Time to Tango: Embracing Canada’s Participation in Ballistic Missile Defence

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Canada and the United States have a long history of dancing around a possible Canadian role in the US's ballistic missile defence (BMD) for North America (Fergusson 2005). In 2005, this dance appeared to end when then-prime minister Paul Martin refused participation in BMD. However, the debate appears to have been re-opened somewhat in recent years.1

This is both welcome and necessary. Since 2005, Canada's policy has become increasingly at odds with the stances of its allies and partners and the growing threat of intercontinental ballistic missiles (ICBM), thus diminishing Canada's sovereignty, defence, and influence among key allies. Given these issues, Canada should begin negotiations for formal participation in BMD in a manner that suits Canadian interests and the reality of its limited military budget. In practice this means that Canada should negotiate to formally participate in the operations of BMD, co-operate on research, development, testing and evaluation (RDT&E), and be prepared to place radars and sensors on Canadian territory.

BMD and Canadian Participation

Canadian debates on BMD have primarily focused on participation in North American continental missile defence, now termed the Ground-Based Midcourse Defense System (GMD).2 According to the US Missile Defense Agency (2016), GMD utilizes integrated communications networks, fire control systems,
sensors and radars deployed globally and in space for early warning, target tracking and discrimination, attack assessment, and ground-based kinetic, hit-to-kill interceptors, which engage incoming ICBMs by colliding with them in space (exo-atmospheric) during the midcourse phase of their flight. GMD employs interceptor launch sites at Fort Greely, Alaska and Vandenberg Air Force Base, California.

Canada has had a relationship with such American BMD initiatives since the end of the Second World War, including anti-ballistic missile (ABM) defence, Ronald Reagan's Strategic Defense Initiative (commonly termed Star Wars), Bill Clinton's National Missile Defense, and the currently operational GMD system (McDonough 2012). Throughout, Canada has variously engaged in research and development, ignored the BMD issue altogether, or rejected participation (Fergusson 2010). From the Canadian perspective, this relationship has been influenced by domestic political calculations and fears that BMD would endanger strategic stability, potentially weaponize space, negatively affect Canada's relationship with European allies who rejected BMD, or entail Canada appearing to be “too close” to the United States (Nossal et al., 2015).

Central to this decades-long relationship is what we mean by BMD participation. Ambiguity about participation has been a political boon for Canada, allowing it to keep the door partially open on BMD without necessitating full commitment (Fergusson 2005). This was part of a dance between Canada and the United States, wherein the US sought Canadian commitment before it would provide information on BMD, and Canada tried to gain information on BMD so that it would understand the nature and effects of any potential commitments (Fergusson 2010). These differing footings led to decades of ambiguity and missteps, only ending with the Martin government’s 2005 decision to end the decades-long dance on BMD by rejecting participation in the US system.

Although Martin’s “no” may have appeared absolute, it did not amount to a complete rejection of BMD. Rather it was premised on a narrow definition of participation which decoupled the provision of early warning and missile tracking through NORAD from BMD participation. To maintain NORAD's early warning mission, participation became defined as “operational” involvement in BMD (Nossal et al., 2015).

The Failings of Canada’s BMD Policy

The ground on which Canada’s rejection of BMD participation was based has shifted markedly in recent years, particularly the threat ICBMs pose and how Canada's allies have responded. Since 2005, the possibility of an ICBM threat against North America has become a matter of practical concern. States such as North Korea and Iran have advanced their missile capabilities and shared missile and nuclear technology with one another. Each has displayed clear hostility to North America, with Pyongyang explicitly threatening nuclear-armed ICBM attacks. North Korea has conducted numerous nuclear tests, rapidly advanced towards a working ICBM, and is now busy miniaturizing a nuclear device for use on a ballistic missile (Standing Senate Committee 2014). Iran continues to improve its missile technology and remains openly hostile to the United States, even if a deal has temporarily stalled its nuclear progress and ambitions (Standing Senate Committee 2014).
Canada might be an unlikely target, but the danger is growing. First, due to the limited sophistication of North Korean or Iranian missiles, a strike intended to target the United States may inadvertently hit Canada. Second, given that nuclear-armed states may have poor command and control, the possibility of accidental launches cannot be discounted (Standing Senate Committee 2014). Third, as ICBMs proliferate, more opportunities exist for them to fall into the hands of terrorist organizations. Last, Canada may be an intentional target. To deter the United States, with the hope of avoiding a full-scale US response, a state may undertake a demonstration attack on Canada. Indeed, without the protection of BMD, Canada may be subjected to nuclear blackmail and “held hostage” with a threat of a strike, or even an actual attack (Weitz 2014).

