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14. ABSTRACT This study evaluates the command and control (C2) of U.S. sealift forces as measured against a generic near-peer adversary in 2018. The study begins with a vignette in which an enemy employs a creative operational scheme to delay U.S. power projection capability. This scenario forms the point of reference from which several weaknesses in U.S. sealift C2 capability are identified. The study offers a strategic context from which a similar scenario might develop in the future. The first section details U.S. National Sealift capability. The second section addresses C2 of U.S. sealift. Three elements of C2 are identified as potential critical vulnerabilities -- unity of command, interoperability, and in-transit visibility. The final section offers specific suggestions to reduce vulnerabilities vis-à-vis an enemy attack. It also offers an important mindset shift that must take place within logistical circles to help U.S. C2 capability withstand likely attack against sealift forces in the future. The intent of this study is to raise the awareness of military leaders to significant vulnerabilities within U.S. power projection capability, and to suggest logical actions to reduce those vulnerabilities before an enemy can exploit them in the future.					
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Command and Control of U.S. Sealift: Strength or Achilles Heel?

By

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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.

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Abstract

This study evaluates the command and control (C2) of U.S. sealift forces as measured against a generic near-peer adversary in 2018. The study begins with a vignette in which an enemy employs a creative operational scheme to delay U.S. power projection capability. This scenario forms the point of reference from which several weaknesses in U.S. sealift C2 capability are identified. The study offers a strategic context from which a similar scenario might develop in the future. The first section details U.S. National Sealift capability. The second section addresses C2 of U.S. sealift. Three elements of C2 are identified as potential critical vulnerabilities -- unity of command, interoperability, and in-transit visibility. The final section offers specific suggestions to reduce vulnerabilities vis-à-vis an enemy attack. It also offers an important mindset shift that must take place within logistical circles to help U.S. C2 capability withstand likely attack against sealift forces in the future. The intent of this study is to raise the awareness of military leaders to significant vulnerabilities within U.S. power projection capability, and to suggest logical actions to reduce those vulnerabilities before an enemy can exploit them in the future.

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25 October 2018. The United States is in the early stages of mobilization to counter unanticipated aggression by Country Red. The crisis began 20 days prior when Country Red launched a massive surprise attack on U.S. ally, Country Blue. In a rapid and well orchestrated attack, Country Red overran critical areas of Country Blue including vital oil reserves and it now threatens the Capital and the few remaining Blue seaports and airports. The United States condemned Country Red's aggression and began mobilization of forces. The President ordered a powerful military response. U.S. Transportation Command (USTRANSCOM) activated the Civil Reserve Air Fleet and Military Sealift Command's surge force buildup is underway. To date, U.S. power projection execution is progressing as expected with airlift, sealift, and pre-positioned material playing major roles in rapid buildup of combat power. The U.S. Air Force has established an Air Expeditionary Task Force inside Country Blue, and the U.S. Marines are in the process of deploying combat forces in and around the capital. Nevertheless the logistical situation is dicey in this early stage.

The following is the daily situation brief presented in real time to the Commander, USTRANSCOM. Briefer, "Good morning General, this is the daily situation brief for 25 October 2018. Deployment is proceeding on schedule. On the situation board you see the tracks of air, land, and sea forces..."

The USTRANSCOM Director of Operations (J3) interrupts, "Excuse me, General, I just received some breaking information from the Joint Operations Area (JOA) that the Pitsenbarger, USAF AMMO Ship, arriving into Port Appache in Country Blue has been attacked by multiple cruise missiles from an unknown launch site. Initial reports indicate that the ship exploded just before entering the port and is now blocking a large portion of the access channel. Sir, additionally, several of our Fast Sealift Ships awaiting passage through the Lebra Canal outside the JOA came under attack within the last hour. Reports relayed from their Naval Escorts indicate that three business jets attempted to crash into the ships. At this time, we are unable to provide the exact status of the three vessels, but, we do know that at least one of the attacking aircraft was shot down by a USN escort."

