

CANADA AND NORAD: THE WAY AHEAD

by Lieutenant-Colonel Paul Keddy

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Ultimately, the strength and the power of a country isn't the number of diplomats it puts out in embassies, it's the boots it puts on the ground. I think that's very important for us to be thinking about together.¹

— United States Deputy Secretary of Defense

INTRODUCTION

Canada's involvement in the North American Aerospace Defence Command (NORAD) has been one of the most controversial issues in Canadian defence policy. As a high-profile collective defence arrangement, NORAD weathered the 1962 Cuban missile crisis, more than three decades of nuclear weapons debates, and concerns over links to the controversial Strategic Defense Initiative (SDI). At the height of the earlier deliberations, questions were raised about Canada's participation when the threat from intercontinental ballistic missiles (ICBMs) eclipsed that of the Soviet bomber forces.

The end of the Cold War was accompanied by the public's perception of a vanishing foe and demands for a peace dividend in the form of reduced defence budgets. Paradoxically, this perspective still prevails when many security analysts argue that the end of the Cold War has spelled a less stable global environment. Despite the demise of the Soviet Union, the proliferation of ballistic missiles, weapons of mass destruction (WMD) and the actions of "rogue" states has

rendered the global strategic situation more indecipherable. This, in addition to North American security challenges, has stimulated initiatives such as the US National Missile Defense (NMD) Program and a greater requirement for combined modern military forces to ensure the sovereign integrity of the continent.

Canada benefits considerably from the Command despite its comparatively diminutive contribution to the effort. While maintaining defences against challenges to our security, the bilateral arrangement has a history of sharing personnel and resource costs including the establishment of the multi-billion-dollar North Warning System (NWS). Canadian military leadership located at the highest echelons of the organization facilitates the collaboration of defence planning and access to information and technology not afforded to any other ally. Moreover, the NORAD arrangement promotes the interoperability of its combined military forces, which is one of Canada's vital defence objectives. Notwithstanding these benefits, the growing obsolescence of Canada's military

equipment, and hesitance to provide support for defence initiatives against emerging threats, jeopardize its status as a credible partner.

The opening quote by the US Deputy Defense Secretary serves to illustrate American perceptions of Canada's cautious approach towards NMD. It also introduces a dimension of US defence policy requiring Canada's immediate support if NORAD is to remain intact in the new millennium and continental unity is to be preserved. To boost the current contribution to NORAD, Canada must "put the boots on the ground" and support initiatives taken by the Canadian Forces (CF) to modernize equipment such as the aging fighter and maritime patrol fleets. Sovereignty, through the surveillance and control of the airspace and approaches to the continent, is arguably one of the main cores of military service. A binational deterrent position and the ability to respond to a spectrum of challenges through capable forces are critical to maintaining the sovereign integrity of the nation. Therefore, despite perceptions of the declining threat to North America, it is in Canada's national interest to ensure a strong defence relationship by not merely maintaining the status quo, but expanding its contribution to the NORAD partnership.

NORAD AND CANADA'S CONTRIBUTION

The Ogdensburg Declaration² of 1940 stimulated increased defence cooperation between Canada and the US by establishing the Permanent Joint Board of Defence (PJBD) to oversee matters of mutual security. In 1958, as a result of the emergence of the Soviet bomber threat and PJBD deliberations, the North American Air Defence Command (NORAD) was formed.

After an initial ten-year period, the NORAD agreement has been reviewed at least every five years with the most recent renewal signed in June 2000. This process of review has served to keep NORAD relevant despite the dramatic changes in the strategic landscape.³ Following the collapse of the Soviet Union, NORAD rationalized its level of resources and readiness to reflect a balance between the risk posed by the threat, and the level of effort needed to address it.⁴

Considering the post-Cold War environment, the renamed North American Aerospace Defence Command assumed two primary missions of Aerospace Warning and Aerospace Control for North America.⁵ In short, the Command provides surveillance and aerospace control through assessment and response to any aircraft or cruise missile threatening North American airspace. For other aerospace threats, such as ballistic missiles, NORAD provides warning, detection and tracking. It currently has no ability to defeat this type of threat; however, NMD will likely address this situation. Canada's contribution to the program will be discussed later in this paper.

The current defence architecture for aerospace warning and control of Canadian territory is the North Warning System (NWS). The NWS consists of 15 long-range and 39 short-range radars stretching over a 4,800-kilometre line above the Arctic Circle. In addition, there are three coastal radars on the East Coast and one on the West Coast. Four northern Forward Operating Locations (FOLs) were constructed at existing airfields in the Arctic region to accommodate up to six fighter aircraft each. It was from these locations that targets could be engaged over Arctic territory rather than southern areas.

