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# A VULNERABLE ROYAL CANADIAN NAVY: THE NATIONAL SHIPBUILDING PROCUREMENT STRATEGY AND THE THREAT TO THE NAVY'S LONG TERM VISION

Lieutenant-Commander D.J. Horan

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# A VULNERABLE ROYAL CANADIAN NAVY: THE NATIONAL SHIPBUILDING PROCUREMENT STRATEGY AND THE THREAT TO THE NAVY'S LONG TERM VISION

By Lieutenant-Commander D.J. Horan
Par le capitaine de corvette D.J. Horan



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**DEDICATION**

To Lou, who faced the fear and uncertainty of a tough pregnancy this year, who continued to raise our oldest child in nearly impossible circumstances, and who bridged the gaps left by a husband whose staff college experience made putting family first a challenge he could not meet.

And to Manon, who dropped everything, again and again, to help us when times were hardest. She made it possible to juggle the unexpected hospital overnights, the long work hours, our energetic three-year old, and the birth of our new little one. Without her, any ambitions that I had to finish staff college and this paper at all would have been fiction.

**ABSTRACT**

The RCN's future is dependent on a number of new shipbuilding contracts or a comprehensive shipbuilding program in order to revitalize the fleet. The RCN is at a crucial waypoint: either it will suffer from a rust-out of its surface fleet, or it will undergo a significant renewal program. The decisions that senior naval officers and politicians make today about such a renewal program will conclusively shape the roles and capabilities of the RCN for the next forty years.

The National Shipbuilding Procurement Strategy (NSPS) is such a renewal program. The NSPS is innovative and beneficial, but it leaves the RCN in a vulnerable position. In its current form, the NSPS is a threat to the RCN's ambition of maintaining a multi-role, combat-capable expeditionary fleet. The broad but critical consensus that cradled the NSPS to its current point is fragile. Industry's ability to raise an appropriately skilled workforce to design and build complex warships within an acceptable budget and schedule is in doubt. The government's ability to manage the contractual and technical demands of multiple shipbuilding programs is also in doubt, as is the government's ability to resolve its underfunded defence capital plan and its procurement reform problems. The government's challenge is to tackle these tasks while also maintaining the support of the electorate, both for its defence goals and also for its broader political mission. Because of the structure of NSPS and because of issues arising from its shortcomings as a national strategy, the RCN's most valued acquisition project – the Canadian Surface Combatant – is in danger of a dramatic reduction in the number and capability of the platforms delivered, or perhaps even an outright project cancellation.

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## INTRODUCTION

> *We're on a PGA course that we've wanted to play all our lives and we're on the first fairway. But let's not forget the fact that there's 17 more holes to go. For this [National Shipbuilding Procurement Strategy] and everything associated with it to succeed, we have to trust each other and we have to move forward together as one team. If not, this unprecedented opportunity will fail*.
>
> -- Rear-Admiral Mark Norman[1]

The commander of today's Royal Canadian Navy (RCN) is in a promising yet dangerous position. He is in command of a gracefully maturing navy that is dramatically different today than it was even twenty years ago. The RCN is enjoying a professional reputation gained through fifteen plus years of successful operations with the *Halifax*-class frigate as the workhorse. This class of ship, designed primarily for anti-submarine warfare in the open ocean against a Soviet adversary, has also proven itself to be flexible and useful in the full breadth of the government's required tasks. These tasks have included such operations as sovereignty patrols in North American waters, drug interdiction in support of law enforcement worldwide, maritime interdiction in support of the United Nations and NATO, anti-piracy, humanitarian aid, and leadership of coalition task groups in the global war on terror.[2] However, the RCN's ability to maintain this operational tempo into the future remains in doubt. The *Halifax*-class vessels are now at their mid-life point. The RCN's *Protecteur*-class replenishment vessels and *Iroquois*-class destroyers are both over forty years old and are, by most measures, well beyond

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[1] Rear-Admiral Norman as Deputy Commander RCN, quoted in Lee Berthiaume, "Canada's Massive Shipbuilding Plan Headed for Stormy Seas," *Vancouver Sun*, June 11, 2012, http://www.vancouversun.com/news/Canada+massive+shipbuilding+plan+headed+stormy+seas/6760345/story.html.

[2] Nicholas Tracy, *A Two-Edged Sword: The Navy as an Instrument of Canadian Foreign Policy* (Montreal: McGill-Queen's University Press, 2012), 156–286.

their practical service lives and ready to be de-commissioned. And though the *Halifax*-class is currently undergoing a mid-life extension project led by industry, its usefulness as a platform in terms of capability and effectiveness is expected to decline dramatically by the mid-2020s. The RCN's future is therefore dependent on a number of new shipbuilding contracts, or perhaps a comprehensive shipbuilding program, in order to revitalize the fleet and keep it a relevant force into the future. The RCN is at a crucial waypoint: either it will suffer from a rust-out of its surface fleet, or it will undergo a significant renewal program. The decisions that senior naval officers and politicians make today about such a renewal program will conclusively shape the roles and capabilities of the RCN for the next forty years.

There is, however, a promising way ahead for those interested in seeing new warships acquired for the RCN. In 2009, the government designed a National Shipbuilding Procurement Strategy (NSPS) in order to select two Canadian shipyards with which to establish a long-term strategic arrangement to build federal ships. In October 2011, Irving Shipbuilding Inc. was selected as the future builder of the government's combat-oriented ships, and Seaspan Marine International was selected as the builder of the government's future non-combat ships.[3] For the commander of the RCN, participating in the establishment of such a strategic arrangement between government and the shipbuilding industry was a great victory, perhaps one of the most positive naval developments to occur in Canada since the commissioning of the *Halifax*-class frigates. But is the NSPS enough to deliver the capability the RCN expects in a

[3] Canada. Public Works and Government Services Canada, "Canada News Centre - Canada Signs Long-term Agreements with NSPS Selected Shipyards," News Releases, February 15, 2012, http://news.gc.ca/web/article-eng.do?mthd=tp&crtr.page=1&nid=656979&crtr.tp1D=1.

reasonable time frame, within budget, while meeting Canadian expectations for professionalism?

**Literature Survey**

The NSPS as a solution to the shipbuilding problem in Canada has not yet been comprehensively analyzed. Some work by well-known writers in naval and defence affairs has appeared in journals like *Canadian Naval Review* and *Canadian Military Journal*, but they do not fully address the NSPS as a shipbuilding and procurement program. Ken Bowering's article provides a good summary, but it does not thoroughly identify the potential problems with the program.[4] Martin Shadwick's review is generally positive about the progress of the program, but he identifies potential issues, including the lack of funding commitments and the difficulties of managing requirements definition activities within the NSPS framework. He raises the question about whether the Canadian shipyards or Canadian industry can perform the design and systems integration activities for the more complex vessels. And finally, he questions whether or not the workforces of both the government and the defence industry can support the increased workload that NSPS represents.[5]

Few authors devote any significant effort critiquing the NSPS. Aaron Plamondon provides a brief historical overview and highlights some potential areas for concern.[6] Sharon Hobson highlighted the positive press that NSPS received in 2011 and 2012, but

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[4] Ken Bowering, "National Shipbuilding: Where We Are and Where We're Headed," *Canadian Naval Review* 8, no. 2 (Summer 2012): 19–23.

[5] Martin Shadwick, "The National Shipbuilding Procurement Strategy (NSPS) and the Royal Canadian Navy (RCN)," *Canadian Military Journal* 12, no. 1 (Spring 2012): 77–80.

[6] Aaron Plamondon, "History's Shipbuilding Lessons: Challenges of the Past Suggest Cause for Concern," *Vanguard Canada*, accessed September 30, 2012, http://www.vanguardcanada.com/LessonsFromShipbuildingPastPlamondon.

she observed that "…there is a large gap between announcing a process and delivering an actual ship."[7] Few other sources capture dissenting views, though William Watson critiques the approach of subsidizing an uncompetitive industrial sector, observing: "…[if] we were interested mainly in quality ships at a good price, we should have opened our competition to all the world's shipbuilders."[8] Former RCN flag officer Eric Lerhe wrote a short paper in February 2013 summarizing his views of the state of the NSPS and the shipbuilding projects, including some discussion of risks and related issues in procurement.[9] Former naval officer Ian Yeates offers a rare prediction of failure for the program and suggests that it is misguided for Canada to enter into the shipbuilding game. He cites inexperience within government regarding projects of this complexity, and inexperience in the shipyards delivering platforms similar to those required, and a gap between what NSPS provides and the actual solution required to address the boom-and-bust problems plaguing Canadian shipbuilding.[10] However, Yeates' analysis is presented as an opinion piece; therefore, his argument is too brief and remains unsupported by hard evidence.

A review of the body of naval shipbuilding research and analysis in Canada serves as a good base for further investigation of the NSPS. Historian Michael Hennessey's work provides background on key issues such as the cyclical boom-and-bust nature of Canadian shipbuilding, as well as comprehensive analysis of naval shipbuilding

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[7] Sharon Hobson, "Design Flaw: The Long Path from NSPS to Ships," *Canadian Naval Review* 8, no. 2 (Summer 2012): 39.

[8] William Watson, "Hope They Float," *Financial Post*, October 19, 2011, http://opinion.financialpost.com/2011/10/19/william-watson-hope-they-float/.

[9] Eric James Lerhe, "The National Shipbuilding Procurement Strategy - An Update," *Strategic Studies Working Group Papers* (February 2013): 12.

[10] Ian Yeates, "NSPS: A Blunder for the Ages?," *Canadian Naval Review* 8, no. 2 (Summer 2012): 35–36.

and policy in the second half of the 20th century.[11] S. Mathwin Davis's articles on the cancellation of the General Purpose Frigate and naval shipbuilding, as well as J.W. Arsenault's work on the DDH 280 *Iroquois*-class procurement, are excellent sources that provide lessons that could be applied to contemporary shipbuilding problems, especially in areas like the interaction between politicians and program managers, and the impacts of resource constraints and cost estimation on procurement programs.[12] Academics like Ty Curran and a series of Canadian Forces College students like Daniel Sing, Richard Greenwood, John Wilson, Josée Kurtz, and John Charlebois have done research and analysis into the nature of Canadian naval shipbuilding history, politics, and strategies. Unfortunately, each of these studies occurred before the NSPS was created.[13]

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[11] Michael Alphonsus Hennessy, "The Rise and Fall of a Canadian Maritime Policy, 1939-1965, a Study of Industry, Navalism and the State" (Doctoral dissertation, University of New Brunswick, 1995), http://dspace.hil.unb.ca:8080/handle/1882/824; Margaret B.K. Shepherd and Michael A. Hennessey, "Naval Shipbuilding in Canada: an Introductory Review of a Century," in *Naval gazing : the Canadian Navy contemplates its future*, ed. Ann L Griffiths and Eric James Lerhe (Halifax, N.S.: Centre for Foreign Policy Studies, Dalhousie University, 2010), 193–205; Michael A. Hennessey, "Canadian Shipbuilding: Some Lessons Observed, If Not Learned," *Canadian Naval Review* 4, no. 3 (Fall 2008): 23–26.

[12] Mathwin S. Davis, "Naval Procurement, 1950 to 1965," in *Canada's Defence Industrial Base: The Political Economy of Preparedness and Procurement*, ed. David G. Haglund (Kingston, Ont., Canada: R.P. Frye, 1988); Mathwin S. Davis, "Cancellation of the General Purpose Frigate, Lessons from a Quarter Century Ago," *Canadian Defence Quarterly* 20, no. 2 (June 1990): 61; J.W. Arsenault, "The DDH 280 Program: A Case Study of Governmental Expenditure Decision-Making," in *Canada's Defence Industrial Base: The Political Economy of Preparedness and Procurement*, ed. David G. Haglund (Kingston, Ont., Canada: R.P. Frye, 1988), 118–136.

[13] Ty Curran, "The Single Shipbuilding Entity Model in Canadian Naval Procurement: A Discussion Paper on Naval Contracts in Canada," *Journal of Military and Strategic Studies* 8, no. 3 (Spring 2006): 12; Daniel Sing, "Procuring Warships for the Canadian Navy: Does Canada Spend Its Money Wisely?" (New Horizons Research Paper, Canadian Forces College, 1995); Richard Greenwood, "Globalization, Maritime Strategy, and the Survival of the Canadian Marine Industry" (National Securities Studies Course Paper, Canadian Forces College, 2005); J.K. Wilson, "The Politics and Economics of Shipbuilding in Canada: Lessons for Naval Planning?" (Master of Defence Studies Research Project, Canadian Forces College, 2009); M.T.J. Kurtz, "Policy, Transformation and Shipbuilding: The Perfect Storm Threatening the Future of Canada's Surface Combatant Fleet" (Master of Defence Studies Research Project, Canadian Forces College, 2007); John Charlebois, "Partnership, Balance and Flexibility: A Model for Sustainable Naval Shipbuilding Sector in Canada" (Master of Defence Studies Research Project, Canadian Forces College, 2009).

A few key authors provide some history and analysis of Canadian defence and naval procurement. Some of these works include *Canadian Defence: Decisions and Determinants* by Dan Middlemiss and Joel Sokolsky, which covers shipbuilding and the Canadian Patrol Frigate (CPF) in particular, highlighting the role of the federal government, the Cabinet, and the domestic environment in which the politics of procurement operate.[14] Aaron Plamondon provides extensive analysis of the machinery of government, the playing of politics in military procurements, and some excellent analysis of procurement and requirements definition issues.[15] Further work on procurement reform by Alan Williams and Ken Bowering informs the debate and serves as the foundation for industry lobbyist organizations like the Canadian Association of Defence and Aerospace Industries (CADSI) and their reports on procurement and industrial development.[16] Industry lobbyists like Janet Thorsteinson and Peter Cairns were also part of the consensus that emerged about procurement reform and addressing the boom-and-bust cycles which eventually coalesced into the NSPS.[17] Individuals like these and industry organizations like CADSI have argued extensively that Canada's

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[14] Danford William Middlemiss and Joel J. Sokolsky, *Canadian Defence: Decisions and Determinants* (Toronto: Harcourt Brace Jovanovich, Canada, 1989).

[15] Aaron Plamondon, *The Politics of Procurement: Military Acquisition in Canada and the Sea King Helicopter* (Vancouver: UBC Press, 2010); Aaron Plamondon, *Equipment Procurement in Canada and the Civil-Military Relationship: Past and Present* (Calgary: Centre for Military and Strategic Studies, University of Calgary, 2008); Aaron Plamondon, "Amnesia in Acquisition: The Parallels of the F-35 Procurement and the Sea King Replacement Projects," *Canadian Foreign Policy Journal* 17, no. 3 (2011): 265–276.

[16] Alan S. Williams, *Reinventing Canadian Defence Procurement: A View from the Inside* (Queen's School of Policy Studies, 2006); Ken Bowering, "General Sir Arthur Currie Paper 1-08: Military/Naval Procurement in Canada: A Flawed Process" (Conference of Defence Associations Institute, 2008), 10; CADSI Marine Industries Working Group, *Sovereignty, Security and Prosperity - Government Ships - Designed, Built and Supported by Canadian Industry* (CADSI, May 2009); CADSI, *Canada's Defence Industry: A Vital Partner Supporting Canada's Economic and National Interests: Industry Engagement on the Opportunities and Challenges Facing the Defence Industry and Military Procurement*, December 2009.

