



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

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by David Higgins  
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# POLICY UPDATE

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**D**espite the international community's interminable efforts to stop, prevent or otherwise constrain it, the worldwide proliferation of ballistic missiles and their associated technologies has continued apace over the course of several decades. While only nine states possessed ballistic missiles in 1972, more than 30 boast this capability today, with others working diligently to acquire it. Indeed, the acquisition of ballistic missiles by states and actors of concern, fully intent upon attaining the capability to employ them as delivery systems for weapons of mass destruction, represents a particularly ominous threat. It is therefore hardly surprising that the efforts undertaken by the United States in developing wide-ranging capabilities to counter this threat have not only been maintained, but significantly increased and broadened in recent years.

The Canadian government has long demonstrated a willingness to work with like-minded nations and organizations in contending with the global risk posed by ballistic missiles in general. Yet, it has exhibited a curious disinclination to act on its own behalf where such weapons constitute a more immediate potential threat. The most notable miscreant in this regard, North Korea, has well out-paced earlier intelligence assessments concerning the viability of both its ballistic missile and nuclear weapons programs. Indeed, despite recent overtures of rapprochement and the stated intention to suspend attendant testing programs, the capability Pyongyang has attained thus far, combined with its erratic pattern of behaviour, renders it a serious ongoing concern. Iran possesses an established and growing ballistic missile inventory and, irrespective of both international agreement and stated national policy, remains a nuclear weapons aspirant. These and other malefactors can also be expected to persist in their dissemination of associated illicit materials and technologies as a matter of course. Taking into account the corresponding cascade effect of weapons proliferation, it is evident that rogue entities will continue to acquire ballistic missile materials and technologies, adding to the gravity of what constitutes an increasingly imminent threat.

Over the past several decades, Canada's ballistic missile defence dialogue has largely occurred in the context of its partnership with the United States in continental aerospace defence. For years, this dialogue has followed a pattern of repeated consultation, contemplation, deferral and ultimately, refutation. This pattern has been induced by several influences, including political ideology and interests, sovereignty, international obligations and the country's self-sanctified role as a voice of moderation in international peace and security. While these enduring factors have underscored Canada's security discourse generally, they have specifically impacted the cornerstone North American Aerospace Defence Command (NORAD) Agreement with the United States, within which ballistic missile defence-related stipulations have figured prominently in its successive renegotiations and renewals. While ballistic missile defence consultations have long taken place as a matter of course, a critical phase occurred from the mid-1990s to the mid-2000s. This concerned Washington's proposal for Canadian participation in the territorial expansion of its then-latest national anti-missile program – United States Ballistic Missile Defense (U.S. BMD).

Sometimes referred to as Ballistic Missile Defence of North America (BMD/NA), the proposal for Canadian participation, logically envisioned as an extension of the North American Aerospace



Defence Command mission, has been controversial from the outset. To say the least, perceptions on the Canadian side have been fraught with suspicion and misperception, particularly among a number of senior foreign and defence policy officials. On the American side, while there existed a clear desire to include Canadian territory within the system to optimize its construct and add to its legitimization internationally, officials were also mindful about placing undue pressure on Canada regarding its involvement beyond that. As such, they demonstrated considerable flexibility in allowing Canada to determine exactly how it would want to involve itself in terms of a technical or operational contribution/investment. Nevertheless, by the late 1990s, more than one senior U.S. official had metaphorically stressed that “the train was leaving the station” and a timely decision would be required. Pressed towards a decision, the Canadian side’s resultant angst was palpable. As might be expected, many Canadian officials believed that U.S. BMD was strategically destabilizing and would only undermine international peace and security. Another concern pertained to Canada losing control of its foreign and security policy under BMD/NA. Some were openly suspicious of what Canada would be expected to specifically contribute as a BMD partner, while others still were simply doubtful of the system’s operational viability.

Some of these misperceptions and doubts are understandable. From its earliest conceptual constructs in the 1950s, a host of United States ballistic missile defence programs had undergone successive iterations, delays and cancellations. By the 1990s, however, U.S. BMD constituted a much-evolved defensive system, specifically designed to protect American territory and population centres against limited rogue, unauthorized or accidental ballistic missile launches, rather than massive attack. Envisioned to be grafted onto NORAD’s existing Integrated Tactical Warning and Attack Assessment architecture, the system included new Space-Based Infrared System satellites for precision detection and tracking of incoming missiles, an In-flight Interceptor Communications System and improved ground-based Ballistic Missile Early Warning System radars to provide dual phenomenology-based confirmation and tracking. It also contained ground-based X-Band radars for precision target tracking and the deployment of Ground-Based Interceptors – missiles employing kinetic Exoatmospheric Kill Vehicles. In 2002, the system was renamed Ground-Based Midcourse Defense (GBMD), to differentiate it from other segments of what had transmuted into the United States’ overarching National Missile Defense (NMD) program.