Not only has the threat changed, but the stance of Canada’s European NATO allies – once at least rhetorically opposed to BMD – has shifted, such that they are now ardent BMD supporters. Since the 2010 Lisbon summit, NATO has officially supported the development and deployment of a multi-layered BMD capability for its forces and territory (NATO 2010), with the American contribution known as the US European Phased Adaptive Approach (EPAA). As part of this effort, Turkey hosts a US BMD radar, Romania has an Aegis ashore site, Germany runs a BMD command centre, Spain hosts four BMD-capable Aegis ships, a number of allies have Patriot missiles, and the Netherlands, Denmark, and the United Kingdom all host radar systems and ship-based BMD (NATO 2015; 2017).

As a NATO ally, Canada fully supports these efforts. It agreed to the NATO Strategic Concept stating that NATO would “develop the capability to defend our populations and territories against ballistic missile attack as a core element of our collective defence, which contributes to the indivisible security of the Alliance” (NATO 2010, 16). Assets deemed to be in the common interest of the alliance, such as BMD, are partially funded by all NATO members through a common funding arrangement – so Canada has likely provided funding for these initiatives (Harvey et al., 2014).

This support also means Canada has de facto accepted that BMD does not pose a risk to strategic stability or pave the way for the weaponization of space. A nuclear arms race has failed to materialize despite BMD’s deployment. Even the termination of the ABM treaty elicited only a muted response from Russia and China (Lagassé 2008). Canada’s fear of the weaponization of space has proven similarly unfounded (Sloan 2005). GMD and all other current BMD systems are either ground, sea, or air based, with the only space-based component being sensor arrays – something not altogether different from Canada’s traditional use of space for military purposes, such as communication. Even after over a decade of deployment, BMD has not led to even the beginnings of true space weaponization (Harvey et al., 2014).

Beyond these issues, Canada’s policy has also diminished its sovereignty and reduced the defence of its cities and people. Due to its lack of substantive participation in BMD, Canada has no influence over decisions relating to interceptions, even over Canadian territory (Sloan 2005). If Canada were targeted with a ballistic missile strike, US officers at NORTHCOM would be responsible for making the decision on intercepting the missile. In fact, Canadians would have to “step out of the room, literally, when USNORTHCOM would make decisions about how to respond” (Senate Standing Committee 2014).
Importantly, no clear protocols exist for American GMD defence of Canadian cities and territories. The US would undoubtedly be inclined to defend Canada against an ICBM attack, but this is contingent on American goodwill and what cities are in its priority list for protection (Fergusson 2001). After all, Washington would surely protect its own citizens over Canadians, and US soldiers only hold legal obligations to protect American citizens and territory (Harvey et al., 2014). This is of particular concern given BMD’s “shoot-look-shoot” interception doctrine, where sensors first detect incoming missiles, kinetic-kill interceptors are launched, and if unsuccessful, additional interceptors are launched – and the process is repeated if possible (Committee on an Assessment of Concepts and Systems 2010). With only 44 interceptors expected to be in place by the end of the year, the US would likely be ill-inclined to expend missiles to defend Canadian cities and territory, especially if it were unsure as to whether additional ICBMs were incoming on American cities (Fergusson 2010). This is not callousness, but rather a prudent US strategy based on defending American citizens and territory.

The lack of Canadian participation in BMD also diminishes Canada-US co-operation. Without Canadian participation and assets to contribute to BMD, the United States may choose to create parallel organizations that make NORAD’s aerospace functions redundant. This is especially true as more US early warning and tracking assets for BMD are deployed. Of course, the threat to NORAD should not be overstated. Given its important role in protecting North American airspace and providing maritime warning, NORAD remains an important component of Canada-US defence engagement, even without robust BMD participation (Fergusson 2015).

Potential Avenues of Participation

To reduce the threat posed by ICBMs, align with its allies, and enhance the protection of its territory and people, Canada should open negotiations for participation in American BMD.

First, Canada could negotiate formal participation through a direct NORAD role in BMD interception. This would provide the basis for involving Canadian military personnel in the GMD system, while reinforcing NORAD’s aerospace mission - though this depends on US interest in involving NORAD in BMD (Fergusson 2015). Of course, as James Fergusson (2010) notes, Canada might not quickly gain full privileged access to the American system, planning, and information. But it would at least provide for the possibility of improvement, including a possible protocol allowing for Canadian input in the BMD priority list. Formal participation would also bring Canada’s policies in line with both its principal ally, the United States, as well as European NATO members, perhaps leading to greater co-operation with allies pursuing BMD.