[17] Janet Thorsteinson, "A Managed Approach to Fleet Acquisition," *Canadian Naval Review* 4, no. 2 (Summer 2008): 28–30; Peter Cairns, "Shipbuilding and Industrial Preparedness," *Canadian Naval Review* 2, no. 3 (Fall 2006): 16–23.

defence industry has the capability to manage and deliver the design and build of government ships, including taking the responsibility for key roles like prime contractor, project and program management, platform and combat systems integration, management and control of ship design, and in-service support. Finally, the government itself reports that a series of studies by CADSI, the Shipbuilding Association of Canada, the Department of National Defence (DND), the Department of Fisheries and Oceans (DFO) and Public Works and Government Services Canada (PWGSC) all conclude and recommend fairly harmoniously that there is a specific way ahead for shipbuilding and naval procurement, and this way ahead is reflected in the details of the NSPS itself.[18]

The issues of defence economics, the defence programme, and the related industrial base in Canada are explored in work by academics like Alistair Edgar, David Haglund, J. Craig Stone and John Treddenick. Their work serves as a solid framework from which to proceed further in an analysis of modern shipbuilding and procurement, as they cover fundamental ground in areas like decision-making under budget constraints, tenuous government leadership, and the constraints of industrial and regional benefits policies.[19] Additional work by John Treddenick explores the issues of balancing the funding of defence between operations and capital acquisitions.[20] Martin Shadwick, Philippe Lagassé and Gerry Madigan provide modern analyses of the recapitalization

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[18] Canada. Public Works and Government Services Canada, "Backgrounder: A Unique Process - NSPS - Buying and Selling - PWGSC," October 7, 2011, http://www.tpsgc-pwgsc.gc.ca/app-acq/sam-mps/ddi-bkgr-4-eng.html.

[19] Alistair D. Edgar and David G. Haglund, *The Canadian Defence Industry in the New Global Environment* (Montreal: McGill-Queen's University Press, 1995); Craig Stone, ed., *Public Management of Defence in Canada* (Toronto: Breakout Educational Network in association with the School of Policy Studies, Queen's University, 2009); John Treddenick, "The Economic Significance of the Canadian Defence Industrial Base," in *Canada's Defence Industrial Base: The Political Economy of Preparedness and Procurement*, ed. David G. Haglund (Kingston, Ont., Canada: R.P. Frye, 1988), 15–48.

[20] John M. Treddenick, "Distributing the Defence Budget," in *Issues in Defence Management*, ed. Douglas Bland (Kingston: School of Policy Studies, Queen's University, 1998), 57–82.

plans of the Canadian Forces and the implications of the *Canada First Defence Strategy*, especially examining issues like the need for predictable funding for defence and discrepancies between proposed funding and actual purchasing power.[21] Public Works and Government Services Canada recently sponsored a task group led by Tom Jenkins that produced a report and recommendations on a way ahead for bolstering Canada's defence industrial base, but no rigorous analysis has yet been published on this specific plan or recommendations.[22]

The final research area that informs a study of the NSPS and its implications involves political decision-making, consensus-building, and the nature of foreign and defence policy decision-making in Canada. Two excellent books that describe the centralization of political decision-making in Canada, as well as the motives and constraints of politicians, are Donald Savoie's book *Governing from the Centre: The Concentration of Power in Canadian Politics*, and the book *Political Management in Canada: Conversations on Statecraft* by Allan Blakeney and Sandford Borins.[23] Douglas Bland's work on the development of a foreign policy and the realities of how military officers and political decision-makers think and interact is critical to understanding the

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[21] M. Shadwick, "Recapitalizing the Forces," *Canadian Military Journal* 10, no. 1 (2009): 87–90; Philippe Lagassé, "Recapitalizing the Canadian Forces' Major Fleets: Assessing Lingering Controversies and Challenges," *Strategic Studies Working Group Papers* (December 2012); Gerry Madigan, "Canada First - Defence Strategy: A Retrospective Look. Too Much? Too Little? Or Just Right?," *Canadian Military Journal* 10, no. 3 (Summer 2010): 27–36.

[22] Tom Jenkins, *Canada First: Leveraging Defence Procurement Through Key Industrial Capabilities: Report of the Special Adviser to the Minister of Public Works and Government Services* (Ottawa: Public Works and Government Services Canada, 2013).

[23] Donald J. Savoie, *Governing from the Centre: The Concentration of Power in Canadian Politics* (Toronto: University of Toronto Press, 1999); Allan Blakeney and Sandford F Borins, *Political Management in Canada: Conversations on Statecraft* (Toronto: University of Toronto Press, 1998).

environment that frames the NSPS debate.[24] Ross Graham's work on the civil control of the Canadian Forces also amplifies Bland's work, highlighting the need for military officers to maintain an enlightened understanding of Canadian national security affairs and the way that the government in Canada manages those affairs.[25]

RCN historian Jason Delaney's graduate thesis *Naval Procurement: An Analysis of Governmental Decision-Making* provides an excellent analysis of two major projects, the CPF and the nuclear submarine acquisition. Delaney argues convincingly that Canadian naval acquisitions or cancelled projects are not the result of a rational decision-making process. Instead, these projects are the product of a non-rational process that is best described as a complex activity influenced by a number of non-strategic or non-military concerns. For a procurement to be successful, this complex activity requires an alignment of competing interests and demands. This alignment of various interests and demands must converge long enough for a project to be approved and delivered; if a divergence of interests emerges and remains uncorrected for too long, it can result in a catastrophic lack of consensus, which means a cancelled procurement project.[26]

The RCN's vision for its future roles and capabilities is captured in the body of work produced by lobbyists and pro-navy academics like Peter Cairns, Kenneth Hansen, and Peter Haydon. These individuals regularly publish work describing proposed acquisition strategies and capability requirements for the navy in Canada, which tend to be reflections on the RCN's visions and strategies for itself. Kenneth Hansen's work to

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[24] Douglas Bland, "Parliament's Duty to Defend Canada," *Canadian Military Journal* 1, no. 4 (2000): 35–43.

[25] Ross Graham, "Civil Control of the Canadian Forces: National Direction and National Command," *Canadian Military Journal* 3, no. 1 (Spring 2002): 23–30.

[26] Jason Michael Delaney, "Naval Procurement: An Analysis of Governmental Decision-making" (Master's thesis, University of Waterloo, 1999).

analyze and inform Navy capability requirements is useful as it provides background understanding on the general consensus within RCN circles.[27] Peter Haydon's work in scholarly journals and elsewhere explores the types of capabilities that Canada needs in its Navy.[28]

**A Flawed, Dangerous Approach?**

The NSPS is a program that initially garnered near-universal praise. But, by June 2012, quiet rumblings of frustration and discontent began to emerge. The media began reporting that some connected players were expressing doubts related to NSPS and its progress. In responding to some of the frustration of industry representatives at a navy outlook conference, Rear-Admiral Norman, quoted in the epigraph above, said correctly that there are significant challenges that must be overcome if the proposed shipbuilding program is to be successful. But Rear-Admiral Norman was speaking to a relatively friendly audience of individuals from industry, the Department of National Defence, and the RCN.[29] Though there were surely differences of opinion in some of the details, it is likely that the majority of the conference to which he was speaking agreed in principle that a fleet renewal was in fact necessary and that the NSPS was a positive development

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[27] Ken Hansen, "Cease Fire, End Fire Mission, Forever? The Canadian Decision to Abandon Naval Fire Support," *Canadian Military Journal* 1, no. 3 (Autumn 2000): 45–50; Ken Hansen, "Plans Cannot Be Rationalized Without the Strategic Perspective," *Canadian Naval Review*, April 5, 2011, http://www.navalreview.ca/2011/04/plans-cannot-be-rationalized-without-the-strategic-perspective/; Ken Hansen, "Starting Over: The Canadian Navy and Expeditionary Warfare," *Canadian Naval Review* 1, no. 1 (Spring 2005): 20–24.

[28] Peter T. Haydon, "Why Does Canada Still Need a Navy?," *Canadian Naval Review* 3, no. 2 (Summer 2007): 21–23; P. Haydon, "Choosing the Right Fleet Mix: Lessons from the Canadian Patrol Frigate Selection Process," *Canadian Military Journal* 9, no. 1 (2008): 65–75; Peter T. Haydon, "Editorial: Naval Modernization: The Impossible Dream?," *Canadian Naval Review* 3, no. 3 (Fall 2007): 1–3; Peter T. Haydon, "What Naval Capabilities Does Canada Need?," *Canadian Military Journal* 2, no. 1 (Spring 2001): 21–28; Peter T. Haydon, "Why Canada Needs a Navy," *Navy League of Canada* (October 2010): 24.

[29] This event was the CADSI-sponsored 2012 Navy Outlook briefings, held on 16 May 2012 at the Chateau Laurier hotel in Ottawa.

towards achieving this fleet renewal. And despite the expressed frustration from certain players, this consensus about the positive aspects of NSPS still exists amongst most of the stakeholders involved. This consensus, however, represents a significant source of risk for the RCN. What if the greatest development in Canada's recent shipbuilding history turns out to be the biggest threat to the RCN's long-term vision of itself as a combat-capable expeditionary navy?

The NSPS is indeed an innovative and beneficial program for most of the affected stakeholders: the government, the marine and defence industries in Canada, the Canadian Coast Guard and the Royal Canadian Navy. But the NSPS leaves the RCN in a vulnerable position. In its current form, the NSPS is a threat to the RCN's ambition of maintaining a multi-role, combat-capable expeditionary fleet. The broad but critical consensus that cradled the NSPS to its current point is fragile. Industry's ability to raise an appropriately skilled workforce to design and build complex warships within an acceptable budget and schedule always remains in doubt. The government's ability to manage the contractual and technical demands of multiple shipbuilding programs is also in doubt, as is the government's ability to resolve its underfunded defence capital plan and its procurement reform challenges. The government's challenge is to tackle these tasks while also maintaining the support of the electorate, both for its defence goals and also for its broader political mission. As the procurement process continues for the RCN warships, the issues mentioned above with industry and with government are likely to cause a divergence in consensus that could well be catastrophic to the RCN's vision for itself. Because of the structure of NSPS and because of issues arising from its shortcomings as a national strategy, the RCN's most valued acquisition project – the

Canadian Surface Combatant – is in danger of a dramatic reduction in the number and capability of the platforms delivered, or perhaps even an outright project cancellation.

## CHAPTER ONE – A NATIONAL SHIPBUILDING STRATEGY

The NSPS owes its existence as a successful acquisition strategy to a number of key factors. First, a consensus about shipbuilding issues existed between the necessary actors, and the political will of the government in power pushed the process forward. Second, the government, in conjunction with industry, designed a procurement strategy that was flexible and smart, complete with a decision-making and conflict resolution approach that was effectively apolitical. And third, the NSPS as a strategy was incomplete, in that the selection of two shipyards did not yet involve an actual long-term financial commitment from government. No actual contract was signed when the winning shipyards were first announced, nor when the strategic (or umbrella) agreements were signed. Each of these factors combined to produce a successful competition that managed to avoid controversy or the appearance of political interference. But the resulting program represents a fragile consensus that, by itself, is unlikely to deliver government ships that meet the expected capabilities for the expected costs.

### A Consensus Approach to Shipbuilding

The NSPS exists because a broad consensus about a shipbuilding approach was developed and it continues to exist amongst political decision makers and industry power brokers. This type of consensus is critical to the success of naval acquisition projects, and the lack of this consensus has resulted in failed or cancelled defence procurement contracts.[30] Decision-making in Canadian naval procurement does not appear as a rational, logical process managed by a responsible and accountable actor; instead, naval acquisitions evolve as a result of the push and pull of competing interests, and though

[30] Davis, "Cancellation of the General Purpose Frigate, Lessons from a Quarter Century Ago"; Adam Lajeunesse, "Sovereignty, Security and the Canadian Nuclear Submarine Program," *Canadian Military Journal* 8, no. 4 (2007): 74–82.

various actors can influence the direction of a project, no real control or accountability is held in any one position. The success or failure of a naval acquisition project is arguably dependent on the maintenance of a broad consensus about the purpose, capabilities, costs and benefits of a particular platform throughout the life of a shipbuilding program. Acquisition projects like the Canadian Patrol Frigate (CPF), the *Iroquois*-class program, and the failed nuclear submarine acquisition, demonstrate that successful projects require this broad consensus to exist over an extended period of time, because even a short-term divergence of interests can cause a derailment that is fatal to the project.[31]

It is remarkable that a consensus about shipbuilding in Canada even emerged at all, and that a program like NSPS was conceived, scrutinized and finally delivered without significant controversy. A government competition to choose only two Canadian shipyards to build all large federal ships is risky. The potential controversy arises due to clashes of regional interests and the fact that the shipbuilding industry as a whole depends predominantly on federal contracts in order to survive. Regional politics has a history of influencing naval acquisitions, as demonstrated by the political decision to split the CPF construction between Saint John Shipbuilding and the MIL-Davie shipyard in Quebec.[32] Regional politics and their influences on defence procurements can have great strategic and political impacts on the government of the day.[33] Despite these risks of regional conflict, and despite the fact that the two winners were chosen from eligible shipyards in

[31] Delaney, "Naval Procurement"; Arsenault, "The DDH 280 Program: A Case Study of Governmental Expenditure Decision-Making."

[32] Middlemiss and Sokolsky, *Canadian Defence*, 201–206.

[33] See Manitoba-Quebec regional benefits controversy for the early 80s CF-18 maintenance contract in Plamondon, *Equipment Procurement in Canada and the Civil-Military Relationship: Past and Present*, 21–22.

British Columbia, Ontario, Quebec, Nova Scotia and Newfoundland, the NSPS managed, in both the conception phase and in the selection phase, to avoid political conflict.

What, then, is the nature of the consensus that was built and maintained to encourage a successful selection of shipyards? Industry and government appear to agree on the concepts of building federal ships in Canada, as opposed to buying platforms offshore. Predictable long-term funding and elimination of the boom-bust cycle of shipbuilding also appear to be common goals. Industry organizations have argued that Canadian companies could also complete the design and systems integration of the federal ships, as well as the in-service support of the completed platforms.[34] Whether or not the government agreed with that point of view is unclear, though it is clear that the ability of the shipyards to complete this kind of design and engineering work was used in the NSPS bid evaluation as scoring criteria to select winners.[35] General agreement or consensus on the actual ability of Canadian industry to do this design and engineering work was therefore not necessary for the NSPS competition to proceed.

Of course, the government is not a homogenous body with common interests and aims. A consensus within the senior bureaucracies of several government departments as well as in the political leadership within the Cabinet was likely developed and fostered throughout the NSPS process. PWGSC was the lead department and consequently received the majority of the praise for the success of the project, but it appears as though DND was also a driving force in seeking a shipbuilding strategy that represented a long-

[34] Much of the in-service support of major warships is currently done in government-owned dockyards by the Fleet Maintenance Facilities.

