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THE CANADIAN FORCES JOINT SUPPORT SHIP JACK-OF-ALL-TRADES OR MASTER OF NONE? - THE DEVIL'S IN THE AGGREGATE

By/par …

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- THE DEVIL'S IN THE AGGREGATE

"The more I see of war, the more I realize how it all depends on administration and transportation…It takes little skill or imagination to see where you would like your army to be and when; it takes much knowledge and hard work to know where you can place your forces and whether you can maintain them there."[1]

- Field Marshal Earl Wavell (1883–1950)

Introduction

The Canadian Forces (CF) is taking an important and necessary step toward Joint effectiveness by procuring the Joint Support Ship (JSS). Its many major tasks, including strategic sealift, operational intra-theatre medical and logistic support, Joint Task Force Headquarters (JTFHQ) hosting and tactical at-sea replenishment, will make it a highly sought and flexible force multiplier.

From its planned initial operating capability in the early 2010s until it retires near the mid-century mark, the JSS will function in an operational and security environment that includes the proliferation of conventional weapons and weapons of mass destruction, increased asymmetric threats, an ever-accelerating revolution in military affairs, non-traditional threats to security, long-standing traditional rivalries, resource conflicts between the rich and poor, the establishment of regional blocks, new and familiar rogue

[1] Field Marshall Earl Wavell in a letter to Liddell Hart, 1942, quoted in Martin L. Van Creveld, *Supplying War: Logistics from Wallenstein to Patton* (Cambridge: Cambridge University Press, 1977), 231, 232.

states and other equally disquieting prospects. While this would appear to be pessimistic, it is, in fact, essentially the scenario painted by the CF's 2002 Military Assessment[2] and Strategy 2020[3]. It is also the scenario for which responsible militaries, including the CF, must plan, train and equip themselves.

On this basis, we could well have a situation at any time during the JSS in-service life where the CF has deployed a Joint Task Force (JTF) Commander in a JSS with plans to move ashore once the security situation permits, where a Vanguard Canadian Battle Group is en route to theatre in four other JSS some of which might remain in theatre for operational level taskings; where the Canadian Naval Task Groups in Halifax and Esquimalt are employing a JSS each to support essential but "normal" ops including Search and Rescue, maritime interdiction, sovereignty and economic patrols and force generation and training for follow-on force rotations (ROTOs); where the Deputy Chief of the Defence Staff (DCDS) has launched a medical emergency response using a JSS to yet another hurricane disaster in Haiti; where two JSS are in port undergoing extended work periods, and where one more is working-up to high readiness. This is a reasonable and favourable scenario, but….. If only three or four JSS' were planned back in 2004, how could the CF have managed all these concurrent tasks? And, even if the CF did have all these ships, how would it employ and maintain them at home and in an operational theatre? Similarly, if it didn't have them how would it manage expectations yet still get the job done?

[2] Department of National Defence, Prepared by Peter Johnson, *Military Assessment 2002*, (Ottawa: Directorate of Defence Analysis, 2002), 2 – 20.

This paper will argue that while the capabilities inherent in the JSS concept are vital force multipliers at the operational level of war, the few hulls envisaged will be inadequate for future operations and will invite mission failure or mission avoidance (impotence) in all but the simplest of operational level missions. The paper will then pose the question - is the CF through misapprehension of the aggregate operational demand inadvertently creating in the JSS Class the expectation of a Jack-of-all-Trades that given its small numbers will instead be seen as a Master-of-None?

History of At-Sea Replenishment and Strategic Sealift in the Canadian Forces

To better understand the history behind the JSS concept, one needs to go back a few years and look at what was expected, planned and intended as discrete JSS tasks and compare that with what would appear to be equally valid concurrent and aggregate tasks.

As pointed out by Peter Haydon[4], the CF has been considering balanced, multi-role and expeditionary capabilities since at least the days of Minister Paul Hellyer over forty years ago. Numerous studies were directed or inspired in that era by Minister Hellyer, including the 1963 Sutherland Study (which advocated a "triphibious" force including troops ships, fast freighters and roll-on/roll-off transports), the 1964 Defence White paper (which articulated a policy that the CF would provide sealift to a more mobile army), the 1963 Burchell Study (which suggested acquiring two Helicopter Carriers of the American *Iwo Jima* class), the 1964 Dyer Study (that recommended enough sealift for 3000 troops, their equipment and vehicles (except tanks) using the two

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[3] Department of National Defence, *Shaping the Future of the Canadian Forces: A Strategy for 2020*, (Ottawa: Deputy Minister of National Defence and Chief of the Defence Staff, 1999), 2 - 4.

[4] Peter Haydon, "Canadian Amphibious Capabilities: Been There, Done it, Got the T-shirt!," *Maritime Affairs*, (Winter 2001): 14 – 19.

new Auxiliary Oiler Replenishment Ships (AORs) with limited sea lift capacity that were eventually built to augment HMCS PROVIDER and a dedicated sea lift ship similar to a Landing Platform Dock (LPD) that was not built) and the 1967 Falls Study (which recommended at least enough integral sea lift for a light infantry battalion). Professional consideration of at-sea replenishment, expeditionary (including amphibious) and sealift capabilities for the CF have continued to surface in professional journals[5], Canadian Forces College Papers[6] and official studies[7] thereby demonstrating the persistence and importance of the associated requirements.

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[5] See Commander Greg Aikens, "Beyond ALSC: We Need to Get Amphibious and Joint to Stay Relevant," *Maritime Affairs*, (Winter 2001): 12, 13; Dr Paul T. Mitchell, "Joint Support Ship: Transformation or White Elephant?," *US Naval Institute Proceedings,* (March 2004): 64 – 66; Sharon Hobson, "Canada Seeks to Establish Naval Strategic Reach," *Jane's Defence Weekly,* (27 September 2000): 35 - 38; Sharon Hobson and Philip Sen, "Naval Forces Reluctant but Critical for Disaster Relief," *International Defence Review*, (1 September 2002): 44 - 46; "ALSC: An Affordable Solution to a Complex Requirement," *Warship Technology*, August 1999: 5 –7; and Martin Shadwick, "Carriers, Sealift and Replenishment," *Canadian Military Journal*, Volume 4 No 3 (2003): 58, 59.

[6] See G.S. Parker, "Rented Ships and More Jet Liners: How the Canadian Forces Can Achieve Reach on a Budget," (Toronto: Canadian Forces College Masters of Defence Studies Paper, 2004); D.G. Harker, "The Afloat Logistics and Sealift capability (ALSC) Ship: What Value Will It Provide?," (Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 2003); J.S. Dewar, "The Impact of the Evolution of the Operational Level of War on the Structure of the Canadian Forces: A Sailor's Perspective," (Toronto: Canadian Forces College Advanced Military Studies Course Paper, 1999); Barry S Munro, "Canadian Military Sealift for Contingency Operation Planning: Integral or Charter?," (Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1994); A. Louise Siew, "Afloat Logistics Support: The Next Generation;" (Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1994); A. Round, "Strategic Sealift: A Case for Ownership," (Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1994); Brett Dutnall, "Military Sealift: Capability Through partnership With Industry" (Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1996); R.W.H. McKillip, "Not so Smart: Should Sealift and Afloat Logistics Support be Linked?," (Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1997); B. Striethorst, "We Can't Get There From Here! (Strategic Sealift For the Canadian Forces)," (Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1999); A.J. Kerr, "Multi-Role Support Vessels – The Great Canadian Compromise" (Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1999).

