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ROYAL CANADIAN NAVY FACING ROUGH SEAS: CORE CAPABILITIES A MID-SIZE NAVY CANNOT AFFORD TO IGNORE

Lt Cdr Rindu Babu

JCSP 44

SERVICE PAPER

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PCEMI 44

ÉTUDE MILITAIRE

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CANADIAN FORCES COLLEGE – COLLÈGE DES FORCES CANADIENNES
JCSP 44 – PCEMI 44
2017 – 2018

SERVICE PAPER - ÉTUDE MILITAIRE

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Word Count: 2476

Compte de mots: 2476

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AIM

1. The aim of this paper is to analyze the core capabilities that the Royal Canadian Navy (RCN) should possess amidst recent downsizing and budget cuts so as to fulfill the maritime responsibilities required by the nation. The study is undertaken based on the roles and future challenges of RCN as described in its vision document 'Leadmark 2050'[1]. This paper specifically limits the required capabilities to as required by a medium size navy assuming that the RCN will face budget cuts and financial austerity in future.

INTRODUCTION

2. Canada is a maritime nation with the largest coastline in the world. Royal Canadian Navy was the fifth largest Navy in the world at the end of World War II[2]. Since then, the Navy has seen a gradual downfall in size and capabilities compared to other navies in the world. Compared to its allies, the Canadian Navy is now only one-third the size it should be, given its GDP[3]. This decline has been severe post cold war mainly due to lack of funding and slow progress in recapitalization of assets[4]. The lack of political will and policy paralysis over a period of time

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1 Canada in a New Maritime World 'Leadmark 2050', RCN vision document, DND
2 Gilmore Scott, The Sinking of Canadian Navy, Macleans News, 04 Aug 2015
3 Ibid 2
4 Lang Daniel, Reinvesting in the Canadian Armed Forces: A plan for the future, Report of the standing committee on National Security and Defence, May 2017

has resulted in serious capability gaps which raise serious questions about the current capability of RCN to fulfill the maritime roles.

3. RCN is a medium size Navy whose main roles are to ***Protect*** Canadian sovereignty, ***Prevent*** conflict by global stability and ***Project*** Canadian Power[5]. RCN needs to generate combat-capable, multipurpose naval force to defend Canada's maritime interests at home and abroad. The current austerity measures and less manning levels pose a great challenge to Naval capability development. Therefore, being a midsize navy, RCN need not possess, a full range of capabilities, but have a credible capacity in certain of them catering for its roles and consistently demonstrate a determination to exercise them, in cooperation with other Force Projection Navies. This situation calls for an accurate identification and prioritization of core capabilities that the Navy envisage to develop in the medium to long term so that the efforts and resources can be allocated correctly to achieve the long-term objectives. The core capabilities suggested in this paper is in accordance with the envisaged role of RCN and the expected budget allocation in Medium to Long term.

DISCUSSION

4. **Blue Water Capability**. The RCN should possess capability to operate globally across the deep waters of open oceans showing Canadian flag, and conduct a spectrum of

[5] Ibid 1

maritime operations from humanitarian response and disaster relief to combat[6]. The Blue water capability must be balanced, combat effective, multipurpose, globally deployable, agile, adaptable and forward postured[7]. The NATO and NORAD commitments require the RCN ships to have long legs and operate away from homeland for a long duration. Keeping these requirements in the hindsight, Navy needs to acquire a fleet of modern Frigates/ Destroyers with adequate number Fleet Support Ships (FSS) to sustain them overseas for a prolonged duration. The number of ships in the Canadian Fleet must be sufficient to operate in its three adjoining oceans, deploy abroad on an ongoing basis and defend the sovereignty of Canada while retaining the ability to respond to major international contingencies. The fleet must accommodate all modern features such as Anti Submarine Warfare (ASW) capability, credible Anti Missile Defence (AMD), Offensive weapons such as Medium Range guns, Surface to Surface Missiles (SSM) and helicopter carrying capability. Allowing for Canada's future participation in Ballistic Missile Defence with US which requires ships to carry long-range detection radars and AMD capabilities, the design of the ships must allow for future modifications. These state of the art ships should form the heart of RCN and be able to counter threats arising from offensive posture demonstrated by Russia and China. The fleet must possess the capability to visit ports around the world enabling Naval Diplomacy and assist Coalition forces in international operations such as 'Freedom of Navigation' in the South China Sea. Fleet Support Ships are critical to the mobility of maritime forces and the enabling of sustained international deployments. These ships will

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[6] Backgrounder: Investments in the Royal Canadian Navy (RCN) http://dgpaapp.forces.gc.ca/en/canada-defence-policy/news/investments-royal-canadian-navy.asp

[7] Ibid 1

provide core replenishment capabilities for supplies such as food, fresh water and ammunition, as well as capacity for sealift and increased support to forces ashore[8].