[35] Canada. Public Works and Government Services Canada, "Backgrounder: An Independent Process to Select Shipyards - NSPS - Buying and Selling - PWGSC," October 7, 2011, http://www.tpsgc-pwgsc.gc.ca/app-acq/sam-mps/ddi-bkgr-3-eng.html.

term strategic commitment from government. Michael Teeter, an employee with the Ottawa-based lobbying firm Hillwatch, wrote an article in which he described his firm's involvement with government and with industry in the early stages of the NSPS. He relates that his firm worked closely with DND officials and that their main aim was a long-term, continuous-build program for government ships, a closer partnership between industry and government, and a program of procurement reform within government.[36] Both the Department of Fisheries and Oceans and Industry Canada needed to be on board with the shipbuilding plan. In particular, Industry Canada's role as the policy lead for industrial and regional benefits likely means that the department's complicity, if not its direct influence on the process, was critical.[37] As the department responsible for the Canadian Coast Guard, the Department of Fisheries and Oceans was a major stakeholder and likely had direct influence on the program, but more importantly, as a department it needed to be familiar with the details in order for the process to occur.[38]

The true driver of success with respect to consensus, however, comes from the political leadership of the government. The *Canada First Defence Strategy* (CFDS) illustrated the Conservative government's approach to recapitalization of the Canadian Forces, as well as the government's intent for use of the Canadian Forces both internationally and domestically.[39] The policy, which was first briefed in 2006 and was

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[36] Michael Teeter, "Case Study: The National Shipbuilding Procurement Strategy," *Hillwatch*, accessed September 30, 2012, http://www.hillwatch.com/Publications/Policy_Briefs/NSPS.aspx.

[37] Canada. Industry Canada, "Industrial and Regional Benefits," accessed March 14, 2013, http://www.ic.gc.ca/eic/site/042.nsf/eng/home; Canada. Industry Canada, "National Shipbuilding Procurement Strategy," accessed September 30, 2012, http://www.ic.gc.ca/eic/site/sim-cnmi.nsf/eng/uv00050.html.

[38] Canada. Fisheries and Oceans, "Vessel Procurement," accessed March 14, 2013, http://www.ccg-gcc.gc.ca/vessel-procurement.

[39] Canada. Department of National Defence, "Canada First Defence Strategy," August 5, 2011, http://www.forces.gc.ca/site/pri/first-premier/index-eng.asp.

then published in 2008, remains in force at the time of writing.[40] The policy serves as the foundation of the naval side of the NSPS, as the document confirms the need for fleet renewal and predictable long-term funding in order to deliver a "…balanced, multi-role, combat-capable force that will give the government the necessary flexibility to respond to a full range of challenges in the years ahead."[41] The policy document lays out a 20-year capital investment plan, with a total of $490 billion in spending.[42] This unique approach by the government represents a commitment to both capital acquisition and long-term funding that is rare in Canadian defence policy. The plan included a "detailed assessment of requirements," and signaled a commitment to acquisition programs for destroyers and frigates, fixed wing search and rescue aircraft, fighter aircraft, maritime patrol aircraft, and land combat vehicles and systems.[43] Though CFDS does not necessarily represent an actual commitment from government, it does go further than previous defence White Papers and policy documents in articulating the government's intent for defence spending.

The CFDS also articulates a new approach to acquisition that emphasizes a better working relationship between government and the defence industry, specifically acknowledging that industry would be better served by a procurement process that involves closer consultation with government, in essence fostering a greater transparency about the government's needs and intentions. The policy also discusses a plan to review

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[40] A re-write of CFDS is in progress. See "Defence Strategy Review to Come After Next Federal Budget, MacKay and Defence Chief Say," *iPolitics*, accessed April 8, 2013, http://www.ipolitics.ca/2013/02/22/defence-strategy-review-to-come-after-next-federal-budget-mackay-and-defence-chief-say/.

[41] Canada. Department of National Defence, "Canada First Defence Strategy," 5.

[42] Ibid., 11–12.

[43] Ibid., 16.

and update the government's industrial benefits policies, encouraging long-term defence industry investment in Canada and reinforcing the government's position that its interests align with many of the interests of the defence industry in Canada.[44]

The desire of the political executive in Canada remains the prime mover in the NSPS process. The individuals at the highest levels of political power in the government are likely to support fully, or at least be complicit, in the broad visions and aims represented by the CFDS and the NSPS. Such political support for shipbuilding and capital acquisition for defence has not always been in place in recent history. In 2002, the government's direction to the bureaucracy about shipbuilding and warship acquisition was likely unclear, and there was likely no consensus about shipbuilding. Despite several reports from government departments recommending strategies to revitalize the marine and shipbuilding industry in Canada, no real progress was made.[45] Some dissenting voices within government were quite blunt. A Senior Officials Task Force from PWGSC reported to their Minister:

> …there is no scope for leveling out newbuild procurement as recommended by the report of the National Shipbuilding and Partnership Project…. There is no approved funding for … large ships at this time, regardless of departmental wish lists.[46]

Though the need for a federal shipbuilding plan was arguably no different in 2002 than it is today, there was likely no clear political direction at that time to help build the

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[44] Ibid., 20.

[45] A summary of various initiatives can be found in Kurtz, "Policy, Transformation and Shipbuilding: The Perfect Storm Threatening the Future of Canada's Surface Combatant Fleet," 27–29.

[46] Canada. Industry Canada, *Senior Officials' Task Force Report: Federal Procurement of Shipbuilding and Ship Repair Services* (Ottawa: Industry Canada, 2002), 12, http://graphics.strategis.ic.gc.ca/sc_indps/shipbuilding/graphics/ship_procurement_eng.pdf.

necessary consensus.[47] As Donald Savoie argues, bureaucrats in Canada are responsive when clear direction is received from their political leaders. When political leaders like the Prime Minister, or perhaps influential ministers, devote time and energy to a specific policy objective, the bureaucracy mobilizes to achieve that mission.[48] The political executive can show leadership and focus on an objective, which can then drive the type of consensus that is necessary to push a potentially risky policy like NSPS through to completion. However, as Savoie notes, the Prime Minister's sheer workload means that his ability to devote much time and effort to a single issue is limited, and it is critical that he continue to focus on a specific policy issue to maintain momentum and focus.[49] Therefore, there is significant danger that the political leadership's eventual distraction due to more pressing policy issues can facilitate a derailment or deceleration of a complex program.

A clear desire from the political leadership to achieve results in the shipbuilding or naval acquisition sectors did not exist until very recently. As Paul McLeod reported in June 2012, Minister Rona Ambrose was "…specifically tasked by Prime Minister Harper to push the shipbuilding file."[50] Not only that, but the Prime Minister was likely interested in and consistently supportive of the program. In fact, if the NSPS continued to achieve its milestones without controversy despite a global economic downturn, a federal election, and various other procurement-related controversies, it is probable that

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[47] In the 1996-2002 timeframe, the *Halifax*-class frigates were still new, but navy project initiatives to replace both the *Protecteur*-class and *Iroquois*-class existed.

[48] Savoie, *Governing from the Centre*, 7.

[49] Ibid., 8, 321.

[50] Paul McLeod, "Ottawa: Ship Deal Isn't Leaking," *The Chronicle Herald*, June 12, 2012, http://thechronicleherald.ca/novascotia/106461-ottawa-ship-deal-isn-t-leaking.

the program had significant support from the Prime Minister.[51] Prime Minister Harper probably supported the shipbuilding file from the beginning, and it has clearly remained a political priority long enough for two shipyards to be chosen with minimal controversy or political strife.

Though it is true that political will and a broad consensus is necessary for success, it is also true that they alone are not enough to overcome the real challenges that can arise in a complex procurement process. Other factors must be at play to deliver a consistent and professional procurement; yet for the NSPS, these factors are not necessarily the issues that one might expect.

**Setting up for Shipbuilding Success: A Deliberate Design**

In Summer 2009, the government signaled a desire to create the strategic arrangement to build government ships in Canada. The first consultation with industry was the government-sponsored Shipbuilding Forum in 2009. The initial concepts for the NSPS were presented to industry and government players in the hope that honest feedback could be assessed and incorporated into the process.[52] In fact, this first step in industry engagement was in line with CADSI's procurement reform recommendations of 2009, that is, to proceed "…with a more flexible and realistic approach, in combination with industry, to [reconcile] trade-off decisions before locking budget, schedule, and requirements into a [Request for Proposal]."[53] A consensus emerged that a two-shipyard

[51] The global economic downturn that began in 2008, the federal election of 2011, and procurement controversies centred primarily on the Joint Strike Fighter. These procurement issues will be discussed later in this paper.

[52] Canada. Public Works and Government Services Canada, "Backgrounder: Shipyards Help Define the Procurement and Evaluation Process - NSPS - Buying and Selling - PWGSC," October 7, 2011, http://www.tpsgc-pwgsc.gc.ca/app-acq/sam-mps/ddi-bkgr-2-eng.html.

[53] CADSI Marine Industries Working Group, *Sovereignty, Security and Prosperity - Government Ships - Designed, Built and Supported by Canadian Industry*, vi.

strategy to build large ships was appropriate, as there was "…insufficient work to create and sustain employment in more than two locations over the long term."[54] This approach signals two major decisions by the government: the first being to build the ships in Canada, and the second being that the way ahead would be to select just two shipyards for the federal building program.

In June 2010, the government officially announced the NSPS, describing the aim of the program as an effort to combine long-term strategic planning with an enhancement of regional and industrial benefits, all while encouraging Canada to develop workforce skills and industrial techniques that are competitive on a global scale.[55] The intention was that two shipyards would be selected in a process that was competitive, fair, and transparent. The two shipyards would then be publicly declared as the long-term strategic partners for the production of government ships, with one yard building non-combat vessels and the other yard building combat vessels.[56] The non-combatant package consisted of Canadian Coast Guard (CCG) ships such as an Offshore Oceanographic Science Vessel, three Offshore Fisheries Science Vessels, a Polar Icebreaker, as well as a 2 or 3 RCN Joint Support Ships. The combatant package consisted of ships for the RCN, namely 6-8 Arctic Offshore Patrol Ships and up to 15 Canadian Surface Combatants.[57] The complete shipbuilding package was quoted as being worth $33 billion with a scheduled timeline of 20 to 30 years. It is interesting to note that the government was actually open and transparent when it disclosed throughout

[54] Canada. Public Works and Government Services Canada, "A Unique Process."

[55] Ibid.

[56] Ibid.

[57] Canada. Public Works and Government Services Canada, "Backgrounder: The Ships to Be Built - NSPS - Buying and Selling - PWGSC," October 7, 2011, http://www.tpsgc-pwgsc.gc.ca/app-acq/sam-mps/ddi-bkgr-7-eng.html.

the process that the actual dollar figures would need to be negotiated as part of the contract award process for each specific ship project.[58]

A qualification phase was completed in order to narrow down the field to only the serious contenders, leaving five shipyards as potential winners: Vancouver Shipyards (Seaspan), Kiewet Offshore Services, Seaway Marine & Industrial, Irving Shipbuilding and Davie Yards.[59] The government then engaged these short-listed shipyards on the content of the Request for Proposals (RFP), which included the draft umbrella agreements, a proposed bid evaluation scheme, and a schedule for the procurement and the bid evaluation itself. This engagement activity was intended to ensure that the government produced the best possible competitive process while being seen as fair, impartial and transparent. The government effectively applied its industry engagement approach, as the shipyards were able to critique the process and make recommended changes, which essentially co-opted the shipyards into the process and helped to avoid controversy or difficulties once the competition began.[60]

The RFP was released in February 2011 with a closure deadline date of July 2011. PWGSC received five bids: two bids for the combatant package, and three for the non-combatant package. A team composed of Canadian Forces members and public servants from DND, Department of Fisheries and Oceans, Industry Canada, and PWGSC

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[58] Canada. Public Works and Government Services Canada, "NSPS - Frequently Asked Questions - National Shipbuilding Procurement Strategy (NSPS) - Military and Marine Procurement - Buying and Selling - PWGSC," October 7, 2011, http://www.tpsgc-pwgsc.gc.ca/app-acq/sam-mps/faq-eng.html.

[59] Canada. Public Works and Government Services Canada, "Canada News Centre - Results of Shipbuilding Qualification Process," News Releases, accessed September 30, 2012, http://news.gc.ca/web/article-eng.do?crtr.sj1D=&mthd=tp&crtr.mnthndVl=&nid=565129.

[60] Canada. Public Works and Government Services Canada, "Shipyards Help Define the Procurement and Evaluation."

evaluated the proposals until October 2011.[61] The bids themselves were reported to be quite large and extensive. Irving's president at the time reported that the company's engineering and planning teams spent more than a year preparing the bid, and the bid itself "… filled 16 bankers boxes (eight for each of the combat and non-combat packages under the NSPS request for proposals) with plans, diagrams and other detailed documentation."[62]

The government's intent was to design a procurement process that could be impartial and apolitical. In other words, it was to be free from the interference of politicians and able to withstand scrutiny both before and after the selection process. The bid evaluation plan, therefore, was critical to the success of the strategy as a whole. The plan needed to address criteria that would differentiate the shipyards in a way that convinced Canadians that the winners were indeed the best choices available for the task. In order to make such a convincing selection possible, the evaluation team looked at mandatory requirements in administrative, legal and financial areas, meaning that criteria in these areas were must-have minimums for the shipyards to be considered at all. The team also evaluated requirements covering the current state of the shipyards against international benchmarks, the shipyard plans to bridge the benchmarking or capability gaps identified, the proposed costs to Canada for shipyard upgrades, the current shipyard financial status and the value-for-money proposal made by each shipyard.[63]

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[61] Canada. Public Works and Government Services Canada, "An Independent Process to Select Shipyards."

[62] Mark Cardwell, "National Shipbuilding Procurement Strategy: What's Next? Irving Shipbuilding, Seaspan Hope to Complete Umbrella Agreements by Year-end," *Canadian Sailings*, November 14, 2011, http://www.canadiansailings.ca/?p=3254. The author's personal experience as an evaluator of the shipyard improvement plans confirms the sheer physical size of the bids submitted by the bidders.

[63] Canada. Public Works and Government Services Canada, "Backgrounder: Achieving Best Value in Shipyard Selection - NSPS - Buying and Selling - PWGSC," October 7, 2011, http://www.tpsgc-

Two key innovations that were part of the bid evaluation process and that will remain a part of the long-term agreement were the introduction of metrics to measure the performance of the shipyards, as well as commitments from the shipyards to deliver what is called the *value proposition.* These two innovations are intended to ensure that Canadians receive good value-for-money for the government's commitments. Both the shipyard metrics evaluation and the value-for-money aspects of the shipyard plans were intended by the government to be a part of the negotiated agreements between government and the shipyards.[64] The strategy was designed to allow a periodic and objective method of evaluating shipyard efficiency, economic value for Canadians, and the efficient execution of industrial and regional benefits policies throughout the process.[65]

In order to counter-act either the real or perceived lack of expertise within the government workforce, the NSPS leveraged the use of third-party experts like First Marine International (FMI), KPMG and PricewaterhouseCoopers (PwC). These contactors were paid during the competitive process in order to inform RFP development, the bid evaluation plan, and during the bid evaluation activity itself, lending some significant industry credibility to the endeavour. PwC is a professional services firm that was hired by government to appraise the portions of the bids pertaining to mandatory financial requirements, financial health of the bidders, financial plans and value

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pwgsc.gc.ca/app-acq/sam-mps/ddi-bkgr-6-eng.html; Canada. Public Works and Government Services Canada, "An Independent Process to Select Shipyards."

[64] Canada. Public Works and Government Services Canada, "Backgrounder: National Shipbuilding Procurement Strategy—Economic Benefits - NSPS - Buying and Selling - PWGSC," October 7, 2011, http://www.tpsgc-pwgsc.gc.ca/app-acq/sam-mps/ddi-bkgr-5-eng.html.