[7] See Department of National Defence, *Advanced Report Of The Sea-Based Expeditionary Operations Study - 10 January 2001* (Halifax: Canadian Forces Maritime Warfare Centre, 22 January 2001); Department of National Defence, prepared by P. Comeau and Major M. MacDonald, *Strategic Lift Concept Study and Lift Analysis: Sealift Capability and Concepts For Project M2673 ALSC* (Ottawa: Operational Research Division, December 1998); Department of National Defence, prepared by R Dickson, Major M. MacDonald and P Comeau, *Strategic Sealift Concept Study and Analysis: Utility of Sealift Capability Of the Proposed Ship Design for Project M2673 – ALSC*, (Ottawa: Operational Research Division, April 1999); Department of National Defence, prepared by Micheal Gardiner, LCdr Eric Dudley and Colonel David Sanschagrin,, *The Joint Support Ship for the Canadian Navy – Medical Capability*

By and large, however, any Canadian Navy expeditionary or sealift capabilities have been secondary to more traditional cold-war fighting capabilities and have usually appeared as residual capabilities or capacities in Canadian Navy Aircraft Carriers, AORS, Frigates and Destroyers. While some sealift has been accomplished by these means, most significant movements of equipment has been accomplished, sometimes with unintended negative results and high cost[8], by contracted carriers. In particular, after the relative stagnation of the cold war, the 1990's and 2000s were a busy time for Canadian force projection elements including Operation Friction using a Canadian Naval Task Group with AOR support in 1990/1991, Operation Deliverance in 1992 using HMCS PRESERVER for at-sea support of the ashore element in Somalia, Operation Toucan in 1999 using HMCS PROTECTEUR for similar purposes in East Timor, Operation Forward Action including HMCS PRESERVER off Haiti in 1993, Operation Sharp Guard 1993 in the Adriatic, integration with USN Carrier Battle Groups in the late 90s and early 2000s and the continuation of the Standing Naval Force Atlantic (which has occasionally included a Canadian AOR) as well as other, less publicized, naval exercises and flag-showing deployments[9]. Most recently nearly all Canadian Navy ships and sea-going personnel have at one time or another deployed to Op Apollo and Op Athena in the Persian Gulf.

(Ottawa: Project Management Office Joint Support Ship, Project Director's Office Joint Support Ship and Director Maritime Health Services, 2004), Major Mark MacDonald Directorate of Defence Analysis, *Strategic Lift Analysis for the Canadian Forces*, (Presentation to the Program Joint Board on Defence), 26 October 2000.

[8] Heinz Gohlish, "G.T.S. Katie: The High Cost of Cut-Price Transport," *Maritime Affairs* (Fall 2000): 20 – 23.

[9] Doug Thomas, "Canadian Maritime Operations in the 1990s," *Maritime Affairs* (Spring/ Summer 2000): 26 - 32

This historical recognition by the Navy of a Canadian requirement to project forces by sea had set the stage for the development of a strategic sealift and force projection capability that later became the JSS. Other nations, as will be shown below, have taken similar historical and future analyses to heart and have procured their own expeditionary capabilities.

Expanding Force Projection Capabilities of Other Nations

As pointed out by Captain James Goldrick of the Royal Australian Navy, in the post-cold war environment, the Canadian Navy is not the only medium power navy in the world with a requirement to carefully examine the balance of their fleet capabilities and "to work closely with their national air forces and armiid

endurance class landing ships dock (LSDs) and New Zealand's Multi-Role Vessel (MRV) programme, among others[12].

Nonetheless, while it would appear that there is no shortage of national and international demand for these capabilities, the same basic questions remains - are these navies still doing enough to meet the sealift and force projection policy needs of their governments or is there is, by comparison, still precious little capacity? These questions apply equally well to the Canadian situation, albeit here they could be posed - is Canada taking adequate policy or force development steps to help close any real or perceived capability gaps - especially at the most difficult, operational level of war where strategic goals are achieved through the planning and support of tactical engagements? The following two sections will begin to explore that question.

Extant Canadian Policy on Force Projection by Sea

Notwithstanding Canada's recent history of expeditionary deployments and related studies, Canada's formal Defence policy remains the 1994 Defence White Paper. This document requires a multi-purpose combat capable Navy that retains HMCS PROVIDER for sealift purposes (she was nonetheless decommissioned in 1998 on the understanding that the CF would accept the risks of not retaining her capabilities in order to support the Submarine Capability Life Extension)[13] and considers plans for the "eventual replacement of the existing support ship fleet".[14] While the 1994 Defence

[12] Jane's Information Group. *Jane's Fighting Ships 2004/2005* (Brighton, UK: Sentinel House, 2004).

[13] Department of National Defence, *Canadian Afloat Logistics and Sealift Capability Ships (ALSC) Concept of Employment Guidance* (Ottawa: DND, 10 January 2000), 5

[14] Department of National Defence, *1994 Defence White Paper* (Ottawa: Canada Communications Group, 1994), 47

White Paper remains the formal Government of Canada policy, Strategy 2020 has gone further to require the redesign of the land forces to have a deployable vanguard and contingency forces at 21 and 90 days[15] notice respectively, has called for an enhancement of the CF's strategic airlift and sealift and has mandated the conversion for the Joint Task Force Headquarters to a deployable organization.

More recently, the Commander Maritime Command promulgated *Leadmark: The Navy's Strategy for 2020* which links to Strategy 2020 and provides the "why" and the "what" required to fulfil the roles projected for the Navy of 2020. It refers to the shift in the navy from predominantly "blue water" operations on the open oceans to include the "green water" of the littorals and outlines the expeditionary nature of the capabilities that the Navy needs to possess, including an embarked Joint Headquarters, sea-basing and strategic sealift among other capabilities[16].

These expeditionary leanings were reiterated most recently by several speakers including Captain(N) Williams, the Director of Maritime Strategy, during the Maritime Security and Defence Seminar held in Toronto in April 2004. There, Captain Williams noted that "the JSS project has the potential to lead the transformation for the CF. It will be an innovative and advanced support ship concept. It provides the opportunity to change the task group model by supporting forces and activities all over the world, and it will be able to host command and control facilities and logistic support fro joint

[15] Department of National Defence, *Shaping the Future of the Canadian Forces: A Strategy for 2020* (Ottawa: DND, June 1999), 10.

[16] Department of National Defence, *Leadmark: The Navy's New Strategy for 2020* (Ottawa: DND, 18 June 2001), 111.

operations. The versatility of the JSS will be instrumental in Canada's collective response to crisis." [17]

Nonetheless, as can be heard nightly on the news, the 1994 White Paper has been recognized by the Canadian Government as being out of date and due for a major review. That review, however, was held in abeyance for some time pending the commencement of a broader foreign policy review with which it would align. In September 2004, the Minister of National Defence announced that the defence review would be completed in the fall of 2004 in conjunction with the government's overall review of Canada's place in the world being led by the Minister of Foreign Affairs[18]. Meanwhile a national security review[19] has been conducted that arguably should also be factored into the new national defence policy review. Many questions remain, however, regarding how that will be accomplished.

Based on this apparent potential disconnect between extant and required national defence policy it is at least possible and more likely probable that the policy basis for the JSS decision may also be dated. In any case, the linkage between the JSS capability and the overlying strategic policy it is intended to support might not be as conclusive as was considered at the Maritime Security and Defence Seminar. Thus even if the CF does have in place expeditionary force projection policies in sufficient scope and detail to

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[17] Captain(N) Kelly Williams, "The Canadian Navy: The Vanguard of Canadian Foreign and Defence Policy," in, *The Canadian Navy and The New Security Agenda – Proceedings of the Maritime Security and Defence Seminar, Toronto, 26-27 April 2*004, ed. Ann L. Griffiths, 7 – 24 (Halifax: Centre for Foreign Policy Studies, Dalhousie University, 2004), 18 – 19.