For Canada, principal considerations have focused upon GBMD’s legitimacy within the international legal regime and the strategic implications of its operational concept. BMD/NA advocates have argued that the near-state of apoplexy reached by many officials in Ottawa over the United States’ 2002 withdrawal from the 1972 Anti-Ballistic Missile Treaty -- required to enable GBMD -- had been largely assuaged by the successor Strategic Offensive Reduction Treaty brokered that same year and further mitigated by subsequent accords. Moreover, dismay over the prospect of defensive nuclear weapons should have been allayed by the system’s employment of kinetic weapon technology to destroy incoming missiles, rather than nuclear or other explosive interceptor warheads. Indeed, supporting rationale has emphasized that GBMD’s evolved concept actually contributes to international stability by enabling a benign “shoot-look-shoot” approach to missile defence. That is, an initial non-nuclear, limited defensive engagement provides additional time to further analyze and confirm the situation, including an assessment of the event



as being deliberate, unauthorized or accidental. American officials have long regarded this capability as a crucial means through which to expand their defensive options, which would otherwise be limited to absorbing a potentially catastrophic initial attack and launching, by default, a massive retaliatory nuclear strike. Irrespective of the arguments presented for and against GBMD as a stabilizing or destabilizing defence initiative, the development of the system, together with that of other NMD segments, has steadily progressed.



*Figure 1: A Raytheon Standard Missile-3 (SM-3) is launched from an Aegis Cruiser. (Source: NATO)*

Within Canada's Department of National Defence, senior military staff have generally been in favour of BMD/NA, whereas a greater proportion of civilian officials have tended to share their Global Affairs colleagues' consternation. Differences aside, most have wanted to see NORAD's existing aerospace warning and control mission sustained, with acknowledgment that non-participation would have some bearing upon both the bi-national command directly and strategic defence partnership generally. In this respect, a select few have opined that, regardless of the proposed system's operational viability, it would be better to participate, rather than risk damaging the partnership. Regardless, persistent opposition, generally defaulting to prototypical Canadian values and principles, has largely overshadowed this and other supportive views.

A critical element concerning Canadian participation in BMD/NA is what this would specifically entail in terms of contribution. As previously noted, American officials had, to a large extent, left much of this up to Canada; that is, to do what was deemed appropriate and feasible. Canadian NORAD planners had noted that the inclusion of Canada's landmass alone constituted an important contribution. That is, in terms of system kinematics, fundamental utility existed in the creation of a single continental defended area, rather than the segmented one represented by the



contiguous United States and Alaska alone. Moreover, in staff discussions at Colorado Springs, Washington and Ottawa in the late 1990s and early 2000s, it became apparent that the use of Canadian territory for select components could prove valuable to improving system coverage and performance. Accordingly, an offer of Canadian basing could have constituted a significant contribution and commitment that, arguably, no modest financial or technical involvement could match. This alone may have enabled Canada to play a more meaningful role in continental aerospace defence and better secure its interests, despite inherent military and other national limitations.

As might be expected, sensitivities associated with Canadian basing directly related to BMD/NA were acute. While it had been made clear from the outset that no ground-based interceptors themselves would require Canadian basing, there was clear opposition to virtually any component directly linked to the system. To wit, an informal bilateral military staff-level discussion in 1998 had examined the possible no-cost acquisition, relocation and operation by Canada of a PAVE PAWS phased array warning system radar (designed to detect and track intercontinental and sea-launched ballistic missiles, along with Earth-orbiting satellites) that was in storage at Robins Air Force Base, Georgia. Although such an acquisition was primarily regarded as a way of providing an adjunct space surveillance contribution and sensor enhancement, senior National Defence policy staff quickly shut down the discussion, evidently due to unease over perceptions of PAVE PAWS as more of a weapon system component than a sensor.