"General, I now have the USTRANSCOM Liaison Officer (LNO) to the Joint Task Force Commander on the line with additional reports, I'll patch him through." LNO, "Sir, it appears the enemy is conducting a coordinated attack on U.S. sealift assets across multiple theaters. Timing indicates a high degree of coordination, sophistication, and extensive knowledge of our deployment plan. In addition to what you've already heard, I've just been informed that the USNS Chesapeake, a fuel supply vessel, is under attack and sinking 30 miles from Port Appache. I suspect she was attacked by a submarine."

CDRUSTRANSCOM to his staff, "OK, got it! I need an accurate picture of our transportation assets world-wide and a plan of action to readjust the flow based on present information. Our deployment must be adjusted to the developing threat and the needs of forces in theater. I need to know the combat power lost today. Get to work."

Silence in the room – the J3, "Sir, we're on it. This will be a challenge--Pearl Harbor all over again, except this time they're after our logistics."

Introduction

The vignette above is a cautionary tale for the U.S. Armed Services. It describes an attack on U.S. sealift and Pre-Positioned Afloat (PREPO) assets. In the story, a fictitious enemy, Country Red, employs a creative operational scheme targeting widely dispersed U.S. sealift vessels. The enemy objective is to create confusion and disrupt U.S. deployment of forces long enough to overrun Country Blue. In the scenario, Country Red identifies U.S. deployment capability (ships, aircraft, and associated systems) as the U.S. operational Center of Gravity (COG) for the early stages of the conflict. The enemy further identifies U.S. sealift as the most significant critical capability within this COG. Realizing that in the first few weeks of deployment, U.S. lines of communication (LOC) would be stretched thin, the enemy times his attacks so as to mass effects against U.S. sealift command and control (C2), which Country Red assesses as the U.S. critical vulnerability. The enemy objective in targeting C2 is to degrade U.S. capability at the strategic and operational levels, an objective far more effective than the destruction of a few vessels in isolation.

The opening vignette introduces the central question of this study which is – C2 of U.S. Sealift: strength or Achilles heel? To answer the question, this study addresses specific vulnerabilities associated with C2. It does so within a specific strategic context that might lead the United States into the dangerous scenario above. The study begins with a general description of Military Sealift Command (MSC) capability. After presenting this background, three key elements of U.S. sealift C2 are evaluated: unity of command, interoperability, and in-transit visibility. These elements were chosen for analysis because the research revealed them to have the most significant seams in the C2

structure. Throughout the study, these three elements are set against the enemy scenario described in the vignette in order to identify and evaluate seams and vulnerabilities. This study concludes that vulnerabilities exist within U.S. sealift C2 capability that a sophisticated enemy might successfully exploit. Given this conclusion, the study recommends changes aimed at mitigating risk to future operations.

Strategic Context

Why is this study important? Increasingly, the utility of the U.S. military instrument of power is measured and limited by the logistical capabilities of sealift, ground transportation, and airlift to deploy the right amount of combat power to the right place at the right time.¹ With this in mind, it is essential that the U.S. Military Services prepare to defend adequately vulnerabilities in their logistical capabilities. This is particularly true with regard to vulnerable lines of communications against which a determined and creative enemy is likely to strike.

What factors exist that might magnify logistical vulnerability? The current U.S. National Defense Strategy describes a substantial shift from large, standing, Cold War forces deployed abroad to a “new global force” posture. This posture demands a robust and redundant mobility capability with greater reliance on expeditionary forces, austere forward operating locations, and pre-positioned capabilities.² Subsequently, today’s force posture makes logistics, particularly U.S. sealift, a much more lucrative target for a smart enemy. Nevertheless, at present, risk to U.S. sealift capability has not garnered much attention, especially in terms of training and dollars. This is largely because in a fiscally restricted environment, the associated risk to U.S. sealift is viewed as

manageable. Moreover, the fact that U.S. logistical capacity has not been attacked effectively since World War II contributes to complacency on the subject.