[18] Department of National Defence*, Speaking Notes for The Honourable Bill Graham, P.C., M.P. Minister of National Defence at The Royal Canadian Military Institute Conference, September 22, 2004* [DND News Web Site]; available from http://www.forces.gc.ca/site/newsroom/view_news_e.asp?id=1456; Internet; accessed 13 October 2004.

shape the capital and other programs, one must ask whether the questionable validity of the extant overlying strategic defence policy makes that fact moot?

Nonetheless, even if one assumes that the policy is indeed valid, the next question to be considered is whether a successful translation from the extant defence policy, through an expeditionary force projection policy, to a viable JSS programme has actually occurred? This question, as discussed below, requires a more detailed look at the history leading up to JSS Project as well as at the existing COE[20] and SOR[21].

Current Canadian Force Development Regarding Force Projection by Sea

In this context and given the need to replace the current AOR capability resident in HMCS PROVIDER (which was recently decommissioned), PROTECTEUR and PRESERVER (which reach the end of their service lives in about 2010), the Canadian Navy began, in the early 1990s, the development of a COE, SOR and project apparatus for a Multi-Role Support Vessel (MSRV). This concept later became the Afloat Logistics and Sealift Capability (ALSC) and then the Joint Support Ship (JSS) to reflect it's utility beyond the Navy.

In May 2004, the Canadian Government announced that it intends to move ahead with Project M 2673 to procure the Joint Support Ship capability. The capital portion of the project is valued at $2.1B (2004 dollars). The Operations and Maintenance (O&M) portions are estimated at $25M per year for three ships over 30 years (a total of $4B

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[19] Privy Council Office, *Securing an Open Society: Canada's National Security Policy* (Ottawa: Privy Council Office, 2004).

[20] Department of National Defence, *Canadian Afloat Logistics and Sealift Capability Ships (ALSC) Concept of Employment Guidance* (Ottawa: DND, 10 January 2000). (Hereinafter COE)

(2004 dollars))[22] while personnel costs are expected to be about 165 personnel per ship or (say) $10M to $15M per year based on $60K to $90K per person per year. The Project Procurement Strategy document notes that a minimum of three ships are required to supply the essential task group support but that more ships are required to provide Task Group support and sealift concurrently and to account for maintenance periods[23]. However notwithstanding what the actual requirement may or may not be, the Project Profile and Risk Assessment document indicates that sufficient funds have been allocated to actually procure only three ships.[24] On the other hand, the Synopsis Sheet Preliminary Project Approval document states that the project will acquire a *minimum* of three ships and associated logistics support for the total cost indicated.[25] It is therefore difficult to determine at this early stage whether three ships will actually be built or four.

The development of a COE, SOR and detailed design for any ship, but more pointedly for a warship, is normally a long and iterative process that balances speed, power plant, endurance, displacement, keel depth, sea handling, manoeuvrability, shore facilities requirements, weapons and sensor fits, communications suites, electrical power generation, damaged stability margins, crew size, cargo load, mission equipment, hull strength, volume, maintenance needs and access, and many other factors within limited capital and personnel, operations and maintenance (PO&M) funding envelopes. Every ship is therefore a compromise. No ship, however, is more of a compromise than a multi-

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[21] Department of National Defence, *Statement of Operational Requirement Project M2673 Joint Support Ship Project* (Ottawa: DND, 12 May 2004). (Hereinafter SOR)

[22] Department of National Defence, *Project M 2673 Joint Support Ship Project Procurement Strategy* (Ottawa: DND, 28 February 2004), i.

[23] Ibid. ii

[24] Department of National Defence, *Project M2673 Project Profile and Risk Assessment*, (Ottawa: DND, 13 May 2004), 4.

purpose warship such as the JSS. Indeed, based on a review of Janes' Fighting Ships[26], in the world of multi-role navy vessels, the JSS may arguably be the most versatile, the most multi-tasked and, arguably, the most compromised there is.

The JSS COE and SOR were shaped and influenced particularly by the 1994 White Paper, the 1998 Military Assessment[27], Strategy 2020 and the Defence Planning Guidance (DPG) 2000 under Change Objective Four: Globally deployable[28]. While space does not permit a complete reiteration of the full COE and SOR in this paper, it is germane to look at some of their relevant highlights at the strategic, operational and tactical levels of war, with emphasis on the operational level which, it will be shown, is arguably the most challenging case over prolonged periods.

Concept of Employment

The COE defines "three key elements of afloat logistics" and then details a number of Joint Strategic Roles (sealift, headquarters and command and control support and support to forces ashore) and Maritime Operational Roles (at-sea replenishment, combat and non-combat functions), the expected operating environment and ship characteristics and various operational, maintenance, crewing, training and disposal policies for the ships. The three key elements are:

> Strategic sealift transport of large volumes of equipment and supplies over long distances in support of deployed national or allied forces;
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> Sustainment in-theatre, sea based command and control and joint/combined force support; and

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[25] Department of National Defence, *Synopsis Sheet Preliminary Project Approval Project 00002673* (Ottawa: DND, 14 May 2004), 2.

[26] Jane's Fighting Ships, 2004/2005.

[27] Department of National Defence, *1998 Military Assessment* (Ottawa: DND, 1998).

[28] National Defence Canada, *Defence Plannnce Pln*

Underway support to the Canadian and allied naval task groups.[29]

Statement of Operational Requirements

Although based on the COE, the SOR reframes the COE functions and issues somewhat but nonetheless maintains the same effect. First it summarizes eleven potential task scenarios including Search and Rescue in Canada, Disaster Relief in Canada, International Humanitarian Assistance, Surveillance/Control of Canadian Territory, Protection and Evacuation of Canadians Overseas, Peace Support Operations (UN Chapter VI), Aid of the Civil Power, National Sovereignty/Interests Enforcement, Peace Support Operations (UN Chapter VII), Defence of North America, and Collective Defence. It then defines the expected operating environment and potential threats. [30] Based on these it rearticulates and more thoroughly defines the key roles established by the COE as follows:

> Fleet support to naval task groups;
>
> Surge sealift of operational equipment and supplies in support of deployed national or coalition forces;
>
> Command and control and joint/combined force support, and
>
> Sustainable (sic) in-theatre, ship based[31]

Finally, Annex A to the SOR explores in detail eleven specific scenarios that were considered by the planners to be representative of JSS concurrent operations. Of these, the most challenging in terms of the number of units deployed was scenario 2A: *Sealift Vanguard BG to the Middle East coastal port from MARLANT while providing support to*

[29] COE., 4.
[30] SOR., 5 – 13.

escorting Canadian task Group and a Second Canadian Task Group involved in local operation in MARPAC op areas. This is a UN operation and is considered a peace support operation under Chapter (VI) of the UN Charter. [32]

Concerns with SOR Scenario Assumptions (Using a Representative Example)

There are however some conceptual problems with many of the SOR scenarios especially with scenario 2A. As will be shown later, this is the first of several areas where assumptions regarding JSS concurrent employment are problematic. This example is analysed here to highlight that the devil is in the details as well as in the aggregate.

In scenario 2A MARPAC is involved in a Submarine Search and Rescue (SUBSAR) mission, which is one of the highest priority taskings that a Canadian Navy Unit could be challenged with in peacetime and which would normally usurp nearly any other activity. In this case, the scenario therefore calls for four JSS units. While this scenario was, by inference, considered 'worst case' by the SOR drafters, it is actually a situation that would have significant impact on MARPAC and MARLANT that are not thoroughly explored in the SOR. In any case, if two JSS were deployed to each coast (as would seem reasonable), then one would have to be brought from MARPAC before the expiration of the 21-day notice to start embarkation. Given this is normally a two to three week trip, the ship would have to leave MARPAC within the usual 10 day notice of high readiness ships. As well, if one or more of the JSS were unavailable due to being in a major work period or high readiness work-up more than four ships would need to be in the Class to fulfill this mission.

