



MV Asterix

Though distant water operations are oftentimes central to a navy's operational mandate, they can pose unique logistical challenges, particularly the resupply and refuelling of the naval vessels involved. While warships undertaking independent operations may in some instances be able to rely on allied vessels for resupplies, or on contractual agreements permitting them to visit foreign ports to purchase supplies and fuel, activities in remote or less friendly regions can be more difficult. In these cases, where there are few onshore reprovisioning and resupply options and where the presence of allied vessels is negligible, the need to supplement fuel and other supplies can present a critical planning factor and indeed limit operational capacities. Such logistical issues can even challenge the Canadian navy's domestic operations, given the sheer size of the country and vast geographic dispersal of its population. Consequently, navies need supply vessels to enable the sustainment – and, thus sustained operations – of warships. The majority of medium and large navies internationally therefore maintain vessels expressly and deliberately designed for this purpose, to enable the provision of fuel (both marine and aviation), maintenance equipment, ammunition, spare parts, personnel, and provisions like medical supplies and food to other naval vessels while underway and at sea. Such vessels are known as Auxiliary Oil Replenishment (AORs) ships, and their resupply operations are referred to as Replenishment at Sea (RAS) missions.

RAS operations are inherently sophisticated and intricate, requiring delicate manoeuvring at sea. First, the AOR and the Receiving Ship, or the vessel requiring the resupply, must move alongside each other, on a parallel speed and course. Since doing so necessitates that the vessels manoeuvre into close proximity of each other, with a lateral distance of 80 to 120 feet to permit the passing of lines between them, even this initial and basic component of the resupply requires significant skill and precision. The lines subsequently transferred between the ships allow them to be connected by the automatically tensioned span wires dispatched by the Supply Ship, in which traveller blocks pass between the vessels, and fuelling lines with couplings or probes are employed to facilitate liquid transfers. Ammunition and heavier stores items are delivered on pallets on the vessels' upper decks via pallet movers and forklift vehicles, after which the cargo is expediently moved from the embarkation point to the dispersal areas and below decks. Once the vessels are connected via a tensioned span wire, and all connections are established, the transfer begins, and the lateral distance between the vessels can be increased to 120 to 140 feet, depending upon the prevailing sea and wind conditions.

Occasionally (and if the teams are adequately trained), the AOR Supply Ship may accelerate its resupply of the Receiving Ship by operating three replenishment stations concurrently – for instance, transferring light-weighted stores and mail as well as personnel at a forward station, liquid cargo like water and fuel at a midships station, and heavy stores and/or ammunition at an after station. In other cases, the Supply Ship may perform two ship transfers simultaneously, with one Receiving Ship on its starboard side and another on its port side, in order to hasten the broader resupply operation. NATO has, over the years, honed and standardized the equipment, procedures,

and communications protocols involved in such RAS operations, with regular exercises seeking to develop and maintain proficiency.

Such operations remain delicate and intricate procedures, particularly since they occur around the clock and in diverse sea and weather conditions. A further challenge comes from the fact that, given the inability of both the Receiving and Supply Ships to manoeuvre while an RAS operation is underway, the vessels involved in a resupply are vulnerable and susceptible to hostile action. Thus, cautious planning, precise and reliable seamanship, and an attention to both safety and speed are all integral factors for the successful completion of an RAS mission.