Operational participation would be inexpensive (Standing Committee on National Defence 2015). Since the US already has the GMD system capable of defending all major Canadian cities and most Canadian territory, no new
assets would be required. Even if costs did emerge, they would likely be divvied up between Canada and the US based on NORAD’s cost-sharing arrangement, in which Canada only pays 40 percent of NORAD infrastructure cost on Canadian territory and 10 percent of operating costs (Fergusson 2010). However, this approach alone may not provide the value-added input that would grant significant additional access to BMD information and decision-making.

Second, to bolster its ability to gain access, Canada could also pursue research, development, testing, and evaluation (RDT&E) opportunities in BMD. There is a useful precedent here. Prior to Canada’s rejection of BMD, an early draft MOU presented by the United States discussed Canadian involvement in BMD RDT&E (Fergusson 2010). This draft MOU was expected to last 25 years and focused on advanced technology projects, such as kinetic energy, electromagnetic pulse effects, and gas cannon technology, but was abandoned following the Martin government’s BMD decision (Fergusson 2010; Azzi and Hillmer 2016).

Reviving a similar MOU would provide a useful avenue for Canadian participation in BMD. Indeed, a Canadian role in RDT&E could provide the data and knowledge to assess the merits and possible avenues of additional participation (Senate Standing Committee 2014; Fergusson 2010). Canada could leverage its defence industry to engage in BMD development. Importantly, BMD RDT&E will continue for many more years. Canada may therefore be able to insert itself into this process and gain useful information on future BMD issues as the system evolves. This information could eventually be translated into Canadian influence on BMD decisions and a Canadian seat at the table when issues concerning Canada and North American missile defence are discussed (Fergusson 2010).

The potential cost of such a RDT&E venture can be gauged through the details of a leaked UK-US MOU on BMD. Like the UK, Canada could establish a missile defence centre to share information, research, and liaise with American companies and government. Such an initiative costs the UK only £5 million per year (with a matching contribution from the UK defence industry) (UK Library of the House of Commons 2008). A similar centre in Canada could provide a basis for the entrance of Canadian industry and resources into the American system.

Third, Canada could go beyond these options by providing funds, land, and operators for radar and sensor sites as an in-kind contribution. Constructing and manning radar and sensor sites on Canadian soil may assist in the detection, discrimination, and tracking of missiles in flight, as well as the determination of a successful interception (Senate Standing Committee 2014). Under the shoot-look-shoot doctrine, quick and accurate determination of the success or failure of the interception is integral to quickly launching additional interceptors as necessary. If such assets provide value to BMD, Canada would have a concrete resource that could be leveraged to provide a foundation for greater Canadian input in BMD (Fergusson 2015).

An obvious question then is whether Canadian-based sensors would be redundant in the face of US forward-based assets in the UK, Greenland, and elsewhere. It is still not clear the degree to which forward-looking radars in Canada would add value to these existing systems (Fergusson 2015). Still, radar on the East Coast could potentially be useful to track the trajectory of a missile from the Middle East, such as an Iranian ballistic missile.
since the current system is geared largely toward intercepting a launch from North Korea. This fact perhaps explains why Raytheon scouted Goose Bay, Newfoundland as a potential X-Band radar site in 2005.

Moreover, the cost of implementing this form of participation may be limited through cost-sharing agreements with the United States. The MOU between the UK and the US on the UK’s sensor and radar site at RAF Fylingdales is instructive in this regard. It indicates that the costs of upgrading and creating the radar systems in place in 2003 were borne entirely by the United States, while the British government covered the operational costs of the radars and personnel (UK Library of the House of Commons 2008). This indicates that costs could be shared significantly with the United States to limit the strain on the Canadian defence budget. Recent estimates put the cost of an East Coast radar site in Canada at around $500 million (Pugliese 2013). If a similar burden-sharing agreement as struck between the US and UK is applied to Canada, the $500 million could be covered by the United States while Canada provides the land, and cost of maintenance and operations. With such an arrangement, the cost of a Canadian in-kind contribution here would not likely be prohibitive.

Fourth, the most substantial form of participation, and the most controversial, would be constructing a BMD interceptor site on Canadian soil. Doing so would provide Canada complete command and control of its own independent BMD through which it could prioritize the defence of Canadian cities and territory to an extent even greater than if it agreed to formal participation in the US GMD system. After all, even if Ottawa and Washington negotiated a formal framework for Canadian input in BMD, it is unlikely that Canadian cities would be high on the priority list. The result would be a full, sovereign Canadian defence capability oriented towards protecting Canadians – something that is unlikely under any other form of participation.