The terror attacks of September 11, 2001, demonstrated that even low budget terror organizations are capable of strategically significant asymmetric attacks on U.S. interests. Unfortunately, terrorists are not the only enemy looming on the horizon. In fact, threats and risk to U.S. sealift will continue to grow over the coming decades with standoff weapons proliferation, and in this author's opinion, has great potential to peak with the emergence of the next near-peer competitor.³ While not the hottest topic of our time, the next near-peer competitor remains an area of concern for the Department of Defense. The National Defense Strategy acknowledges the need for the United States to "maintain sufficient combat capability" to deal with traditional military challenges. However, the Strategy clearly places greater emphasis on emerging irregular, catastrophic, and disruptive challenges than it does on traditional threats from standing armies, air forces, and navies.⁴ Nonetheless, this study suggests that the most dangerous situation the United States might face in the future is a fusion of traditional and non-traditional threats (symmetric and asymmetric) driven by an earlier than expected emergence of the next near-peer adversary. The threats that this combination could bring to bear on U.S. sealift forces would be very significant.

U.S. National Sealift Capability

With these threats in mind, the following section details U.S. sealift capabilities to provide general background. From the Strategic perspective, responsibility for U.S. Strategic Mobility belongs to USTRANSCOM. This large and diverse functional combatant command relies on three critical transportation pillars -- airlift, sealift, and pre-

positioned equipment -- to deploy and sustain combat power.⁵ All three pillars of the U.S. mobility triad deliver critical capabilities, and all three have unique strengths and vulnerabilities. This study focuses on the U.S. sealift leg of the mobility triad with particular emphasis on C2.

U.S. sealift delivers combat power in three distinct phases, including the pre-positioned, deployment, and sustainment phases.⁶ In each phase, U.S. sealift is the heavy lifter of combat power in our nation's mobility arsenal. For example, in 1990-1991, 85 percent of all equipment and supplies used during Operation Desert Storm were moved by ship.⁷ U.S. sealift offers certain advantages over airlift, including cheaper cost, greater throughput, and greater flexibility to carry outsized cargo over long distances.⁸ However, its limitations include slower delivery, reliance on secure seaports, and vulnerability to attack and exploitation. U.S. sealift is vulnerable, but despite the vulnerability, it will remain the mainstay of our heavy lift capacity and continue to carry the vast majority of U.S. war fighting capability to major combat theaters for the foreseeable future. Therefore, U.S. sealift must remain responsive and survivable.

As currently postured for crisis operations, pre-positioned ships are the first responders in the MSC arsenal. Thirty-five ships of various types are currently positioned in strategic locations around the world including Diego Garcia, Guam, and the Mediterranean Sea.⁹ These ships are loaded with equipment, supplies, and petroleum, oil, and lubricants (POL) to support U.S. Air Force, Army, Navy, Marine Corps, and Defense Logistics Agency (DLA) rapid reaction forces. The ships can be quickly underway in order to arrive at hot spots within several days' notification.¹⁰ The vessels are organized under the tactical control (TACON) of three Maritime and one Afloat Pre-

Positioning Squadrons (MPSRON, APSRON), each commanded by a U.S. Navy Captain.^{11 12}

A key attribute of U.S. sealift capability is its expandability in times of crisis to meet demand. MSC currently employs fewer than 10,000 people, the majority civilians, and operates fewer than one hundred ships at any given time. However, MSC's force can expand in times of crisis to over 30,000 people and 1,000 ships.¹³ As one would expect, most of the ships to support such an expansion are not under MSC shipping control during peacetime operations.¹⁴ During an expansion, the CDRUSTRANSCOM and his subordinate Maritime Component Commander (Commander MSC) have a host of assets available. The most valuable of these include Fast Sealift Ships (FSS), Large, Medium Speed Roll-On Roll-Off Ships (LMSRs), and Container Ships. These ships make critical contributions to deployment and sustainment operations, but do take time to bring on line.

In addition, MSC shipping assets fall into three proprietary categories, including U.S. Government (USG), U.S. Flagged, and Foreign Flagged Vessels.¹⁵ If existing sealift capacity is inadequate in times of crisis, MSC works in close concert with the U.S. Department of Transportation's Maritime Administration (MARAD) under the authority of several key acquisition programs including the Voluntary Intermodal Sealift Agreement (VISA), Voluntary Tanker Agreement (VTA), and the Ready Reserve Force (RRF) to meet surge requirements. If these steps are not sufficient, then MSC requests requisition authority to acquire additional shipping, seeking U.S. Flagged ships and, as a last resort, U.S. owned, foreign flag vessels.¹⁶