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[31] Ibid., 13.

Similarly, as the SOR and COE indicate that the ships will be maintained in a similar manner to the VICTORIA and HALIFAX class, then on average each JSS will spend about 25% of it's life in a major work period or working up (based on a typical six month extended work period followed by a readiness six month or longer work-up every four years). Moreover, if the CF procures only three ships (as appears to be the case) then even if all other factors were temporarily favourable, some of the Vanguard equipment would have to wait until the SUBSAR was complete. This could take days or weeks and would make the disembarkation and set up of the Vanguard problematic.

If any of the above unfavourable situations existed (which is a high probability) then the mission would not be feasible as tasked. As well, the four ships would deploy without helicopters given that the available 2500 lane metres includes the hangar and flight deck[33] (a lane metre is a vehicle cargo area 1 metre long by 2.5 metres wide)[34]. Thus the JSS' ability to support the Task Group (TG) with helicopters and spares would be significantly compromised. Meanwhile MARLANT would be without a JSS for force generation or other taskings for at least six to eight weeks until one or two of the JSS return. The JSS crews would also have deployed to an operational theatre and would not be available for follow-on ROTO taskings until refreshed.

This potentially untenable worst-case scenario opens the door to a more detailed analysis of the COE and SOR to see if there are other, potentially equally problematic

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[32] Ibid., A-5 – A-7

[33] SOR., 14.

[34] Department of National Defence, B-GJ-005-404/FP-050 *Movement Support Glossary* (Ottawa: DND Canada, 2003), GL-18.

conditions or situations in store for the Navy and the DCDS in managing JSS force generation and employment.

Further Analysis of the COE and SOR

Notwithstanding the analytic structure taken by the COE and SOR, for the purposes of the argument in this paper the proposed JSS capabilities can be more effectively categorized into sealift, at-sea sustainment, command and control, and direct support to operations ashore (in no particular order of priority). These will each be considered herein at the strategic, operational and tactical levels with specific emphasis, as noted earlier, on the operational level. Of note, the fact that some of these tasks can be done concurrently while others are mutually exclusive (mentioned only as an unfortunate but necessary precondition in the COE and SOR) will be addressed in more detail as being of particular relevance to this analysis.

Sealift

Sealift is an essentially strategic concept that is practiced by many navies using either integral or contracted resources. While they would normally operate from well-equipped ports, strategic sealift ships, if fitted with appropriate cargo handling equipment and vehicle ramps, can operate via ports with limited or rough capabilities. If given other capabilities such as a well deck or specialized load handling equipment they can also deliver vehicles and cargo directly ashore using landing craft or temporary floating or fixed jetties. Most sealift ships can also operate aircraft.

The COE also states that the "entire ALSC Fleet"[35] should be capable of providing the following Sealift capability. The SOR puts more emphasis on the surge nature of the strategic sealift capacity and further refines the requirement:

> Vanguard Battle Group. At 21 days notice to deploy (ie start loading equipment at the port of debarkation in Canada at day 22 after notice to deploy) 7500 lane metres to move 85% of the equipment, helicopters, vehicles, support personnel for embarked equipment, stores and ammunition for a Vanguard Battle Group and support to the National Support Element not deploying into immediate operations by carrying ten Days Of Supply (DOS) of ammunition and fuel and thirty DOS of other commodities (the other 15% of the lift would come from strategic airlift)[36]. As well, a ship at high readiness (10 days notice) may be required for a quick reaction time company lift. This could include, for each ship, 75 headquarters personnel and 30 cargo support personnel in addition to the ship's crew of 165 and air detachment of 76 personnel; or
>
> Strategic General Lift Capability. General lift capability equivalent to 7500 lane metres for vehicles, aircraft, containerized stores including fresh, dry and frozen food, spares, ammunition, and lubricants and oils and the support personnel for embarked equipment/vehicles. It could also include transport of JTFHQ equipment and stores into theatre when the JTFHQ is employed ashore as Joint Force Headquarters or National Command Element (NCE). Included in this

[35] COE., 7

[36] Department of National Defence, prepared by R Dickson, Major M. MacDonald and P Comeau of the Operational Research Division, *Strategic Sealift Concept Study and Analysis: Utility of Sealift Capability Of the Proposed Ship Design for Project M2673 – ALSC*, (Ottawa: DND, April 1999)

requirement are the minimum necessary personnel for care of the equipment while in transit. Equipment could include Mobile Expandable Camp Container (MECC) shelters, communication vehicles, associated wheeled equipment and tactical helicopters as required depending on the mission. Sustainment of Forces ashore is defined as the JSS Class capability to maintain a CF army vanguard Battle Group (1900 operating and support personnel) on an operation for a maximum of 30 days of mid-intensity operations. Of note, while not specifically mentioned in the COE or SOR, this capability could also be used as a follow-on to the initial Vanguard deployment or could be the first deployment depending on the situation.

There are a number of concerns with this portion of the COE and SOR. These include the following:

According to the SOR[37], both these capabilities presume that all the available cargo capacity is utilized – including the hangar and flight deck. Therefore, the ships will not be able to carry their normal helicopter loads nor provide support to task group helicopters when carrying the full strategic sealift role.

As noted by the COE, "a sealift capability for the CF will provide both military and political options for conducting operations. From a military perspective, it will provide a strategic asset in deploying forces ashore and with the ability to self-unload its cargo across the beach in a benign tactical environment (should port facilities not be available), the Canadian JSS will provide additional

flexibility in mission planning and execution. Politically, it will allow the decision-makers more time to develop and issue national guidance. National and allied surveillance assets, coupled with Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) and Indications and Warning capabilities inherent to the CF, are capable of providing early warning of potential mission requirements. As situations develop, Vanguard units will be able to embark in an organic CF platform and deploy to the theatre of operations while awaiting governmental direction. This ability to "poise" and pre-position self-sufficient units in theatre will enable the government to take initial action without final commitment or a requirement to occupy foreign territory. It will also enable the CF to commence operations ashore within 48 hours of receiving mission orders, or conversely, withdraw the Vanguard forces if the situation requires.[38]"

However, these presumptions and conclusions, while promising, may be neither practicable nor reasonable. Instead, the ability of the CF to commit to courses of action that require the diversion of these ships from normal operations may be affected by political uncertainty and pressure from force generators to continue to use them in other roles until the last possible moment. Similarly, leaving these valuable ships loaded and 'poised' for possibly extended periods would be an equally problematic diversion of assets from force generation missions, would raise journalistic eyebrows and could significantly reduce their utility to the in-theatre commander as he or she might not be able to deployed them very far from

[37] SOR., 14

their port of debarkation without risking an unacceptable delay once the decision to proceed is made. While supportive of the project and its joint nature, Assistant CLS expressed similar concerns to the Project Senior Review Board when he stated the Army strongly supported the sealift aspect of the JSS project and considered sealift to be vital. He also stressed however that there would likely be occasions when the Vanguard equipment would be embarked in JSS vessels and the vessels would be required to loiter near an area of operations awaiting government direction to proceed with the operation and hence, the disembarkation.[39] Similarly, Jane's Defence Weekly (JDW) recently assessed that it is unrealistic to expect sealift will be used given conflicting priorities. In the same JDW article the JSS Project Director acknowledged that "it is unlikely that all three ships would available at one time".[40]