For the Royal Canadian Navy (RCN), RAS missions were, until recently, the responsibility of two AORs, namely HMCS *Protecteur* and HMCS *Preserver*. Both vessels have since reached the culmination of their lifespans, with the last retired in 2016, and while plans have existed since 1999 to construct new AORs for the RCN, persistent delays and unsuccessful procurements left the navy without a singular AOR capable of effecting a resupply or refuelling. Since solely relying on allies for refuelling is undesirable if not entirely untenable, the RCN was compelled to explore other alternatives to temporarily rectify this capability gap, until the Joint Support Ships (JSSs) planned under the National Shipbuilding Strategy (NSS) are constructed and commissioned. As such, the RCN held a briefing in January 2015, noting its intention to lease “At Sea Support Services” while it awaited the delivery of its JSSs. Several companies tabled proposals, including Federal Fleet Services, whose proposition to convert a commercial container ship into an AOR was ultimately the successful bid. Under this proposal, an existing vessel would be converted into an AOR at Quebec City’s Chantier Davie Shipbuilding (rather than constructing a new vessel), and the newly refitted AOR would be leased by the government (rather than being a naval vessel). It was, seemingly, a comparably inexpensive and expedient interim solution to a significant capability gap.

A Canadian commercial container ship launched in 2009 called MS *Asterix* was selected for conversion into the interim AOR ship. Following its 2015 arrival at the Chantier Davie shipyard, *Asterix* was unveiled on July 20, 2017, in a public ceremony complete with the traditional shattering of a champagne bottle.¹ Sea trials were conducted the following November, the vessel arrived in Halifax on December 27, 2017, and *Asterix* was officially accepted into the RCN’s service in March 2018 after successfully completing further sea trials. The delivery of MV *Asterix* was groundbreaking on multiple levels: not only was it delivered on time and on budget, as Chantier Davie triumphantly proclaimed, but its delivery also marked the RCN’s receipt of the first new supply vessel in nearly five decades. Initially, the plan was for the Canadian government to lease the vessel for a five-year period, at around \$65 to \$75 million annually,² while the JSSs were constructed, with the five-year lease contract thus being signed in 2018. However, when serious delays pushed the first JSS’s anticipated delivery to after the lease contract’s expiry, discussions ensued with Federal Fleet Services in July 2022 to extend the lease further until January 2025. The consequent two-year extension to the government’s contract to lease MV *Asterix* was announced in February 2023. The Canadian government will also have the opportunity to purchase *Asterix* at the conclusion of the lease.

MV *Asterix* is a significant vessel at 182.5 metres in length and 26,000 tonnes in displacement, making it the largest vessel in the RCN.³ Capable of handling both solid (spare parts, food, and equipment like vehicles and ammunition) as well as liquid (water, aviation fuel, and diesel)

cargoes, *Asterix* is furthermore equipped with a helicopter flight deck and the certification required to accommodate the Griffon and Cyclone helicopters. Though small, its hospital is well supplied, boasting dental facilities, X-ray capabilities, and the personnel needed to staff a surgical suite. This hospital services the crews of Receiving Vessels, as well as the 36 civilian personnel and up to 114 naval personnel that crew MV *Asterix* itself (a 67-member detachment aboard *Asterix* is devoted specifically to replenishment duties).⁴ The RCN crewmembers aboard MV *Asterix* are referred to as Naval Replenishment Units (NRU) *Asterix*. While these naval personnel conduct the RAS operations, decide on the operations to be undertaken, and are responsible for security and helicopter operations, personnel from the Federal Fleet Services maintain and operate the vessel, providing hotel services, cleaning, and food.

A particularly notable feature of MV *Asterix* is its double hull, which offers further protection to the vessel and its cargo, satisfies environmental regulations, and enables the vessel to call at ports where compliance with such environmental regulations is mandated – features that the RCN’s previous AORs did not possess and that thus restricted them from operating in certain states’ waters and refuelling in particular ports.⁵ Moreover, MV *Asterix* has also joined the Green Marine, a voluntary environmental certification program within the North American maritime industry, making it the first naval oiler to participate in the program.⁶ With its ability to hold 28 shipping containers and accommodate up to 350 passengers, MV *Asterix* also possesses a notable capability to partake in humanitarian or natural disaster relief operations. However, the vessel is not without its limitations. Given its commercial design, *Asterix* has limited survivability in combat and is at higher risk in conflict zones. Moreover, it does not have any self-defence weapon systems, although provisions for such systems exist if they become imperative. Together, this dearth of a self-defence weapons system and the vessel’s nominal survivability in combat restrict the operational situations into which it may be deployed, prohibiting its use in regions experiencing or exposed to combat.⁷

