

APPLYING COMMERCIAL SOLUTIONS AND BEST PRACTICES TO ARMY LOGISTICS

■ *By CPT Kelsey E. Hofmann*



There is a need for specifically designed marine vessels to service littoral deliveries in austere locations globally, particularly in U.S. Indo-Pacific Command (USINDOPACOM). My exposure to Crowley's large Arctic littoral fleet of tugs and barges has provided a unique perspective on solutions and best practices for large-scale joint logistics over-the-shore (JLOTS) capability gaps across the Service components.

The Secretary of War codified U.S. Transportation Command (USTRANSCOM) as the War Department's (DOW's) single manager for global bulk fuel management and delivery in 2023. This allowed USTRANSCOM to support future operations by synchronizing the efforts of multiple bulk fuel stakeholders and the regional combatant commands in support of their operational plans and emerging warfighter concepts. This synchronization addressed known gaps in the joint petroleum enterprise with the movement and distribution of bulk fuel before and during crisis. USTRANSCOM identified that history has shown that our success on the battlefield depends on the strength of our industrial base and our relationships with the commercial sector. Incorporating our commercial partners, like Crowley Fuels, into these conversations is imperative to DOW's success.

Enhancing Army Petroleum Operations through Training with Industry at Crowley Fuels

A crucial piece to this is the Training with Industry (TWI) program, which is a unique broadening opportunity that enhances a Soldier's knowledge of industry capabilities and methods within their occupational specialty. This unique opportunity provides engagement with cutting-edge innovation within the civilian sector while enhancing the warfighter's skills in leadership, management, and specialized corporate and industry knowledge.

In 2024, I was honored to be appointed as the TWI fellow at Crowley Fuels in Anchorage, Alaska. This opportunity allowed me to gain firsthand exposure to their advanced commercial logistics practices. These experiences provided key insights that the Army can apply

to modernize its Class III(B) petroleum operations and improve sustainment effectiveness across multidomain operations (MDO), along with collaboration with inter-service agencies worldwide.

The Army must continuously evolve its sustainment capabilities to remain agile and effective in contested, remote, and infrastructure-limited environments. One of the most critical components of sustainment, Class III(B) petroleum distribution, requires innovative approaches that mirror operational challenges. Since Crowley Fuels operates extensively throughout coastal Alaska, it offered me a unique opportunity to observe and apply cutting-edge over-the-shore (OTS) fuel delivery practices. Embedding a logistics officer as a TWI fellow at Crowley Fuels provided unmatched exposure to modular, scalable systems and processes, and expeditionary logistics strategies that align with the Army's JLOTS and Inland Petroleum Distribution System (IPDS) operations.

Crowley's resupply missions involve transporting millions of gallons of fuel to remote villages, often requiring ship-to-shore transfer. These operations are conducted in austere environments with minimal port infrastructure, challenging terrain, and extreme weather conditions nearly identical to those faced in military operations in the Arctic, Indo-Pacific, or disaster-relief scenarios. Being assigned during this critical fuel delivery season allowed me to gain invaluable experience in the planning, deployment, and recovery of floatable hose systems, as well as environmental risk mitigation, use of lightweight modular equipment, and coordination with small boat teams and local support assets.

The insights gained from this experience can directly inform Army sustainment modernization efforts, especially as the Service pivots to large-scale combat operations (LSCO) and contested logistics under MDO. This industry immersion and knowledge transfer can influence acquisition strategies, training programs for petroleum specialists (92F), and doctrine updates related to expeditionary fuel support. It can also enable the Army to identify commercial-off-the-shelf technologies with immediate application to forward fuel distribution. The continuous placement of assigning a fellow to Crowley

Fuels is a strategic investment in the Army's future sustainment force. It bridges the gap between commercial innovation and military execution, ensures relevance in dynamic operational environments, and enhances the Army's ability to deliver fuel wherever and whenever it is needed.

Crowley Fuels: A Strategic Logistics Partner

Crowley Fuels supports over 90 DOW and federal sites via multi-modal refueling operations. Using OTS and ship-to-shore methods, their capabilities align closely with the Army's need for JLOTS and remote sustainment operations. Their Arctic fleet, manned by experienced mariners and optimized for shallow-draft and littoral logistics, provides a working model for operating in infrastructure-limited regions. The need is greater than ever to modernize the Army's watercraft fleet and integrate commercial logistics industries into planning cycles to ensure access and responsiveness during joint and multinational operations. This is a critical component of the contingency support plans as the sustainment enabler of the joint force, particularly in the Indo-Pacific area of operations. Crowley's littoral and blue water fleet is built to overcome challenges in the Pacific and Arctic oceans, such as uncharted locations, shallow river navigation, and limited infrastructure berths. Their shallow-draft tugs and combination fuel

and deck cargo barges (with a 270,000-gallon capacity), combined with skill and local expertise of experienced mariners, allow Crowley to reach otherwise-inaccessible locations to provide JLOTS solutions across commercial and joint force customers.

