





PREPARED FOR EVERYTHING, READY FOR NOTHING

By Lieutenant-Commander Dean W. Lang

JCSP 46

Solo Flight

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PREPARED FOR EVERYTHING, READY FOR NOTHING INTRODUCTION

Readiness in a military context is a term generally used to express the sum total outcome of all efforts used to acquire, equip, provision, and train forces in preparation for employment on operations. It is the military analog of profit from the corporate sector, and provides governments with the flexibility to act on short notice to contingencies outside of planned operations. In Canada readiness at the highest level is mandated by the concurrency of operations direction enumerated in *Strong, Secure, Engaged*: Canada's Defence Policy (SSE). At the element level the Canadian Army, Royal Canadian Navy (RCN), and Royal Canadian Air force promulgate internal orders to regulate the force generation efforts, which contribute to the readiness mandated by higher authorities. The RCN's policy defines readiness as: "as the ability of forces at a given point in time to execute their assigned missions." Finally, readiness extends to the individual sailor, soldier, and air person in the form of their individual and collective training, and the professional experience they gather during the course of their careers.

The readiness level to be achieved is readily quantifiable when forces have a clear mandate against which to measure their preparedness⁴. This concept extends to individual vessels and their fitted equipment, where weapons systems and platforms have clearly defined roles for which to be equipped, and permeates further down to the individual through the training and experience they require to bring all of the above to bear in

¹ Strong Secure Engaged National Defence, 2017, 17.

² Royal Canadian Navy, CFCD 129 Royal Canadian Navy Readiness and Sustainment Policy, 2018.

³ *Ibid*.. 1.

⁴ Preparedness in this instance is used in its common everyday sense, not to be confused with preparedness as a doctrinal term within RCN policy.

response to government policy. This paper will narrow the scope of this discussion by focusing the conversation on readiness in the naval environment, and more specifically the context of general purpose warships, both generally and in the RCN. Throughout history navies have tailored their ships to the roles for which they are intended to perform.⁵ The size, crew complement, weapons, and sensors are all arranged so that when tasked to fulfill the intended role the vessel is as ready as can reasonably be expected. Over the past several decades' navies have, in addition to task tailored vessels, started to introduce vessels considered general purpose. These vessels are intended to be cheaper to operate and more flexible in operations than their task tailored sisters.⁶

Traditionally these general purpose vessels complement a fleet's regular composition of task tailored warfighting vessels that are configured and outfitted for specific warfare missions, the number of which typically depends on the physical size of the vessel in question and the fund available for its procurement. This success has resulted in nations, like Canada, looking at adopting a fully general purpose fleet. This fundamental change in fleet composition raises an important question, if readiness is based on having the right tools for the task at hand, with operators and technicians properly trained to operate those tools, what happens to readiness when one no longer employs tailor made tools and rely solely on cheaper, less well equipped, general purpose naval vessels? This paper will investigate the impact of these changes in fleet composition, from task tailored to general purpose, and overall and individual vessel readiness. In particular, it will argue that readiness has been negatively impacted by the

⁵ Norman, Mark A. G. Leadmark 2050 National Defence, 2016, 11.

⁷ Royal Canadian Navy, Single Class Surface Combatant Study Final Report, 2006, 5-6.

⁶ A Google search of the terms "General Purpose Navy" yields countless reports of procurements, proposals, and editorial discussion on the concept of general purpose.

broad shift toward and adoption of general purpose, not as an augmentation to naval fleets, but as a replacement thereof.⁸

It will do so by evaluating readiness in terms of the scope and scale of specific warfare capabilities, and how these capabilities contribute to readiness. How transition to general purpose has impacted individual and collective training, as a constituent part of producing readiness. This paper will also investigate the potential negative impact these changes have had on specific warfighting capabilities. The calculus between tailored and general purpose is typically one of finances and project management within the Canadian Armed Forces (CAF). The impact these decisions have on readiness and warfighting capability are rarely enumerated. This paper will discuss and evaluate these second and third order effect.