A more tolerable alternative to direct Canadian involvement in BMD/NA concerned the employment of more benign “asymmetric” contributions. At that time, the Department of National Defence’s Joint Space Project was envisioned as a possible avenue through which to augment the acquisition of space surveillance data in support of the United States Space Surveillance Network, as ultimately achieved with the Sapphire space situational awareness satellite in 2013. Other oblique approaches received various degrees of consideration. Among them was the potential employment of the National Research Council’s Algonquin radio telescope, notionally paired with U.S. systems as a bi-static or multi-static array, as a means of contributing further to deep space surveillance and space object tracking. Another entailed collaborative research and development of hyperspectral interferometry applications for ballistic missile detection/characterization, as well as high-frequency surface-wave radar applications for small target detection. While largely circumlocutory in nature, these and other potential areas of research and development, within and beyond the scope of established and ad hoc defence collaboration arrangements, may have served as legitimate contributions to a BMD/NA partnership. Moreover, they would have been largely consistent with extant Canadian defence policy concerning “the examination of ballistic missile defence options focused on research and building upon Canada’s existing capabilities in communications and research.” Nevertheless, a number of Canadian officials expressed their aversion to assigning limited resources to single-purpose, large-scale projects specifically linked to ballistic missile defence.

Over the course of seemingly endless consultations, deliberations and equivocations, it had become increasingly apparent that the Canadian government was acquiescing to non-participation, seemingly bolstered by the assumption that NORAD would, for the most part, be



preserved. This rationalization was reinforced at least in part by the wholly erroneous pronouncement of some senior government officials that, even if it opted out, Canada's population centres would still be protected under United States GBMD as a matter of course. Ottawa largely overlooked or dismissed attempts by NORAD's senior Canadian military leadership to set the record straight on this and other misperceptions, as well as provide a complete understanding of GBMD to enable an informed decision. Finally, on Feb. 24, 2005, then-Foreign Affairs Minister Pierre Pettigrew announced that Canada would not join the United States in ballistic missile defence.

The implications of Canada's decision, while regarded by many as largely innocuous, have been anything but. Lacking a response from Ottawa, Washington had carried on with GBMD development as a U.S.-only system, operated by the U.S. Army and supported by the U.S. Air Force, with United States Strategic Command designated as the responsible unified command. In January 2005, a month prior to Ottawa's formal announcement, a joint functional component command was established within Strategic Command to oversee integrated global missile defence operations and support. Subsequent accommodations to suitably de-conflict NORAD's legacy surveillance, control, warning and attack characterization operations with GBMD's defensive engagement functions have since added a measure of complication to the overall continental aerospace defence construct. For example, from an integrated command-and-control perspective, as GBMD has evolved, Canadian involvement under the aegis of NORAD has become increasingly restricted in areas deemed U.S.-only or shared exclusively with other partners, necessitating alternative arrangements having to be made, where practicable. As might be expected, such exclusion and compartmentalization have proven decidedly sub-optimal to preserving NORAD's integrity and best serving Canadian defence interests. Accordingly, NORAD, absent a formalized role in ballistic missile defence, has been increasingly relegated and marginalized outside of it.

Since 2005, U.S. NMD has continued to evolve and expand to meet existing and emergent threats, with a view to enabling interception in all three phases of ballistic missile flight trajectory: boost, mid-course and terminal. This overarching system now comprises an increased number of fielded and planned ground-based interceptors located in Alaska and California; additional X-Band and other radars; expansion of the ship- and land-based Aegis Ballistic Missile Defense System; integration with the U.S. Army Terminal High Altitude Area Defense (THAAD) system and the employment of other, shorter-range defensive missile systems. Partners in this expanding "system of systems" include the United Kingdom and Denmark/Greenland in existing system upgrades, other European NATO allies under the European Phased Adapted Approach, as well as Australia, Israel, Japan and Gulf Cooperation Council states. Clearly, the evolution of NMD's varied sub-components is merging into an increasingly coherent global missile defence system that will continue to expand coverage and provide protection to several partner nations.