Bridging Capability Gaps in Army Watercraft

The Army is pursuing changes to effectively execute LSCO in multidomain environments. Sustainment faces the challenge of effectively modernizing its force and capabilities to maintain pace with a transforming Army. Future sustainment forces must be prepared to effectively operate across maritime domains from a strategic distance. The Army's watercraft systems provide critical logistic capabilities to the joint force and require long-overdue modernization to support strategic lines of effort in the Pacific Rim. If the Army neglects this effort, it will be hyper-dependent on commercial entities to provide these capabilities, which may come at a heavy price for services in contested areas and combat zones.

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Commercial companies have assets that can support the joint force in contested logistics planning. It is essential to bring in those commercial experts early as advisors at the Service or combatant command-level to ensure strategic military planners (J5s) are accurately building contingency support plans that capture the

broad commercially available resources. This may present complicated contracting lines of effort if those same experts exist at companies that own the assets. However, there are mechanisms to prevent contract pollution and still have commercial expertise available to lead planners. The Army could leverage smaller contract opportunities for subject matter experts (SMEs) to provide education at required leadership schools, exercise planning events at the theater level, or provide SME support to real-time planning efforts across the joint, interagency, intergovernmental, and multi-national (JIIM) environments. The Army must leverage these SMEs to prevent military planning from being done in a vacuum and without consideration of commercial sustainment expertise.

Integration of Commercial Equipment into Joint Petroleum Over the Shore Operations

Incorporation of commercial best practices, specifically Crowley Fuels' employment of Alaska Rubber Group (ARG) floatable fuel hoses, into the DOW's OTS Class III(B) operations, would enhance modularity, responsiveness, and operational flexibility in austere environments. Crowley Fuels conducts OTS fuel delivery operations throughout coastal Alaska and the Canadian Arctic, operating in some of the most logistically challenging and infrastructure-deficient environments in North America. These operations rely on floatable, high-durability hose systems provided by ARG. The company routinely conducts ship-to-shore transfers via hose laydowns from offshore tank barges to remote beachheads and inland fuel bladders or tanks. This system can mirror the DOW's JLOTS, IPDS, and future Early Entry Fluid Distribution System (E2FDS) operations, though with enhanced commercial agility, simplified modular components, and reduced logistical burden.

I saw that Crowley's floatable hose systems are designed for rapid deployment and recovery using minimal personnel and equipment. The Army can adopt this model by modernizing it to lightweight, modular float hose reels, and quick-connect couplings compatible with existing tactical, IPDS, or E2FDS configurations. This would allow more agile theater opening operations with reduced time and footprint. ARG hoses used by Crowley are rated for Arctic and coastal environments, including resistance

to saltwater corrosion, cold weather brittleness, and ultra-violet degradation. Integrating similar commercial-grade hoses into the Army's supply chain will enhance the survivability of systems in USINDOPACOM and Arctic areas of responsibility (AORs).

Operational Efficiency

Crowley's use of small boat teams to guide hose laydowns, coupled with simple anchoring or tension systems, minimizes port infrastructure dependency. The Army should incorporate small-craft deployment tactics, techniques, and procedures to guide OTS hose placement, particularly in littoral and contested environments. Crowley Fuels' proven model for fuel delivery in remote Alaskan environments offers scalable, tested practices highly applicable to Army and DOW fuel operations. Adopting commercial floatable hose technologies will enhance capabilities in expeditionary logistics, particularly in Arctic and Pacific littoral AORs.

By witnessing Crowley's lean logistics approach, I can better translate commercial efficiencies into military doctrine and operations, supporting future modernization of IPDSs and theater logistics plans. This assignment's observations ensured a critical transfer of knowledge that will enhance Army readiness, improve fuel distribution resiliency, and modernize expeditionary sustainment doctrine.

Fuel Simplification and Quality Assurance: A Path Forward for Army Logistics

In an era defined by distributed operations, contested logistics, and expeditionary sustainment, the Army must evolve its petroleum distribution methods to remain responsive and effective in any theater. Crowley Fuels offers valuable insights into fuel simplification, field blending, and mobile additization processes. These capabilities, if adapted to Army Class III(B) operations, would significantly improve agility, reduce risk, and enhance fuel readiness in support of joint logistics and MDO.