DISCUSSION

Determining the first, second, and higher order effects on readiness of the transition to general purpose naval forces requires that readiness as a concept be more fully investigated. To start this investigation, the differences between task tailored and general purpose warships must first be more fully evaluated. Once this is complete the calculus of the impact, of the shift toward general purpose, on readiness may be addressed. Although readiness can simply be defined as the capability and preparedness to do what one is asked to do, that simple idea does not capture the intricacies and challenges with generating and maintaining naval readiness within the confines of western open and transparent political processes. Therefor, in the naval context this becomes the ability to conduct operations at sea to a specified standard, within a defined

⁸ Norman, Mark A. G. Leadmark 2050 National Defence, 2016, 39.

period of time. If a force can achieve this outcome, then by definition it has achieved the intended, if not highest, degree of readiness. This paper does not dispute this concept of readiness for two reasons, first it is an overly simple paradigm of readiness and can be achieved simply by defining it as achieved. Secondly, this paper is concerned with the readiness of a nation, and specifically its navy, to conduct warfare at sea in the presence of real, credible, and determined adversaries. This readiness standard must be one that, if reached, produces a force that possess the capacity to face its greatest adversary with a reasonable probability of victory. The following discussion will detail and evaluate several facets of the readiness issue as described above, covering the traditional task tailored composition of western navies, how the transition to general purpose fleets arose as a concept and cemented their relevance in a time of relative peace. Next, the differential impact of general purpose on navies at both the fleet and individual ship level will be evaluated, along with the impact within these two levels on the training component of readiness. Finally, the way in which any risks realized by adoption of general purpose will be discussed at both the general level then specifically within the Royal Canadian Navy, all within the context of conducting naval operations in a real threat environment against a competent adversary.

Naval vessel production, from the smallest auxiliary to the largest Aircraft Carrier, is traditionally completed by first establishing requirements, those exacting criteria that the vessel must posses in order to efficiently complete the tasks it is intended to be assigned.⁹ These requirements are vetted against the known and projected threat the vessel can reasonably be expected to face during its time in service.

⁹ *Ibid.*, 42.

Division of labour, particularly when dealing with a large number or complex tasks is a concept employed throughout the human experience, from the traditional nuclear family to very complex environments like large corporate entities and the subject of this paper, navies. A single vessel that could complete every single mission performed by a navy would be exceptionally complex and expensive, and likely overkill for tasks of a routine nature, or compromised in some way to be affordable, or insufficient in some other manner. The old racing adage of fast, light, cheap, pick two, holds true equally for naval vessels, with fast and cheap being stand-ins for capability and readiness. In order to avoid such burdensome complexity navies traditionally have grouped tasks into logical sets, typically centered on the type of warfare the vessel is intended to participate in, Anti-Submarine Warfare or ASW, as an example. By tailoring the role of a vessel to one specific task set or warfare area, in a complementary fashion with other vessels in a fleet, warship designers are empowered to compromise on non-essential components or capabilities in the pursuit of greater depth in capacity and capability in the desired systems and components. This approach prioritizes proficiency in the designated task over most other assignments. The risks and possible downsides of this approach is that it may result in less than ideal outcomes when task tailored vessels are employed outside their intended role or roles. Readiness of task tailored vessels in generally straight forward, a navy simply needs to equip and provision the ship for, and train the crew in the specific roles the vessel in intended to perform. Compromise is fundamental to the singular intent of a vessel; however, it is a compromise taken deliberately by those who enumerated the vessel's requirements in the first place. The compromise is made with the knowledge that the trade-offs for one vessel type are balanced against the strengths and

weaknesses of another. When looking at general purpose the risk and compromise balance becomes more acute as there is no *other* against which to share the entire requirement burden.

During the course of the cold war many navies looked to procuring general purpose warships, to complement the regular fleets of task tailored warships. This version of general purpose was intended for employment in the more mundane and lower risk tasks their governments would assign, while continuing the traditional and higher threat operational tempo. The goal of these decisions was generally to free up their task tailored vessels for employment in their traditional warfare roles unencumbered by missions for which they were not ideally suited and many times over qualified for. ¹⁰ This initial introduction of the general purpose concept did not have an adverse impact on readiness, and if anything likely increased overall readiness at the fleet level. 11 Having more ships, and ships that were cheaper to operate, when the conditions and mission warranted, was truly the intent of this type of vessel. The success of this augmentation to readiness is the outcome that precipitated the wide adoption of the general purpose idea, particularly amongst those nations with fewer resources to put toward a navy. The furthest extreme of general purpose is the concept of modular warships, which have no inherent capability beyond general navigation and seamanship, ships like the United States Navy (USN) Littoral Combat Ship¹² or the Danish Navy's *Flyvefisken*-class patrol boats¹³ have

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¹⁰ Thomas P. Ostrom and Commander Gary M. Thomas. The United States Coast Guard and National Defense: A History from World War I to the Present. US: McFarland & Company Inc, Publishers, 2012, 43.