Meanwhile, in the fall of 2017, Canadian media reported the "revelation" that, if Canada were targeted in a ballistic missile attack, the United States would not defend it, as stated by Lieutenant-General Pierre St-Amand, Deputy Commander of NORAD, to the House of Commons Standing Committee on Defence. St-Amand appeared as part of the committee's study of the potential threat posed to Canada by North Korea, given the advancing state of its nuclear and



ballistic missile test programs. He reminded the committee that, while Canadian and American NORAD personnel work together in the detection, warning and characterization of aerospace threats to North America, Canada would play no role in any defensive action to be taken in a ballistic missile attack and that GBMD was a United States system only. Despite Canadian media reporting that St-Amand's comments had "demolished" the long-held political assumption that the United States would intervene in a ballistic missile attack on Canada, a senior Global Affairs official was quick to assert that there existed no direct threat, adding that North Korea regarded Canada as a "peaceful and indeed, friendly country." Sadly, this rather facile assertion is consistent with the long-established Canadian perception of strategic threats being largely predicated by stated intent rather than demonstrated capability and behaviour. This perception has been reinforced by Prime Minister Justin Trudeau's ensuing confirmation that Canada's position of non-participation would remain in effect, with the possibility of any future consideration only ambiguously acknowledged. It is therefore apparent that the Canadian government has elected to disregard an exigent threat that increasingly involves the risk of an accidental/errant launch or defective trajectory, against which GBMD has been specifically designed to defend.



*Figure 2: Lt. Gen. Pierre St-Amand, left, arrives to appear as a witness at a House of Commons national defence committee in Ottawa on Thursday, Sept. 14, 2017. (Source: The Canadian Press)*

While Canada has been blessed by the security afforded by its proximity to and friendship with the United States, ballistic missile proliferation has aptly reminded us that mere assumptions associated with geography, association and good will are simply insufficient. Longstanding limitations as a middle power, chronic military deficiencies and inescapable dependency upon its



principal ally leave Ottawa with few choices in dealing with the significant and growing threat that ballistic missiles pose. With continental defence arrangements having long constituted a critical factor in achieving our security objectives, it only makes sense to invest further in suitable collaborative courses with the United States. In this respect, values and principles need to be put in their proper perspective and greater pragmatism applied in securing vital interests. The Canadian government can no longer afford to merely wait and hope for the best; rather, it needs to earnestly prepare for the worst.

Thirteen years following Canada's decision to abstain from participation, the ballistic missile defence "train" has long departed the station. While the United States would almost certainly welcome involvement at this late stage, associated requirements will have changed with the maturation of ballistic missile defence architectures, technologies and operational dynamic. Accordingly, the price of admission will also have changed. Given this, the Canadian government needs to recover lost ground by not only signalling its desire to join, but also determining how to render itself a useful participant within a much-expanded international partnership. While there will invariably remain those who will decry it, participation would remain consistent with a precept long-embodied in NORAD; that is, the indivisibility of North American aerospace defence. It is, therefore, only reasonable to accept partnership in ballistic missile defence as a necessary graduation in securing Canada's vital defence and security requirements.

## ► About the Author

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**David Higgins** served in the Canadian Forces Reserve before enrolling in the Regular Force in 1980. An Air Combat Systems Officer, he served as a tactical and long-range navigator and mission specialist on various Canadian Forces and allied nation aircraft. He was also employed in a variety of aircrew training capacities, including Tanker-Transport-Bomber Instructor and Chief of Standardization and Evaluation (United States Air Force Air Education and Training Command) and Advanced Flight Commander (Canadian Forces Aerospace and Navigation School).

His senior appointments have included Commander 9 Wing/CFB Gander; Director of Continental and Western Hemisphere Policy, National Defence Headquarters; Vice Director of Plans, North American Aerospace Defence Command (NORAD) and Commander 8 Wing/Canadian Forces Base Trenton. He also served as Policy Advisor to the Canada-United States Permanent Joint Board on Defence, Policy Member of the Canada-United States Military Cooperation Committee, a Command Director of the NORAD-United States Space Command Operations Centre and Air Mobility Advisor to the Commander 1 Canadian Air Division. His final military appointment was as Director Arms Control Verification in the Strategic Joint Staff, responsible for the planning, coordination and implementation of Canada's proliferation security and confidence- and security-building programme, as prescribed by the treaties, agreements and arrangements established within the framework of the Organization for Security and Cooperation in Europe, the North Atlantic Treaty Organization, the Organization for the Prohibition of Chemical Weapons and the United Nations, including the Conference on Disarmament.

David is a graduate of the Canadian Forces Command and Staff Course and National Security Studies Course. He holds a Doctorate in War Studies from King's College London, Masters degrees in Defence Studies (Royal Military College of Canada) and Diplomacy (Norwich University) and a Bachelor of Arts from the University of Toronto.

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