[65] Canada. Public Works and Government Services Canada, "NSPS - Frequently Asked Questions - National Shipbuilding Procurement Strategy (NSPS) - Military and Marine Procurement - Buying and Selling - PWGSC."

proposition plans. FMI is a marine consulting firm whose shipyard benchmarking system has been used to assess over 150 shipyards worldwide.[66] The firm was engaged to assess the current state of the shipyards and to provide realistic targets for upgrades and improvement to their operations. FMI visited the short-listed shipyards during the development phase, providing detailed feedback on technical and management capabilities, which provided the shipyards with opportunities to comment on and discuss the findings prior to the commencement of the bid preparation period. This inclusive process meant that by the time of the issue of the RFP, each shipyard had formally accepted the conclusions of the FMI capability reports.[67] The government was signaling that it wanted the ships built under the NSPS to use modern shipbuilding techniques in order to maximize quality, minimize cost, and generally enable government to be a smart buyer and smart manager of the complex and expensive ship acquisition process. FMI also participated in the bid evaluation, appraising the shipyard improvement plans included in their bid packages, in order to inform the decision making process of the government evaluation team.

The use of an independent fairness monitor to provide a trusted, impartial assessment of the process was also critical to the success of the endeavour. The fairness monitor was an experienced and respected individual from a joint venture of Knowles Consultancy Services and Hill International.[68] This individual was present to observe the bid evaluation process, government officials' meetings with industry, and even the

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[66] Ibid.

[67] Canada. Public Works and Government Services Canada, "An Independent Process to Select Shipyards."

[68] The fairness monitor was a retired Royal Canadian Air Force general officer, Mr. Peter Woods. See "CBC News - Halifax, B.C. Yards Win Shipbuilding Work," accessed March 3, 2013, http://www.cbc.ca/m/rich/news/story/2011/10/19/pol-shipbuilding-announcement.html.

meetings where the results of the competition were briefed to the highest levels of government.[69] In fact, the fairness monitor's opinion expressed at the press conference announcing the winning shipyards influenced the positive media coverage at the time. He was quoted as saying, "…decisions were made objectively, free from personal favouritism and political influence, and encompass elements of openness, competitiveness, transparency and compliance."[70] The fairness monitor and the third-party experts described above helped legitimize the whole process during the preparation phase as well as during the bid evaluation itself. The government attempted to create a fair and professional process in the eyes of the competitors involved, and in so doing they reinforced the consensus that was necessary to initiate the program in the first place.

The final aspect of the design that encouraged a successful end was the governance structure. The NSPS process included a series of committees with decision-making power that were able to leverage the keen political desire for success and conflict.[71] The governance structure for this competition was unique. Two major committees or groups dedicated to the shipbuilding strategy met regularly to evaluate the progress of the competition, assessing the openness and the fairness of the process, and provide policy guidance and attention as necessary. These committees included a quarterly meeting of the Deputy Ministers from National Defence, Fisheries and Oceans Canada, and Industry Canada. A committee of Assistant Deputy Ministers from these same departments met more often to resolve issues and maintain momentum.[72] Finally,

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[69] Canada. Public Works and Government Services Canada, "An Independent Process to Select Shipyards."

[70] Ibid.

[71] Canada. Public Works and Government Services Canada, "Shipyards Help Define the Procurement and Evaluation."

[72] Canada. Public Works and Government Services Canada, "An Independent Process to Select Shipyards."

the NSPS Secretariat was the full-time body of public servants and military officers who designed and implemented the strategy.[73] This secretariat was led by PWGSC and was fully responsible for the innovative design of the NSPS procurement strategy. Though much of the success of the NSPS can be attributed to the convergence of like interests related to shipbuilding, many other factors could have caused a serious derailment of the process. Almost every problem solved that kept the NSPS process on track can be attributed to the thorough work performed by the individuals within the Secretariat.

Unfortunately, no matter how efficient or effective the managers of the NSPS were, limitations built into the scope of the program exist. The NSPS is indeed innovative and groundbreaking, but there are gaps in the program that were perhaps necessary to achieve consensus for the program itself. These gaps represent fundamental risks that could jeopardize some of the goals of interested parties like the RCN.

**An Incomplete Strategy: Victory Today Only?**

Prime Minister Harper announced in January 2012 that two agreements-in-principle had been reached with the winners of the competition, Irving Shipbuilding and Seaspan Marine. Public Works Minister Ambrose announced the signing of the umbrella agreements a month later on 15 February 2012.[74] These events resulted in mostly positive press and media attention.[75] But some misconceptions and misunderstandings

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[73] Ibid.

[74] Prime Minister of Canada, "PM Announces Agreement in Principle with Irving Shipbuilding Inc.," January 1, 2006, http://www.pm.gc.ca/eng/media.asp?id=4607; Prime Minister of Canada, "PM Announces Agreement in Principle with Seaspan Marine Corporation," accessed October 1, 2012, http://pm.gc.ca/eng/media.asp?id=4609; Canada. Public Works and Government Services Canada, "Canada News Centre - Canada Signs Long-term Agreements with NSPS Selected Shipyards."

[75] Jeffrey Simpson, "At Last, a Cure for Government Procurement," *The Globe and Mail*, October 26, 2011, http://www.theglobeandmail.com/commentary/at-last-a-cure-for-government-procurement/article4403540/; Susan Riley, "Shipbuilding Contracts Done Right," *Edmonton Journal*, October 24, 2011, http://www2.canada.com/edmontonjournal/news/ideas/story.html?id=6f6b034a-2a10-

about the details of the NSPS were commonly reported on in the media, and the government's eagerness to bask in the glow of successful media coverage meant that few efforts were made to correct these misconceptions. The first issue comes from the consistent reporting about the budget for the program (the number quoted was usually $33 billion) and the status of the competition and the announcements as an award of a government contract. The reality of the situation was different, and for the most part, the government did not initially correct the misconceptions. At the time of the announcement of the winning shipyards and the Prime Minister's announcement of the agreements-in-principle, the $33 billion figure was never confirmed in any official government documentation or speeches. The overall budget for the NSPS is conspicuously missing in the Prime Minister's press releases and speeches announcing the agreements-in-principle in January 2012.[76] The government's documentation began confirming the figure of $33 billion at the time of the signing of the umbrella agreements, but the government's choice of words is telling: "…[t]he total value of both projects is $33 billion; the projects will span 20 to 30 years."[77] A careful reading of the government current press statements confirms the value of the projects, but in the first few months

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4704-83b5-97bc29edec0b&p=2; Steven Chase and Bertrand Marotte, "Halifax, Vancouver Win $33-billion in Shipbuilding Sweepstakes," *Globe and Mail*, October 2011, http://www.theglobeandmail.com/news/politics/halifax-vancouver-win-33-billion-in-shipbuilding-sweepstakes/article558147/.

[76] Prime Minister of Canada, "Government Concludes Agreement in Principle with Irving Shipbuilding Inc. to Build Combat Vessels for the Royal Canadian Navy," accessed October 1, 2012, http://pm.gc.ca/eng/media.asp?id=4576; Prime Minister of Canada, "Government Concludes Agreement in Principle with Vancouver Shipyards Co. Ltd. to Build Non-combat Vessels," accessed October 1, 2012, http://pm.gc.ca/eng/media.asp?id=4578; Prime Minister of Canada, "PM Announces Agreement in Principle with Irving Shipbuilding Inc."; Prime Minister of Canada, "PM Announces Agreement in Principle with Seaspan Marine Corporation."

[77] Canada. Public Works and Government Services Canada, "Canada News Centre - Canada Signs Long-term Agreements with NSPS Selected Shipyards."

after the selection of the shipyards, the government had not yet corrected the common misconception that actual contracts were awarded.

Several months after the signing of the umbrella agreements, Canadian reporter Lee Berthiaume quoted NSPS Secretariat official Terry Williston's clarification of the situation:

> There's this understanding… that we've awarded contracts worth $33 billion… we haven't awarded any contracts yet. We've selected the two shipyards with which Canada will engage in negotiations for the contracts that are part of the NSPS work packages. But there's a tremendous amount of difficult work to be done in order to get those contracts.[78]

Very little additional media coverage at the time reflected the reality of the new relationship between the government and the two shipyards. An excellent article written by *Halifax Chronicle-Herald* reporter John Demont captured the reality of the situation, but this local newspaper's coverage did not reflect the erroneous coverage in the national news media.[79] Only months later, in the winter of 2013 and as this paper is being written, have national media outlets begun reporting on these types of questions regarding the budgets for the NSPS and the progress of the individual ship contracts that are part of the work packages.[80]

In addition to these misconceptions about the nature of the agreement between government and the shipyards, there appeared to be significant confusion about the scope of work that is part of the NSPS. The issue, put simply, is that NSPS guarantees that the

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[78] Berthiaume, "Canada's Massive Shipbuilding Plan Headed for Stormy Seas."

[79] John Demont, "Shipyard Project May Shrink," *The Chronicle Herald*, June 11, 2012, http://thechronicleherald.ca/business/106033-shipyard-project-may-shrink.

[80] For example, see Lee Berthiaume, "Government Underestimated Cost of New Ships, Budget Watchdog Says," *Ottawa Citizen*, accessed April 20, 2013, http://www.ottawacitizen.com/news/national/Government+underestimated+cost+ships+budget+watchdog+says/8029007/story.html; Erin K. Barkel and Tolga R. Yalkin, *Feasibility of Budget for Acquisition of Two Joint Support Ships* (Office of the Parliamentary Budget Officer, February 28, 2013), http://www.pbo-dpb.gc.ca/files/files/JSS_EN.pdf.

building of the federal fleet occurs at Canadian shipyards by Canadian firms. The other aspects of shipbuilding, however, are not necessarily intended to occur in Canada within the NSPS framework. That means firms based outside of Canada may complete the significant (and expensive) activities like ship design, systems engineering, and systems integration. This fact was not well understood in the general public, and this misconception represents some key areas for potential divergence in the future. Mr. Peter Stoffer, the New Democratic Party's critic for shipbuilding, called the NSPS "…the largest government procurement contract since World War II…" and went on to write that the Opposition wants:

> …to ensure that Canada's shipbuilding and marine industry will be involved in every aspect of this procurement project, including design, engineering, manufacturing, and building the vessels from stem to stern. Every component of these vessels, where possible, should be designed or manufactured in Canada, including the overall vessel design, electrical work, computer and weapon systems, and steel production.[81]

The problem with Peter Stoffer's view is that neither of the shipyards is meant to design the government vessels by themselves. Canadian companies are not, for the most part, capable of serving as design houses or systems integrators for the more complex platforms of the planned federal builds. This reality is reflected in the progress of some of the ship programs. For example, the Joint Support Ship program is pursuing two separate designs, one from TKMS in Germany and another from BMT Fleet Technology based in Kanata. A Spanish company, Navantia, was initially involved in the competition as well but withdrew for financial reasons.[82] The German design, if selected, would mean that a significant portion of the engineering and design effort would be completed

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[81] Peter Stoffer, "Made in Canada?," *Vanguard Canada*, accessed September 30, 2012, http://www.vanguardcanada.com/NavyShipsMadeOrAssembledInCanadaStoffer.

[82] Barkel and Yalkin, *Feasibility of Budget for Acquisition of Two Joint Support Ships*, 3–4.

offshore. This situation goes against the wishes of some interest groups in Canada as represented by individuals like Peter Stoffer and industry lobbyists like Peter Cairns.[83] The design and engineering work for the Canadian Surface Combatant, for example, is likely to be lucrative for industry. Unfortunately for Canadian industrial interests, it is almost certain that a European or American design house and engineering firm will be required to complete the work for the project.

Defence procurement issues have not been politically helpful for Prime Minister Harper's Conservative government so far. Projects like the F-35 Joint Strike Fighter, the Fixed Wing Search and Rescue aircraft, the medium-weight army truck replacement and the Joint Support Ships have each caused the government political problems. The NSPS was a successful venture, and the government used its success to leverage and create positive reinforcement throughout the media, but the utility of NSPS as a successful venture may come into question in future. In the long run, the public view on whether or not the NSPS was a successful venture will actually depend on the ship acquisition projects themselves. The NSPS set the framework for the shipyard portions of the program, but the true success of the projects depends on standard government procurement processes. And it is in these detailed procurement activities where the significant risk of failure exists. The government has problems maintaining reasonable procurement timelines, predicting costs for acquisitions, managing expectations about those costs, and managing the requirements and expected capabilities of projects. These are all challenges that NSPS does not address or facilitate in any definitive way.

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[83] Peter Cairns is the president of the Shipbuilding Association of Canada. See Cairns, "Shipbuilding and Industrial Preparedness."

The NSPS by itself is a program about shipbuilding that does not actually control whether or not shipbuilding contracts are awarded to the shipyards. The NSPS is a necessary and important agreement between government and the two winning shipyards, but the health of the acquisition contracts themselves remain in the hands of the program managers in DND and DFO. The Treasury Board remains the ultimate approval authority for these ship acquisition projects. In fact, the bulk of the work, risk and uncertainty is in the hands of the Cabinet ministers who sit on the Treasury Board, as well as the bureaucrats and military officers whose job it is to navigate the lengthy procurement process. Former RCN Commander David Peer observed: "…we must accept that the playing field has changed, but the game has not really started … a boom and bust could still occur if forces contrive to delay or affect the plan for continuous work."[84]

Peer's concerns about the potential for another boom and bust cycle are valid. The uniqueness of the NSPS, however, goes a long way to ensuring that at least the initial shipbuilding programs can make good progress. And there are signs that the initial projects might in fact be proceeding, if not according to the initial scheduling expectations.[85] Unfortunately for the RCN, the uniqueness of the NSPS also puts in place the circumstances that threaten the RCN's vision for itself. It is this vision and the ambiguity inherent in the concept of a combat-capable and expeditionary fleet that must

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[84] David Peer, "The NSPS Shipbuilding Strategy: What Are the Risks?," *Canadian Naval Review*, October 21, 2011, http://www.navalreview.ca/2011/10/the-nsps-shipbuilding-strategy-what-are-the-risks/.

[85] Canada. Public Works and Government Services Canada., "Announcement of a Definition Contract for the Arctic/Offshore Patrol Ships," accessed March 14, 2013, http://www.tpsgc-pwgsc.gc.ca/medias-media/dm-ms/2013-03-07-eng.html; "Groundbreaking Ceremony Marks Official Start of 200M Shipyard Modernization Project.pdf," October 19, 2012, http://www.seaspan.com/docs/PressReleases/PRESS%20RELEASE%20-%20Groundbreaking%20Ceremony%20Marks%20Official%20Start%20of%20200M%20Shipyard%20Modernization%20Project.pdf.

be understood in order to grasp the potential impact that NSPS has on the RCN's future plans.

## CHAPTER TWO – VISIONS FOR THE FUTURE FLEET

What does it mean for the RCN to have a combat-capable, multi-role force? There is ambiguity in such a description. The policy direction that guides the type of fleet the RCN must have is similarly imprecise, and those policy documents have been imprecise at least since the early 1990s. The imprecision of the articulated requirements is inconsequential for the current operational fleet, however, because the RCN fulfills its missions with the fleet it has. But when leaders are struggling to make decisions about costs and capabilities in the defence capital program and specifically in the makeup of the future fleet, the precision of the government's policy guidance becomes far more important. And if the government's understanding of what combat-capable means differs from the RCN's understanding, or if the government's definition changes because of budget or domestic political pressures, the divergence of opinion represents a significant risk to the RCN's ambitions for itself.