¹¹ *Ibid.*, 42-53.

¹² Brien Aikire, Rand Corporation, and National Defense Research Institute (U.S.). Littoral Combat Ships: Relating Performance to Mission Package Inventories, Homeports, and Installation Sites. Vol. MG-528. Santa Monica, CA: RAND Corporation, 2007, 6.

¹³ Danish Naval History, "Flyvefisken (1989-)" last modified 30 July 2005, http://navalhistory.dk/English/TheShips/F/Flyvefisken1989.htm.

essentially no warfare abilities until capability packages are inserted into the vessels when the need arises. This extreme iteration of general purpose has resulted classes of ship with the lowest levels of readiness ever in the USN¹⁴, prompting the service to run a new program to acquire a true frigate sized vessel with specific warfare competencies, namely ASW.¹⁵

The relative peace, resulting from the end of the cold war and the all mighty dollar, are the two most significant factors that has led to the wide adoption of general purpose amongst western navies. ¹⁶ When there is no clear and present danger to a states sovereignty high-end task tailored warfighting ships appear like poor uses of public funds which can be better allocated to more politically acceptable social programs. General purpose vessels with a broad, but limited, assortment of fighting capability are reasonably capable of many of the more mundane tasks assigned to navies, they are typically of a constabulary nature, like fisheries patrols, and other enforcements actions within a nations Exclusive Economic Zone (EEZ). The limitations in these situations are not always obvious because of the task at hand, but they nevertheless fall short when true warfighting capabilities are required.

For nations with limited budgetary and ship building means, acquiring a warship on the international market may be the only reasonable option, and acquiring one of the numerous general purpose warships on the market would essentially meet all of their

missile-frigate-ffgx-contract/.

¹⁴ Defensenews.com, "US Navy proposes decommissioning first 4 LCS more than a decade early," last modified 24 December 2019, https://www.defensenews.com/naval/2019/12/24/us-navy-proposes-decommissioning-first-4-lcs-more-than-a-decade-early/.

¹⁵ Naval Sea Systems Command, "US Navy Awards Guided Missile Frigate (FFG(X)) Contract," last modified 30 April 2020, https://www.navsea.navy.mil/Media/News/SavedNewsModule/Article/2171794/us-navy-awards-guided-

¹⁶ New Atlas, "Royal Navy banks on bargain, general purpose warships to fill gap," last modified 7 September 2017, https://newatlas.com/royal-navy-type-31-e-frigate/51233/.

routine sea borne security, a simple and straight forward plan to meet basic naval requirements. The idea that something is better than nothing broadly explains the acquisition of general purpose vessels by smaller nations.¹⁷ Their readiness is not truly intended to be reflective of a blue water navy capable of conduction full spectrum warfare against modern sophisticated adversaries.

More affluent nations with mid-sized navies have also started adopting general purpose. Even when a nation has the economic means to procure, operate, and maintain a proper warfighting capable navy, their geopolitical circumstances, and domestic politics can lead them to general purposes vessels as a way to balance the costs against other priorities and social programs. ¹⁸ The readiness of these fleets are mitigated by the limited scope of responsibility and their domestic constabulary operational focus. Additionally, other shortcuts are typically made in the design and construction of these vessels, by building to commercial safety and survivability standards to reduce cost and complexity, but limit the viability of the ships if faced with a conventional naval threat. This issue of lower standards was one of the significant issues with the USN Littoral Combat Ship causing them to pursue a proper frigate development and procurement programme. ¹⁹

Due to the flexibility nations have when evaluating their readiness, the readiness arguments made in this paper are based specifically on readiness as the ability of a navy, a fleet, or and individual warships to conduct the real warfighting operations only a

¹⁷ Defencenews.com, "Malaysia launches its first French-designed LCS as Navy moves to modernize," last modified 24 August 2017, https://www.defensenews.com/global/asia-pacific/2017/08/24/malaysia-launches-its-first-french-designed-lcs-as-navy-moves-to-modernize/.