The overriding principle for the organization of NORAD has been reflection on

its binational nature. Thus the commander-in-chief (CINC) and his deputy come from different nations. "This brings an interesting opportunity for Canadian influence to be injected indirectly into the highest levels of the US military."⁶ Throughout the Command, the country providing the majority of the resources has been given the privilege of command, with the other nation represented as deputy. Canada has traditionally contributed about 10 per cent of NORAD personnel and project costs.⁷ This amounts to approximately 316 million Canadian dollars annually and 3 per cent of the defence budget. The US Department of Defense funds the remaining 2.7 billion dollars in annual operating costs, which accounted for 1 per cent of its military budget in 1997.⁸

As discussed, Canadians are integrated throughout NORAD in various capacities. There are approximately 1080 CF members assigned to NORAD-related positions throughout North America. In the US, 105 military personnel contribute to operations at the facilities in Colorado Springs in addition to 160 others stationed around the country. By comparison, about 45 US personnel work in Canada at the control centres in North Bay and Winnipeg. Under the North American Air Defence Modernization (NAADM) agreement, Canada contributed 50% of the estimated 1.5-billion-dollar cost of building the NWS, as well as 40% of its future operating and maintenance costs.⁹

According to a former NORAD Director of Operations, Major-General (retired) D.F. Holman, the advantages of NORAD and Canada's participation can be broken into direct and indirect benefits. The greatest direct benefit the Canadian and US governments derive from NORAD is their ability to share the resources and costs needed for aerospace security. It would be militarily impractical, as well as inefficient,

for each nation to unilaterally perform NORAD's missions and functions.¹⁰ For example, the NWS and FOLs would in all likelihood be operated solely by Canada if the agreement did not exist. This, combined with the other initiatives, would cost Canada close to an additional 1 billion dollars annually.¹¹

If the US were to proceed alone, it could involve establishing surveillance of their northern border, an act made unnecessary by the current agreement. It should also be noted that most of the expenses would still be incurred whether or not the NORAD agreement existed, since they are associated with the minimum core capabilities to maintain air sovereignty. "In fact, it is likely that the total costs would increase if the two nations were obliged to duplicate some of the shared capabilities."¹²

Indirect benefits of the defence relationship include Canada's access to information and technology in addition to the increased interoperability of the US and Canadian militaries.¹³ Information about US military planning and policy development is of considerable interest to Canada, and it is substantially available through NORAD.¹⁴ Moreover, the US has arguably the world's most sophisticated intelligence community, and Canada has privileged access to it and its products.¹⁵ Finally, American confidence is created not only by the formality of the NORAD agreement, but also by a degree of material commitment to common goals. When Canada contributes, the US sees that as burden-sharing, which may in turn be the basis for sharing such things as related technologies.¹⁶

NORAD has endured 43 years within a dynamic international environment and in the process has undergone significant organizational change. In this context, this discussion has served to introduce the impe-

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tus for Canada's sustained support to NORAD. Canada's contribution, while modest, has yielded both direct benefits in terms of cost sharing and other intangible advantages such as ensuring a voice in the wider dimensions of the strategic defence of the continent. To further appreciate the rationale for increasing Canada's contribution to NORAD, an assessment of the current strategic situation is in order.

STRATEGIC ASSESSMENT

Canada cannot escape its geography. North America has to be considered as one geographical unit and regardless of the threat, the best way to confront it is on a continental basis. The preparations for future challenges to continental security will likely hinge on the nature of the strategic environment. Given the collapse of the Soviet Empire and Russia's deteriorating military, it may be assumed that the strategic situation no longer merits the attention of NORAD and western defences. Notwithstanding this, analysis indicates that the strategic climate is in fact becoming more problematic and less predictable than during the Cold War. Missile proliferation to developing states and other security-related factors strengthen the rationale for Canada's increased commitment to NORAD.

A great number of those who oppose NORAD and its *raison d'être*, are aware that the Cold War is over and therefore conclude that the threat to North America no longer exists. In the early '90s, Project Ploughshares stated that "Canada should quit NORAD" in light of the demise of the Soviet Union.¹⁷ This prevailing view is myopic and somewhat naïve. In March 2001, the expulsion of 50 Russian diplomats from the US for suspected spying illustrated the interminable fragility of the East/West relationship. Russia subsequently responded to the US actions by ejecting an equal number of

US representatives from their country. According to Russia's foreign policy adviser, the tense relations are a "fallback to the Cold War epoch."¹⁸

Russian economic problems and the associated degradation and decreased readiness of their conventional forces have been accompanied, unfortunately, by the reliance on strategic weapons as the ultimate guarantors.¹⁹ Further, while Russia has pointed its ICBMs away from western targets, the region still possesses a formidable strategic offensive nuclear capability and these weapons continue to occupy a central role in Russian military doctrine.²⁰

Russia's strategic alignment with India also raises concerns in the West. Russia recently sold rocket engines for India's Geosynchronous Satellite Launch Vehicle (GSLV) which is capable of delivering a nuclear war-head up to 14,000 km.²¹ The only other nation with the ability to reach North America with strategic weapons is China. Like Russia, China does not appear at this time to have any aggressive or expansionist aspirations that would include threatening our continent. Its no-first-use policy further reduces the likelihood of confrontation. However, China's willingness to assist other regimes such as Pakistan, and to acquire and deploy modern missile systems, is a larger regional problem and one that is clearly detrimental to international peace and security.²² China also continues to modernize its intercontinental missile systems.²³

