

# Admiring the Bulk Fuel Problem

Providing fuel and energy sustainment

by CWO4 Robert Y. Lee

The Navy and Marine Corps remain stuck in a perpetual cycle of bureaucratic, uninformed, and costly organizational factions that hinder the progress of providing the most optimal fuel and energy sustainment to enable flexible, agile, and mobile combat operations against a peer adversary. Immediate changes are needed in organizational structure and joint fuel policies by the Department of Navy (DON) and DOD to address the bulk fuel problem. Many of these changes can be made internal to the DON with a small investment of personnel and reshaping of existing bulk fuel billets.

While this article is not intended to delve into the technical aspects of the different Service regulations or policy, it is intended to spur discourse into the increasing need for the uniformity of fuel doctrine, regulations, and policy across the Services. This need is based on our current military posture and the adversary's projected military advancements and global financial status in the next ten to twenty years. Our recent *National Defense Strategy* highlighted several areas of imminent concern around the world with a strong focus on the Pacific operating environment. While the DOD has begun several innovative and important energy initiatives in recent years, the military's dependence on diesel and kerosene-based fuels still presents a true vulnerability to our posture in the region.

Current Navy and Marine Corps bulk fuel capabilities are credible and capable in conventional land-based and afloat operations. This means that if the DON remains committed to winning the littoral fight as described in

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the concepts of *Littoral Operations in a Contested Environment* (LOCE [Washington, DC: HQMC, 2017]), *Expeditionary Advanced Base Operations* (EABO [Washington, DC: HQMC, 2018]), and *the 38th Commandant of the Marine Corps Planning Guidance* (38th CMC CPG [Washington, DC: HQMC, 2019]) the Navy and Marine Corps must divest itself of legacy policies, doctrine, and outdated operating concepts.

In 1942, Fleet Admiral Ernest King, the Chief of Naval Operations, made

a statement, "I don't know what the ... this 'logistics' is that Marshall is always talking about, but I want some of it." ADM King was referring to GEN George Marshall, who served under both Presidents Franklin D. Roosevelt and Harry S. Truman and is credited with organizing the Allied victory in World War II. This quote and many others on the importance of logistics exist and modern leaders often revel in the thought of prioritizing logistics' initiatives under their watch. These moments of senior leadership motivation are often short lived and often give way to other "easier" fixes and agenda items once it is revealed how large the task at hand will be.

Many witnessed or were a part of the "operational pause" echoed throughout



**Medium tank comes ashore with a rush. Fuel in the foreground will keep tank in operation. Marines worked tirelessly to keep the atoll supplied with fuel. Samoa-October 1942. (Photo from [historylink101.com](http://historylink101.com).)**



***1 MEF LCpl Sebastian, a Bulk Fuel Specialist with Marine Wing Support Squadron 371, pulls a fuel nozzle to a Lockheed Martin F-35 Lightning II during jump forward arming and refueling point operations at advanced Naval Base San Clemente Island, CA, during Exercise PACIFIC BLITZ 19. (Photo by LCpl Tia Carr.)***

the battlefield during the March Up to Baghdad. The joint force witnessed an entire U.S. Army Corps come to a halt because their vital fuel supplies were struggling to meet the enormous demand of the 3d Infantry and 1st Armored Divisions. Over 15 years after the operational pause of “Old Ironsides” and the “Marne Division,” and almost 76 years since ADM Fletcher and Gen A.A. Vandergrift’s orchestrated offensive into Guadalcanal during Operation WATCHTOWER, we have yet to realize a fuel supply chain and an equipment acquisition process that operates with a single fuel for both aviation and ground capabilities, that is available worldwide, and in sufficient quantities to meet our ever increasing demands.

While uniformity across the Services in all logistics activities and processes may not be beneficial, the benefits to the Services across DOD would be noteworthy were we to adhere to a uniform bulk fuel doctrine, regulation, and policy. To this end, military aircraft could share a single policy for the type(s) of fuel that may be utilized; ground and aviation platforms would have interchangeable fuel; and global coalition strategies could then amplify the need to align supply chain strate-

gies, increasing our survivability and ultimately resulting in our resiliency and superiority. If we stay the current course, the DON will continue to face outdated fuel supply chain policies, fuel operations doctrine, regulations, and accountability measures that will only stymie progress and increase the gap between ourselves and our adversaries.