Strategic Sealift assets can also be used for shorter haul transport and, if fitted with appropriate cargo handling equipment and vehicle ramps, can provide operational level commanders with some ability to transfer stores and equipment intra-theatre via ports with limited capabilities. If these ships also have other capabilities such as a well deck or specialized load handling equipment they can deliver vehicles and cargo directly ashore using landing craft or temporary access means (more on this under 'support to forces ashore'). This capability provides significant flexibility to JTF commanders to reposition equipment within a theatre of operations at relatively short notice and under

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[38] COE., 8

[39] Vadm G.R. Maddison, *Senior Review Board Meeting to Discuss the ALSC Capability Statement of Operational Requirement, Project Profile and Risk Assessment, Project Charter and a Recommended Option* (National Defence Headquarters: file MS: 32673-300 (DMMCP 4-2), 20 October 2000.

potentially rough conditions. However this comes at the expense of using the ships for other operational, strategic or tactical tasks. Of potentially most importance is the reduction in escort required given the ship's own self defence capabilities. If used in this way as a contingency measure, it is likely that other capabilities (such as helicopter operations and support or the JTF command and control function) would be kept intact. In that case, perhaps only 1000 to 2000 of the full 2500 lane meters per ship would be available. This capability would not need to be limited to Canadian loads and could be used internationally at the CJTF's discretion. This capability will no doubt be a source of friction between the CJTF who may want the ships deployed to theatre with the Vanguard to remain in theatre and the force generator's desire to have them return to Canada for other employment.

The capacity for moving cargo will also be of value to the Maritime Component Commander and the Canadian Naval Task Group Commander at the tactical level. Additional spare parts for the ageing ships in the TG, vehicles for use in port security and general utility among other cargoes would be valuable. That said, this capability would be secondary to the at-sea replenishment role and would conflict with the ships' transport utility to the operational level commander.

Headquarters Command And Control Support

The COE and SOR note that the CF cannot afford a specialized command and control ship such as some navies have and do not have an ongoing requirement for such a ship. Currently Canadian Naval Task Groups are routinely commanded from IROQUOIS

[40] Sharon Hobson, "Canada Gives Green Light for Joint Support Ship," *Jane's Defence Weekly* (26 May 2004): 31.

and HALIFAX Class ships albeit doing so from the later is problematic for all but the simplest of missions. Maritime Task Force Headquarters have been supported in a limited way from Canadian AORs in operations or exercises however this would not fully satisfy the requirements of a Joint Force Commander or a National Command Element.

While there is no role envisaged for the JSS in support of strategic level headquarters, the COE and SOR state that in contributing to CF joint command and control requirements, each Canadian JSS will be able to provide:

> Accommodation, working space and facilities for Command, Control and Communications staff (notionally up to 75 personnel or 105 if no cargo is embarked) to support a JTFHQ acting in the role of a NCE by utilising a modular "plug and play" approach. With this approach, an option also exists for specific elements of the JTFHQ to be embarked and operate from the JSS as required (Theatre Activation). The SOR refers to this as a Limited Afloat Joint Task Force Headquarters; and
>
> Humanitarian Assistance/Disaster Relief - Command, Control and Communications facilities to supplement or enhance the Disaster Assistance and Relief Team (DART) or the follow-on mission. The CF has a history of contributing to regional stability through support to these types of operations. The independent logistical support and sealift capabilities of an JSS will provide an enhanced capability for future maritime operations in responding to these requirements.

The JSS has significant potential to act as a platform for an operational level headquarters both within operational theatres and in response to specific strategic tasks such as humanitarian/disaster relief. While not stated in the COE and SOR, by inference this same capability should be usable for Maritime Task Force Headquarters or Maritime Component Commander Headquarters for a Joint Task Force Headquarters stationed elsewhere. This provides significant flexibility for the Joint Task Force Commander in how he or she arranges his or her subordinate headquarters. That said, 75 persons is not a large headquarters at the operational level and in any case the communications arrangements in the JSS would usually not be equal to that of a shore based headquarters.

A JSS assigned tactically to a Canadian Naval task Group Commander could be used as a pro-tem tactical level headquarters in the event that a more suitable Flagship is unavailable. This sort of temporary arrangement has been used successfully several times in previous exercises and operations such as when Captain Miller transferred to HMCS PROTECTEUR when HMCS ATHABASKAN was in maintenance during Operation Friction.[41] It is not however a sustainable or preferred alternative so long a purpose designed task group headquarters destroyers are available instead.

Support To Forces Ashore Capability

The COE[42] notes that several navies operate specialized platforms in providing support to forces ashore (i.e. LPD, LPH, LHD) and although the JSS concept does not provide for this type of support as the primary objective, inherent design and flexibility

[41] Major Jean H Morin and LCdr Richard Gimblett, Directorate of History of the Department of National Defence, *Operation Friction 1990 –1991: The Canadian Forces in the Persian Gulf*, (Toronto: Dundurn Press, 1997), 90.

will provide a limited capability in addressing these requirements. The ability to do this task over the beach or from limited ports will significantly enhance the value of these ships. These capabilities are somewhat mutually exclusive and are limited by 210 passenger accommodations and the 2500 lane meters capacity (less when helicopters embarked). Operations can be conducted in a benign threat environment at up to sea state three and in up to 0.7m of first year ice[43] (except landing craft).

While the use of the ships in this capability will often be tasked strategically, they will be conducted at the operational and tactical levels.

Each Canadian JSS ship will be able to provide up to 210 passengers in support of the following in addition to the ship's company:

Afloat Flight Deck: Land and launch Army Tactical Helicopters in addition to its maritime helicopter capability (but without equivalent maintenance capacity);

Afloat Accommodations Services: Rest and recuperation faculties including accommodations, food and laundry as well as medical and dental facilities for up to 210 people;

Limited Afloat Hospital: Support to a containerized hospital facility in addition to its organic medical and dental facilities. The hospital would have a staff of up to 75 personnel and up to 30 patients plus 105 other passengers; and

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[42] COE., 9.
[43] COE., 12.

Landing Craft provision and support: Numbers and capabilities to be determined. The ship will be equipped with a stern ramp, a side ramp and a heavy lift crane and will be able to ballast so as to allow direct linkage with landing craft and lighters.

Any or all of these capacities can also have tactical utility to independent ship's commanding officers or Canadian Naval Task Group Commander. That said, the focus for the Task Group Commander will be at sea replenishment.

Fleet Support

The COE[44] states that the Fleet Support capability for the JSS is based on the requirement to sustain a Canadian Naval Task Group at sea and used the current capability of the PROTECTEUR class a model for the JSS in that regard. It will load and carry task group cargo and will be maintained at high readiness for deployment with other ships in the Task Group. A JSS will be able to supply sufficient fuel, ammunition, spare parts fresh water, food and stores to a Task Group for 30 days of combat operations in a multi-threat environment. They will also provide essential medical and dental services. These are typical tasks for AOR type ships and will be guided by NATO standardization directives so as to be available to all NATO and most other nations. Organic helicopters are important for Vertical Replenishment. They are force multipliers and no navy ever has enough of them.

The ships will also be capable of undertaking non-combat diplomacy and constabulary roles. The extent of the capability required in these roles and the subsequent operational capability areas are yet to be elaborated.

[44] COE., 11.

AORs are significant operational assets and often dictate the scale and pace of naval operations. Battle Groups, Task Groups and individual ships depend upon them to remain at sea beyond their own organic capabilities. Several studies, exercises and operational experiences have demonstrated this. For example, research by Commander Ken Hansen including that on Canadian Naval studies going back to the 1950's[45] has demonstrated that in the order of 20% of operational ship availability can be gained by a naval force with the addition of integral AOR support.[46] Similarly, the SOR[47] notes that a Task Group with an AOR can be up to six times as effective with respect to the number of days that the TG can perform its duties than without.