Perhaps more disconcerting to the West is the proliferation of ballistic missiles. Canada's 1994 Defence White Paper recognized the proliferation of the intercontinental missile threat as a "long term problem...[not expected to become a reality until] well into the next century."²⁴ It appears the predictions articulated in the White Paper have proven to be more than rhetoric. Ex-

perts estimate that 35 non-NATO countries possess ballistic missiles, 18 of which are capable of producing nuclear, biological or chemical (NBC) warheads.²⁵ In particular, North Korea has test-ed a ballistic missile (Nodong) in the 1,100-km range and is reported to be developing a two-stage missile (Taepo Dong 2) with a range of 4,000 kms.²⁶ The deputy commander-in-chief (DCINC) NORAD recently discussed the launch of the Taepo Dong 2 before the Standing Committee on National Defence and Veteran's Affairs (SCONDVA). "[Their] demonstrated capability surprised us. We did not expect it [North Korea] to have the kind of long-range capability they were evidently developing."²⁷

Recent Central Intelligence Agency (CIA) analysis estimated that by 2015 Iran and Iraq would develop long-range ballistic missiles capable of reaching North America.²⁸ Technology and assistance for these initiatives comes principally from Russian and Chinese sources, although North Korea has actively marketed its second-hand capabilities and missile components to many countries. North Korea's missile-related exports amount to 500 million dollars US per year.²⁹ This trade is primarily with other rogue states such as Iran. While the US and Russia have spent decades developing and testing systems, the direct acquisition of missiles and the means to employ them, even without a significant testing program, enables the so-called rogue nations to acquire such a capability quickly and with relative secrecy.

Canada's strategic awareness may be further enhanced through consideration of a recent US study on the emerging missile threat. In 1999, a special commission to assess the ballistic missile threat to the US reported:

Concerted efforts by a number of po-

tentially hostile nations to acquire ballistic missiles with biological or nuclear payloads pose a growing threat to the United States.... These newer, developing threats in North Korea, Iran and Iraq are in addition to those still posed by the existing ballistic missile arsenals of Russia and China.... they would be able to inflict major destruction in the US within about five years of a decision to acquire such a capability. The threat to North America posed by these emerging capabilities is broader, more mature, and evolving more rapidly than has been reported by the intelligence community.³⁰

At the height of the Cold War, NORAD sensors were recording up to 400 missile launches a year in the former USSR. Since the end of the Cold War, NORAD regularly records over 100 missile launches a year at various locations around the world.³¹ A former DCINC NORAD stated, "[w]e are seeing a lot more launches from countries we weren't much interested in before. The North African countries, the Middle East, North Korea — we're learning a lot of new geography."³²

While some perceive a diminished military threat due to the end of the Cold War, the world's security environment in fact has been altered in ways that make it increasingly unstable. Nuclear weapons still occupy a central role in Russia and China. Further, several contemporary reports support the *White Paper's* analysis of the global proliferation of WMD and ballistic missiles. It is therefore prudent to remain vigilant in order to anticipate shifts in the threat and in the operating environment. The will to attack North America may be subdued in this current climate, but the capability prevails. Maintaining surveillance of the continental approaches and developing innovative

ways to ensure our security form a natural and logical part of a stable strategic deterrence concept for Canada and the United States. Canada's contribution to NORAD is therefore more relevant today than ever before.

NATIONAL MISSILE DEFENCE

The debate over Canada's support to NMD is perhaps the most important strategic issue for Canada in the new century. The global strategic environment has provoked the development of NMD with its inevitable integration into NORAD. From a political and military perspective, the acme of Canada's contribution to NORAD may be realized through its support to the intensely debated program. Given continuing defence budget reductions, this will not likely emerge in a monetary sense but as an affirmation of cooperation towards continental unity and security.

Ballistic Missile Defence (BMD) is the umbrella concept that is divided into NMD and a second field of Theatre Missile Defence (TMD). TMD systems are established to protect deployed forces from missile attack within a theatre of operations. However, the subject is beyond the scope of this work and therefore will not be discussed further. NMD is intended to provide a limited protection from ballistic missiles launched against North America. The system will not be a strategic shield for the defeat of a massive attack, but rather a network with 100 interceptors that will be capable of destroying approximately 20 ICBMs.³³ The US has adopted a kinetic kill methodology whereby ground-based interceptors will carry an exoatmospheric vehicle to physically strike the target without any explosive or nuclear effects from the interceptor.³⁴

One major criticism of NMD is that it will provoke an escalated arms race with Russia and other major powers. Canadian

Nobel Laureate, Professor John Polani, recently debated that NMD would result in a further proliferation of nuclear and conventional arms. Some claim that the reduced effectiveness of the Russian strategic arsenal due to NMD may compel the Russians to invest in more bombers and cruise missiles. This in turn would increase the need for more NORAD air defence forces.³⁵ Moreover, China with its limited number of ICBMs would be unilaterally disarmed by the deployment of continental defences and therefore may seek to increase the numbers of ICBMs beyond the capabilities of NMD.³⁶

Perhaps the greatest concern for nations such as Canada is the suggestion that NMD will contravene the 1972 Anti-Ballistic Missile (ABM) treaty. The ABM treaty allows the deployment of a limited missile defence capability of up to 100 warheads at a fixed site to protect a nation's capital or strategic forces from attack. However, it does not permit the stationing of the system for continental defence as currently proposed. Notwithstanding these views, the case for Canada's increased contribution to NORAD through support to NMD is more compelling.