In these logistics-challenged environments, the company has refined its approach to fuel management through a deliberate strategy of simplification. Rather than

transporting multiple grades of fuel, Crowley minimizes fuel types by leveraging multi-purpose grades that satisfy a broad spectrum of end-user requirements. This reduces handling errors, simplifies storage requirements, and decreases the risk of fuel contamination. The Army can benefit from this approach by further institutionalizing the "single-fuel-forward" concept, prioritizing the use of F-24 fuel across both ground and aviation platforms, both inside and outside the continental U.S., when mission profiles and equipment allow. Simplifying fuel types in-theater would reduce the logistics burden and allow for more efficient distribution node design.

Beyond simplification, Crowley regularly conducts field-scale fuel blending operations to meet environmental or regulatory requirements. For instance, blending No. 1 and No. 2 diesel fuels allows Crowley to create cold-weather optimized blends that prevent fuel gelling in sub-zero temperatures. These blends are often prepared at coastal terminals or directly aboard transport vessels. For the Army, developing mobile blending capabilities would enhance adaptability during forward operations. Petroleum units equipped with blending modules could tailor fuel to the climate and mission demands of a particular theater, ensuring sustained equipment performance and reducing dependency on multiple refined fuel shipments. Training 92F Petroleum Supply Specialists in blending techniques would support this capability and create a more self-sufficient sustainment force.

A third critical capability is Crowley's use of mobile additization systems. These trailer-mounted or skid-based units inject corrosion inhibitors, lubricity enhancers, cold flow improvers, and anti-static agents directly into bulk fuel during transport or at forward staging points. This flexibility enables Crowley to tailor fuel characteristics on demand, enhancing fuel performance and compliance with environmental standards. The Army should adopt similar mobile systems to enable fuel to be treated closer to the point of use. Doing so would improve readiness across varying environmental conditions, from Arctic cold to tropical heat, and support interoperability with allied forces whose platforms may require different fuel specifications.

Conclusion

Crowley Fuels offers critical commercial logistics insights applicable to modernizing Army Class III(B) operations, particularly in contested, austere, and littoral environments. Through the TWI program, firsthand exposure to Crowley's OTS fuel delivery, fuel simplification, blending, and mobile additization revealed scalable, modular practices directly aligned with JLOTS and IPDS needs. Crowley's Arctic-capable fleet and agile hose deployment methods address key capability gaps in Army watercraft and fuel distribution. Incorporating these commercial solutions enhances Army sustainment readiness, supports MDO, and ensures logistical agility in the Indo-Pacific, and Arctic theaters. These capabilities are particularly critical in support of the Army's emerging Arctic Strategy and the shift toward expeditionary logistics under MDO. Crowley's commercial model provides a realistic and proven framework for operating in contested and infrastructure-deficient areas, exactly the conditions under which future conflicts are likely to be fought.

CPT Kelsey E. Hofmann is a logistics officer currently assigned to the 953rd Theater Petroleum Center at Fort Bragg, North Carolina. She is a 2017 graduate from the United States Merchant Marine Academy, where she received her commission as a second lieutenant in the Ordnance Corps. She has experience working with Naval Sea Systems Command, Military Sealift Command, and civilian maritime companies. She has a Master of Science degree from Kansas State University in adult learning and leadership. She completed a TWI fellowship with Crowley Fuels Alaska. Her military education includes Ordnance Basic Officer Course, the Logistics Captains Career Course, and Support Operations Course. Her experiences bridge tactical logistics execution with strategic sustainment planning across the joint force.

Featured Photos:

Left: Pilot boat and crew deploying the floatable hose at Point Lay, Alaska, to begin discharging fuel over-the-shore. (Photo by Chris Hargrave)

Left Center: Crowley tugs and barges in Point Lay, Alaska, conducting marine fuel delivery over-the-shore in an austere environment with limited infrastructure. (Photo by Chris Hargrave)

Right Center: Crowley Pup Trailer, a critical equipment asset, located in North Pole, Alaska, which delivers up to 6,000 gallons of fuel year-round to the Fairbanks region, ranging from Fairbank's urban centers and surrounding boroughs, covering about a 50-mile radius. (Photo by CPT Kelsey Hofmann)

Right: Crowley tug and barge in Naknek, Alaska, preparing for winterization operations, including storage and maintenance, which absorbs the entire focus of the team to ensure the fleet is ready for operational season from April to October each year. (Photo by CPT Kelsey Hofmann)