In an operational theatre AORs are generally used in two primary modes. In one mode the Joint Task Force Commander through the Maritime Component Commander and in consultation with the Force Logistics coordinator will establish a group of AORs that are used to ferry fuel, ammunition and supplies to individual ships or Task or Battle Groups usually from ashore. This is operational level logistics and responds directly to the Task Force Commander's operational plans. The other mode is to maintain AORs organic to individual Task Groups often consolidating from the aforementioned operational AORs or directly from ashore. The assignment of these forces is usually under the authority of the Task Force Commander however political considerations can sometimes dictate the employment of AORs with their own forces or limit them with regard to ports of call for consolidation and resupply. The material in the ships remains

[45] VAdm H.G. DeWolf, *Memorandum to the Cabinet Defence Committee: Tanker Supply Ships* (NSS 8000-AOR (STAFF), 19 June 1958) (DHH File 79/246 Folder 60 'Tanker Supply Ships').

[46] Cdr Ken Hansen, "The Nature of Sea Operations," (lecture, Canadian Forces College, Toronto, ON, 27 September, 2004.)

[47] SOR., 2.

the property of the nation that owns the ship unless third party stores are carried. Decisions to use these stores are managed by the various agreements between the receiving countries or between the providing country and the coalition. Bilateral or multilateral fuel agreements are common and are usually based on strict accounting of the fuel provided and settled on a cash or exchange basis.

AORs used within individual Task Groups are normally considered to be in tactical use. In tactical conditions speed is of the essence as both ships are at elevated risk and have other things to do. Two ships at a time transferring both fuel and stores including by rig and by helicopter is the preferred approach. The JSS will be capable of providing three point RAS to two ships at a time however the size of the crew will limit that to one side at a time except in special and time-constrained circumstances.

Another tactical use of AORs in the past has been the generation and employment of naval boarding parties. This has been possible due to the relatively large size of the crew (twice that of a JSS). While it is a stated role for the JSS, it would seem unlikely that a ship with crew of only 165 would have sufficient excess capacity for naval boarding parties in any prolonged way.

The ships will have the ability to provide second line maintenance for Canadian TG ships and helicopters as limited by the crew size and will provide organic medical and dental support to the Task Group. Like the AORs before them, they will also be used for support to force generation and training of individual ships in Halifax and Esquimalt, to other elements of the CF and to allies.

The COE and SOR outline a consistent picture of a small fleet of ships that while extremely able and flexible individually, have potentially significant issues as a group regarding the variety of concurrent tasks that might arise for which they are uniquely capable within the Canadian context. Furthermore there are other, non-mission related constraints and conditions that also add to the complexity and challenges of the situation.

Other Factors Affecting Ship Availability for Tasks

Maintenance and Repair Policy. The COE and SOE indicate that normally, commercial standards and commercial practices will be used to support the building, maintenance, repair and overhaul of the JSS. Similarly, the engineering policies supporting the JSS will conform as much as possible to existing practices established for the VICTORIA and HALIFAX Classes. It is expected that, with relatively little modification to the existing infrastructure along with access to the correct spares, documentation and tools, the existing facilities and skill sets should be capable of conducting First and Second and selected Third level maintenance on the JSS. On that basis, each JSS will be in work periods of one sort or another for no less than one quarter of their time and in readiness support programmes for at least another one eighth. This will be a significant and costly-to-avoid call on JSS availability (essentially each JSS will be available for standard or high readiness tasking for significantly less than 100% of the time and could fluctuate between 0% and 50% at any point in time for the Class as a whole). The impact of this, particularly on the Vanguard mission, cannot be understated.

Additional Interagency and Public Requirements. A new concept being advanced in DND is the concept of JIMP or Joint Interagency Multinational and Public. This

implies that the interaction between the CF and non-military organizations is seen to be growing. As Dr Mitchell has noted, the JSS opens avenues to government decision makers, such as support to the nongovernmental organization/private volunteer organization (NGO/PVO) community, enhancement of Canadian disaster relief efforts, and increased ability to mount evacuation operations.[48] He has also noted that the ships' capacity to transport virtually anything to international hotspots might see it employed as a sort of NGO/PVO taxicab, which may earn the plaudits of politicians but will distract the Navy from its other duties and that, similarly, the Navy might see the demands for its services skyrocket as its budget stagnates or even shrinks.[49]

Training, Doctrine and Force Generation. As assessed by the Canadian Forces Maritime Warfare Centre, the new joint capabilities inherent in the JSS will require new doctrine, training, equipment, exercises and experience[50]. It will also require training in the current at-sea replenishment skills as part of Task Groups and as individual units, for maritime, joint and combined roles. This will include both traditional Blue Water roles and new, arguably more challenging Green Water or Littoral roles including support to amphibious operations – including much increased and more challenging use of landing craft. These factors will require greater interaction with allied, particularly American, forces and regular deployments to potential operating areas for advanced training and exercises. All these matters will lead to pressures to take the ships away from other tasks.

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[48] Dr Paul Mitchell, "Joint Support Ship: Transformation or White Elephant?," *US Naval Institute Proceedings* (March 2004): 65

[49] Ibid., 66

[50] Department of National Defence, *Advanced Report Of The Sea-Based Expeditionary Operations Study - 10 January 2001* (Halifax: Canadian Forces Maritime Warfare Centre, 22 January 2001), 13.

Concurrent Task Analysis

As noted earlier, the many possible tasks and scenarios detailed above are achievable, by and large, in individual instances in best-case scenarios. The following table goes one step further, however, to summarize, in a generic way, a number of the various possible task combinations and permutations with which the Navy might be faced in future as well as to account for the detail and aggregate of necessary extended maintenance periods (EWPs) and readiness support programmes (RSPs). This has been done to visually demonstrate, to a rough approximation, the number of JSS hulls that would be required in each case. These figures account for opportunities to multi-task each ship when physically and geographically feasible. They do not, for simplicity sake, include allowances for transit times or unscheduled major maintenance - which would put further pressures on ship availability. A detailed analysis of the percentage of time that each of the conditions below might be in effect would be illuminative but was beyond the scope of this paper. It is nonetheless not unreasonable to assume that about one in four ships would be unavailable at any one time if the ships' programmes were well managed as is expected. Even so, that number will likely fluctuate between zero and two out of four for relatively brief intervals.