Command and Control Vulnerabilities

From the overall description of U.S. sealift capability above, one can better appreciate that Command and Control of such a large conglomeration of vessels and their mariners presents tremendously complex leadership, organizational, and technical challenges, not the least of which is effective and efficient “unity of command.” Doctor Milan Vego, Naval War College professor, says that C2 is “the principle means by which a theater commander sequences and synchronizes joint force activities...military and non-military sources of power to accomplish assigned strategic objectives.” He further suggests that unity of command under a single commander is the best way to ensure such sequence and synchronization.¹⁷ This concept is reflected in Joint Publication 4-0, in which a Geographic Combatant Commander (CCDR) with Combatant Command Authority (COCOM) of assigned forces has the authority to “shift logistical resources” within his command to synchronize the deployment and sustainment of his forces.¹⁸ Joint Publication 4-0 goes on to state that the Geographic CCDR is responsible for close coordination with CDRUSTRANSCOM, the functional supporting CCDR for delivery of material and supplies. Moreover, Joint Doctrine makes clear that the supported geographic CCDR retains control of transportation assets assigned to theater.¹⁹ Joint Publication 4-01.2 further delineates command authority by stating that CDRUSTRANSCOM “exercises combatant command of U.S. sealift forces, including organizing and employing forces to carry out missions in support of other unified commands.”²⁰ As one may surmise from this Joint Doctrine, unity of command of U.S. sealift is complex and difficult to attain. This is because of shared authorities that exist

between the geographic and functional CCDRs. And, it gets more complex with the introduction of a third dimension.

This third dimension is the involvement of additional geographic combatant commands as U.S. sealift assets transit various Areas of Responsibility (AORs) enroute to the combat zone. For example, in the opening vignette, the three sealift vessels were attacked while transiting through a *second* geographic combatant commander's theater. In this situation, according to Joint Doctrine, CDRUSTRANSCOM through his subordinate component command (MSC) maintains operational control (OPCON) of common-user shipping as it moves across theaters.^{21 22} However, the Regional Naval Component Commanders through which U.S. sealift assets transit retain force protection responsibility for the ships within their respective AORs.²³ In fact, tactical control (TACON) of the sealift vessels typically shifts between regional Naval Component Commander at specific geographic boundaries as defined by the Unified Command Plan.²⁴ This TACON is necessary because the Naval Component Commander has the resources capable of securing the LOC. Imagine the stress this scenario puts on three separate C2 centers at USTRANSCOM, MSC, and the Joint Task Force Headquarters. Even if doctrinally correct, it exposes a seam to exploitation by a smart enemy.

To confirm that Joint Doctrine indeed matches reality, the author posed these same questions to MSC Headquarters personnel in the form of an e-mailed survey. They confirmed the command relationships presented above and they went further to explain that MSC's OPCON produced synergy in that Com-MSC, as Component Commander, wears two hats (Sea Logistics and Combined Task Force Commander). This dual hatting serves C2 well because the same commander is responsible for feeding information to

USTRANSCOM, the Naval Component Commanders, and warfighting JTF Commanders. MSC Headquarters further pointed out that Prepositioned (PREPO) Ship C2 is different and unique. PREPO OPCON does not belong to USTRANSCOM at all.²⁵ This is surprising given the Joint Doctrine discussed earlier, and because the Secretary of Defense appointed USTRANSCOM as the sole Distribution Process Owner (DPO) for all U.S. strategic logistics from “factory to foxhole.”²⁶ MSC does maintain Administrative Control (ADCON) of PREPO through the fleet squadrons (MPSRONs), but OPCON and TACON of these vessels always remains with the Geographic Fleet Commander.²⁷

Undoubtedly, any conflict outside of the CONUS will likely use all the oceans of the world to deliver combat power to the combat theater. To ensure unity of command and unity of effort, the fleet commanders in the respective AORs require TACON of threatened U.S. sealift assets. Nevertheless, one can see from this discussion that U.S. sealift C2 is complex and conditional, and lends itself to the “who is in charge” scenario. As mentioned above, this complexity presents a seam in unity of command that an enemy could exploit. Therefore, such seam exploitation must be anticipated and thwarted.