The reduced probability of conflict among the hegemonic powers has developed lock step with numerous smaller nations' rising interest in weapons of mass destruction and missile development. This phenomenon, accompanied by a greater sense of unpredictability, is one of many reasons for Canada's support for defence initiatives that increase continental security. The concept of missile defence of a nation is not revolutionary, nor has it historically been used to threaten other states. For decades, Russia has been operating its own version of NMD without provoking the West or its neighbours. Similarly, Israel recently deployed a missile defence system to defend against threats within the Middle East without repercussion. Lastly,

during discussions with NATO officials in February 2001, Russia's Defence Minister suggested a mobile European missile defence system dubbed "Euro-Pro", for European and Russian defence against the strategic threat from rogue nations.³⁷ Russia's proposal indicates that the ABM treaty, while relevant during the Cold War, will need revising in order to reflect the current global strategic and political climate. Therefore, it is evident that minor changes to include mobile or con-tinental systems may be supported in the fu-ture by both the US and Russia.³⁸

According to the Federation of American Scientists, the US does not need Canada for NMD from a geographic perspective. However, it is imperative that the US gain Canada's political support for NMD in order to persuade other countries like South Korea or Japan to join in the initiative, and Russia and China not to oppose it.³⁹ The US formal-ized the National Missile Defence Act on 23 July 1999, stating its intention to deploy NMD "as soon as technologically possible."⁴⁰ Hav-ing said that, Canada has not been asked to participate in NMD. However, the question is inevitable since it is envisioned that NMD will become integrated with NORAD's infrastructure and battle management procedures in which Canada is intimately involved. The consolidation will give release authority for NMD to the CINC NORAD and in his absence DCINC NORAD, a Canadian.⁴¹

The lack of a Canadian agreement would compartmentalize the warning and defence function which would be neither operationally effective nor efficient, as it would fragment the command and control process. Therefore, if Canadian Forces personnel are excluded from NMD activity, they could not fully participate in the core mission of attack warning and assessment. The Canadian DCINC NORAD recently addressed this sce-

nario:

If the decision to deploy the system is made, and the governments of Canada and the US agree to address the challenge together as NORAD partners, Canada can expect a renewed emphasis on the alliance, gained through the validation of its continued relevance and value to both countries. On the other hand, if a continental approach is not taken, NORAD could be relegated to responsibility for only limited areas of aerospace defence, which would result in a change to its overall focus and scope. Indeed the Command could atrophy over the next several years.⁴²

The former US Deputy Secretary of Defense, John Hamre, subsequently emphasized the DCINC's concerns. He confirmed that "if Canada won't actively support NMD, it will find its role as a partner in NORAD significantly diminished."⁴³

The rationale for Canada's increased support to NORAD through NMD is clear. NMD represents a logical response to the emergent threat. Ironically, it appears that arguments opposing the program such as the escalated proliferation of nuclear and conventional arms have been overshadowed by Russia's desire to join in Western efforts to defend against potential threats. This growing consensus could eventually stimulate amendments to the ABM Treaty to accommodate emerging technology and concepts. Canadians contribute to NORAD across a broad spectrum including command at the DCINC level. Without Canada's endorsement for NMD, it is predicted that the resultant command and control structure would become fragmented. Further, the US requires Canada's political backing to help leverage support from the international community. Without either, it is feared that NORAD will

eventually “wither on the vine.”⁴⁴ The work will now turn to an aspect of the discussion that is germane to Canada’s nationhood and elements of its military effectiveness.

SOVEREIGNTY AND CONTINENTAL UNITY

Canada’s sovereignty is not to be compromised. We will be a partner with our allies and not a dependant.⁴⁵

Since the end of the 30 Years’ War and the Treaty of Westphalia in 1648, the notion of sovereignty⁴⁶ has become the foundation on which the modern state is based. Maintaining sovereign control over Canada’s diverse geography⁴⁷ remains a constant challenge, exacerbated by activities such as aero-space incursions by drug traffickers, aerial smuggling or other improper uses of airspace. Canada has endeavoured to participate in the maintenance of the sovereign integrity of the continent; however, aging equipment may jeopardize the future effectiveness of this goal. Therefore, it is imperative that Canada continue to support current initiatives to field modern and interoperable air forces, as part of the greater effort to increase its contribution to NORAD.