¹⁸ Naval-technology.com, "Absalon Class Combat / Flexible Support Ship," accessed 6 May 2020, https://www.naval-technology.com/projects/absalon/.

¹⁹ Defencenews.com, "The US Navy's new, more lethal frigate is coming into focus," last modified 28 January 2019, https://www.defensenews.com/naval/2019/01/28/the-navys-new-more-lethal-frigate-is-coming-into-focus/.

warship is suited for, the low intensity, low threat constabulary missions have been acknowledged above and for the sake of brevity addressed sufficiently. When a nation decides to limit the scope of responsibility of its navy the level of readiness discussed in the paper may not be necessary, however for nations who maintain global naval capabilities, and which pride themselves on being capable and ready to fight in the face of belligerent actions from another state, true warfighting readiness is the only metric that is a valid when declaring preparedness to face such threats. When the only vessels a nation, like Canada, has at its disposal are general purpose with limited and non specialized capabilities is all warfare areas, there is no longer the option to use the right tool for the job, or in this case, the right warship for the threat. In order to field a general purpose fleet, the ships must be equipped with some capability from every warfighting discipline within the constraints of space, weight, and cost imposed by the government. These compromises then compound the problem of readiness. The need to train and provision the ships for every area of warfare places additional strains on the readiness cycle. The end result is a ship, a fleet, or an entire navy with exceptional breadth and very little depth.

The last point above on training is the one area where the real impact of general purpose is felt within the services themselves. The other compromises can be reasonably quantified, evaluated, and residual risk accepted. Training, on the other hand drives long term, through life costs, due to the rigid association with human resource costs. With the limited time available to prepare a ship for operations, between other demands of maintenance, test and trials, and transit to an area of operation, something must be sacrificed in order to prepare a ship for deployment in these compressed timelines. Many

times it is training that is sacrificed. Sailors may be generally trained well, but that does not mean the have the specific training and experience they require to face real threat at sea, particularly as great power competition is returning to the global sphere.

This political change is making proper naval warfare more likely than it was while navies were supporting post-cold war peacetime initiatives like the war on terrorism, or counter narcotics missions. The training component of readiness in the naval context is comprised two subsets of military education and proficiency development. The first is individual training, this is comprised of the training sailors receive in order to perform the tasks associated with their respective occupation or trade. These core competencies are developed through school house delivered instruction tied to individual career progression, and the ship borne procedural drills, exercises, and professional experience intended to increase proficiency. The second significant subset of naval training in collective training. This category of training focus on bring all of the disparate individual skills into cohesive teams up to and including whole ship and task group level training evolutions. All of this training can be completed to a level of general competence, which in a peacetime context may be the preferable outcome, as it might enable a degree of flexibility that could be absent in a ship and crew with a high degree of specialization. Again, as discussed above in the paragraphs on capabilities, this compromise is reasonable if the scale and scope of the operations these representative sailors are meant to engage in is in some way limited to render the risks acceptable.

One of the ways training could be leveraged to overcome some of the shortcomings of general purpose is by limiting the scope of capability of select ships within a general purpose fleet. A navy could, on an case by case basis, prior to

deployment, assign specialized duties to specific ships and resource them appropriately. The training could then be focused on the selected specialization, at both the individual and collective level. However, forcing specialization on a platform which is inherently general purpose not only makes the vessel less flexible, but does not truly address the shortcoming inherent in the vessel. The issue of depth of individual capabilities, notably the necessary sensors and effectors, remains an issue, but good training could potentially mitigate this issue, if not fully at least to a level commensurate to the political intent behind it employment.