Representative Strategic, Operational and Tactical JSS Tasks	
Task 1 – Strategic Lift of Vanguard 7500 LM	Task 6 – Support to Medical Ashore
Task 2 – Operational or Strategic Sealift 2500 LM	Task 7 – Tactical (Task Group) RAS
Task 3 – Helicopter Operations and Maintenance	Task 8 – Operational (Task Force) RAS
Task 4 – Support to Forces Ashore	Task 9 – Humanitarian/Disaster Relief
Task 5 – Support to HQ Ashore	Task 10 – Force Generation and Training

Concurrent Tasks	Hulls Required	Remarks
Vanguard Sealift Only Without Helos	3	Presumes unlikely case that no ships happen to be in EWP or RSP when tasked. No space available for helos as hangar & flight deck full of Vanguard cargo. No concurrent tasks feasible except non-helo RAS of escort.
Vanguard + Helos + One Independent Operational or Tactical Task	4	No ships in EWP or RSP. Space for helos on one or more ships. Added cargo capacity allows concurrent tasks such as hospital or TG stores.
Vanguard + Helos + One Independent Operational or Tactical Task + EWP or RSP	5	As with above case but presumes one ship unavailable. This would be likely case given maintenance policy.
Vanguard + Helos + One Independent Operational or Tactical Task + EWP + RSP	6	As with above case but presumes two ships unavailable. This would be less likely but quite possible.
Vanguard + Helos + Two Independent Operational or Tactical Tasks	5	No ships in EWP or RSP (unlikely). Space for helos in one or more Vanguard ships. Cargo capacity will allow concurrent tasks such as hospital or TG stores. Fifth ship independently tasked including helos.
Vanguard + Helos + Two Independent Operational or Tactical Tasks + EWP or RSP	6	As with above case but presumes one ship unavailable. This would be somewhat more likely.
Vanguard + Helos + Two Independent Operational or Tactical Tasks + EWP + RSP	7	As with above case but presumes two ships unavailable. This would be more likely given extra ships in Class.
Vanguard + Helos + Three Independent Operational or Tactical Tasks	6	No ships in EWP or RSP (very unlikely). Space for helos in one or more Vanguard ships. Cargo capacity will allow concurrent tasks such as hospital or TG stores. Two ships independently tasked including helos.
Vanguard + Helos + Three Independent Operational or Tactical Tasks + EWP or RSP	7	As with above case but presumes one ship unavailable. This would be minimum given maintenance policy.
Vanguard + Helos + Three Independent Operational or Tactical Tasks + EWP + RSP	8	As with above case but presumes two ships unavailable. This would be likely given number of ships in Class.

Figure 1 – Table of Selected Potential Task Scenarios vs Ship Requirements

Has DND Recognized a Problem Regarding the Number of Ships Being Procured?

While DND has recognized that there is a problem with the number of ships, in accordance with the Capability Based Planning process it has emphasized individual capabilities over aggregate capacities. The various official project documents (COE, SOR, Procurement Strategy, etc) have all recognized to some extent that buying only three ships is a potential area of concern but have marginalized the potential effects in an understandable and pragmatic attempt to manage expectations. Several examples exist. To begin, the COE has stated employment of a JSS for transport of the Vanguard Battle Group will preclude the use of the ship in any other strategic role[51] but does not suggest what the effect of this would be. It also notes that the JSS should be able to undertake as concurrent operations Naval Task Group Support including operation and maintenance of maritime helicopters; Sealift, and any two of the following activities Limited Ashore Joint Task Force Headquarters, enhanced medical and dental care facilities or support to forces ashore[52] but does not point out that these tasks would each be compromised in some ways by the others as noted in the previous sections of this paper.

Likewise, the COE notes that ”trade-offs between commitment of the ships for strategic tasks versus maritime tasks will often have to be made. In some cases, strategic and maritime tasks may be able to be carried out concurrently; however, in many cases they will not. In particular, the requirement to move the Vanguard battle group with CF resources will likely demand the total lift capacity of the JSS fleet. Therefore, there may be occasions when one or more of the JSS ships will not be available for Maritime tasks

[51] COE., 9
[52] SOR., 18

due to a higher priority strategic level task"[53] however it, too, does not suggest how this could be mitigated and particularly it does not suggest increasing the number of hulls which would likely have helped.

The COE also states "The strategic setting and threat assessment impacts directly on the Canadian Maritime Forces employment plan. The execution of operations to accomplish assigned missions, however, is primarily influenced by two key factors: resources and geography. Limited resources available to the CF will prevent extensive duplication of support efforts; geography imposes some isolation between the two Canadian Fleet areas. Therefore, at least one ALSC Ship will be permanently based on each coast. This will have a direct impact on the numbers of ALSC Ships that must be maintained in the fleet considering repair, overhaul, and operational tasking." and that "Readiness levels will be established to match the strategic setting and available resources. Maximum days away from homeport will be promulgated in the Maritime Commander's Planning Guidance and adjusted as required"[54]. It does not, once again, suggest why more ships should not be procured to help manage these risks.

In similar fashion, the JSS Project Procurement Strategy makes it clear that "A minimum of three ships is required to supply the essential Task Group support. More ships are required to provide Task Group support and sealift functions concurrently and to account for maintenance periods."[55]

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[53] COE., 14
[54] Ibid., 15
[55] Department of National Defence, *Procurement Strategy M2673 Joint Support Ship Project* (Ottawa: DND, 28 February 2004), ii.

Finally, the Preliminary Project Approval for the JSS proposes to Treasury Board that DND acquire a *minimum* of three support ships within a total budget ceiling. This implies that should the project be able within the funding envelope, more than three ships could be considered given the need exists for more than that number of hulls[56].

While this apparent reluctance to push the ship number envelope may be based in large part on a reasonable and pragmatic view of the financial art of the possible, it would seem that the requirements of the CF are not being presented and pursued in as rigorous or vigorous a manner as might be accomplished if more emphasis were placed on the true implications of not having sufficient assets.

It should be noted moreover that while not specifically stated in the project documents, given the expected security environment, the Canadian Navy is likely to require balanced fleets and is therefore likely to be reluctant to procure JSS at the expense of other capabilities. Therefore suggestions, such as Richard Gimblett's, to procure ten JSS type ships (of various configurations) at the acknowledged expense of four general-purpose frigates and four destroyers[57] are likely to be problematic. Instead planners should consider whether any JSS units beyond the three required to replace the retired AORs should be considered as additions to the existing and planned Fleet or as replacements for or alternatives to other combat vessels.

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[56] Department of National Defence, *Synopsis Sheet Preliminary Project Approval Project 00002673* (Ottawa: DND, 14 May 2004), 2.
[57] Richard Gimblett, "A "Transformational" Fleet for Canada in the 21st Century," *Maritime Affairs* (Spring/Summer 2000): 45.

Concluding Material

Based on the above historical, policy, project and mission review, one can determine a common thread. The need for an at-sea sustainment and expeditionary force projection capability has been acknowledged for many years and has become only more acute over time given our current and anticipated geopolitical environment. As noted in the introduction, the CF is indeed taking an important and necessary step toward Joint effectiveness by procuring the Joint Support Ship. It's many major tasks, including strategic sealift, operational intra-theatre medical and logistic support, JTFHQ hosting and tactical at-sea replenishment, will make it a highly sought and flexible force multiplier well worth the cost of each ship.

However, while the three or four JSS hulls that are being built will go some way toward satisfying Canada's stated force projection policies and force development needs, they will normally meet the bulk of these requirements only in individual and non-concurrent cases. Except under ideal conditions the ships will be able to conduct certain concurrent and aggregate combinations of requirements with manageable risk only if mitigated by short duration. Things are seldom perfect, however, and it is anticipated that many of the concurrent tasks will not be particularly temporary in nature. Therefore the risks of multi-mission failure and of significant second and third-order effects such as reduced force generation are high with only three or even four ships.

Notwithstanding the outcome of the upcoming defence policy review or its impact on internal DND policies, while the SOR for each discrete capability will almost certainly be met by the Project the class will likely become so indispensable that even in times of

relative peace, the three or four planned ships would not fulfill, in any sustainable way, the sorts of employment for which they are being built.

The unprecedented capabilities of these ships, their relatively small operating costs and their potential for ever-increasingly diverse and potentially mutually exclusive employment raise a number of relevant but unanswered questions that should be uppermost in the minds of the senior decision-makers. These include:

> Will this aggregate shortfall lead to a general perception among the Canada's military, allies, politicians and public that the ships, while representing world-class promise, are too often not there when really needed and therefore will not have met expectations nor have been worth their cost?
>
> How will the balance between force generation, force employment and operations planning be managed in a structured and sustainable manner given that this class of ship has such unprecedented multi-role capabilities?
>
> Does the current defence policy reflect actual Canadian requirements for the JSS and how would any changes arising from the defence policy review be reflected in DND internal capability policies, the JSS requirement and the JSS project?
>
> Is there an opportunity for the CF in the new defence policy review to increase the number of ships to be procured?