5. **Arctic Sovereignty and Disaster Relief**. Ensuring sovereignty of Canada which includes the far-flung remotely accessible regions of Arctic is one of the biggest challenges faced by RCN. Global warming will continue to physically alter the operating environment, with increased impact around the world and especially in the Arctic. The opening of North West passage and other navigable channels in the Arctic Ocean has opened numerous additional access routes to Canada which was earlier considered as a natural barrier. With the arctic coastal states establishing claims over the vast natural resources believed to be present in the arctic region, the sovereignty of Arctic region is under serious threat which is only going to aggravate in the coming days. The possibility of search and rescue related incidents have increased in the Arctic as a result of more traffic in the region[9]. Having the ability to monitor all activities in Arctic waters and respond appropriately and quickly to all emergencies is essential to Canada's claim to sovereignty of Arctic waters. Canada requires specialized armed Arctic patrol vessels and polar icebreakers which can operate and carry out surveillance in all parts of Arctic region throughout the year in all weather conditions. These vessels must be able to support other government agencies such as RCMP, Transport Canada, Fisheries, and other departments with mandates in the region. They will also provide Canada with vital research and general use platforms, enhanced constabulary options, and better response capabilities in the event of a

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[8] Ibid 4

[9] Report of the Standing Committee on National Defence, The Readiness of Canada's Naval Forces, June 2017

disaster or emergency[10]. Equally important is the development of Arctic support bases for the Arctic patrol vessels which require refuelling and provisioning given their limitations in terms of reach and sustainability. The naval base will serve as a staging area for naval vessels on station in the Arctic, such as the new Arctic/Offshore Patrol Ships, enabling them to re-supply, refuel, embark equipment and supplies, and transfer personnel. Canada also needs to invest in fixed underwater sensors and surveillance technologies along the choke points in the Arctic, to detect illicit submarine activities. The icebreaking capabilities also need to be augmented to ensure seamless Arctic operations.

6. **Submarine Capability**. As the RCN vision document, Leadmark 2050 states: "Submarines are likely to remain the dominant naval platform for the foreseeable future, and hence are an essential component of a balanced combat effective navy."[11] Submarines are strategic assets which provide strength to a navy in maintaining combat superiority. The covert nature of submarines enables them to be used for a number of Naval tactical as well as strategic roles. A modern submarine fleet will allow Canada to defend its own coasts, sea lanes, ports and harbors from sea mines and underwater threats, while simultaneously contributing to NORAD and NATO operations in a high readiness state[12]. The role of submarines during peacetime may not be commensurate to the cost of maintaining the submarines or acquiring new submarines[13]. However, the art of operating and maintaining submarines cannot be acquired in short duration and the capability needs to be maintained without a break so that it can be put to use as and when

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[10] Lajeunesse Adam, The Canadian Armed Forces in the Arctic: Purpose, Capabilities, and Requirements, Policy paper at St. Jerome's University, May 2015

[11] Ibid 1

[12] Ibid 4

[13] Byers Michael, Does Canada need Submarines?, Canadian Military Journal, Vol 14, No.3, 2014

required. The submarine capability is vital for accessing information on NATO Water space management system without which Canada won't even get information of friendly submarines operating in its waters[14]. While the United States and Russia deploy nuclear-powered submarines in Arctic waters, Canada can look for hybrid diesel-electric and fuel-cell air-independent propulsion systems which permit modern conventional submarines to extend their submerged time from a period of days to several weeks. This system affords conventional submarines not only with longer submerged endurance but also with an under-ice capability which can make them capable of operating in seamlessly in Arctic waters. Numerous choke points available in the Arctic waters make submarines the ideal strategic platform for this area. Operating Canadian Submarines in the Arctic will also increase in understanding of undersea oceanographic environment and thus enhance capability of CAF to operate in Canada's North[15].

7. **Anti Submarine Warfare Capability**. Anti Submarine warfare (ASW) capabilities are unique and not many countries around the world can boast about a credible Anti Submarine Capability. Canada, during post world war II era, was a global leader in ASW capability which got eroded over a period especially post-cold war[16]. The threat posed by Russian and Chinese Submarines has forced the western navies to shift its focus back to ASW which had been generally ignored post-cold war[17]. The global focus on ASW in only going to increase moving forward as a number of mid-size navies around the have already acquired submarine capabilities. The new shipbuilding programme in Canada provides a very good opportunity for RCN

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[14] Webster Phil, Arctic Sovereignty, Submarine Operations and Water Space management, Canadian Naval Review Vol 3, No.3, 2007

[15] Ibid 15

[16] Sweny Alexandra, Reclaiming Canada's Reputation in Anti-Submarine Warfare, VanguardCanada.com, 16 May 2015.

[17] Sloan Elinor, Strategic Considerations for Canada's Navy, Canadian Naval Review, Volume 12, 2016

expertise in ASW to re-emerge and develop world-class ASW technologies. In doing so RCN can position itself firmly committed to NATO and other coalition partners. The submarine threat in Canadian waters is becoming a reality with Chinese and Russian Submarines reported near Arctic waters[18]. Along with shipborne ASW RCN also need to develop airborne ASW as well as fixed undersea surveillance capabilities. The aim should be to develop the capability to generate remote, wide-area, persistent, real-time undersea surveillance of Canadian waters and approaches. Given the long lead time required for developing these high-end technologies, RCN should immediately focus its attention to these capabilities which are going to play a vital part in ensuring Canadian sovereignty[19].