Obsolete fuel management business practices are further exacerbated by not investing in the placement of the right fuel subject matter experts in the right commands throughout the MAGTF and joint world. The Marine Corps remains reliant on the Navy to do our bidding for aviation fuels and on the Army to solve our ground fuel policy challenges for the MAGTF. In order to present and advocate for the unique challenges of employing Marine Corps capabilities, appropriate subject matter experts must be given increased authority and placed in equal positions within the fuel staffs in joint organizations.

In general terms, our Navy remains reliant on Jet Propellant-5, Diesel Fuel Marine, and Marine Gas Oil to conduct “at sea” operations. The Marine Corps and Army can operate solely on Jet Propellant-8 for all MAGTF and Army operations. The Air Force is mov-

ing toward utilization of commercial aviation fuels such as Jet A-1 and diesel (DF2/DF1) to support their programs. This is the crux of the problem, a lack of uniform fuel requirements limits the resiliency of the joint force and further stretches the capacity of the fuel supply chain. The joint fuels community remains disjointed and the stove-piped conversations within each Service to modernize and innovate often conflicts with the need for the Services and the DOD writ large to have a uniform approach toward the fuel problem.

In 2016, the Joint Access and Maneuver in the Global Commons provided the joint operational concept for the DOD to counter adversary advancements and to energize the discussion for the DON to take action in becoming a more relevant and lethal naval force by revisiting our operational roots, much of which was lost in the previous decade and a half spent supporting the ground fight. In 2017, the Commandant of the Marine Corps and Chief of Naval Operations signed a concept called the LOCE:

This concept provides a framework for naval integration, placing renewed emphasis on gaining sea-control, to include employing sea-based and land-based Marine Corps capabilities to support the sea-control fight.

Key to the concept are naval maneuvers and action to maintain access and preserve the ability to maneuver through the global commons. Our naval force will remain poised to respond to and defeat any adversary who attempts to deny freedom of action to U.S. and allied forces.

Since the end of World War II, the United States has generally enjoyed the ability to posture itself with pockets of prepositioned military fuel stocks in hardened storage tanks throughout vast areas in the Pacific. With technological military advancements from potential adversaries, the bulk fuel playing field has been leveled, and the United States now finds itself contemplating the best approach in posturing fuel requirements where their availability can be guaranteed when needed.

Previous fuel studies projected the increase in fuel consumption based on

future military acquisitions plans. The 2017 MAGTF Fuel Study (released in the summer 2018 by Combat Development and Integration Division) further revealed that the consumption trend line will continue growing beyond Force 2025 based on our current military acquisition programs, future combat formations, and employment strategies. For example, as the MAGTF further explores advancements in areas of cyber warfare and the space domain, it can be assumed that fuel consumption will continue to grow based on the need to power increasing numbers of computer systems, satellite communications, and smart weapons systems. All the while our adversaries are projected to pursue similar technologies, so that the race to secure and exploit finite global energy stocks becomes even more critical to our responsiveness, resiliency, and survivability.

The former Secretary of Defense and 1st Marine Division Commander, General Mattis, realized first-hand how the tether of fuel negatively impacted the MAGTF's ability to maneuver north toward Baghdad in 2003. Since then, we have not changed as a force in terms of how we posture, procure, utilize, and account for fuel. Acquisition programs continue to procure military equipment that consumes fuel at increased rates. While some may argue that these procurements are more efficient, operating for longer periods before needing to refuel, or that increased capability in weaponry and technology at the expense of fuel efficiency is a necessary trade-off, it is these bureaucratic conundrums that continue to constrain our operational reach, leading us down a disastrous path where our failure to implement lessons learned will result in relinquishing our top position in the global order to one or more of our peer competitors. As a senior mentor once mentioned, our commercial sector regulates the research and development of motorized equipment by directing industry standards to attain benchmark gains over time. Why can't the DOD provide benchmark fuel efficiency standards to drive commercial industry and military acquisition?