Would the procurement of an all-JSS sustainment Fleet continue to be the best option for Canada if the funds available for the capability were increased? Or should other, perhaps more innovative, options be explored instead?

Can the ships truly be considered 'Joint' if they are available in such small numbers that truly Joint missions would have to the exception vice the rule or risk atrophying essential Naval skills and capabilities? Should we instead think of these vessels as an 'AOR plus' unless or until we have enough hulls available to truly call them JSS?

What would be a reasonable and sustainable number of JSS units? Would it be more appropriate to buy, as a minimum, enough ships to concurrently cater to an Army Vanguard deployment (four ships), two task group support missions (two ships) and one contingency operation (1 ship) while one ship is in an extended work period or a tailored readiness period working up to high readiness? Or would two further ships also be worthwhile in order to provide the capacity for one additional concurrent contingency operation (ie one per coast) while allowing more flexibility for maintenance and training? and,

Would a reduction in other Fleet assets or capabilities be appropriate as a trade-off for an enhanced strategic sustainment capability including more JSS hulls?

This essay was meant to be thought provoking and thus raises more questions than it attempts to answer. Nonetheless the questions posed deserve reflection and action now and in the coming years. It would indeed be unfortunate if through misapprehension of the aggregate operational demand - as would seem to be the case – the CF inadvertently created in the JSS Class the expectation of a Jack-of-all-Trades that given its small numbers will instead be seen as a Master-of-None.

Sources

"ALSC: An Affordable Solution to a Complex Requirement." *Warship Technology*. (August 1999): 5 – 7.

Aikens, Commander Greg. "Beyond ALSC: We Need to Get Amphibious and Joint to Stay Relevant." *Maritime Affairs*. (Winter 2001): 12 –13.

Brown, Nick and Richard Scott. "Supporting Cast Enters the Limelight." *Jane's Navy International* (1 November 2003): 21 - 29.

Canada. Department of National Defence. *1994 Defence White Paper*. Ottawa: Canada Communications Group, 1994.

Canada. Department of National Defence. *1998 Military Assessment.* Ottawa: DND, 1998.

Canada. Department of National Defence. *Advanced Report Of The Sea-Based Expeditionary Operations Study - 10 January 2001* Halifax: Canadian Forces Maritime Warfare Centre, 22 January 2001.

Canada. Department of National Defence. B-GJ-005-404/FP-050 *Movement Support Glossary*. Ottawa: DND Canada, 2003.

Canada. Department of National Defence. *Canadian Afloat Logistics and Sealift Capability Ships (ALSC) Concept of Employment Guidance.* Ottawa: Project Management Office Joint Support Ship, 10 January 2000.

Canada. Department of National Defence. *Leadmark: The Navy's New Strategy for 2020* Ottawa: DND, 18 June 2001.

Canada. Department of National Defence. Prepared by Micheal Gardiner, Lieutenant Commander Eric Dudley and Colonel David Sanschagrin, *The Joint Support Ship for the Canadian Navy – Medical Capability* Ottawa: Project Management Office Joint Support

Ship, Project Director's Office Joint Support Ship and Director Maritime Health Services, 2004.

Canada. Department of National Defence. Prepared by P. Comeet

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DeWolf, VAdm H.G. *Memorandum to the Cabinet Defence Committee: Tanker Supply Ships.* NSS 8000-AOR (STAFF), 19 June 1958 (DHH File 79/246 Folder 60 'Tanker Supply Ships').

Dutnall, B. "Military Sealift: Capability Through partnership With Industry." Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1996.

Gimblett, Richard. "A "Transformational" Fleet for Canada in the 21st Century." *Maritime Affairs.* Spring/Summer 2000: 42 - 46.

Gohlish, Heinz. "G.T.S. Katie: The High Cost of Cut-Price Transport." *Maritime Affairs* (Fall 2000): 20 – 23.

Goldrick, James, Captain RAN. "The Medium Power Navy in the 21st Century." *Naval Review* 89, no 2 (April 2001): 103 – 110.

Hansen, Cdr Ken. "The Nature of Sea Operations." Lecture, Canadian Forces College, Toronto, ON, 27 September, 2004.

Harker, D.G. "The Afloat Logistics and Sealift capability (ALSC) Ship: What Value Will It Provide?." Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 2003.

Haydon, Peter. "Canadian Amphibious Capabiltiies: Been There, Done it, Got the T-shirt!." *Maritime Affairs.* (Winter 2001): 14 – 19.

Hobson, Sharon. "Canada Gives Green Light for Joint Support Ship." *Jane's Defence Weekly.* 26 May 2004: 31.

Hobson, Sharon. "Canada Seeks to Establish Naval Strategic Reach," *Jane's Defence Weekly.* 27 September 2000: 35 – 38.

Hobson, Sharon and Philip Sen. "Naval Forces Reluctant but Critical for Disaster Relief." *International Defence Review* (1 September 2002): 44 - 46.

Jane's Information Group. *Jane's Fighting Ships 2004/2005.* Brighton, UK: Sentinel House, 2004.

Kerr, A.J. "Multi-Role Support Vessels – The Great Canadian Compromise." Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1999.

MacDonald, Major Mark, Directorate of Defence Analysis. *Strategic Lift Analysis for the Canadian Force.* Presentation to the Program Joint Board on Defence, 26 October 2000.

Maddison, VAdm G.R. *Senior Review Board Meeting to Discuss the ALSC Capability Statement of Operational Requirement, Project Profile and Risk Assessment, Project Charter and a*

Recommended Option. (National Defence Headquarters: file MS: 32673-300 (DMMCP 4-2), 20 October 2000.

McKillip, R.W.H. "Not so Smart: Should Sealift and Afloat Logistics Support be Linked?." Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1997.

Mitchell, Paul T. "Joint Support Ship: Transformation or White Elephant?." *US Naval Institute Proceedings* (March 2004): 64 – 66.

Munro, B.S. "Canadian Military Sealift for Contingency Operation Planning: Integral or Charter?." Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1994.

Parker, G.S. "Rented Ships and More Jet Liners: How the Canadian Forces Can Achieve Reach on a Budget," Toronto: Canadian Forces College Masters of Defence Studies Paper, 2004.

Round, A. "Strategic Sealift: A Case for Ownership." Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1994.

Shadwick, Martin. "Carriers, Sealift and Replenishment." *Canadian Military Journal* vol. 4, no. 3 (2003): 58, 59.

Siew, A.L. "Afloat Logistics Support: The Next Generation." Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1994.

Striethorst, B. "We Can't Get There From Here! (Strategic Sealift For the Canadian Forces)." Toronto: Canadian Forces College Command and Staff Course New Horizons Paper, 1999.

Thomas, Doug. "Canadian Maritime Operations in the 1990s." *Maritime Affairs* (Spring/Summer 2000): 26 – 32.

Van Creveld, Martin L. *Supplying War: Logistics from Wallenstein to Patton.* Cambridge: Cambridge University Press, 1977.

Williams, Captain(N) Kelly. "The Canadian Navy: The Vanguard of Canadian Foreign and Defence Policy." In *The Canadian Navy and The New Security Agenda – Proceedings of the Maritime Security and Defence Seminar, Toronto, 26-27 April 2*004, edited by Ann L. Griffiths, 7 – 24. Halifax: Centre for Foreign Policy Studies, Dalhousie University, 2004.