve as tactical advisors to Masters of MSC Strategic Sealift ships. If the proof of concept is validated, the expectation is that Selected Reserve (SELRES) officers will be moved into billets in new units, and SSOs

will perform annual training periods support this new mission under the shipboard operations core competency.³⁰ This group of reserve officers will most likely prove competent and capable of being trained to serve as "Tactical Advisors" to Sealift ships, deployed as necessary. This concept would not be transferable to the CLF ships though because as emphasized earlier, CLF ships will sail into the contested environment, and stay operating in that environment.

The need for tactical proficiency, and meeting all of the tasks specified by COMSC will require full-time active duty support. Under the construct recommended, however, billeting active duty sailors to MSCHQ and then assigning them to ships forward deployed, SSO reservists would be able to augment the MILDETs seamlessly. After having received training, an SSO would be able to step aboard a CLF ship, report to the Master and MILDET Senior Chief, and immediately be gainfully employed. The officer should integrate with the Operations team and CIVMAR crew to further improve the CLF ship's capabilities, all the while building depth in the reserve cadre of SSOs necessary in the event of ultimate necessity during a major conflict. The CLF ships will serve as the best training platform to prepare the SSO for advisor roles on any one of the MSC Sealift ships.

CONCLUSION

With the U.S. Navy operating in contested environments, MSC ships, specifically the CLF ships, by necessity are required to operate in the same environment. It must be a priority to man, train, and equip the CLF ships for this new normal scenario. A MILDET is the most robust and effective solution to mitigate the risks associated with the emerging threats from the four-plus-one adversaries. Billeting active duty Operation Specialists to

MSC Headquarters and forward deploying them to CLF ships operating in the contested

environment will provide the ships organic capability to tactically integrate with the fleet.

APENNDIX A

Military Sealift Command Navigation Track 2017-2020 Strategic Theme 3: Developing Tactical Capabilities that Support Future Warfighting

Critical lines of operation marked "pending" indicating items for which plans must be developed:

- Implement enhanced training program for select Deck Officers focused on operations in a contested environment and water-space management.
- Coordinate with USFF, CPF and NWDC to develop and implement enhanced training to support contested operations, including Electromagnetic Maneuver Warfare (EMW), Code for the Unplanned Encounters at Sea (CUES), and counter-piracy best practices, among many others.
- Develop a strategy to elevate the tactical level of knowledge of the mariner base using multi-faceted approach (e.g., classes, academics, SSO TAO, war-games, etc.)*
- Increase number of senior CIMAR Deck Officers participating in integrated Fleet training events.
- Promulgate actions to align MSC Ships with Fleet EMW tactical guidance.
- Enhance counter-detection capabilities, bills, and tactics for appropriate classes of MSC ships.³¹

* In Progress

NOTES

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