### Wiggle Room: What the Government Wants

The *Canada First Defence Policy* (CFDS) describes three roles for the Canadian Forces: a domestic role in the defence of Canada, a domestic role in partnership with the United States defending North America, and a role contributing to international peace and security.[86] The document describes the current government's level of ambition, articulating its desire to do more than simply provide for the defence of Canada and the North American continent, but also to advance the Canadian national interest by participating, and in some cases leading, international military operations.[87]

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[86] Canada. Department of National Defence, "Canada First Defence Strategy," 7.

[87] Ibid.

This vision of the CF and specifically the RCN is not new, nor is it particularly useful in helping to define the precise capabilities of platforms such as those the RCN is trying to build. With the exception of the planned budget forecasts and expenditures in CFDS, the definition of the roles and expected missions for the RCN has not much changed from policy documents such as the 1994 *Defence White Paper* and the *International Policy Statement* on defence released in 2005. There are commonalities in the roles and missions described in each of these three defence policy statements, as each one articulates a high level and vague conception of what the government says it wants its naval forces to look like.

The *1994 Defence White Paper*, for example, articulates the intent for the Canadian Forces (CF) and the country's naval forces to maintain a multi-purpose combat capability to defend Canada's sovereignty, to defend North America and Canada's European allies, and to respond in general to international aggression.[88] The document articulates the government's desire to contribute to international maritime missions such as NATO's Standing Naval Force Atlantic, and to maintain the ability to generate a deployable naval task group for international missions.[89] Just over ten years later, the Liberal government published its *International Policy Statement* on defence, in which its desire to maintain "…modern, combat capable maritime, land, air and special operations forces…" is again articulated.[90] The document also described a standing contingency task force that implied a desire for an expeditionary maritime and joint capability in order

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[88] Canada. Department of National Defence, *1994 Defence White Paper* (Ottawa: Canada Communications Group, 1994), 16, http://www.forces.gc.ca/admpol/downloads/1994%20White%20Paper%20on%20Defence.pdf.

[89] Ibid., 29.

[90] Canada. Department of National Defence, *Canada's International Policy Statement: A Role of Pride and Influence in the World: Defence* (Ottawa, ON: DND Canada, 2005), 10.

to contribute to coalition operations that would foster global peace and security.[91] The additional guidance in the documents involves details about operational tempo and force generation constraints, where the number of deployable ships and submarines as well as the size and endurance of deployable task groups is defined.[92] All three of these documents – the 1994 *Defence White Paper*, the 2005 *International Policy Statement* and the 2009 *Canada First Defence Strategy* – articulate the government's broad intentions for the navy to participate in international operations, and in some cases, in leadership roles overseas. But the documents are too vague to serve as shopping lists for the RCN in terms of actual capabilities and quantities of platforms. The real meaning of combat capability is never defined. The most precise document in terms of capability guidance for the navy is the CFDS, which limits its description of the fleet recapitalization solely as a program to replace current capabilities. The program details only the aim to replace the ships the navy currently has with a number of new ships that would generally perform the same types of missions and tasks.[93] The only new capability that is explicitly described is the Arctic Offshore Patrol Ship.[94] In the absence of explicit guidance from the government, the RCN is therefore free to try and specifically define the type of fleet it needs to meet its roles and missions.

**A Bone in its Teeth: What the RCN Wants**

The RCN has a vision for itself that it articulates strongly. Its own policy documents, as well as the writings and speeches of its leadership, show that the navy

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[91] Ibid., 12–13, 24.

[92] Ibid., 30.

[93] Canada. Department of National Defence, "Canada First Defence Strategy," 17.

[94] Incidentally, this potential platform has been the subject of some controversy. See Michael Byers and Stewart Webb, *Titanic Blunder: Arctic/Offshore Patrol Ships on Course for Disaster* (Ottawa: Canadian Centre for Policy Alternatives, Rideau Institute, April 2013).

wants a force that is more forward-leaning and combat-ready than the options explicitly described by official government policy.

The key strategic documents that describe the navy's roles and missions, however, do align with the government's broad policy guidance. These strategic documents include *Leadmark: The Navy's Strategy for 2020*, released in 2001, and an update to this strategy called *Securing Canada's Ocean Frontiers: Charting the Course from Leadmark*, released in 2005.[95] There is no shortage of emphasis on expeditionary operations in *Leadmark*, nor is there any divergence from the concepts of combat-capable and multi-role naval forces.[96] But *Leadmark* is still fairly restrained. Canada's navy is described as a *medium global force projection navy*, and the document goes on to describe a long-term strategy to develop a flexible force capable of executing the government's foreign policy requirements, but most significantly it limits its ambitions by describing a spectrum of potential missions that ends with "…mid-level military operations."[97] There is no further explanation of what precisely that means. The most likely interpretation is that the warfare capabilities of the *Halifax*- and *Iroquois*-classes were seen as the realistic restraint on the types of missions and roles envisioned for the RCN.

This limitation on the potential intensity of RCN operations appears to have been relaxed after the release of *Securing Canada's Ocean Frontiers*. The 2005 document was meant to reflect the changes in the global security situation after the September 11, 2001

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[95] Canada. Department of National Defence, *Leadmark: The Navy's Strategy for 2020* (Ottawa, ON: Chief of the Maritime Staff, 2001); Canada. Department of National Defence, *Securing Canada's Ocean Frontiers: Charting the Course from Leadmark* (Ottawa, ON: Chief of the Maritime Staff, 2005).

[96] Canada. Department of National Defence, *Leadmark: The Navy's Strategy for 2020*, 12–13, 92.

[97] Ibid., 119.

terrorist attacks in the United States and the subsequent global war on terror. Yet the general description of the RCN's role of maintaining an expeditionary navy requiring flexible, versatile and combat-capable forces did not change.[98] The document takes pains to argue that it is in the national strategic interest to take part in global maritime security, whether it is simply as a coalition partner or as a leader of a coalition of nations.[99] The flexibility of naval forces and the dual domestic-expeditionary role is reinforced, as the document highlights that high-readiness platforms can shift focus from domestic operations to international operations with little trouble, and that the navy's key mission is to foster and demonstrate that flexibility.[100] Despite the changing security environment and the increased operational tempo of the navy from 2001 until 2005, *Securing Canada's Ocean Frontiers* only described needs and capabilities that the existing Canadian fleet could achieve.

The key change in this 2005 policy document, however, was in the navy's articulation of its force development strategy out to 2025. The navy presented a new role and mission that is not part of any previously published direction from the government. The navy's acquisition strategy aimed to do the following:

> …[e]xpand the fleet capability required for joint expeditionary operations with special regard for the future security environment, capable of conducting Sea Control and projecting power ashore in support of the joint battle.[101]

This appears to be an early sign of potential divergence between what the government is expecting a combat-capable force to be, and what the RCN wants itself to

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[98] Canada. Department of National Defence, *Securing Canada's Ocean Frontiers: Charting the Course from Leadmark*, 12.

[99] Ibid., 14.

[100] Ibid., 18.

[101] Ibid., 50.

be. The concepts of joint expeditionary operations and power projection ashore imply very specific capabilities that are not officially articulated anywhere else. These additional requirements also represent missions and capabilities that the current fleet does not have. Some of these implied capabilities include larger caliber guns, land attack missiles, and larger platforms in order to accommodate these weapons. All of these capabilities, but especially the latter two, are achieved by using systems that typically drive potential ship designs to sizes bigger than the current navy platforms, and consequently to costs higher than expected if the aim is simply to replace the current fleet capability.[102] This simple articulation of strategy represents the first instance of a potential divergence between what the RCN wants and what the government is willing to commit to acquiring.

The RCN's published policy documents, and the publications and speeches of its leadership since the release of *Securing Canada's Ocean Frontiers*, have continued to emphasize higher intensity combat capability than is articulated elsewhere by the government. The CFDS does describe the government's aspiration to lead and participate in international operations. These potential missions range from higher intensity tasks similar to Canada's role in Afghanistan to leading naval task groups at sea in coalition enforcement operations.[103] The strategy also communicates the government's intent for the Canadian Forces to be capable of handling multiple core missions simultaneously, which implies a critical or core level of capability and quantity

[102] The 57mm and 76mm guns of the *Halifax*- and *Iroquois*-classes have an anti-air or anti-surface role. Larger guns like 127mm or greater are used for naval fire support. Land attack missiles like Raytheon's Tomahawk and Kongsberg's Naval Strike Missile are common solutions. A suite of land-attack missiles and anti-air missiles are often co-located in a vertical launching system like Lockheed Martin's Mk 41 VLS, or DCNS' Sylver launcher. A launcher big enough to accommodate both the land attack missiles and the anti-air missiles is likely to drive a warship design that is bigger than the current Canadian platforms.

[103] Canada. Department of National Defence, "Canada First Defence Strategy," 9.

of forces.[104] These intentions imply a certain capability for naval vessels in terms of worldwide range and sustainability, but the interpretation of the combat capability requirement is still imprecise.

The RCN's more recent documents clearly attempt to reinforce the idea that a strong navy has a positive impact on Canada's economic prosperity and foreign policy. Again, the specific meaning of what a strong navy is remains unclear, but it is certainly clear that the RCN wants a force that is similar in capability to its currently operational forces, in order to: "…prevent actions against [Canada's] shores and interests by acting elsewhere, before potential enemies can come to [Canada], or disrupt the global economic system to [Canada's] detriment."[105] The RCN sees itself as a flexible and mobile force that can contribute directly to the country's economic prosperity by safeguarding international trade, monitoring the oceans at home and abroad, and supporting other Canadian departments to enforce maritime laws.[106] The navy emphasizes the roles it plays using contingency deployments to support Canadian foreign policy.[107] And, as Philippe Lagassé notes: "…successive governments have relied on the navy to attain diplomatic objectives and meet threats to the North American continent overseas before they arrived near its shores."[108] The confidence expressed in the navy and the consistent demands to deploy on overseas missions appears to have emboldened

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[104] Ibid., 10.

[105] Royal Canadian Navy, "Fact File: Canada's Economic Prosperity," accessed January 26, 2013, http://www.navy.forces.gc.ca/cms/10/10-a_eng.asp?id=295.

[106] Ibid.

[107] Royal Canadian Navy, "Fact File: Canada's Navy Is Important to Foreign Policy," accessed January 26, 2013, http://www.navy.forces.gc.ca/cms/10/10-a_eng.asp?category=24&id=291.

[108] Philippe Lagassé, "Going Coastal? Assessing the Domestic and Expeditionary Roles of the Canadian Navy," in *Naval gazing : the Canadian Navy contemplates its future*, ed. Ann L Griffiths and Eric James Lerhe (Halifax, N.S.: Centre for Foreign Policy Studies, Dalhousie University, 2010), 11–12.

the navy leadership, which has been more explicit in articulating its ambitions since the release of the CFDS.

The last two commanders of the RCN, Vice-Admiral Dean McFadden and Vice-Admiral Paul Maddison, have communicated in their writings and in their speeches a vision for the navy that is distinctly more assertive.

Vice-Admiral McFadden argued that a forward deployed navy that could defend global maritime trade and bolster international economic, political and social ties, was "…not a matter of choice for Canada; it is essential to our way of life."[109] McFadden's choice of words, specifically to "…defend from the sea the conditions that permit the global system to prosper…"[110] demonstrate the active role he saw the navy playing in worldwide political stability. After some discussion of the modern adversary and asymmetric and hybrid warfare at sea, Vice-Admiral McFadden described what he considered naval forces require in order to defeat that adversary:

> War at sea will require fully integrated offensive and defensive actions across all physical dimensions in the maritime domain – from the seabed to space – as well as full use of the electromagnetic and informational environments. There is little doubt that it will require a complete integration of maritime coalition forces at the technical, tactical, and doctrinal levels.[111]

This articulation of a capability is more specific than ever expressed in government policy. It clearly reflects Vice-Admiral McFadden's assessment of the maritime security environment, and it represents his opinion of what a modern combat-capable expeditionary force is required to do. However, in order to achieve the complete

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[109] D. McFadden, "The Navy and Canada's National Interests in This Maritime Century," *Canadian Military Journal* 10, no. 4 (Autumn 2010): 54.

[110] Ibid., 58.

[111] Ibid., 56.

integration that Vice-Admiral McFadden describes, the RCN must specify in its requirements documentation exactly what this integration is intended to be. And though it is relatively easy to describe in general what this integration means, it is probably not a capability that is easily described in a statement of requirements or a request for proposal for industry, and it is not likely that the capability can be acquired and used off-the-shelf without modification. Instead, implementing Vice-Admiral McFadden's vision likely means developmental or innovative technologies, which implies potentially greater costs and technical challenges for government to overcome. The relatively simple and subtle differences between the government's policy documents and the RCN's articulation of its requirements signal that the costs for future ships are potentially greater than initially imagined.

The current commander of the RCN, Vice-Admiral Paul Maddison, is the most interesting and relevant source for the RCN's currently desired capabilities and missions. In his writings and in his speeches, he articulates a mission for the navy that includes not only a sharp-end expeditionary role, but also a mission to realize the RCN's vision for itself in the future. In his commander's guidance, he wrote that the navy's mission is to:

> …generate and maintain combat-capable, multi-purpose maritime forces for employment by operational commanders, both at home and abroad. All of our decisions and actions must work ultimately towards the accomplishment of that enduring and essential mission, but also to realize our vision for the future Navy.[112]

This last comment clearly describes the navy's ambition, but it also reflects the ambiguity in the various visions of what the future of the navy might look like. In November 2012, the government hosted its first industry engagement session regarding

[112] Vadm Paul Maddison, "Commander RCN's Guidance FY 2012/2013 Through FY 2015/2016," November 9, 2011, 3–4.

the Canadian Surface Combatant (CSC) project. The gathered industry and government representatives heard Vice-Admiral Maddison say:

> …the Navy must evolve through the CSC from a globally deployable sea control navy to a globally deployable navy that will be able to act decisively at sea and contribute through joint fires and other enablers to decisive action ashore."[113]

He also said that he hoped the operational reality for the Canadian Surface Combatant would be as a "…21st century warship underway with a bone in its teeth."[114]

The RCN's current vision for itself for the next forty years appears to be more operationally-focused and ready for high intensity operations than government policy guidance explicitly describes. The Joint Support Ship project, after suffering a procurement failure in 2008 and after proceeding through its second project definition phase, appears to be reducing its initial aspirations for the platform's capability. The requirements appear to be moving away from the initial joint headquarters concept to a concept that meets the navy's bare minimum requirement for the platform: an at-sea replenishment ship that can extend the range and sustainability of a deployed naval task force.[115] The Arctic Offshore Patrol Ship is likely to be a lightly armed platform that fills a domestic role in summer arctic ice but is mostly intended to operate in temperate waters.[116] But, with the narrow exception of the navy's ambitions for a submarine

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[113] Vadm Paul Maddison, "What the Admiral Said: CSC Industry Day," November 12, 2012, http://www.navy.forces.gc.ca/cms/10/10-a_eng.asp?id=922.

[114] Ibid.