8. **Coastal Surveillance, Patrol and Reconnaissance Capability**. Canada has the largest coastline in the world with a large expanse of EEZ and maritime interests spread across three Oceans. Monitoring such a huge maritime domain poses a considerable challenge from a situational awareness standpoint[20]. The protection of economic interests in this region and not to allow its maritime territory to be used for illegal activities is one of the biggest responsibilities of RCN. Increased maritime terrorist threats post 9/11 and increase in organized crime, piracy and drug trafficking necessitate the maritime domain to be kept under surveillance constantly. The expanse of maritime domain to be kept under surveillance is too large which makes the Maritime Patrol Aircraft (MPA) the best option for this purpose. MPAs have long endurance and reach compared to other surveillance assets. RCN needs to establish its own Maritime Air wing comprised of MPAs which should be used for surveillance of Canada's EEZ and at the same time

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[18] Mifflin Michael, Arctic Sovereignty: A view from the North, 01 May 2017
[19] Ibid 17
[20] Ibid 4

act as deterrence against snooping submarines (Russian and Chinese Submarines have been reported to be operating in the Arctic Ocean close to Canadian territory). The Maritime Air wing could also be augmented with UAVs (fitted with advanced radars and Electro-Optic sensors) with long endurance. The successful interception of any illegal activity can be possible only with Coastal patrol vessels. So the surveillance assets need to be supported with lightly armed interception vessels capable of operating in coastal waters. These Coastal vessels should be in adequate numbers to maintain a continuous presence in waters around Canada.

9. **Mine Counter Measure Capability**. Mines are very potent weapons which can cause catastrophic results with minimum cost and effort. A single sea mine which is relatively inexpensive can disrupt entire maritime trade in a region if deployed at choke points and also can cause closure of a port for a considerable time. Given the asymmetric threat from rogue nations and terrorist groups, mine warfare is a reality which cannot be ignored. The mines are very difficult to detect and clear as they remain underwater and therefore require specialized vessels for carrying out minesweeping. A mine once deployed is an eternal threat till it is cleared. Unexploded mines of Second World War still pose a great maritime threat and exercises are undertaken to clear the mine remnants till this date. RCN need to develop and maintain a potent Mine Counter Measure (MCM) capability to deal with any such mine threats challenging the free use of maritime domain by merchantmen and friendly forces. The MCM capabilities could be a combination of surface, subsurface and air assets capable of clearing mines deployed in shallow waters closer to Canadian coast.

10. **Network Centric Warfare and Satellite Communication**. Network Centric Warfare (NCW) is essentially a concept of operations that seeks to maximize advances in information technology in military operations by linking all sensors, platforms, and decision makers through an integrated system of robust networks, thereby minimising the fog and friction of war[21]. Adopting an NCW approach to war fighting will lead to information and decision superiority over potential opponents. RCN needs to put a concentrated effort in incorporating all the advances in the information technology in its operational concepts. This will go a long way in achieving information security and at the same time seamless sharing of situational awareness across all units. The scope offered by satellites in achieving long-range secure communications and surveillance opportunities must be exploited and incorporated in the realm of operations. The future war in more likely to be fought in cyber and information domain. In keeping pace with the changing technologies, RCN must acquire infrastructure, induct expertise and put more focus on training technically sound soldiers.

CONCLUSION

11. Naval readiness is key to the operational success of the RCN at home and abroad. Maintaining readiness is no simple task and must take into account the multi-year operational cycle of each surface warship, submarine and aircraft. However, at the same time, we must accept that the Navy is only one part of the great scheme of national interests. The government will and priorities are bound to change every election cycle, but it is the responsibility of RCN to make sure the naval readiness is not affected by this cycle. As the lead time required for new

[21] Thomson Michael H, Network Enabled Operations: A Canadian Perspective, Department of National Defence Canada, May 2005.

acquisitions and adapting to new technology is long, RCN needs to focus on long-term vision and envisage how it wants to shape the future navy. The core capabilities need to be correctly identified and the resources must be allocated in the right direction. Focussing the resources and energy in the right direction will help RCN achieve its vision and long-term goals.

12. **RECOMMENDATIONS**

a. RCN should develop Blue water capability by procuring modern surface combatants and Fleet Support Ships (FSS).

b. RCN begin the process of replacing Canada's submarine fleet with the intention of increasing the size of the fleet with submarines that have under-ice capabilities to operate in our unique maritime environment and to address the threats in our coastal waters.

c. Begin procurement process for Mine Sweepers and underwater mine clearance vessels.

d. Establish a Maritime Air wing and equip them with modern MPAs and UAVs.

e. RCN recognize the need for an increased focus and doctrine related to Canada's naval capability and presence in the Arctic region including the establishment of fixed underwater surveillance capabilities.

f. RCN to implement the technological advances in Information Technology in the naval operations by implementing Network Centric warfare and satellite communication.

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