Individual and collective training can be used to mitigate sub-optimal equipment and platforms, but will never achieve comparable level of readiness of a task tailored warship with the same level of individual and collective training. The robustness of the task tailored concept is evidenced very thoroughly, from both the equipment and training perspective, when examining the RCN's contribution to the battle of the Atlantic during the Second World War. The *Flower*-Class corvettes were relatively simple vessels, but of singular purpose, all of the equipment fitted to the vessels, all of the training completed by individual sailors and entire crew's as a whole, all contributed to the outcome of one of the premiere ASW fighting ships of its day.²⁰ They were not the only class of ship fielded by the RCN during the war nor in the subsequent decades. The RCN grew in capability until the early 1970's when it decommissioned it final aircraft carrier.

Following this period, the service did not initially adopt a general purpose fleet, but maintained task tailored vessels through the end of the century. The RCN finally stopped employing surface warships with specialized capabilities with the retirement of the

²⁰ Sean E. Livingston, Oakville's Flower: The History of HMCS Oakville. Toronto, Ont: Dundurn Press, 2014, 26-27.

Iroquois-Class in the mid-part of the last decade, though their readiness during their final years of service was limited due to the age and condition of the ship's structures and equipment.²¹ The habit of letting capability languish is another habit in Canada, the Restigouche-Class destroyer escorts were the predecessors of the Halifax-Class, their last significant mission was the First Gulf War. During this conflict, despite Canada deploying a three ship task group, the ships within it were so ill equipped that they were relegate to embargo operations of commercial traffic on the peripheral of the conflict, but the priority of the day was significant social progress with Canadian women making their first appearance in combat roles.²²

Within the current RCN general purpose is a concept that it pervades all thought on what a warship should be, how it should be operated, and how the ground work should be laid for the next generation of RCN major surface combatants. This has been the result of the gradual dilution of capability since the introduction of the Halifax-Class in the early 1990's. The Halifax-Class was initially intended to be a truly capable front line combatant focused on ASW, the RCN's traditional strength. However, once the vessels entered service the fleet was starting its trend toward general purpose. The class is still large enough for the expeditionary operations Canada typically contributes to, and for operations in some of the most austere maritime environments in the world. This size is one of the reasons the RCN is able to be as successful as it has in spite of the limitations of a general purpose warship. The large size facilitates a large crew relative to it contemporaries and when operations other that war arise which necessitate manpower

²¹ "Disposal of the Royal Canadian Navy's Former Iroquois-Class Destroyer, HMCS Athabaskan." MENA Report (2018).

²² The Canadian Encyclopedia, "Persian Gulf War, 1990-91," last modified 11 January 2016, https://www.thecanadianencyclopedia.ca/en/article/persian-gulf-war-1990-91.

over warfighting capability, the Halifax-Class and the RCN more broadly has been very successful. One of the most notable examples of the value that general purpose can bring to a crisis was the RCN's contribution to Operation HESTIA in Haiti. A large contingent of the ship's company was able to be put ashore to provide a labour force to help with humanitarian assistance operations. Even with the absence of a large fraction of the crew the ships deployed to the mission were able to continue some of their intended roles.²³

The recent trend toward peer-on-peer inter-state competition and potentially conflict the gamble on general purpose may be put to the test. This along with the lack of industrial capacity to surge new platforms into service, in the west, may cost us dearly when we are required to truly fight in the naval arena. For the sake of brevity, this section will focus on one area of naval warfare, specifically Anti-Submarine Warfare.²⁴

Throughout the Cold War both sides of the geopolitical divide developed significant submarines forces along with the complementary Anti-Submarine Warfare forces. The platforms and capabilities fielded by both sides of the conflict used this singular focus to develop and deploy some of the most capable Anti-Submarine Warfare vessels, relative to the contemporary threat, that the maritime environment has every seen. This constant competition, on and under the worlds oceans, of capability and counter-capability diminished significantly following the demise of the Soviet Union and the collapse of the navy which it fielded. With the threat diminished the transition to cheaper general purpose vessels proceeded not entirely without consideration that those

²³ Aaida Mamuji, "Canadian Military Involvement in Humanitarian Assistance: Progress and Prudence in Natural Disaster Response." Canadian Foreign Policy Journal: Canada and the International Politics of Secession 18, no. 2 (2012): 208-224.