[115] Canada. Department of National Defence, "Joint Support Ship (JSS)," December 10, 2012, http://www.materiel.forces.gc.ca/en/jss.page; "Canada's C$ 2.9B 'Joint Support Ship' Project, Take 3," *Defense Industry Daily*, accessed March 15, 2013, http://www.defenseindustrydaily.com/canada-issues-rfp-for-cdn-29b-joint-support-ship-project-updated-02392/.

[116] Canada. Department of National Defence, "Arctic/Offshore Patrol Ship (PMO AOPS)," December 10, 2012, http://www.materiel.forces.gc.ca/en/aops.page; "Arctic Offshore Patrol Ships - Canadian American Strategic Review," accessed March 15, 2013, http://www.casr.ca/bg-navy-aops-icebreaker.htm.

capability, the Canadian Surface Combatant is central to the navy's forty-year plan.[117] With the Canadian Surface Combatant the navy is seeking an ability to lead medium-intensity operations worldwide, as well as an ability to participate in higher-intensity operations in the modern maritime security environment. This aspiration implies that the warship requires an ability to defeat complex and capable adversaries in the littorals.[118] The platform is intended to participate fully in joint warfare, including a new capability to deliver joint fires – that is, naval gunfire or land attack missiles aimed at targets ashore in support of army operations. This expanded role implies a more capable and a likely more expensive warship than has yet been described. And it is again this gap between what the navy wants and what the government has actually said that it wants that represents a potentially critical divergence in consensus.

A variance between what the government is expecting and what the navy is attempting to acquire is not necessarily a problem in today's environment. The procurement fiasco of the *Iroquois*-class acquisition in the late 1960s and the 1970s, in which the navy proceeded to acquire a warship that was far more complex and expensive than what the government expected, is unlikely to occur today.[119] It is unlikely that a modern divergence in requirements or expectations will go unnoticed, at least not beyond the procurement approval gates where bodies like the Treasury Board approve funding

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[117] Analysis of the navy's plan for its current and future submarine capability is outside of the scope of the research for this paper. Submarine acquisition is not within the current scope of the NSPS. The unique nature of the history of Canadian submarine operations and submarine acquisition projects makes submarines a healthy area for future research. For the purposes of this paper, the RCN submarine capability can be considered to be important to navy's future vision, but more so on a domestic sovereignty front than on expeditionary roles. See Maddison, "Commander RCN's Guidance FY 2012/2013 Through FY 2015/2016," 12–13.

[118] For discussion on the "contested littorals," see Vadm Paul Maddison, "Strategic Trust and Cooperation in This Maritime Century," *Canadian Military Journal* 13, no. 1 (Winter 2012): 7–14.

[119] Arsenault, "The DDH 280 Program: A Case Study of Governmental Expenditure Decision-Making," 130–132.

for project phases. Unfortunately for the RCN, this means that the fragility of the consensus on the details of fleet recapitalization remains a significant risk. The divergence of expectations for replacement warships combined with the unique nature of the NSPS and the unresolved issues of procurement reform in Canada all combine to put the navy's vision for its future at risk.

## CHAPTER THREE – THREATS TO THE NAVY'S VISION

At the beginning of this paper, Rear-Admiral Norman notes the unprecedented opportunity that NSPS represents for both industry and for the RCN. This program is also an excellent opportunity for the other government departments involved, as well as for the politicians who are from the regions affected by the expected contracts. But in order to meet the aims of the NSPS, all the involved parties essentially made promises to each other that they could deliver an aspect of the program that would be critical to the program's overall success: the marine and the defence industry in Canada must capably support the workload, quality, schedule, and cost expectations for the shipbuilding programs; the government bureaucracy must capably manage the technical, engineering and contractual demands necessary to run so many acquisition programs at once, all under the pressure of fiscal constraints; and, the political executive must support the strategic aims of the program, namely to deliver federal ships, while revitalizing certain sectors of the Canadian defence and shipbuilding industry and creating jobs in specific regions of the country. If either of these first two groups – the industry, or the government bureaucracy – fails to deliver on their promises, or if the country's strategic situation changes, the political executive of the government may then find itself unwilling or unable to support fully the NSPS and associated acquisition programs.

### Canada's Industrial Capability

The planned shipbuilding program and the associated projects will involve a significant expansion of the Canadian workforce in certain parts of the country, a dramatic increase in the required skillsets of that workforce, and a fundamental improvement in the infrastructure of the chosen shipyards.

The challenge of expanding a workforce in order to accommodate new shipbuilding programs is one faced before in Canada. Middlemiss and Sokolsky note that the CPF program experienced delays and potential problems due mainly to the lack of trained engineers and technicians available at the beginning of the project, because the size and complexity of the project demanded a body of trained workers that was simply unavailable.[120] The build-up for the CPF project was necessary because of the loss of skilled workers in the absence of shipbuilding programs over many years; compensating for these losses took time and money at the front-end of the project. In today's environment, again after many years without major naval shipbuilding projects, there is little doubt that a significant ramp-up in skills and resources of the defence industry is required. Industry representatives appear to agree with this point of view. In 2006, Peter Cairns stated that the building of a single shipbuilding project, the Joint Support Ship, would "…tax the production and engineering capabilities of Canadian yards."[121] As recently as 2008, CADSI's governmental relations representative, Janet Thorsteinson, wrote that "…multiple and simultaneous maritime projects will require an industrial capacity that Canadian industry, at the outset, will simply not be able to meet."[122]

The 2009 CADSI report on procurement postulated that key contractor responsibilities should and could be carried out in Canada by Canadian companies, including roles such as prime contractor, design, project management, and systems integration.[123] However, the naval work done recently at both the Seaspan and Irving

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[120] Middlemiss and Sokolsky, *Canadian Defence*, 202.

[121] Cairns, "Shipbuilding and Industrial Preparedness," 2006.

[122] Thorsteinson, "A Managed Approach to Fleet Acquisition," 30.

[123] CADSI Marine Industries Working Group, *Sovereignty, Security and Prosperity - Government Ships - Designed, Built and Supported by Canadian Industry*, v.

shipyards has been ship repair work or ship refit work. This work is an acceptable base from which to start, but designing and building the future ships represents a significant increase in the complexity and skill required.

The complexity of the combatant ships is expected to be much higher than the complexity of the non-combatant platforms. It follows that the amount of innovation and expansion that must occur is greater for Irving than for Seaspan, as the number of platforms and the complexity of the vessels is expected to be greater at the Irving yard than at the Seaspan yard. These different levels of complexity also imply that the risk of failure is higher for the Irving yard than for the Seaspan yard, which directly impacts the expectations for success for the Canadian Surface Combatant.

In order to innovate effectively, two groups of skill sets must be developed: shipyard construction skills and design engineering skills. The first set is related to shipyards and ship construction and includes advanced techniques in build scheduling, steel production, staging, outfitting, modular building techniques, logistics and quality assurance in the shipyard.[124] The NSPS framework accounts for the need to improve these skill areas, and the shipyard expansion and improvement plans attempt to address the shipyards' inherent shortcomings. The skillsets that are not directly shipyard related are in areas like ship design and systems integration. The responsibility for developing these skillsets does not necessarily lie with the shipyards. Both shipyards partnered with other companies during the NSPS bidding process in order to fill gaps in their capabilities in these areas.[125] However, a successful bid did not necessarily imply that the shipyard

[124] Thomas Lamb, ed., *Ship Design and Construction*, New ed. (Jersey City, NJ: Society of Naval Architects and Marine Engineers, 2003).

[125] Both winning shipyards teamed with design houses and platform and mission systems integrators like Lockheed Martin and Thales.

partners would be given exclusive rights to fulfill those roles for the subsequent shipbuilding contracts. This subtlety means that despite any partnerships or teaming arrangements in place between shipyards and other companies in the bidding process for NSPS, only the shipyards themselves were guaranteed work for the actual shipbuilding projects. The question of which companies would perform the design, engineering and systems integration for each ship project remained undefined by the NSPS.

Canadian industry can support the design work required for some of the earlier platforms such as the Coast Guard vessels, but the Arctic Offshore Patrol Ships and likely the Canadian Surface Combatant will require support from a foreign design house. This requirement is expected, at least within certain areas of the defence industry and in government, as Middlemiss and Sokolsky note that foreign companies have helped in Canada before, most notably in the design and project planning support received by Bath Iron Works for the *Halifax*-class program.[126]

The activities inherent in design work include concept designs, preliminary designs, detailed designs, and production designs, but as CADSI reports, "…[the] current capability and capacity in Canada varies significantly among these different design stages."[127]

The RCN and DND no longer have an in-house design capability, which means that the government depends heavily on industry to do this work. Either an independent company like BMT Fleet Technology is hired as a Design, Engineering, Logistics and Management Support (DELMS) contractor to supplement project management offices, or

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[126] Middlemiss and Sokolsky, *Canadian Defence*, 202.

[127] CADSI Marine Industries Working Group, *Sovereignty, Security and Prosperity - Government Ships - Designed, Built and Supported by Canadian Industry*, 15.

the government's procurement strategy must be designed to incorporate design activity in the selection phases of a competition. One of the primary purposes of the early activities at the concept and preliminary design stages is to define the scope of a project and provide the initial cost estimates. The later activities such as detailed design and production design require close integration with the shipyards themselves in order to lower costs effectively and increase overall project efficiency.

Designing and building a warship is not as straightforward as designing just the warship itself. Modern shipbuilding techniques require a thorough engineering process that includes not only what the ship looks like and how it is put together, but also how the production and construction of the ship is to be organized and arranged. This technique is called "design for production." A good design team would need to incorporate not only capability requirements into the design, but also production engineering considerations and ideally supply chain and workforce considerations in order to create an efficient, state-of-the-art build process. No company in Canada is ready to do that today; and it would take some teamwork between multiple industry partners or the birth of a new capability in order to see this type of efficiency in Canada.

The NSPS was structured so that First Marine International (FMI) could evaluate the shipyards, their infrastructures and their processes against international benchmarking and capability standards during the competitive process. These evaluations were also meant to encourage innovation by making shipyard improvements part of the long-term agreements with government. The shipyards are now expected to improve their infrastructures and processes to close the gaps identified by FMI in the bidding process.

The shipyards will be re-evaluated by the government (with FMI's help) at a future point to ensure infrastructure and process improvement occurs.

The issue of prime contractors for the shipbuilding procurements remains a source of risk for both industry and the government. The question of whether or not a Canadian company can serve as prime contractor without significant support from foreign partnerships is open-ended. CADSI reports:

> …several companies operating in Canada have the current industrial and financial capacities, skill sets and processes to undertake the prime contractor/project management of complex ship design and build projects, either with in-house capacity or through reach-back to a corporate partner or parent.[128]

Louise Mercier pointed out that in November 2012, just after the first industry day for the Canadian Surface Combatant, the issue of who will be prime contractor for that project is not yet known, as one of the key purposes of the industry day was to solicit input from potential bidders about suitable procurement strategies.[129] What is clear, however, is that Irving Shipbuilding does not appear to be slated as the prime contractor. This uncertainty and confusion about the prime contractor represents scheduling delays and likely increased costs that will eventually be borne by the government. As Mercier wrote, one of the proposed procurement strategies involves funding design activity during the project definition phase, pitting the designs of the bidding teams against each other. This option allows the government to evaluate capability and costs prior to awarding an implementation contract, though this option also presents some hidden challenges. The immediate issue, however, is that this type of procurement strategy signals that potential

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[128] Ibid., 13.

[129] Louise Mercier, "Unanswered Questions About the Canadian Surface Combatant," *Vanguard Magazine* (January 2013): 34–35.

bidders will need to put together a team that includes international partners to support indigenous capabilities. The CADSI procurement report noted that in the first attempt at bidding for the Joint Support Ship implementation contract in 2008, "…both JSS bid teams had people in four countries on three continents working together on their bids using collaboration technologies and information-sharing environments to communicate when face-to-face meetings were not required or not possible."[130] The aspirations of various actors in politics and industry to have a Canadian-only design and production teams appear to be unrealistic.

The likely international nature of the bidding teams represents potential controversies, challenges, and ultimately, higher costs for procurement. In bidding for these contracts, will industry factor in all the potential problems in their cost estimates? Or will the bids reflect an overly optimistic approach that will only be discovered by government when the contracts have already been awarded?

The practical aspect of how the teaming arrangements for bidders will be organized represents another source of risk and challenge for industry. Typically, industry bidding teams or alliances would form based on their own business development work to fill certain capability gaps. This situation occurred in the *Halifax*-class mid-life refit competition and in the original Joint Support Ship competition. Bidding teams form based on capabilities and on the strategic relationships they have developed. These relationships are developed according to their assessments of competitive advantage. In the case of the NSPS, however, bidding teams will form and will compete to win the contracts, but the shipyards themselves will not be part of the bidding teams, since the

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[130] CADSI Marine Industries Working Group, *Sovereignty, Security and Prosperity - Government Ships - Designed, Built and Supported by Canadian Industry*, 17.

government has already selected them. That means that potential bidding teams and the eventual winning team must work with a pre-determined shipyard. This approach has two implications: first, bidding teams may need to interact with a shipyard during the bidding process in order to complete their bids, primarily to incorporate design for production decisions into the designs they produce for the competition; second, once a bidding team wins an implementation contract, they must then integrate with the nominated shipyard in order to finish the design process and commence construction. There is risk in this process, as there is no guarantee that the shipyards will be ready and willing to submit to the leadership of the prime contractors directing the shipbuilding programs. If the prime contractor has total responsibility for the outcome of the shipbuilding program, some legal and accountability arrangements will need to be worked out between the lead contractor and the shipyard. It is doubtful that these arrangements will be made without some delays or problems, potentially adding both schedule and cost pressures to the original projections made by the government.

The ability of Canadian industry to perform the roles of combat systems and platform systems integrator remains in doubt. CADSI itself reports that for both combat systems and platform system integrators, there is no market of sufficient size to support the design and production of that type of equipment in Canada.[131] It is clear that the Canadian subsidiary that wins the systems integrator contract will need to rely on designs, expertise and materiel from parent companies overseas or in the United States.

The issue of industry engagement and risk sharing is important to consider when searching for potential issues that could derail the procurement process. Industry

[131] Ibid., 19–21.

lobbyists argue for greater transparency through dialogue and by actively balancing risk between government and industry.[132] The issue here is that government and industry need to be able to have a dialogue during the competitive process, mostly for the benefit of the industrial partners. Dialogue helps clarify issues and uncertainty, which helps industry reduce its risk by clarifying government requirements during the bidding process. It also allows industry to influence issues like evaluations plans and RFPs, all to industry's benefit. The concepts put forward by individuals like Ken Bowering and organizations like CADSI implore the government to relax its procurement rules in order to allow some flexibility in the competitive process.[133] The lack of ability for industry to provide feedback to the government in the competitive environment, and the lack of government flexibility to hear that feedback and adjust the process accordingly, is cited as one of the major reasons for the failed Joint Support Ship procurement.[134] The government appears to have incorporated some of these lessons learned into its current strategies such as the NSPS, but industry's concerns about risk balancing and influencing government in the competitive environment have not yet been convincingly addressed.

NSPS was seen as the shining standard of how to use industry engagement to facilitate a procurement project. The techniques used in NSPS have been applied successfully to other DND procurements such as the Contracted Airborne Target

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[132] Ibid., 34.

[133] Bowering, "General Sir Arthur Currie Paper 1-08: Military/Naval Procurement in Canada: A Flawed Process"; CADSI Marine Industries Working Group, *Sovereignty, Security and Prosperity - Government Ships - Designed, Built and Supported by Canadian Industry*, 34.