Now let us address a second element of C2 exploited by Country Red in the opening vignette – interoperability. Remember the attack on the fuel ship by the submarine? You will recall the tasking this attack generated within USTRANSCOM. The Commander told his subordinates that he needed an accurate picture of his vessels world-wide and an adjusted flow as a result of the changing situation. To answer this tasking, the USTRANSCOM J3 had several implied tasks, the first of which was timely world-wide communications with USTRANSCOM sealift assets. The inherent problem he faced in carrying out this task was a lack of standardized communications capabilities

on vessels under USTRANSCOM shipping control. Remember the expandable U.S. sealift force structure that ballooned to 30,000 people and 1,000 ships in times of major operations? One can only imagine the issues this scenario raises with regard to interoperability. The expanding MSC C2 responsibility runs the gamut of communications capability from sophisticated classified radio capability to simple commercial HF radios.²⁸ On the low end of the spectrum, these commercial communications capabilities are “extremely vulnerable to enemy information operations and exploitation.”²⁹ U.S. Merchant Mariners, contractors, and foreign manned vessels would all be in the mix as the USTRANSCOM J3 tried to establish communications. Synchronization of such fleet communications would be a significant challenge in peacetime alone, but pale in comparison to the C2 challenges required after Country Red’s attack.

Communicating with a widely dispersed assortment of ships is just the first requirement of interoperability. Have any of the captains of these merchant vessels trained with U.S. Navy escorts or practiced complex tactical maneuver instructions to avoid threats? The answer in large part is no. Historical lessons World War II reveal that it took the Allies several years to organize effective convoys against significant threats. Interoperability receives painstaking attention in blue water naval exercises, and the U.S. Navy is the best in the world at integrating a large surface force. But in such complex situations, little to no emphasis, nor practical experience, are resident today vis-à-vis commercial merchant vessel participation. To be sure, this type of exercising with commercial vessels is hardly practical in an environment where commercial vessels are in

the business to make money. Nevertheless, the interoperability gap it presents is yet another National Security seam vulnerable to enemy exploitation.

The third element of U.S. sealift C2 to be evaluated is in-transit visibility. This is an element of the USTRANSCOM mission that has received great attention over the last decade. In fact, as the DoD distribution process owner, USTRANSCOM is expected to create efficiencies in the massive, but rather disjointed, U.S. transportation network.³⁰ In 2004, the U.S. Joint Staff's Focused Logistics Campaign Plan described this expectation as follows:

Rather than stockpiling large amounts of materials in the area of operations, we will improve asset visibility and command and control to advance joint deployment and rapid distribution of tailored units and material to provide right sized inventories in theater. The warfighter must have increased confidence that logistics support will be available when required.³¹

This mindset is the driving factor behind increased in-transit visibility. Indeed, we have come a long way since Desert Storm, where we piled massive amounts of materials on the docks without much idea of what the piles contained.³² In fact, technology exists today to enable unprecedented visibility as described above, and we are making progress in this realm by applying business model efficiencies. The tracking systems are excellent, but they may be driving us down a path toward vulnerability and may potentially create another seam for enemy exploitation. You may ask, "Isn't efficiency always a good thing?"

Maybe it is not. Trust and confidence of delivery are more complex than efficiency. Efficiency must be weighed against effectiveness, and USTRANSCOM must be careful not to sail too far down a denuded logistics path. U.S. sealift moves the bulk of combat capability to the war fighter and sealift is vulnerable. The enemy will always

get a vote. Joint Publication 4-0 points out that, “hostile actions may invalidate logistic support assumptions.”³³ That is exactly what Country Red set out to do. JTF Commanders must work in concert with the CDRUSTRANSCOM when designing and executing focused logistics operational orders so that the United States can adjust to the enemy’s vote. The Focused Logistics Campaign plan acknowledges this seam as follows, “necessary controls over the logistics pipeline means the ability to track and shift – and potentially reconfigure forces, equipment, sustainment directly to the war fighter.”³⁴