NORAD’s homeland defence of the continent is the core of military service and is as important in the post-Cold War era as it was 40 years ago; the only difference is the uncertainty of the threat.⁴⁸ The Command’s primary focus has shifted from deterring a massive nuclear attack to peacetime aerospace control for North America. From its inception in 1958, NORAD has evolved to meet a wide variety of security challenges ranging from manned bombers and ICBMs to, more recently, cruise missiles. In June 1999 after a decade of inactivity, Russian bombers flew within striking distance of the continent on a major exercise over the Arctic Archipelago. American F-15 fighters

intercepted two TU-95 Bear and two TU-140 Blackjack strategic bombers which were on a 15-hour flight across the North Pole. The commander of the Russian air force subsequently declared to the ITAR-TASS news agency that the bombers subsequently fired cruise missiles and hit targets in southern Russia.⁴⁹

Aerospace control remains one of NORAD’s primary roles whereby sovereignty of the continent is exercised. The role derives its relevance from the original NORAD agreement, the 1994 White Paper and the current Canadian Defence Planning Guidance which indicates that defending Canada and North America in cooperation with the United States is one of Canada’s principle defence objectives.⁵⁰ Surveillance of the approaches to North America primarily by the complex network of radar, in addition to airspace control by fighter aircraft, forms the foundation of this role. This includes the ability to detect, identify, monitor, and if necessary, take appropriate action against, manned or unmanned aircraft.

In the early 1990s, in cooperation with other law enforcement agencies, NORAD became a participant in the fight against narcotics importation. Consequently, the air sovereignty mission was extended to include the surveillance and monitoring of aircraft suspected of smuggling illegal drugs. As predicted, critics labeled these initiatives as “make-work projects” to justify the existence of NORAD. Citizens have the right to scrutinize public policy but it must be understood that new missions come from new threats, not vice versa. Actions against aircraft suspected of smuggling illegal drugs are an integral part of the long-standing air sovereignty mission traditionally exercised by military and civil air traffic control agencies in cooperation with the appropriate law enforcement organizations.

The adoption of the counter-narcotic mission paid early dividends when the Canadian NORAD Region (CANR), in collaboration with its American counterparts, monitored an aircraft on a non-stop flight from Colombia to eastern Canada. Canadian CF-18 fighter aircraft took part in the operation that involved tracking the suspect aircraft to a remote airfield in northern Quebec. The Royal Canadian Mounted Police (RCMP) subsequently seized several tons of cocaine with an estimated street price of three billion US dollars.⁵¹

As discussed, airspace control and surveillance are fundamental aspects of Canadian and continental sovereignty. Unfortunately, the means to prosecute these roles remains with Canada's aging CF-18 fighter and the CP-140 Aurora maritime patrol fleet. The commander of Canada's air force recently stated that Canada could increase its contribution to NORAD by concentrating on the areas of surveillance and the modernization of existing equipment.⁵²

The CF-18 and the CP-140 both require major upgrades to ensure their technological relevancy to NORAD. "Failure to restore contemporary operational capabilities will jeopardize the ability to operate with our [NORAD] allies and to fulfil the air force contribution to meeting the security needs of Canada."⁵³ While any future contribution in this area may be viewed as minor compared to US projects, the initiatives will undoubtedly benefit the effectiveness of the Command in the sovereignty domain.

The Aurora is Canada's only strategic surveillance aircraft capable of safeguarding Canada's maritime sovereignty and economic security well into the next millennium.⁵⁴ Currently, the air force dedicates roughly 500 hours on both coasts (one aircraft per coast) in the counter-drug surveillance role.⁵⁵ Considering that Canada has the world's

longest coastline, the current commitment pales in comparison to those of our neighbours to the south. The US has dedicated seven P3 aircraft (equivalent to the Aurora) on a full-time basis. Each is equipped with the most modern surveillance equipment available.⁵⁶

A one-billion-dollar Incremental Modernization Program (IMP)⁵⁷ envisioned for 16 of Canada's Auroras is a step in the right direction that will replace 30-year-old technology through 22 individual upgrade projects. From a NORAD perspective, the addition of Synthetic Aperture Radar (SAR) and an Electro-Optical System (EOS) will significantly improve the surveillance capability of the aircraft. Briefly, the SAR will provide an all-weather, long-range surveillance ability to prosecute targets at sea. The EOS will grant an essential night covert ability that could be used, for example, to identify ships suspected of carrying illegal migrants or narcotics to the shores of North America. In 1999, the Aurora was employed as part of a Canada/US effort to apprehend four ships carrying over 600 Chinese migrants.⁵⁸ Equipment upgrades will increase the likelihood of this measure of success alongside our NORAD partners.

Today there appears to be a consensus that the national air sovereignty mission [air-space control] that Canada shares with the US "is one of the reasons for retaining a fighter contingent."⁵⁹ Although counter-drug activities have moved further to the forefront, control of the continental approaches against the traditional bomber threat is still a requirement. In response to the Soviet bomber exercise over the Arctic in 1999, NORAD deployed Canadian fighter forces to the Iqaluit FOL as part of a readiness and capability demonstration.

To ensure the credibility of Canada's fighter fleet well into the millennium, 80 to

100 CF-18s shall also be upgraded under an IMP. Rather than maintain the status quo, the 1.2-billion-dollar initiative will improve interoperability with US systems and increase operational effectiveness. In view of the CF's having endured reductions in air force personnel from 24,000 to 13,500 since 1992, the investment in the future of Canada's contribution to NORAD represents a significant share of dwindling resources. While 13 separate CF-18 improvements⁶⁰ are being considered, the new radar, IFF (Identification Friend/Foe) interrogator and air-to-air missile projects are most relevant to the intercept and identification missions in the sovereignty role. Further, the addition of Link 16 secure communications will improve interoperability with US aircraft and controlling agencies.

