

ACTIVITY REPORT



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NAADSN Ideas Series

Panel Presentations by Dr. Nancy Teeple, Mr. Ernie Regehr, and Dr. James Fergusson, and moderated by Dr. Andrea Charron

Is it time for Canada to Revisit Missile Defence Participation?

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Dr. Nancy Teeple, Mr. Ernie Regehr, and Dr. James Fergusson provide an overview of the evolving strategic threat environment that is necessitating a review of the North American missile defense system and offers insights into how Canada may reassess its participation in missile defense and reimagine its obligations to the defense of North America.

Setting the stage

Dr. Nancy Teeple set the stage for missile defence participation as an enduring issue for Canada and outlined the primary considerations. Missile defence is a re-emerging topic within the North American strategic context, particularly because of the ongoing modernization of North American defence.

Missile defence has been a pillar of the US strategic defence architecture since the Cold War. It has been reimagined in the new triad to include conventional counterforce options, command and control, and active and passive defences. Missile defence technology was intended to deny the adversary the ability to threaten the homeland with ballistic missiles through the deployment of ground-based interceptors. The missile defence concept is evolving with new threats such as hypersonic glide vehicles, advanced cruise missiles and unmanned aerial systems that can evade early warning systems. The 2019 Missile Defence Review (MDR) outlined new planning to meet the increasingly complex threat environment. The MDR outlines a comprehensive approach including the integration of offensive and defensive capabilities as part of deterrence by denial and kinetic and non-kinetic options. This concept is presented as a holistic approach that is sustainable and cost effective.

Realizing the capability to defeat the whole threat spectrum has enveloped missile defence into larger tri-partite architecture in which defeat mechanisms are integrated with sensors and joint all domain awareness command and control (JADC2). This layered system of systems, or eco-system approach is known as the new Strategic

Homeland Integrated Ecosystem for Layered Defense (SHIELD) framework. Canada's role in the SHIELD framework is undetermined and discussions are underway with regards to how Canadian capabilities may be integrated.

The role of missile defence in Canada remains an elusive issue. Canadian leadership has continually rejected participation, but left the door open to possible future involvement. With the evolving North American strategic context, modernization programs and questions of NORAD renewal, Canada will be forced to confront this issue as a new paradigm of deterrence by denial takes hold founded on the ability to detect, deter, and defeat threats against the homeland.

In this context, several questions present themselves: how will Canada revisit its participation in missile defence? Will this involve revising its position on strategic stability and mutual deterrence? What is Canada's receptivity to an expanded role in North American defence that involves increasing integration with continental missile defence?

Canada has had a strong history of promoting nuclear non-proliferation, disarmament and arms control, particularly during the Cold War through to the 1990s. This activist role, however, has declined following 9/11 and the events of 2014. Disarmament advocacy organizations have picked up the public mantle of this work while Canada focuses on a quieter diplomatic approach.

Canada has a tradition of supporting strategic stability reinforced by the mutual vulnerability guaranteed by mutual assured destruction. This balance would be disrupted should one side have a strategic advantage by having strategic missile defences. Canada has repeatedly declined to participate in missile defence in North America for just this reason.

Canada may be at a critical point, however, with the growing uncertainty in the international security environment coupled with evolving technological threats, which could legitimize a reassessment of its role in defence and deterrence.

A key observation in the ongoing development of these concepts includes that the US has adopted an offensive approach within its declaratory deterrence by denial posture which requires the demonstration of denial capabilities. There is, moreover, an ongoing entanglement of conventional and nuclear forces due to the dual-use nature of delivery vehicles which creates ambiguity and perception challenges.

Canada, to ensure its security in a complex and uncertain threat environment, will likely be drawn into missile defence through the continually evolving, and increasingly integrated, North American defence architecture and the requirements to credibly defend against threats. In the interest of preserving strategic stability, Canada could participate in a limited way to ensure the balance of vulnerability.

Ground-based Midcourse Defense system (GMD)

Ernie Regehr focused his contribution on the Ground-based Midcourse Defense system (GMD) in recognition of the emergence of various kinds of missile threats. It is important, however, to recognize how marginal the GMD

system actually is to the broadly defined threat that is faced. GMD does not defend against hypersonic missiles, cruise missiles or other technologies likely to appear. GMD is deployed to pursue a very narrow defence against ICBMs. The US has stated, moreover, that GMD is not focused on Russia or Chinese missiles (the vast majority of the international missile arsenal) but rather on North Korean based threats. GMD is thus focused on the threat emanating from rogue states, or put another way, it is focused on deterring and defending against 2% of the nuclear armed ballistic missiles threat that is facing North America.

The July 2020 report of The US Government Accountability Office observed that the GMD system will not be able to mount an effective defense against North Korea with its emerging capability without an entirely new interceptor and kinetic kill vehicle.¹ However, GMD capabilities are expected to expand since the technology that underpins it is not static.

Demonstrated capacity is far from assured protection, however. Partial protection from nuclear attack is not the objective. Prevention, rather than defense, remains the fundamental objective when it comes to the strategic nuclear missile threat. Since the late 1950s, prevention has been the primary goal of the US. Prevention has been primarily linked to deterrence, but not exclusively since it involves other factors like risk reduction measures and arms control. Deterrence, moreover, is a perilous strategy when you consider the consequences of failure, but that's where we currently are nonetheless. Deterrence may be the response to 98% of the current threat, but whether rogue states' actually respond to deterrence is open for debate.

GMD has also been promoted as a safeguard against isolated accidental, or wayward, launches which are certainly not amenable to deterrence. Such instances are why risk reduction (i.e. efforts towards de-alerting) is such a key factor and remains on the arms control agenda.