In our opening vignette, the CDRUSTRANSCOM tasked his staff to determine how much combat power was lost so he could adjust the flow to support the war fighter. This paper suggests that today’s emphasis on efficiency places greater value on tracking an individual box in a container of the sinking vessel than it does on the aggregate combat power on the vessel or, more importantly, on the ability to react and overcome the loss of that vessel. Effective C2 must be able to answer rapidly the “combat power lost” question. While USTRANSCOM is getting better every day at putting the right force in the right place at the right time, without a more robust C2 capability, we may be losing the ability to adjust and react to the unexpected. Country Red, armed with large numbers of precision weapons, submarines, mines, and creative asymmetric schemes, might well take its toll on U.S. sealift capacity. However, a more robust U.S. sealift C2 will enable U.S. forces to adapt and overcome the potential losses. Focused logistics must do more than acknowledge vulnerabilities; USTRANSCOM must work in concert with CCDRs to defend actively against, and adjust to, inevitable combat losses. That mindset is not foreign to the U.S. Military, but it is less prevalent on the support side of

our combat forces. As we prepare for Country Red, this reality must integrate with transportation and logistics ethos.

Recommendations

How do we get there? Certainly defending against every potential enemy capability our military might face in the future is impossible. Defense dollars are limited and ideally should be allocated based on logical priorities. That said, priorities can only be accurately assessed after a detailed analysis of risk and reward. The purpose of this study is to identify risks associated with U.S. sealift vulnerability with particular emphasis on C2. The reward is survivability of U.S. power projection capabilities. The U.S. National Military Strategy demands transformation based on potential enemy capabilities, not solely on current threats.³⁵ This approach forces strategists to ask “what if” questions when thinking of future defense requirements. For example, what if an enemy could deny our forces access to a theater by paralyzing the C2 of U.S. sealift? This “what if” is critical to our military strategy. Therefore, U.S. sealift must remain viable, and it must have a command and control function that is ready to deal with environments like the one described in the opening vignette.

The good news is that, U.S. military C2 capability is the strongest in the world. No nation on earth has the command and control expertise that the U.S. possesses. The bad news is that our military is far better at commanding and controlling the offensive portion of a Joint Force than we are at commanding and controlling the supporting and sustaining elements of the same force. This is largely driven by the perceived risks and rewards of enemy threats. The risks are too great to ignore, so U.S. perceptions (and more importantly actions) must change. C2 of logistics, especially U.S. sealift, is

difficult because of its many unconnected elements. USTRANSCOM is taking significant strides to eliminate seams. For example, U.S. airlift is on the leading edge of effective C2 with a centralized Tanker/Airlift Command and Control Center (TACC) at the Strategic level, and the Director of Mobility Forces ironing out the seams at the operational and tactical level.

U.S. sealift should follow the example set by the TACC. The encouraging news is that the United States has the ability and resources to address the deficiencies noted previously. Most of the seams identified in this analysis are well within U.S. capability to solve from a technical standpoint. The hard task is the mindset shift to make it happen because of all the demands competing for limited resources.

Unity of command of U.S. sealift is critical and must be accomplished. Therefore, OPCON of all Sealift *and* PREPO assets should be consolidated under USTRANSCOM. To accomplish this, Military Sealift Command needs a C2 center comparable to the TACC to fuse world-wide C2 information into a central node. MSC currently uses the DoD classified computer network (SIPR) to push information around the world.³⁶ Even at the much slower ship speeds, this computer network is not agile enough to deal with the threats introduced in our vignette. USTRANSCOM recognizes these deficiencies and the growing need for a more robust centralized C2 node. This study suggests they are on the right track in exploring new distribution initiatives as follows:

an integrated, synchronized force projection picture – enabled by interoperable joint decision support tools and advanced technology that links operations and logistics at the joint, service, and agency level.³⁷

Of course, the above concept addresses all logistics nodes of the Strategic Mobility Triad, and not just U.S. sealift, but its existence is the key to bolstering unity of command and thus reducing seams in sealift execution. With this capability, USTRANSCOM truly could take on full command and control responsibility for logistics.

As a result, the Joint Warfighting Center recently produced Pamphlet 8, which details doctrinal implications of the new Joint Deployment Distribution Operations Center (JDDOC). This pamphlet provides exceptional insight on the new JDDOC roles.