Canadian BMD interceptors would drastically increase our relevance in the United States. If combined with the US system, Canadian interceptors could provide an additional protective layer against “leakers” – missiles that had survived American GMD (Fergusson and McDonough 2012). This is especially true if the interceptors were located on the East Coast, given its potential utility in providing a second interception attempt, under the shoot-look-shoot doctrine, against Iranian ICBMs. Some cost-sharing could be possible, owing to the potential benefits for the US – even if it is the in-kind contribution of Canadian access to information from US radars and sensors. As a Canadian contribution, such assets could allow for a transformed (and more equal) NORAD partnership. At the very least, Canada would likely be more intimately involved in US BMD technology, development, operations, planning, and deployment.

Of course, any such benefits would come at an exorbitant financial cost. Interceptors remain a complex work-in-progress, and any interceptor site would likely need to be continually upgraded. Estimates for a new interceptor site run to over $3 billion for the site itself (Gruss 2015). If the additional $1 billion projected cost for former US president Barack Obama’s decision to add 14 interceptors is any indication, even just acquiring interceptors for Canada would be prohibitively expensive given its meagre defence spending.

Importantly, it remains to be seen whether the US would support a Canadian interceptor site financially, in-kind (e.g., access to US radars and sensors), or through the necessary technology transfers (Jockel 2010). The
value of Canadian territory as a possible launch site for interceptors has certainly decreased as interceptor range and speed have improved. Of course, there is some indication the US has begun scouting and evaluating a potential third site on the East Coast, which could buttress the system against missiles coming from the Middle East. Interceptors on Canada's East Coast could then potentially be useful in that regard. But there is little if any indication that Canada would be, or is being, considered for a site (Senate Standing Committee 2014). Even if Canadian territory did provide some value, the US may prefer to keep any additional sites wholly within its command and control (Fergusson 2010).

Conclusion

Canada's preoccupation with its standing in its alliances, desire for access to information, and hope for influence must all be factored into determining a realistic path forward for Canadian participation in BMD. So, too, should Canada's general unwillingness to undertake significant military spending. After all, Canada's defence budget is currently under significant strain. Much of Canada's military equipment has become old and degraded, while large capital projects like naval shipbuilding and the fighter aircraft replacement loom in the near future. Canada's defence policy has also long been predicated on providing “just enough” to meet its obligations (Jockel and Sokolsky 2009). Potential BMD participation must be able to survive and operate on both slim financing and a general inclination to expend only to meet the bare minimum required to fulfil its objectives.

With that in mind, Canada should negotiate a MOU that strengthens NORAD's role in BMD. Doing so would allow Canada access to BMD information, US planning, and provide future opportunities for North American defence co-operation. It would likely do so at an affordable cost given NORAD's pre-existing institutional framework and funding model. In addition, Canada should pursue an MOU that would govern Canada-US BMD RDT&E. Its goal would be to provide Canada with access to BMD information and economic benefits for Canadian defence companies interested in being involved in high technology projects related to BMD.

Canada should sound out US interest, and possible support, for radar and sensor sites on Canadian territory. Tracking and target discrimination sensors on the East Coast, such as at Goose Bay, could be a useful addition to the US GMD system. Such an in-kind contribution would likely come at a minimal cost and provide further leverage in accessing BMD information and decision-making. Importantly, this analysis has also made clear that Canadian interceptors are a non-starter. Even a single interceptor site would entail an exorbitant new defence expense, may not have crucial American support, and would be a dramatic break in Canada's long-standing policy against hosting interceptors.

In sum, Canada's current policy of rejecting participation in American BMD has become untenable in the face of the growing ICBM threat, NATO support for BMD, the reality that BMD has not led to strategic instability or the weaponization of space, and that rejecting participation has diminished Canadian sovereignty, the defence of Canadian cities, and co-operation with the United States. This should be changed. Given the centrality of its alliances to Canadian defence, Canada must move forward with missile defence alongside its American and European allies.

In light of these considerations Canada should restart its BMD dance with the United States, but this time it should work to ensure that both partners begin on the same foot and dance to the same tune.
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References


Endnotes

1 Indications of an emergent debate include media reports on the topic, statements by Minister of Defence Harjit Sajjan, mention in the Department of National Defence’s “Defence Policy Review Public Consultation Document”, and the findings of the Standing Senate Committee on National Security and Defence’s “Canada and Ballistic Missile Defence: Responding to the Evolving Threat”.

2 GMD is only one system in layers of American BMD. Other systems include the Patriot missiles system, Terminal High Altitude Area Defense systems, and the Aegis ship-based system, although GMD has been the focus of debate concerning Canadian participation in BMD.

3 In particular, unstable nuclear armed states such as Pakistan pose a serious concern. Numerous terrorist organizations hostile to the West operate in Pakistan, so in the event of state failure, they may attempt to control and even employ Pakistan’s nuclear arsenal.

4 Though other MOUs between the United States and other states would be valuable, none has been leaked or made public. As such, the UK MOU is the only clear indication of American terms of co-operation on BMD RDT&E.
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