In a climate of strategic uncertainty, threats to North America range from the proliferation of WMD to the development of inexpensive means of delivery such as cruise missiles. In addition, non-military activities such as aerial drug trafficking and migrant smuggling present challenges on a daily basis. As discussed, Canada's ability to control the airspace and coastal approaches is fundamental to its sovereignty. Without this, there would be something lacking in the composition of the nation.⁶¹ Investment in essential systems like the CP-140 and CF-18 are practical means of expanding support to NORAD while ensuring the integrity of the air force's contribution to meeting the security needs of Canada.

CONCLUSION

The NORAD agreement transcends defence cooperation between two nations. It is the cornerstone of multiple and diverse military and political arrangements between Canada and the US, and is arguably the most visible manifestation of broad-based cooperation which exists between the countries. The

NORAD agreement has undergone nine renewals over a period that has been characterized by radical change in the strategic environment. Notwithstanding these changes, the manned bomber, ICBMs, cruise missiles and non-traditional military threats such as narcotics smuggling have been effectively addressed by concomitant changes to the NORAD mission.

As the White Paper predicted, the global strategic condition of the new millennium has proven to be less stable than the US/Soviet bipolar structure of the Cold War. The proliferation and transfer of ballistic missile technology and WMD, and the development of inexpensive delivery systems among potential antagonists, have affected how the West perceives its security. This condition is exacerbated by the political and economic instability of Russia whose degradation of conventional forces has been accompanied by greater reliance on its nuclear arsenals. Nevertheless, in the case of Russia or China, it is acknowledged that direct confrontation is unlikely; however, circumstances may change. The recent expulsion of Russian and US diplomats from their posts due to allegations of espionage signifies the unpredictable and anarchic nature of the relationship. The rationale for Canada's expanded contribution to NORAD in this context is clear.

The US multi-billion-dollar NMD programme is intended to bolster North American defences in light of these indecipherable circumstances. Despite restrictions imposed by the ABM treaty, the Russian "Euro-Pro" missile defence proposal indicates that the treaty may undergo changes to reflect concerns of the former Cold War rivals, while remaining the foundation of non-proliferation efforts. This, in addition to the inevitable integration of NMD into NORAD, provides a sufficient catalyst for Canadian foreign policy makers to extend

support without further delay. Intransigence may jeopardize decades of confidence building, fragment the effective operational management of the Command, and undermine the plethora of benefits realized as a result of the joint institution.

Canada's defence objectives have consistently emphasized the requirement to strengthen the relationship with the US military to ensure that Canadian and US forces are interoperable and capable of combined operations in key areas.⁶² The quintessential domain of interest for both nations is the sovereign control over the North American approaches and territories. Recent probes of the continent by Soviet strategic bombers and the daily challenge of non-traditional threats continue to provide a sobering perspective to NORAD supporters and critics alike. Canada's ability to effectively prosecute the surveillance and control mission as a partner relies increasingly on burden-sharing through contributions such as modern fighter and maritime surveillance aircraft. Unfortunately, rust-out of existing equipment has diminished Canada's capability in these areas. It is therefore imperative that measures such as the CF-18 and CP-140 modernization projects, which are currently in their planning stages, commence as soon as possible.

NORAD exemplifies a binational economy of effort through cost and resource sharing. From the combined efforts of the NWS to splitting the personnel obligation, the defence of the continent has proven to be more efficient and cost-effective when embraced collectively. As discussed, the DCINC NORAD's indirect influence on North American defence policy and US decision-making is also noteworthy. In his words, (through greater support to NORAD) "Canada can expect a renewed emphasis on the alliance, gained through the validation of its continued value to both countries."⁶³ It is simply a mat-

ter of prudence that Canada expands its contribution to NORAD not only to address security concerns, but also to ensure the relevance of its involvement in the Command while maintaining continental unity.

NOTES

¹John J. Hamre, "NMD: Address to the Calgary Chamber of Commerce", Alberta, Canada (18 Feb 00).

²The tradition of military cooperation dates back to WWI and was formalized in the summer of 1940 by President Franklin D. Roosevelt and Prime Minister William L. Mackenzie at Ogdensburg, New York, when the two leaders announced the creation of the PJBD. This body, which continues in existence to this day, has both civilian and military representation and meets annually. D.F. Holman, *In The New Millennium* (Toronto: Irwin Publishing, 2000), p 6.

³D.F. Holman, p 13.

⁴For example, cooperative air defence peaked in the 1950s with the construction of three radar lines to provide warning and detection of Soviet manned bombers. These included: the Continental Air Defence Integrated North (CADIN) Pinetree Line composed of 39 radars along the 50th parallel, the Mid-Canada Line with 98 stations along the 55th parallel, and the Distant Early Warning (DEW) Line with 78 stations above the Arctic Circle. These have been replaced by 50 radars of the North Warning System (NWS). Further, at the height of the preparations against the bomber, the two countries had a defensive force of 3000 fighter interceptors (2800 American, 200 Canadian). A total of 20 fighters remain on a Flexible Response posture today. David Sorensen, "The Future of the North American Air Defence System", in J.J. Sokolsky and Joseph T. Jockel, eds., *Fifty Years of Canada-United States Defense Cooperations* (Queenston, Ontario: Edwin Mellen Press Ltd, 1992), p 268. *Canada's Territorial Air Defence* (Ottawa: Report of the Special Committee of the Senate on National Defence, January 1985), p 5.