The JDDOC gives the geographic combatant commander sufficient visibility into the many Defense transportation and material systems in order to synchronize, optimize, monitor and make decisions on modes of transportation, and recognize how best to achieve agility with the appropriate flow of forces, equipment, and material in and out of the theater of operations.³⁸

This study concurs with the above extract about the capabilities the JDDOC must possess in the future. However, the primary responsibility for overall synchronization of U.S. air, land, and sea assets should fall to the CDRUSTRANSCOM. The real value of the JDDOC is its ability to fuse the functional and the geographic CCDR requirements at the theater level. The JDDOC is the right entity to work with USTRANSCOM Strategic centers like the TACC. U.S. sealift needs a capability not only within a JDDOC, but within USTRANSCOM to tie into that fusion. With it, unity of command of all USTRANSCOM forces is enhanced, and the supported commander also receives the tools to engage completely as needed through the JDDOC. It is further recommended that the JDDOCs achieve as much standardization as possible across all the geographic combatant commands and transform into combined USTRANSCOM/Geographic CCDR logistics operation centers.

While the fusion of C2 centers at the strategic level (USTRANSCOM) and the operational level (combined and standardized JDDOCs) will eliminate significant seams in unity of command, failure to address interoperability still leaves U.S. sealift vulnerable. The heart of the interoperability problem is USTRANSCOM's dependence on commercial providers. This study makes the assumption that this dependence will not change in the future. Therefore, USTRANSCOM must find ways to improve communications and cooperation with civilian carriers. One means is the development of small deployable satellite communication suites that can be deployed on commercial sealift assets. Such technology already exists in the form of U.S. Air Force "smart tanker" kits which are information relay pods and also provide operator with a limited common operating picture. These kits would not require substantial manpower; however, they should be operated by trained military experts when employed. MSC would make the decision to augment ships with this capability based on emerging threats. Although this capability would come with a significant cost in money and manpower, it would pale in comparison to the loss of a single merchant vessel loaded with 185 C-5 Galaxy cargo jet equivalents in valuable combat power. This capability could also enhance commercial vessel coordination with the U.S. Navy at sea by dovetailing it into maneuver coordination with escort warships. In addition, although it is impractical to conduct a fully subscribed wartime MSC C2 exercise, war gaming and limited exercises with commercial vessels already contracted for service to USTRANSCOM are practical and would pay dividends in real world crisis.

Finally, we return to seams associated with in-transit visibility. These seams are best addressed by realistic threat training and a warrior mindset. USTRANSCOM must

constantly war game Country Red scenarios and be prepared to answer the questions about loss of combat power. As mentioned earlier, U.S. sealift is vulnerable and a determined enemy could inflict damage to our sealift capability. Improved unity of command and interoperability will help to mitigate the risks, but USTRANSCOM and the CCDRs must have the flexibility to forecast and absorb sealift losses, and still have the capacity and capability to adjust and defeat Country Red.

Conclusion

National Defense Strategy is now based on a new global force posture that places increased emphasis on U.S. capability to deploy necessary forces and equipment to the right place at the right time. Sealift will remain the workhorse of U.S. mobility capability and continue to deliver the majority of warfighting capability to combat areas. Therefore, this study has addressed improving sealift C2, which is the key to ensuring combat commanders get what they need when they need it. The areas of C2 emphasized were unity of command, interoperability, and in-transit visibility.

USTRANSCOM is responsible for U.S. strategic mobility, and is making significant progress to eliminate seams of vulnerability within U.S. mobility capability. U.S. airlift is on the leading edge of effective C2 with a centralized TACC at the strategic level and a Director of Mobility Forces at the operational level. This study suggests that U.S. sealift consider a similar approach to begin to fuse world-wide C2 into a central node. It also recommends research and development to develop a mobile tactical communication suite that can be employed on commercial ships to improve world-wide communication and coordination in times of crisis. In addition, training dollars and time must be invested to improve interoperability between commercial vessels under MSC

shipping control and combat forces responsible for their protection. Finally, C2 of U.S. sealift must be flexible enough to absorb certain losses against sophisticated enemy attack, and rapidly readjust the flow of resources needed by combat commanders. This flexibility warrants further study and wargaming, and more importantly a mindset shift that forces the United States to prepare today for the most likely threats of tomorrow.