[134] CADSI Marine Industries Working Group, *Sovereignty, Security and Prosperity - Government Ships - Designed, Built and Supported by Canadian Industry*, 34.

Services.[135] The government sees industry engagement as a way to incorporate feedback from industry prior to commencing the stages of a procurement when it loses the flexibility to make changes and its hands are effectively tied. Industry engagement is important to reduce the government's risk of a failed procurement, which can occur because there are no bidders for a competition, or the bidders submit non-compliant bids that do not meet mandatory requirements such as maximum cost. Industry, on the other hand, wants a productive relationship with government so that they can influence the process and reduce their own risk during the procurement. Failed procurements cost money for industry; a team that loses its bid represents sunk costs for the consortium. If the failed procurement occurs because of government inflexibility in the competitive environment, then this problem is seen by industry as solvable; this is why government inflexibility remains the focus of industry lobbying efforts related to procurement reform.

The final point to be made is that industry engagement as an idea remains sound, but unless the government can find a way to make adjustments and provide industry with some feedback during the competitive process, the original issues cited by Bowering and CADSI will remain unresolved and will remain a source of risk to the procurements.

The issue of balancing risk is also central to modern discussions about procurement reform. Bowering notes in his 2008 article on procurement that current governance structures aim to reduce the risk to government, which means that all the risk gets placed on industry's shoulders. He observed that the cost of procurements are driven up by onerous terms and conditions of contracts, the use of fixed price contracting versus cost plus contracting, liability clauses, and project management oversight requirements.

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[135] "Letter of Interest (LOI) Abstract: Contracted Airborne Training Services Project CATS," accessed April 10, 2013, http://www.merx.com/

Bowering wrote that risk and total system responsibility remain with the contractor, but that government retains all of the control and authority.[136] This situation is unacceptable because, he wrote: "…[it] passes financial risk to the bidders who must also take responsibility for all schedule and technical risk. There's no question of sharing risk; it's all borne by the bidders."[137] This state of affairs is favourable to those in government worried about cost control and risk of failure, but it remains an issue for any actor concerned with timely delivery of equipment, or with industry's need for a business environment in which companies can profit from their activities.

The key conclusion to be made at this point is that industry and its representatives have made promises to each other, namely that the increased demands on the workforce can be met, and that the quality and cost of the work in Canada will be manageable. However, the uncertainties and the risks inherent in Canadian industry represent potential problems in terms of scheduling projects, as well as the cost and quality of the Canadian product. Unfortunately, each of these problems represents a risk that shipbuilding contracts will be reduced in scope or cancelled altogether.

**Managing the Technical Beast: The Government's Task**

The general consensus in academic and critical work about defence procurement in Canada is that the system is flawed, with the biggest frustrations being the long timelines due to seemingly onerous oversight requirements in government. The oversight requirements may exist for good reasons. The government aims to avoid the types of defence procurement problems that occurred in the late 1960s and early 1970s with the

[136] Bowering, "General Sir Arthur Currie Paper 1-08: Military/Naval Procurement in Canada: A Flawed Process," 7.

[137] Ibid.

*Iroquois*-class.[138] There is general consensus over a lack of experienced and trained personnel in government to handle the contractual aspects of procurement, as well as the technical and engineering aspects of procurement. Contractual demands include issues like producing requests for proposal, developing and evaluating proposals, managing the transparency and openness of a competitive environment, and handling the financial and administrative work related to movement of large amounts of public funds. The engineering aspects involve maintaining and evaluating the sheer body of work that contractors will produce in response to government requirements, not only in the bidding process but also in the implementation phase. The engineering and technical work will also include working with bidders and eventual winners to manage ship requirements and perform the cost-capability tradeoffs that will inevitably occur. Finally, government officials must competently serve both in oversight and audit roles related to the financing and execution of procurement projects.

Can DND handle the expected workload? Perry observes: "…[DND] is attempting to move four to five times more major capital projects than it was in 2000 through an Assistant Deputy Minister Materiél organization whose staffing levels are virtually unchanged."[139] A recent briefing to the naval technical community confirmed that the government's project management offices for ship projects numbered approximately 400 people, while the offices of all three naval acquisition projects numbers approximately 100 people today.[140] Even the most optimistic assessment of the

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[138] See again Arsenault, "The DDH 280 Program: A Case Study of Governmental Expenditure Decision-Making."

[139] Dave Perry, "The Navy After the Canada First Defence Strategy," *Canadian Naval Review* 8, no. 3 (Fall 2012): 2.

[140] These figures cited in a town hall meeting held by Captain(N) Marcel Halle, Assistant Director General Maritime Equipment Program Management in September 2012.

situation in government results in a conclusion that the modern project management offices will suffer either scheduling or quality challenges, calling into question expectations about government performance.[141]

Some other critical work that will receive intense scrutiny in the future is warship costing. The issue is complicated and remains a challenge for both industry and the government. The ability of government to predict and estimate costs for the required platforms will become critical. So far, costs for the F-35 acquisition project have become controversial, as confusion and uncertainty over the expected costs and how those costs are developed further added political controversy. As a result, difficult questions are now being raised about whether the requirement for such aircraft is even justified. With respect to shipbuilding, an analysis by the Parliamentary Budget Officer on the cost estimations for the Joint Support Ship is informative and effectively captures the key references informing the debate on the difficulties of performing accurate warship cost estimation. As Perry noted in 2012: "…defence-specific inflation in Canada averages 7%, while for naval ships it can reach as high as 11% annually. Delays of only a few years can see massive erosions of project budgets which result in the acquisition of less capable platforms, reduced quantities, or both."[142] This fact means that as time passes, the actual buying power of the initial budget estimates falls dramatically. When combined with the lengthy procurement timelines in Canadian defence acquisition, budget estimates always appear to be too low to buy what was originally envisioned. With the Canadian Surface Combatant's current cost estimate and budget cap sitting at

[141] The government strategy appears to be, in the author's recent experience, to accept the risk and depend on a leaner and presumably more efficient organization. An analysis of this strategy is outside of the scope of this paper, but the results of such an analysis would heavily influence the arguments presented here.

[142] Perry, "The Navy After the Canada First Defence Strategy," 2012.

$26.2 billion in 2008 dollars[143], the likelihood of cost escalation pressures over time will require increases in the budget in order to purchase the original quantity of fifteen platforms. The implication here is that the project management officer for CSC will feel the impacts of intense scrutiny towards the work done on costing this warship.[144] The passage of time in turn translates into an increase in the political pressures that influence the outcomes of the Canadian Surface Combatant project.

The necessity to perform cost-capability tradeoffs in the design phase is essential in order to find the "sweet spot" that Vice-Admiral Maddison described at the industry day in November 2012.[145] He noted that there is a process that must be followed to balance costs and capabilities and find the best possible warship for a reasonable cost. He observed that the government and industry must work together in order to find this middle ground. Unfortunately, doing cost-capability tradeoffs in a competitive environment is a very challenging thing for any government to manage. For example, if the government provides a performance specification guiding warship design as part of a request for proposal, the bidding process will involve industry teams working to produce a design that meets that performance specification. If, during the design process, one of the bidding teams determines that the way a requirement is described is ambiguous, they may legitimately seek a clarification or a change that would enable their decision-making

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[143] Sharon Hobson, "Frank and Earnest Go Missing," *Canadian Naval Review* 8, no. 3 (Fall 2012): 22; Richard Bray and Chris Thatcher, "New Fleet in Sight – Canadian Navy Builds for Tomorrow," *Vanguard Magazine* (September 2010), http://vanguardcanada.com/new-fleet-in-sight-canadian-navy-builds-for-tomorrow/.

[144] The term escalation is used instead of inflation, as escalation typically refers to the rise in prices of specific goods (in this case, warships), whereas inflation typically represents rises in prices over time in general (such as the U.S. consumer price index.) See Mark V. Arena et al., *Why Has the Cost of Navy Ships Risen? A Macroscopic Examination of the Trends in U.S. Naval Ship Costs Over the Past Several Decades* (Santa Monica: Rand Corporation, 2006), xiv, www.rand.org/pubs/monographs/2006/RAND_MG484.pdf.

[145] Maddison, "What the Admiral Said: CSC Industry Day."

or their particular design approach. This desired change would be discussed with the government, and perhaps a good compromise could be reached. Unfortunately, the compromise might not be favourable to the team's competitors. If that team's competitors are able to provide the solution to the problem in that particular area without the requirements modification, the government has effectively changed the rules of the game and has (perhaps inadvertently) unbalanced the competitive environment. Therefore, the cost-capability tradeoffs that will likely be necessary in a complex warship acquisition process might be very hard to achieve in a competitive environment during the project definition phase. That realization means these tradeoff activities would need to occur after the implementation contract is awarded. But, if the requirements change significantly after the contract is awarded, there is substantial risk that the losing team may look at the requirements that were changed and again raise a legitimate legal argument that the changes in question gave unfair advantage to their competitors. These issues remain unresolved, and they represent risks for political controversy for ongoing shipbuilding programs.

The issue of governance within the bureaucracy and by the political executive is cited as a great key to success in the NSPS so far. In fact, an NSPS-style governance structure was created to manage the ailing F-35 procurement, but it is still too early to judge whether or not this approach will be effective. A governance structure like that of NSPS is certainly helpful if it empowers a unified mission and if it is responsive in resolving problems and mediating potential conflict. Governance is unhelpful, however, if it contributes to a broken consensus and changed requirements or a slowed process. There are plenty of management processes in place today that could be described as

governance. The difference between the typical DND governance structure and the NSPS structure is that the former serves to slow the process down, whereas the latter served to speed the process up and smooth out problems. It is likely that additional governance structures and oversight implemented in the NSPS-style would in fact slow down rather than help ongoing procurements.

Dan Ross, the recently departed Assistant Deputy Minister (Materiel), said in an interview that it was extremely difficult to move any projects forward over the past two years.[146] Ross reported that the end of the Canadian Forces combat mission in Afghanistan meant that internal conflict and disagreement within the bureaucracy became more prevalent. Ross' point of view reinforces the idea that certain procurements in response to immediate requirements in Afghanistan (like C-17 aircraft, and Chinook helicopters) were the exception rather than the rule, and the procurement challenges that authors like Bowering and Alan Williams highlight remain significant.[147]

All these procurement challenges do not happen in a political or fiscal vacuum. There is historical precedent for consensus amongst political parties supporting shipbuilding programs, then pulling back or modifying that support once in power. Middlemiss and Sokolsky wrote that the Liberals and the Conservatives both supported the full CPF program in the 1980s, but that fiscal realities of growing deficits and competing financial demands meant that, once in power, both parties accepted a more

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[146] The Assistant Deputy Minister (Materiel) is often called ADM(Mat), and is responsible for the acquisition and in-service support, in terms of logistics, engineering and project management activities, of defence-related equipment. See Canada. Department of National Defence, "Materiel Group | National Defence | Equipment | Procurement," December 10, 2012, http://www.materiel.forces.gc.ca/en/index.page.

[147] Lee Berthiaume, "F-35: Former Top Defence Official Blames Harper Government Secrecy | Canadian Politics | Canada | News | National Post," *National Post*, accessed January 22, 2013, http://news.nationalpost.com/2013/01/21/former-top-defence-official-defends-handling-of-f-35-file-blames-harper-government-secrecy/; Williams, *Reinventing Canadian Defence Procurement*.

modest CPF program than was originally planned.[148] The fact is that no matter what the typical political rhetoric of a party may be, the realities of the country's financial and political situation drive tough decisions with respect to budget, and these decisions are likely to put some of the RCN's shipbuilding aspirations at risk.

**Running the Country and Staying in Power**

The concerns of the political side of government are far broader than the concerns of either the RCN or DND. Decisions about issues like communications strategy are made based on political objectives, often without a clear understanding of the second- and third-order effects such a strategy might have on the government's other political objectives. In this case, it appears the Conservative government's broader political strategy had unforeseen negative impacts on the procurement plans inherent in the *Canada First Defence Strategy* and its associated defence procurement objectives.

Sharon Hobson wrote in a 2012 article that the timeliness and effectiveness of DND's interactions with the media had, in her opinion, declined since 2006. She cited Canadian defence writer David Pugliese's similar views on DND's effectiveness.[149] Hobson noted that the level of credibility and trust between the media and DND had dropped mainly due to the department's failure to communicate in a way that helped the media cover defence issues thoroughly. She wrote: "…[t]he military can tell us that the F-35 is the only aircraft that meets Canada's requirements, that the Cyclone helicopters will be worth the wait, and that the 15-ship Canadian Surface Combatant program will

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[148] Middlemiss and Sokolsky, *Canadian Defence*, 203.

[149] See David Pugliese, "Conservative Government Won't Give the Canadian Forces Permission to Talk About Their Involvement in RIMPAC 2012 But Here Are the Details | Ottawa Citizen," accessed March 29, 2013, http://blogs.ottawacitizen.com/2012/05/10/conservative-government-wont-give-the-canadian-forces-permission-to-talk-about-their-involvement-in-rimpac-2012-but-here-are-the-details/.

cost just $25 billion."[150] But the question of whether or not DND's communications can be trusted is left unanswered.

Hobson does not explicitly point the finger at the Conservative government, but her choice of the year 2006 as the beginning of the communications breakdown is telling. Other media voices, most significantly the *Globe and Mail*'s Lawrence Martin, have written on Prime Minister Harper's strategy of the centralization of power that manifests in stricter control of messaging across the government.[151] In speaking about DND's ability to deal with the questions about the F-35 controversy, Dan Ross explicitly blames the Conservative government for over-controlling the department, resulting in a situation where DND officials had information the media was seeking but were not allowed to disclose. Ross said: "…[at] the end of the day, communications in federal governments is a political decision… [b]ureaucrats don't get to decide."[152] The impact of this situation is that the media is more likely to scrutinize intensely all communications that comes out of DND, particularly anything related to procurement. Defence procurement in general in the near future is likely to be a political liability for the Conservative government because of the potential for embarrassment.

The realities of the procurement challenges facing industry and government described earlier mean that problems and imperfections in the process will surely arise. These problems will be significant enough that government will not likely be effective in down-playing them. A skeptical media asking legitimate questions about complicated procurement issues will not likely be placated by political messaging, especially not if the

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[150] Hobson, "Frank and Earnest Go Missing," 42.

[151] Lawrence Martin, *Harperland: The Politics of Control* (Toronto: Viking Canada, 2010), 57–71.

[152] Berthiaume, "F-35: Former Top Defence Official."

questions are informing a potentially controversial election issue. Governing the country while preparing for the next election is an exercise in balancing risk for the government. The reality is that when it comes to the public's perception of DND procurement practices, it is unlikely that the government will choose a risk mitigation strategy that aligns with the RCN and DND aspirations for a way ahead.