Our most senior leaders in both the Navy and Marine Corps recognize the



**Marines and Airmen participating in a fuel additization capability operation. (Photo by DLA.)**

need for change and have charged their staffs to develop solutions and execute change. The 37th Commandant of the Marine Corps stated that the very discussion of implementing the *Marine Corps Operating Concept* (Washington, DC: HQMC, 2016) should make some feel very uneasy. In fact, previous discussions to implement the *Marine Corps Operating Concept* had stimulated “spirited” debates within numerous naval circles, certainly at the action officer levels. As we pursue more calibrated discussions focused on EABO and tenets of the 38th CMC CPG, we find ourselves continuing to admire the problem in front of us as the challenges in executing the EABO concept requires the DON to fundamentally change in terms of manpower, task-organization, and employment doctrine to successfully support the new operating environment.

As the Marine Corps began implementation of elements of Force 2025, it became evident the Marine Corps future force was not operationally tied to current joint and naval concepts (Joint Access and Maneuver in the Global Commons, LOCE, and EABO) nor was it aligned with the *National Defense Strategy*. With the renewed focus on Force Design and tailoring the MAGTF to be adversary-focused, we cannot continue to execute combat formations for fueling operations solely under a con-

ventional mindset of emplacing large, immobile, and embarkation intensive bladders resident within the LCE and ACE. Additionally, the way our fuel organizations deploy do not entirely support EABO and requires modification to equipment and personnel so as to deploy only those capabilities required for the mission and minimize the footprint. There is a fallacy of thought if we believe there will not be any “mountains of supply” or “liquid lakes” when sustaining the force in the future operating environment. Logisticians quickly realize that this statement, while appreciated, does not support the military and commercial logistics enterprises upon which the Navy and Marine Corps are reliant in an operational environment. In the Pacific, there just simply are not enough fuel stocks of the right military specifications to sustain the ambitions of our interests. One more F-35B or CH-53K in the fight equates to more fuel required in more locations. Compounding the daily demand for fuel is the potential addition of joint and coalition aircraft into the demand calculation.

A cursory look at joint and coalition tactical fuel capabilities will quickly reveal why the Marine Corps bulk fuel capability remains the choice enabler when tasked with an expeditionary mission by the joint commander. Our



**A U.S. Coast Guard C-130 participates in forward arming and refueling point operations during Arctic Expeditionary Capabilities Exercise in Adak, AK, on 18 September 2019. (Photo by LCpl Tia Carr.)**

unique ability to expeditiously aggregate into a refueling capability to support a combined arms endeavor from humanitarian assistance/disaster relief operations to full-scale combat operations makes the Marine Corps fuel capability the top expeditionary choice to deploy first across the range of military operations.

While the MAGTF has always been known to be able to composite units tailored for specific missions, there was a time where formations such as combat service support detachments and brigade service support groups were regularly rehearsed and better poised in aggregating logistics capability to address multiple mission sets. As the MAGTF fuels community further assumes a naval posture, perhaps the timing is right for experimentation in designing a bulk fuel organization that encompasses both naval and joint doctrine rather than just Marine Corps doctrine. The interoperability of such an organization has the potential to serve as a force multiplier in the most restrictive campaigns.

The Marine Corps bulk fuel organizational structure consists of warrant officers and enlisted personnel that are interspersed throughout the MAGTF. The sheer low population of senior warrant officers with limited joint experi-

ence negatively affects the future success of our bulk fuel community. The only means to correct current deficiencies is for the Marine Corps to grade shape and selectively assign bulk fuel senior enlisted personnel and warrant officers to better support current operational concepts (e.g., LOCE, EABO), service and joint war games, and posturing efforts throughout the joint logistics enterprise. The current manpower design is inefficient; the fuels community must ensure commanders have the best and brightest on their respective staffs if we are to move out smartly in support of current initiatives. In a perfect world, bulk fuel senior enlisted personnel and warrant officers would reside at the Headquarters, Marine Corps, Combat Development and Integration Division and Headquarters, Marine Corps, Installations & Logistics, Engineer and EOD Advocacy Branch to provide synergy in pursuit of combat capabilities and concepts that minimize our reliance of energy and build upon innovations across industry. Each Combatant Commander Joint Petroleum Office, Numbered and Regional Fleets, and Fleet Logistics Center regional offices should have a Marine Corps subject matter expert on staff with the aim of synchronizing joint and naval fuel requirements

across the supported Combatant Commander, Joint Task Force Commander or the Joint Force Maritime Component Commander. Multiple opportunities to advance Marine Corps and naval concepts arise from interactions in joint billets and within the component staffs, in these joint forums we often fail to be represented, resulting in our priorities to be debated by fuels planners from adjacent Services.