The GMD system has implications on the arms control system. Arguments against strategic missile defence tend to follow two basic lines: (1) it does not work, and (2) it works so well that it incentivizes adversaries to expand offensive arsenals to overwhelm any defense, thus undermining arms control. This may seem like a contradiction but it is not necessarily so since missile defence will never fulfill the aspiration of reliable protection from nuclear devastation. Such protections may not be possible, but the ceaseless pursuit of improvements to missile defence is taken as a clear sign by adversaries. Expanded defenses can trigger expansion of offensive forces. It is a dynamic that is already unfolding.

Homeland defense discussions increasingly explore pre-emptive attacks on "quivers" before they can release their "arrows" through such systems as SHIELD. The 2019 MDR explicitly links pre-emption to missile defence, for example. There is no more destabilizing posture in the international community than when both sides in a crisis believe they have the best chance of prevailing if they go first.

¹ United States Government Accountability Office, Missile Defense: Assessment of Testing Approach Needed as Delays and Changes Persist, July 2020, <https://www.gao.gov/products/GAO-20-432>

Should Canada, then, seek more direct involvement in GMD? It should be made clear that GMD will not provide comprehensive protection - it is not a substitute for prevention. Canada should ask itself whether it wants to be linked to aggressive pre-emption strategies or be partnered in a system headed for the weaponization of space.

NORAD and the new missile defence threat

Dr. James Fergusson observed that critiques of Canadian participation missile defence often fall into the trap of overplaying the contribution that Canada could make. The reality is that Canada plays at the margins of this issue, and what Canada does or does not do relative to the US, Russia, or China has very little bearing on their strategic choices. What needs to be focused on, rather, is what does the new strategic environment mean for Canada and its national interests?

Canada has no choice but to re-visit its missile defence policy, and in fact it already is. In the past, there has been a debate between air control and ballistic missile defence, which accurately reflected the state of play of technology. The reality today is that these two aspects of defence can no longer be neatly separated. The new threat environment, driven by technological advancements, is forcing the revision of NORAD's warning mission. The American ballistic missile system is being forged with the Canadian air control warning mission to provide an integrated air and space approach.

What then does Canada need to contribute? Canada will need to contribute to both aspects of this new integrated approach, which will be an enhancement of its current contributions. It should be remembered though that NORAD is a defensive arrangement - Canada is not involved in the pre-emptive, or offensive, side of American activities. In fact, the pre-emptive elements are dealt with by other command structures outside of NORAD or USNORTHCOM. That is, Canada will not be forced to be involved in pre-emptive missile defence strategy since NORAD itself will not be involved.

What Canada and NORAD will have to address is the evolving cruise missile problem. Canada will be expected to develop the integrated sensor equipment and command and control capabilities necessary to deal with cruise missiles. This will likely include the development of a layered sensor and interceptor system, such as point defences.

NORAD must evolve to face the current defence reality. This will necessarily include the evolution of the air control mission into missile defence, particularly cruise missile defence. Canada will be forced into the missile defence because that is where the world is headed.

A serious emerging issue is the development and deployment of hypersonic vehicles. While launched by ballistic missiles, they are fundamentally different seeing that they do not need to enter into orbit to reach their long-range targets. They pose a serious threat to both traditional air defence and to missile defence. It is also difficult to determine the target of maneuverable hypersonic vehicles. Hypersonic vehicles, therefore, constitute an entirely new missile threat since it is both an orbital space-focused threat and an air defence threat.

The problematic element of this evolution is to determine which sort of capabilities Canada is going to contribute to this new missile defence problem, which do not fit into the neat categories of the past that have structured Canadian participation in NORAD.

Oversight and public participation

Panelists were asked whether there are any regulations that constrain Canada's ability to participate in the GMD program, and to what extent should the public be included in the deliberations on Canada's participation in missile defence.

Dr. Teeple noted the challenge in expecting robust public participation since the numerous domestic political issues related to the costs of participation in missile defence are either not known to Canadians, or the issues are perceived as American issues.

Mr. Regehr affirmed the value of public participation in national security debates and observed that it is the interests of the Department of National Defence and any political leadership to engage the public so as to ensure at a minimum that there is a political buy in. Realistically, Canada will be highly constrained militarily for budgetary reasons, and this entails a critical public debate on what the budgetary priorities should be.

Dr. Fergusson observed that should the government be committed to missile defence participation, then any constraining regulations can be amended to meet the needs of the desired policy. On public participation, he counselled that the public be provided a minimal role seeing that this is a specific issue of which the general populous does not appreciate the nuances. It is true that these decisions have serious budgetary implications, but the real problem is whether the internal bureaucratic forces within National Defence will consider the re-prioritization of funds since it is unlikely that more funding will be provided.

The relevance of missile defence

Panelists were further asked to consider why missile defence uniquely matters when there are other weapons of mass destruction that threaten North American security, and what should Canada contribute to the defence of North America - just to missile defence or are there other areas to consider?

Dr. Teeple outlined that Canada can incrementally become more integrated into the defence of North America. Canada already plays an early warning role, for example, but it could be enhanced over time and new missions could be considered. The current pandemic does pose challenges as national priorities are being revisited which have implications for defence spending. Such a reality justifies a serious reconsideration of how Canada perceives deterrence.

Mr. Regehr emphasized that itemizing technologies does not define the threat we face - threat perception is linked to capabilities but also to intention, and this is where diplomatic efforts towards shaping the strategic environment is central. We are not in a position to respond exclusively to these new threatening technologies.

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Dr. Fergusson stressed that the priority will continue to be ensuring that Canada can be defended to the extent it wishes by the US, but on Canadian terms and with Canadian contributions, or else it will be defended as the US sees fit. Canada's historic preference has been to avoid becoming involved in the sharp end and to focus on the sensor end.