ENDNOTES

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- ¹ Chairman, U.S. Joint Chiefs of Staff, Doctrine for Logistics Support of Joint Operations. Joint Publications (JP) 4-0. (Washington, D.C: CJCS 6 Apr 2000), II-1.
- ² Chairman, U.S. Joint Chiefs of Staff, The National Defense Strategy of the United States of America: A Strategy for Today; A Vision for Tomorrow. (Washington DC: CJCS, March 2005), 19.
- ³ The term “near-peer competitor” refers to a nation-state that has nearly comparable diplomatic, informational, military, and economic capacity. This country would be capable of waging large scale conventional war against the United States.
- ⁴ National Defense Strategy of the United States of America, 2.
- ⁵ Chairman, U.S. Joint Chiefs of Staff, Joint Doctrine for the Defense Transportation System, Joint Publications (JP) 4-01. (Washington, D.C: 19 Mar 2003), viii.
- ⁶ Chairman, U.S. Joint Chiefs of Staff, Sealift Support to Joint Operations. Joint Publications (JP) 4-01.2. (Washington, D.C: 31 Aug 2005), ix.
- ⁷ Milan Vego. *Operational Warfare*. (Newport, RI: Naval War College, 2000), 297.
- ⁸ *Ibid.*, 294.
- ⁹ Military Sealift Command Headquarters Mission Briefing, (Military Sealift Command Headquarters, 24 September 2006), slide 15.
- ¹⁰ Military Sealift Command Web Page, <http://www.msc.navy.mil> (accessed 1 October 2006).
- ¹¹ Thomas Snider, MSC Headquarters Civilian, Global Command Information Center, e-mail message to author, 26 September 2006.
- ¹² TACON is defined in Joint Publication 0-2, III-8 as “the command authority over assigned or attached forces or commands, or military capability or forces made available for tasking, that is limited to the detailed direction and control of movements or maneuver within the operational area necessary to accomplish assigned missions or tasks.”
- ¹³ “Workforce Page,” Military Sealift Command Web Page, <http://www.msc.navy.mil> (accessed 1 October 2006).
- ¹⁴ JP 4-01.2, V-I.
- ¹⁵ JP 4-01, III-5.
- ¹⁶ JP 4-01.2, V-5/6.
- ¹⁷ *Operational Warfare*, 187.
- ¹⁸ JP 4-0, vi.
- ¹⁹ *Ibid.*, vi.
- ²⁰ JP 4-01.2, II-5.
- ²¹ *Ibid.*, xvi.
- ²² OPCON is defined in Joint Publication 0-2, III-7, as “the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission.”
- ²³ Navy Component Commander is a subordinate commander within a CCDR’s COCOM responsible for all Naval Forces in the theater.
- ²⁴ JP 4-01.2, xvi.

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- ²⁵ Snider, e-mail message to author, 26 September 2006.
- ²⁶ U.S. Office of the Chairman of the Joint Chiefs of Staff, “*Focused Logistics Campaign Plan*,” <https://ca.dtic.mil/jcs/j4/projects/foclog/flcp2004.pdf> (accessed 1 Oct 2006), 6.
- ²⁷ Snider, e-mail message to author, 26 September 2006.
- ²⁸ JP 4-01.2, xvi.
- ²⁹ Chairman, U.S. Joint Chiefs of Staff, *Joint Tactics, Techniques, and Procedures for Movement Control*, Joint Publications (JP) 4-01.3. (Washington, D.C: 9 April 2002), VI-4.
- ³⁰ U.S. Joint Doctrine Center, “*Doctrinal Implications of the Joint Deployment Distribution Operations Center (JDDOC)*,” *The Joint Warfighting Center Joint Doctrine Series Pamphlet 8*, (February 2006), 2.
- ³¹ *Focused Logistics Campaign Plan*, 36.
- ³² General Norton A. Schwartz (for attribution remarks to Naval War College, Newport RI, 29 September 2006).
- ³³ JP 4-0, I-19.
- ³⁴ *Focused Logistics Campaign Plan*, 14.
- ³⁵ Office of the Chairman of the Joint Chiefs of Staff, *National Military Strategy of the United States of America*, (Washington, DC, CJCS 2004), iii.
- ³⁶ Snider, e-mail message to author, 26 September 2006.
- ³⁷ *Focused Logistics Campaign Plan*, 28.
- ³⁸ *Doctrinal Implications of the Joint Deployment Distribution Operations Center (JDDOC)*, 5.

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