



**CANADIAN GLOBAL AFFAIRS INSTITUTE**  
**INSTITUT CANADIEN DES AFFAIRES MONDIALES**

# **Modernizing Continental Defence**

by Nicholas Glesby  
August 2021

# CONFERENCE REPORT

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**Vice-Admiral (retired) Darren Hawco** – Fellow, Canadian Global Affairs Institute

**Vice-Admiral (retired) Mark Norman** – Fellow, Canadian Global Affairs Institute

**Colonel (retired), Dr. Ross Fetterly** – Fellow, Canadian Global Affairs Institute

**Dr. Binyam Solomon** – Researcher, Defence Research and Development Canada

**QUESTION:** *What kind of expectations were there for an unwritten chapter on North American Defence modernization in Strong, Secure, Engaged (SSE)?*

*Darren Hawco*

- The reality is that there was a new government in fall 2015 and a new defence policy in 2016. This was significant because the previous *Canada First Defence Strategy* was released in 2008.
- A binational Canada-U.S. agreement on NORAD modernization was unlikely to happen with the ambitions of the Canadian government and U.S. electoral process occurring in November 2016.
- NORAD, and the Canada-U.S. relationship writ large, is a longstanding agreement that is not bound by political party and runs deeper than any government or administration can influence it in the short term.
- The “Roadmap” is a political signal showing an intent to cooperate. It is likely that the NORAD treaty would not be part of the bilateral modernization discussions, but will lead to dynamic decision making. The “Roadmap” is also a joint statement acknowledging threats are pan-domain and evolving.
- Assessing *SSE* for gaps and revisions would give detailed costing efforts once a mandate by government has been given. There will be sophisticated decision support inside the public service/Canadian Armed Forces (CAF) for capability, cost, and time considerations.
- An update to *SSE* could be announced in a series of government press releases or as an electoral platform decision.

**QUESTION:** *There is an expectation that there is an unpublished chapter of SSE that is essentially a fiscal “IOU” for NORAD modernization. How would you illustrate this financial piece?*

*Mark Norman*

- The financial/ fiscal aspect challenge across the entire project of modernization is the inability to predict reasonable cost estimates early.



- There are many long-term projects in the pipeline, but they need to be assessed for cost and benefit.
- The political tendency is to be focused on “big, shiny objects,” but integration requirements for new technology happens behind the scenes.
- The funding concern stems from early modernization estimates in the tens of billions of dollars range.
- Conversations have likely taken place with respect to asking DND to find room in their existing budget and resources. This is a classic scenario that would preempt a reset of *SSE*.
- Modernization would occur as an addition to *SSE* or as incremental update.
  - There has been a recent record of unprecedented expenditures as a result of COVID-19. It would be naive on the part of defence planners to assume this government attitude will continue.
  - Any final stage estimate would be scrubbed so extensively that it would not represent a raw estimate of what would be asked for.
  - Ability to estimate modernization costs early is poor, so the tendency is to round up and eschew perception of sticker shock.
- Any cost estimates in the public domain are likely wrong because we do not know modernization will completely entail as of yet.
- If it is done properly, modernization will include All-Domain Awareness and C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance), not just new radar sensors.
- The threat is multi-domain and is seabed to space.
- It is not clear if Canada is going to use an extensive and ambitious approach. A minimalist approach has been historically used as Ottawa’s approach to continental defence, regardless of government du jour and defence planners.

**QUESTION:** *External considerations such as burden sharing, the Wales Summit, and commitment of North Atlantic Treaty Organization (NATO) targets will affect modernization. Where does this leave us in terms of where Canada sits?*

*Ross Fetterly*

- Original cost sharing for NORAD and the North Warning System (NWS) is a historical way to apportion shares for modernization, but the threat is different now.
  - Seabed and maritime control may be included in new NORAD as approaches to North America.



- Resource management implications for the Royal Canadian Air Force (RCAF) taking on NORAD modernization, in addition to their current mandate.
- Both NATO and NORAD are disproportionately costly to the United States, with value to the rest of the alliance. Canada's contribution to NATO is a low single-digit burden.
  - Canada will aim to spend a significant contribution to modernization and “defence against help” to demonstrate to Washington we take the binational command seriously.
  - In an Arctic context, Russian and Chinese actions, combined with global warming may cause a rethink of asking other allies to help NORAD defend in the North.

**QUESTION:** *A cost-sharing model is a discussion we presume is going to happen. How is this going to play into how the Department of National Defence (DND) approaches money? Will DND move forward on 100% worth of costs or will there be a discussion on cost-sharing?*

*Mark Norman*

- Initial plans will make assumptions around framework and as it moves forward there will be key elements. Discussions are active and ongoing.
  - Issue of disproportionately is a huge consideration and from an U.S. optics perspective, they are looking for reliability and proportionality.
  - We must ask what the capabilities are essential to us as Canada, irrespective of our shared continental defence commitments. These are sacrosanct.
  - Sustainment has to be factored into the equation as well.
- There is public discussion on sensors, but all-domain/pan-domain awareness is much more extensive. Enabling infrastructure/information technology (IT) potentially changes the estimate dramatically.
  - Not just NWS, but there are multiple or dozens of other projects. This could complicate updates to *SSE*.

*Darren Hawco*

- An integrated investment approach is necessary. Time and cost basis will affect analyses of alternatives based of *SSE*.
- Anything that relates to Canadian internal waters and water column, Canada will want to pay for and own.
- Elements of national policy will drive funding and sharing in the face of historical disagreements (with particular reference to the Northwest Passage).