⁵Aerospace warning includes monitoring man-made objects in space and the detection, validation and warning of attack against North America by aircraft, missiles or space vehicles. Aerospace control provides surveillance and control over North American airspace. This includes the ability to detect, identify, monitor, and if necessary, take appropriate action, ranging from visual identification to destruction, against aircraft or cruise missiles (unmanned aircraft)

approaching North America. *NORAD Vision 2010* (North American Aerospace Defence Command, April 2000).

⁶D.F. Holman, p 53.

⁷NORAD Renewal Steering Group 1994. *Options for Canada-US Cooperation in Aerospace Defence* (October 1994), pp 32–37.

⁸David Bashow. “The Case For NORAD”, in *Canada and the Future of Collective Defence* (The Martello Papers, 1998), p 19.

⁹Statistics found in Art Eggleton, “Standing Committee on National Defence and Veteran’s Affairs. Record of Proceedings”, 23 Mar 00. <<http://www.parl.gc.ca/infocomdoc/36/2/fait/meetings/evidence/faitev33-e.htm>>. D.F. Holman, pp 88–89. D.W. Middlemiss and J.J. Sokolsky, *Canadian Defence: Decisions and Determinants* (Harcourt Brace Jovanovich, 1989) p 47. David Haglund and J.J. Sokolski, *The US-Canada-Security Relationship: The Politics, Strategy, and Technology of Defence* (Westview Press, 1989), p 145.

¹⁰The benefits of Canada’s participation in NORAD can be found in many sources including: NORAD Web Site. “The Benefits”, <<http://www.peterson.af.mil/norad/benefits.htm>>. David Bashow, p 18, and D.F. Holman, pp 92–96.

¹¹Art Eggleton, *Record of Proceedings*.

¹²D.F. Holman, p 89.

¹³The CF is mandated by the Canadian government, through the 1994 *White Paper*, to be a multi-purpose, deployable, combat-capable force with the ability to respond quickly to domestic and international crises. The forefront of this pursuit embodies the fundamental qualities of jointness and *interoperability* with our allies. Further, the 2001 Defence Planning Guidance (DPG) provides a framework for translating Government direction as established in the 1994 *Defence White Paper* into a capable and efficient Defence Services Program. Defence Objective 4 identifies a clear requirement to participate in bilateral operations such as NORAD. The Objective will be met by maintaining the ability to operate effectively [*to be interoperable*] at sea, on land, in the air and in space with the military forces of our allies, and in particular, the United States. Canada’s ability to interoperate with US forces would certainly be affected negatively if NORAD were to dissolve. Integrated military command, control, and communications links with the US military may be lost. This would jeopardize our

ability to cooperate with our main ally. Art Eggleton, *Record of Proceedings*.

¹⁴D.F. Holman, p 35.

¹⁵*Ibid.*, p 93.

¹⁶*Ibid.*, p 94.

¹⁷“NORAD’s Role in Global Security”, *Ploughshares Monitor* (March 1991), p 17. Project Ploughshares is a broad-based peace group sponsored by the Canadian Council of Churches since 1976. Their monthly publication is the *Ploughshare Monitor*.

¹⁸CNN.com USA. “Russia to Expel US Diplomats”, (22 Mar 01). <<http://www.cnn.com/2001/US/03/22/russian.diplomats.03/index.html>>.

¹⁹D.F. Holman, p 42.

²⁰Russian doctrine today places more emphasis on nuclear weapons than did Soviet doctrine as evidenced by Moscow’s reversal of its long-standing no-first-use policy. This argument is thoroughly discussed by Robert G. Joseph, “The Case for Nuclear, Deterrence Today”, *Orbis*, Vol 42, Issue 1 (Winter 1998), p 7. Also in Kevin O’Brian, “The NORAD, Agreement: Renewing the Canada-US Aerospace Defence Partnership”, *Canadian Defence Quarterly*, March 1995), p 28. Canada, Department of National Defence, 1994 *Defence White Paper* (Ottawa, 1994), p 20.

²¹James T. Hackett, “The Ballistic Missile Threat: India and Pakistan” (United Kingdom: The Lancaster Centre for Defence and International Security Studies), 1998. <<http://www.cdiss.org/column 3.htm>>.

²²Robert W. Morton, “Canadian Security, NORAD, and Ballistic Missile Defence”, Extract from *The Canadian Institute of Strategic Studies*, Datalink Series (1997), p 5.

²³Kevin O’Brian, 1994 *Defence White Paper*, pp 20–21.

²⁴1994 *Defence White Paper*, p 21.

²⁵“Circles of Fear”, *The Economist*, Vol 342, No 7998 (14 January 1997), p 33.

²⁶*Ibid.*

²⁷George Macdonald, “Standing Committee on National Defence and Veteran’s Affairs: Record of Proceedings” (29 February 2000), <<http://www.parl.gc.ca/infocomdoc/36/2/ndva/meetings/evidence/ndvaev 20-e.htm>>.