Asterix entered service in 2018 and that year offers a good illustration on the ship’s tasks. It was engaged and deployed for nearly the entire year, transiting 51,062 nautical miles (to, for instance, Hawaii, Vietnam, Australia, Guam, and the South China Sea) and distributing 20 million litres of fuel at sea during 138 supply operations alongside nine allied navies.⁸ The vessel underwent maintenance work in early 2020 and engaged in a variety of exercises, including Exercise *Joint Warrior* – the most sizeable military exercise conducted in Europe – in October 2020. *Asterix* has continued to enjoy regular deployments in the years since. In September 2021, it was a participant in Exercise *Cutlass Fury*, an exercise that Canada organized off the Atlantic coast. It departed from Halifax for the Pacific in March 2023, alongside HMCS *Montreal*, and returned to Esquimalt, British Columbia, in December 2023 with HMCS *Ottawa* and HMCS *Vancouver* after a deployment to the Indo-Pacific region, concluding its 126 days away from Canada. Until the two JSSs are constructed, commissioned, and entered into service, MV *Asterix* will, in all probability, remain active as a vital support asset for the Royal Canadian Navy.

References

¹ See Davie Shipyard, Press Release, “Davie Shipbuilding Unveils the Largest Naval Ship Ever Delivered from a Canadian Shipyard,” July 20, 2017, <https://www.newswire.ca/news-releases/davie-shipbuilding-unveils-the-largest-naval-ship-ever-delivered-from-a-canadian-shipyard-635682443.html>.

² Murray Brewster, “Future Government on the Hook for Navy Supply Ship,” CTV News, August 18, 2015.

³ Resolve Class Auxiliary Oiler Replenishment (AOR) Vessel, Naval Technology.com, <https://www.naval-technology.com/projects/resolve-class-auxiliary-oiler-replenishment-aor-vessel/>; Joetey Attariwala, “MV Asterix: Bringing a New Supply Ship Capability Back to Canada’s Navy,” *Canadian Defence Review* 24, no. 4 (July 2018): 47.

⁴ Chamber of Shipping, “Asterix,” Shipping Matters, February 17, 2023, <https://shippingmatters.ca/feb-17-asterix/>.

⁵ Bill Curry, “Canadian Navy’s Ships Risk Being Banned from Foreign Ports,” *The Globe and Mail*, August 5, 2010, <https://www.theglobeandmail.com/news/politics/canadian-navys-ships-risk-being-banned-from-foreign-ports/article1212835/>.

⁶ “M/V Asterix Becomes Canada’s ‘Greenest Naval Ship,’” *Naval Today*, December 4, 2017, <https://www.navaltoday.com/2017/12/04/m-v-asterix-becomes-canadas-greenest-naval-ship/>.

⁷ Lee Berthiaume, “Canadian Naval Supply Ship Can’t Go into War Zones,” *Times Colonist*, February 20, 2018, <https://www.timescolonist.com/business/canadian-naval-supply-ship-can-t-go-into-war-zones-1.23180292>.

However, Chantier Davie does not concur that the vessel is inappropriate for deployment to combat or war zones. See David Pugliese, “Defence Bureaucrats Rejected High-Tech Guns for New Supply Ship Because They’re Expensive,” *National Post*, February 22, 2018, <https://nationalpost.com/news/politics/defence-department-rejected-putting-guns-on-navy-supply-ship-because-of-cost>.

⁸ See Federal Fleet Services, Press Release, “Canada’s New Naval Support Ship Returns to Canada After a Flawless One-Year International Deployment,” December 18, 2018, <https://www.newswire.ca/news-releases/canadas-new-naval-support-ship-returns-to-canada-after-a-flawless-one-year-international-deployment-703048731.html>.