- There are many assets that are bespoke to continental defence not considered in *SSE*. Examples include the water column, how many air-to-air refuelers does the RCAF have and need, and other government decisions.
  - Forward-Operating Location sites (FOLs) and NWS sites will be renewed depending on cost, technology, and ability to divest.
  - There are 75 short- and long-term radar sites in Canada. There will be many that will be divested.
  - There will also be new investments. Examples include unique sensors, activity in the cyber domain, and land/space-based sensors.
  - The three modernization investment considerations for Canada will be: divestment, renewal, and new investment.
- Some divestments will be on lands of Indigenous peoples and conversations, collaboration, and consultation must occur in the decision-making process.

**QUESTION:** *SSE is not distant history. How much of an overlay and “hangover” is there in defence planning?*

*Mark Norman*

- When governments continue over an extensive period, there are a number of factors that affect their own views and defence policy. External environment and fundamental tenants of Canadian defence policy impact decision-making.
- If we are in an *SSE 2.0* situation, it will the policy be a continuation of principles with a series of additions, or it will be a completely different view.
- DND is much more ambitious than any government regarding what should or should not be in defence policy.

*Darren Hawco*

- *SSE* is constructed through a NATO lens of a rules-based international order. *SSE*'s successor will speak to Canada-U.S. relations in a larger sense.
  - Accounting for politics and context amongst senior officials, NORAD, the Beltway, and the National Capital Region (NCR), what is Canada's seriousness in the context of the bilateral relationship?



**QUESTION:** *There is a scenario that provides additional resources to the RCAF, where NORAD is a capability sponsor. How do these factors play out regarding internal disagreements over money and resources?*

*Mark Norman*

- Manage modernization program on an ongoing basis. This notion of “share” is akin to internal burden-sharing. Discussions revolve around internal institutional views.
- Historical model applied in defence policy development was that each “owner” of a domain (military service) was collaborated with to create a shared professional understanding of what investment areas needed focus.
  - It is in the mandates of service leadership to advocate for certain capabilities and issues.

**QUESTION:** *Compare and contrast DRDC and human capacity vis-a-vis RCAF? There are capacity challenges across defence finding across entirety of government.*

*Ross Fetterly*

- There are only so many CAF members with expertise. Examples include pilots, XOs, and technical officers.
  - Future fighter maintenance renewal program and funding Air and Space capabilities will draw on the capacities of the Force.
- Capacity limitations are crowding out defence procurement. Space programs are now drawing RCAF personnel for the last number of years. Drawing technical people away from an already short Air Force will hamper NORAD modernization.

*Binyam Solomon*

- Burden-sharing uses economic principles of dealing with burdens and benefits. Nations generally join binational/multilateral institutions because the benefits exceed the costs. In NORAD terms, continental defence is beneficial for both nations.
  - Benefits of defence is protection of the industrial base, Gross Domestic Product (GDP), population, and exposed borders.
  - Canada benefits 2 to 3 times more than each dollar spent on defence.

**QUESTION:** *On one hand, Canada is uncomfortable extending maritime control and yet we disproportionately benefit. What does this push for Joint All Domain Command and Control (JADC2) mean for NORAD?*

- JADC2 concept is about the ability to command and control, not force arrangement.



- Agreement regarding maritime assets is in an anti-submarine context, therefore maritime control problem is not needing an immediate solution.
- Cogent understanding of problem is required for a national or binational upgraded shared understanding of the maritime threat environment.
- JADC2 cannot happen without national friction and discussion over multispectral threats and gaps, with particular reference to the space domain.
- There is an important distinction between integration of Command and Control (C<sup>2</sup>) and the issues around capability and its evolution.
- Reluctance of JADC2 is a function of concern about potential scope, resource implications, fiscal constraints, and organizational/institutional culture.

**QUESTION:** *What can be done in modernization without a large price tag or unique Canadian burden sharing? Does awareness garner significant public will? What can be done about the long-term implementation capabilities in Canada?*

- Simple items (such as an extension of a runway or renovation of a hanger at an FOL) can be start to finish in less than 5 years. Military acquisition can also be done in a 5 year time frame.
  - Perhaps more accurately, where is money available in budgets?
  - If it is a 20-30 year time horizon to find budget room, it is best to start implementing capabilities now.
- Capacity is a major factor to be considered. Adding a whole layer of new and complex advanced projects to the defence capital program is a large undertaking.
  - Where are these experts coming from? Public Service and Procurement Canada (PSPC) or the Treasury Board (TB), or other federal government departments.
  - Current government has shown willingness to deficit spend. Capacity and staffing are the greatest challenges.
- Sense of every challenge is a new problem in a specific environment, and not on a continuum.
- Canada can make lots of promises and pay decades later.
  - Canada will push to obtain recognition internationally where money has been paid for and credited accordingly.
  - Where can Canada pay minimum amount for the least amount of modernization necessary?
- Realpolitik for the Canada-U.S. relationship is spending as little money as possible to achieve their goals, regardless of governments and administrations of the day.





- Canada's pandemic debt to GDP ratio is high and there will always be pressure on government to fund new defence technologies.
  - Burden sharing is always quantified into something to accept and Canada has always been good at free riding.

## ► About the Author

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*Nicholas Glesby is an MA candidate in the Department of Political Studies at the University of Manitoba, Student Fellow and Research Assistant at the Centre for Defence and Security Studies, and Graduate Fellow at the North American and Arctic Defence and Security Network. His research interests include: the Permanent Joint Board on Defence (PJBD), the North American Aerospace Defense Command (NORAD), Arctic security, and military history. Nicholas is also a Research Analyst at Transport Canada Prairie and Northern Regional Director General's Office.*

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