Several military occupational fields possess a cadre of limited duty officers to offer mix of rank and experience when the need for protocol arises with coalition and adjacent service counterparts, most of which are majors and lieutenant colonels; in order to gain and retain a competitive edge with these bulk fuel peers, it is necessary to invest in a small population of bulk fuel limited duty officers to fight for Marine Corps priorities at events in which executive fuel policies are made.

In summary, the Commandant of the Marine Corps and Chief of Naval Operations have stated that we must recognize the challenges of the future and develop an operational approach to fight and win; the profession of arms is unforgiving; mistakes are paid for in blood and incompetence can lead to catastrophic defeat. We are far from incompetent, in fact, the ingenuity of our naval leadership has allowed us to remain the most lethal and capable blue/green force, even when operating at less than ideal manpower levels. What has changed are the capabilities of our adversaries and our current position to remain a global leader in offensive military power projection is not guaranteed. An article by Donald Sull published in the *Harvard Business Review* (July 1999) titled, "Why Good Companies Go Bad," highlights that the problem is not that organizations don't take action, but that organizations are not taking the appropriate actions through a condition called "active inertia." Active inertia is an organization's tendency to follow established patterns of behavior—even in response to dramatic environmental shifts. Stuck in the mode of thinking and working that brought success in the past, leaders simply accelerate their tried-and-true activities. In trying to



**The Marine Corps tactical air ground refueling system. (Marine Corps photo.)**

dig themselves out of a hole, they just deepen it. The Navy and Marine Corps may be facing a period of active inertia where legacy bureaucratic policies and methodologies come at a cost to operational reach allowing adversaries to capitalize on our inertia and turning it into their lucrative military successes.

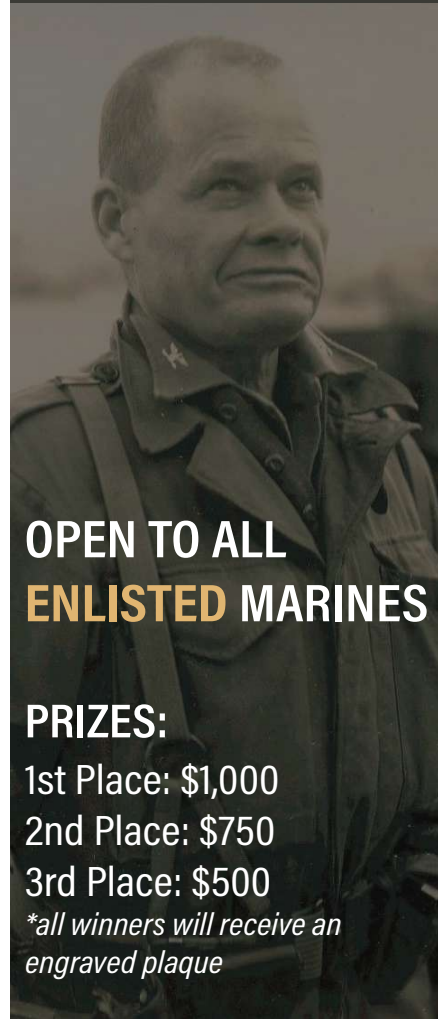
The Marine Corps does not have the depth of senior fuels personnel nor the appropriate grades to present and defend the Marine Corps' agenda within the

joint continuum of managing the military's most precious resource, second only to our great people: fuel.



**USS Kawishiwi (AO-140) fleet order conducting underway fuel replenishment. (Photo from [navymemorieships.com](http://navymemorieships.com).)**

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