When writing about the political abilities of Canadian military officers, academic Douglas Bland observed that politicians consider defence policy to be "…endlessly elastic…"[153] whereas military officers tend to "…mistake white paper rhetoric aimed at the domestic audience for an actual long-term policy."[154] Applying this idea to the modern example, it is clear that no matter what the *Canada First Defence Strategy* describes, and no matter what has happened with the NSPS so far, none of it represents a real long-term commitment on the part of government. Bland criticizes the typical military officer who ignores political realities, writing: "…proponents for rational planning often discount inconvenient factors (such as domestic politics) that do not neatly fit into their decision-making equation."[155]

Bland's concept is that military officers have too often behaved as though they did not understand political reality, as though military imperatives and opinions on the best way ahead should not and are not influenced by political oversight, or political concerns about civil and social imperatives. He goes on to write that in the absence of direct political influence on specific defence ways ahead, military officers tend to believe

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[153] Douglas Bland, "Everything Military Officers Need to Know About Defence Policy-Making in Canada," in *Canadian Strategic Forecast 2000: Advance or Retreat? Canadian Defence in the 21st Century*, ed. David Rudd, Jim Hanson, and Jessica Blitt (Toronto, ON: Canadian Institute of Strategic Studies, 2000), 16.

[154] Ibid., 25.

[155] Ibid., 24.

that policy and plans are shaped by the military, rather than by political leaders. He wrote:

> …this warped relationship tempts officers and officials to try to force military views of threats, requirements, self-serving scenarios, and concepts of efficiency down restricted throats to hold the government to general promises or interpretations of white papers as though they were concrete policies; or to disguise service or departmental interests inside broad statements and then to hold governments to positions politicians may never have intended or understood.[156]

Peter Haydon described naval examples of this phenomenon. He observed: "…Canadian history is rich with examples of the failures of various naval staffs to understand the prevailing political factors."[157] He cites Vice-Admiral Brock's 1961 ad hoc study of naval objectives and strategy in terms of defining missions and platforms for the RCN as a particularly valuable example. Haydon observed: "…not only was [Brock's] proposed fleet structure unaffordable, it contained concepts that lay outside the prevailing political view of necessary Canadian naval capabilities."[158] Haydon also pointed out that Brock's strategy completely reflected the RCN's points of view at the time, but the divergence in views between the RCN and the government meant that the political leadership ignored the strategy.[159] It is this divergence in views that is important to an analysis of the current situation. In the 1960s, the cancellation of the General Purpose Frigate was a key result of this divergence in views, as well as the follow-on debates about the purposes and roles of the navy. These debates soon developed into far greater strife and controversy, resulting in the resignations of several senior admirals and

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[156] Ibid., 25.

[157] Haydon, "What Naval Capabilities Does Canada Need?," 21.

[158] Ibid.

[159] Ibid.

the loss of the traditional identity and roles of the RCN.[160] The lesson to be drawn from this historical period is that the current shipbuilding and acquisition situation is similar in many respects, which means that the potential divergence in thought represents some danger to the RCN's vision for itself.

**The Coming Storm**

The last ships scheduled for design and build in the NSPS program are the Canadian Surface Combatants at the Irving shipyard. Any significant problems arising either in the shipyards, the workforces or in procurement processes will become known and understood during the initial shipbuilding projects such as the Coast Guard vessels, or the Arctic Offshore Patrol Ships. And, like the *Iroquois*-class problems in the 1970s, if a project is already deep into the implementation phase, a good probability is that the government will accept the problem while making definitive moves to avoid similar issues from happening again.[161] That means that any big problems or issues that arise in the earlier shipbuilding programs will impact the Canadian Surface Combatant project either directly or indirectly. Though some problems occurring may positively impact future projects, political and procurement history in Canada points towards a more negative outlook for the future.

No matter what happens with later projects, it is clear that as long as the first shipbuilding programs – the JSS, the Coast Guard vessels and the AOPS – are built, then some politicians can declare victory. The initial aims of boosting the marine industry and creating jobs in certain areas of Canada will have been met before the Canadian Surface

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[160] Marc Milner, *Canada's Navy: The First Century*, 2nd ed (Toronto: University of Toronto Press, 2009), 237–245.

[161] Arsenault, "The DDH 280 Program: A Case Study of Governmental Expenditure Decision-Making," 132.

Combatant is even started. The secondary aim of replacing the workhorse of the RCN will not have been met, but as the *Halifax*-class will be usable until the 2020s, it is possible that the reality of the situation will drive significant decisions and compromises that represent a crisis for the RCN.

What are these unpalatable compromises? The government could order a change in its desires for the roles and missions of the RCN. The government could (for once) be more specific about what it wants the navy to do, but in a way that does not align with the RCN's ambitions. There is much precedent when it comes to the political leadership imposing requirements on the RCN. The AOPS itself is a prime (and expensive) example of a capability the government forced the RCN to acquire.[162] The government could easily set limits on the types of international expeditionary operations it needs to be able to do, including providing some clear direction about getting out of mid-intensity combat operations and focusing on enforcement operations world-wide. It can signal its desire to forgo the idea of leading naval task groups in operations overseas, and focus on integrating and participating in task groups led by other nations. There is a big difference in the capabilities required to lead a joint naval task group effectively at the operational level, as opposed to the capabilities required merely to integrate into a coalition task group and provide some measure of value. The range of options of what a Canadian ship can provide are still wide when it merely participates, as opposed to leads, in a coalition task group.

[162] The Conservative government's initial desire for three icebreakers eventually morphed into the 6-8 Arctic Offshore Patrol Vessels with the release of the CFDS. See Diane DeMille and Stephen Priestly, "Stephen Harper Announces the New Defence Policy Put Forward by the Conservative Party of Canada - Pt 2," *Canadian American Strategic Review*, accessed April 10, 2013, http://www.casr.ca/ft-harper1-2.htm.

The aspiration for future navy ships to participate fully in the joint battle, specifically in joint fires and in support to army forces ashore, may never be realized if the costs and complexity for these capabilities remain too high. The basic navy desire for a modern area-defence platform that can protect both land forces and nearby naval forces from air attack may also be questioned. The anti-ship missile defence requirements for the Canadian Surface Combatant, for example, are based on classified assessments of the threat environment of the 2020s and beyond. The complexity and sophistication of anti-ship missiles is increasing dramatically; yet, the RCN will never be able to describe explicitly the rationale behind the sensors and effectors it will need to defeat this threat. The analysis, decisions and compromises related to quantities and capabilities of anti-air missiles and associated sensors will be solely dependent on the classified assessments about the expected threats. It is difficult for the RCN to justify large expenditures that it cannot properly explain without disclosing classified information. This is especially true when the RCN attempts to do so without the support of the political leadership.

Authors like David Mugridge have argued that the practice in Canada of using frigates and destroyers as escorts and as the "jacks-of-all-trades" is not an absolute necessity. Indeed, he argued that enforcement operations should guide the RCN's future requirements:

> …high-end capabilities need to be maintained, but not to the financial and operational detriment of the navy and its professional personnel. Enforcement operations are increasingly required by mature national security policies, and they are best done by ocean-going patrol vessels.[163]

[163] David Mugridge, "Is There Something Wrong with Our Bloody Ships Today?," *Canadian Military Journal* 10, no. 3 (Summer 2010): 65–66.

The key here is that external pressures, be they fiscal or political, may drive the government to look at options to save some money, or to reduce the scope or complexity of the missions of the RCN. As Aaron Plamondon wrote, the factors of project efficiency or value for money do not usually drive the military's decision-making process:

> …[m]uch of how the military behaves regarding these acquisitions is dictated to them by the civil power, and they are forced to comply with government purchasing strategies that are completely illogical from the perspective of military capability.[164]

Plamondon commented further that even the military's statement of requirements is often heavily influenced by the government of the day. The military cannot afford to ignore the government's wishes in terms of capability requirements, as the alternative is to be ignored completely. Nothing happens in defence procurement unless there is at least tacit support by the political executive.[165]

A change in government is the final factor that could have a tremendous impact on the RCN's future ambitions. General Rick Hillier's arrival as Chief of Defence Staff in 2005 was the beginning of a change in public perception about the role of the Canadian Forces, with a greater emphasis on the combat-capability of the deployed Forces. The rhetoric increased even more significantly with election of the Conservative minority government in 2006, followed by the policies inherent in the *Canada First Defence Strategy*, as well as the operational imperatives of the ongoing commitment of troops in Afghanistan.

Aaron Plamondon wrote, however, that opposition rhetoric about procurement programs have been successfully used as election issues, as far back as the 1960s, but

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[164] Plamondon, *Equipment Procurement in Canada and the Civil-Military Relationship: Past and Present*, 36.

[165] Ibid.

most significantly in 1993 with the EH-101 helicopter cancellation. The Liberals vowed to cancel the project if they won the election, which they did within hours of taking power after the Liberal victory. In 2011, the Liberal government threatened to cancel the F-35 acquisition, much as they had threatened the EH-101 acquisition.[166] Plamondon cited uncertainties about costs and issues with a developmental platform like the F-35, and he observed: "…the longer these uncertainties of the F-35 procurement go on, the more susceptible it is to attack by those with a political agenda that does not consider the needs of the CF."[167] Any potential problems with the planned shipbuilding programs represent serious political fodder for the government's opponents. Platforms like the Canadian Surface Combatant will be developmental, expensive and complex to design and build. The inevitable challenges for both industry and the government to shepherd this project from inception to delivery is likely to result in significant resistance and perhaps even attack from these same political opponents, no matter what the capability requirement is for the Canadian Forces.

Martin Shadwick's analysis of the looming fiscal constraints and the unaffordability of the government's defence policy described what tough decisions Canada may be required to make, potentially "…replacing three multi-purpose, combat-capable services with two (or fewer?) multi-purpose, combat-capable services, and one essentially constabulary service."[168] The types of decisions that government may be forced to make may be to reduce the capability and missions of the RCN, resulting in a dramatic reduction in expectations for the Canadian Surface Combatant.

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[166] Plamondon, "Amnesia in Acquisition," 266–267.

[167] Ibid., 266.

[168] Martin Shadwick, "Reviewing Defence Policy," *Canadian Military Journal* 12, no. 4 (Autumn 2012): 81–82.

Two officers from the navy's Directorate of Maritime Strategy published a paper in 2004 that reflects the navy's view in *Leadmark* as well as clearly anticipating or paralleling the work these two officers likely did in helping draft the document *Securing Canada's Ocean Frontiers*. They noted:

> …in the end, it is what the government is willing to buy rather than what the navy wants that establishes the nature of the fleet. Yet, without a politically approved core naval policy, every program is subjected to departmental review within a very broad menu of force requirements, long and short term.[169]

The interested observer in Canadian naval affairs and shipbuilding would do well to understand that the NSPS is an ambitious, innovative and promising policy for both the RCN and certain sectors of the defence industry in Canada. But the unique combination of the NSPS, combined with the unique nature of the RCN's ambitions for the future, may contribute to a political situation that forces the RCN to make compromises that will result in a naval force that is dramatically less capable and numerous than the navy desired.

[169] L. C. G. Kearney and L. C. J. Millar, "Canadian Security and Defence: The Maritime Dimension," *Canadian Military Journal* 5, no. 3 (Autumn 2004): 68.

## CONCLUSION

The RCN's ambition for itself, a Canadian Surface Combatant with joint expeditionary capabilities as the central platform of a larger fleet mix, is not actually guaranteed by the commitments made by the government in the NSPS or in the *Canada First Defence Strategy*. The NSPS represents a fragile consensus related to the issues of building federal ships in Canada and choosing two specific shipyards to create a strategic arrangement, but the most important and common defence procurement problems have not yet been resolved. These problems represent risks and political liabilities that could widen a divergence in opinion about the fundamental capabilities and costs of the Canadian Surface Combatant.

The contention that the RCN's future remains tentative rests in three areas. The first theme centers on Canadian industry's capability to meet the demands inherent in the expected shipbuilding programs, both due to workforce and skill constraints, but also due to innovation and infrastructure expansion plans. The second theme involves the Canadian government's ability to manage multiple shipbuilding acquisition programs at once, while suffering from a shortage of experienced personnel and tightening defence acquisition budgets. The final theme is the RCN's vision for itself into the future, and how this vision diverges in certain areas from what the government has explicitly stated it wants a navy to do. The three themes together suggest that without any real commitment by the political executive in Canada, problems arising in each of the three themes above could result in a project cancellation or significant reduction in either expected capabilities or quantities of ships acquired.

The RCN and DND cannot control industry, nor can they help industry to surmount potential problems. Luckily, the NSPS is indeed innovative, and it goes a tremendous way towards compensating for the existing problems in defence procurement. The RCN must, however, seek ways to influence issues that are related to potential controversies. These areas of potential influence are key thrusts for future academic research and investigation. The RCN's ability to work closely with ADM(Mat) to define capabilities in statements of requirements and performance specifications, to better develop and refine warship costing, and to perform effective cost-capability tradeoffs, all in a competitive environment, requires thorough understanding of the defence procurement environment as well as thorough understanding of the best practices of systems engineering and requirements definition. Large organizations like NASA manage acquisition projects for mission critical systems with large budgets, and these organizations follow formal systems engineering processes that are not necessarily observed or implemented in DND. This area is important for further investigation, with the aim of making recommendations on how DND would be better able to manage industry partners and the constant changes in the defence acquisition environment. The RCN and DND must reinforce the best aspects of the NSPS, namely the risk sharing, industry engagement, and some aspects of the governance structure.

DND and the RCN must continue to work hard in the public affairs fight, especially if there is a change in government. If the RCN cannot explain to the layperson in plain language why it needs a big, capable, yet expensive warship, then it will not succeed when the fragile consensus breaks down. The mission in Afghanistan allowed the army to make very concrete arguments about support and capability that resonated

with Canadians in some measure. But the RCN's expensive needs are invisible to most Canadians. "Maritime blindness" is rampant. Canadians must be convinced of the relevance of maritime power and its usefulness to furthering the country's national interests, as international trading partners and as a middle power that still holds some influence in alliance and wider settings. Canadians care more about jobs than they do any abstract concepts about maritime power. Though the RCN has made efforts to combat this state of affairs, the impact of maritime blindness on future shipbuilding programs and the eventual makeup of the RCN is critical to success.

Both DND and the RCN must support the ongoing efforts to reform defence procurement in Canada, but they must support the reform issues that really matter: the issues should be less about the optics of timelines and more about accurate costing, building and maintaining consensus, performing good cost-capability tradeoffs in the competitive environment, engaging and working more closely with industry to reduce risk and to build trust, and implementing state of the art systems engineering and requirements management techniques in support. This requirement is especially true for warship acquisitions. The unique nature of warship acquisition against other types of defence acquisitions, at least in terms of the applicability of some of the ideas in common procurement reform points of view, is another area of research that remains unexplored in Canada.

The RCN's major focus should be on increasing its credibility and on bolstering the professionalism of its capability development and engineering cadres. The impact of the RCN's submarine ambitions for the future and the necessity for the *Victoria*-class to get in the water in order to increase the RCN's credibility in general is important. The

RCN must continue to explain, in plain language, both to the politicians but more importantly to many more Canadians, why the RCN exists and why it matters.

Following Vice-Admiral Maddison's command guidance about "…all of our decisions and actions must work ultimately towards the accomplishment of that enduring and essential mission, but also to realize our vision for the future Navy…" means that sometimes some tough questions need to be posed, and some practical answers need to be given. The RCN's future is not assured, and for the RCN to realize its vision and secure its future, it needs to be able to stand up to intense scrutiny, questioning and analysis about why it exists and what it needs to achieve its long-term aims. To best achieve the fleet that the RCN needs to succeed in its future missions, a robust, strategic approach to ship design, engineering and program management is required. The NSPS is an excellent base from which to start, but, as Rear-Admiral Norman said, the work has only just begun.

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