²⁴ Lyle Goldstein and William Murray. "Undersea Dragons: China's Maturing Submarine Force." International Security 28, no. 4 (2004): 162.

types of threats may one day return, but the likelihood appeared so low that general purpose won out in the procurement decision making.

The Royal Canadian Navy has, as it has fully transitioned to a general purpose navy from a fully capable blue water service with entire fleets of task tailored ships centered on Aircraft Carriers, been relegated to contributing single vessels to other nation's or coalition's operations. This idea of contribution warfare is well suited to a political reality that espouses no specific foreign policy beyond participating in the activities of those from whom we are trying to curry favor. Within this mandate of contribution warfare and escort navy the RCN has achieved high levels of readiness when measured against this limited standard. Very rarely has the RCN failed to deploy forces which it had been tasked to supply, only significant unforeseen events, like fires or collisions, have prevented the RCN from executing its assigned missions. The problem is not that the RCN cannot achieve the standards set for it, but that the recent decades of peace have enabled us to lower the bar for what right looks like. Now that the geopolitical tide is starting to turn and conventional naval threats are starting the reassert themselves the RCN appears incapable of altering course to recover from missteps that seem so correct when the decisions were made.

As has been done by the RCN, one of the only options for a navy if it wants to possess general purpose forces and achieve a high degree of readiness is to limit the scope of the capabilities the navy fields and the level of global engagement it commits to. This lack of depth no mater how expertly executed will never truly be ready for state on state warfare at sea. The only hope is for an organization like the RCN in the advent of such a conflict is setting the stage today for a rapid increase in both size, scope of

capability and specialization of combatants. The foundation of this idea is in place in the ship building plan, beyond the specifics of the plan in its current iteration, the actual types and numbers of vessels under construction and to be built, is that it re-establishes the strategic capacity of warship building in Canada. Sovereign control over this capability may just be the hand we need if a nation like China thinks it can call our bluff. This error has been recognized to some degree, and the current fleet rejuvenation process under the Canadian Surface Combatant Programme is trending back toward highly capable warfighting vessels, ready to fight at sea. This is being achieved not by returning to the task tailored model of the past but to the complex ship with significant capability in all areas of naval warfare.²⁵

CONCLUSION

In conclusion, as demonstrated above, there are many issues that arise from the transition to wholly general purpose naval forces. This paper has argued that the overall impact on warfighting readiness of the introduction of general purpose has been a gradual erosion of the concept. The trade-offs made during this transition seemed to have been reasonable at the time. The end of the cold war and the anticipated peace negated the requirement of proper warfighting naval forces, that transition marked a significant departure from historical practice and resulted in a general decrease in naval readiness, particularly when faced with conventional threats for which a navy is intended to address.

The arguments of this paper have not been that the idea of general purpose is without merit, but that the follow-on effects may have been overlooked in the hope that we, as a civilization, had finally moved past such requirements. The original vision of

²⁵ Scott Shortridge, Director Navy Innovation, email message to LCdr Dean Lang, Re: Research for Solo Flight, 28 April 2020.

general purpose, as the cheap and economical type of vessel which could be used for those missions governments liked but navies felt were less important. At a broad level, particularly for peacetime tasks, general purpose naval forces are able to achieve the readiness standards set by the respective governments and institutional leadership. However, as the risks of a conventional, state on state conflict continue to increase specific readiness for warfighting appears to have been compromised in the search of cost and labour savings, through the adoption of general purpose naval forces.

From the investigation above there are several consequential concerns with the impact on readiness of the transition from navies comprised of task tailored vessels designed and built to exacting standards to fight our adversaries in the maritime environment against the most capable threats, through the inclusion of general purpose as an augmentation, finally to entire fleets comprised entirely of general purpose vessels. These are vessels that are prepared for the numerous task routinely asked of them by their higher commands and governments, but that fall short in the readiness to fight at sea against our current and future geopolitical adversaries and enemies.

Beyond the conclusion that general purpose has not been achieved without a readiness cost, this is an area of research and discussion that has received very little academic or technical investigation, at least within the unclassified realm. If Canada and the RCN wish to continue the trend of acquiring and fielding general purpose warships the trade off needs to be better understood so that we may be ready if called upon to fight and conduct the most extreme parts of our mandate.

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