²⁸*Ibid.*

²⁹National Defence University, Institute for National Strategic Studies, *Strategic Assessment 1999: Priorities for a Turbulent World* (Washington, DC: Strategic Studies, 1999), p 294 in the *Canadian Forces College Review 2000*. "National Missile Defence: The Case for Canada's Participation", by Peter Ellis.

³⁰The US Secretary of Defence, Donald Rumsfeld, chaired the special commission to determine the ballistic missile threat to the United States. The result was published as the "Rumsfeld Report." Analysis of the report can be found in Joseph T. Jockel, "US National Missile Defence, Canada and the Future of NORAD", in *Canada Among Nations 2000: Vanishing Borders* (Oxford UP, 2000), p 77.

³¹David O'Blenis, "NORAD Busy Tracking New Threats: Disturbing Shifts in Military Power", *Vancouver Sun* (1 May, 1996), p B8.

³²*Ibid.*

³³Jim Fergusson, "The Big Push: A Discussion About Canada and the National Missile Defence Plan" (CBC Television: *The National*, February 21st, 2001) <<http://radio.cbc.ca/programs/thismorning/sites/news/nmd010221.html>>.

³⁴Ground-based interceptors, themselves resembling ballistic missiles, will carry an exoatmospheric (outside-the-atmosphere) kill vehicle. With a potential closure rate in excess of 26,000 kilometres per hour, the result would be the complete disintegration of both missiles and the burnup on re-entry of most, if not all, of the remnants. George Macdonald, "NORAD and National Missile Defence: A Perspective of the Deputy Commander-In-Chief" *Canadian Military Journal*, Vol 1, No 2 (Summer 2000), p 6.

³⁵Harold Brown, "The Strategic Defence Initiative: Defensive Systems and the Strategic Debate", *Survival* (March 1985), p 56.

³⁶John Polani, "The Big Push: A Discussion..." (CBC Television: *The National*, February 21st 2001). <http://radio.cbc.ca/programs/thismorning/sites/news/nmd_010221.html>.

³⁷CNN.com World, "NATO Considers Russia's Defence Plans", <<http://www.cnn.com/2001/WORLD/europe/02/20/russia.nato.02/index.html>>, (21 Feb 01).

³⁸Canada's Prime Minister and Foreign Affairs Minister have often referred to the ABM Treaty as the cornerstone of the arms control regime. This forms the basis for Canada's reservation about openly supporting NMD in the early stages of development. With Russia and the US as the major stake holders in the ABM Treaty, minor amendments to the legislation

may likely be effected through negotiations regarding defences of both the Continental US and territories of Russia. Professor James Fergusson in a recent interview indicated that only minor revisions to the ABM treaty would be required (CBC Television: *The National*, February 21st, 2001).

³⁹John Pike, "Canada Under Pressure to Support Missile Defence", <<http://cbc.ca/cgi-bin/templates/view.cgi?category=World&story=/news/2000/03/16/missile000316>>, (17 Mar 00).

⁴⁰Thad Cochran, "The Cochran-Inouye National Missile Defence Act of 1999" (United States Senate), May 18, 1998.

⁴¹James Fergusson, "Déjà vu: Canada, NORAD and Ballistic Missile Defence" (University of Manitoba, Unpublished Paper, 2000), p 11.

⁴²George E.C. Macdonald, *Canadian Military Journal*, p 6.

⁴³John Hamre, "Canada Under Pressure to Support Missile Defense", (CBC web site, 17 Mar 2000) <<http://cbc.ca/cgi-bin/templates/view.cgi?category=World&story=/news/2000/03/16/missile000316>>.

⁴⁴Jim Fergusson, CBC Television, February 21st, 2001.

⁴⁵Joel J. Sokolski, "A Seat at the Table: Canada and its Alliances" in B.D. Hunt and R.G. Haycock, eds., *Canada's Defence — Perspective on Policy in the Twentieth Century* (Toronto: Copp Clark Pitman Ltd., 1993), p 160.

⁴⁶*The White Paper* defines sovereignty as a "vital attribute of a nation-state and that, within our area of jurisdiction, Canadian law is respected and enforced." *1994 Defence White Paper*, p 15.

⁴⁷Canada, the world's second-largest land mass, has the longest coastline and longest undefended border. It ranks 35th in the world in population and is 9th lowest in population density (Canadian Institute of Strategic Studies statistics as of December, 1999).

⁴⁸*NORAD Vision 2010*, p 2.

⁴⁹Dana Priest, "Russian Bombers Make Iceland Foray: U.S. F-15s Intercept 2 Planes Near NATO Ally; Moscow Defends Exercise", *Washington Post*, 1 July 1999, p A01.

⁵⁰*1994 Defence White Paper*, pp 23–25. *Defence Planning Guidance 2001*. (Ottawa: Department of National Defence, Minister of National Defence and the Chief of the Defence Staff, 11 April 2000), Chapter 2.

⁵¹David Hughes, "CF-18s, NORAD Shift to Drug Interdiction", *Aviation Week & Space Technology*, Vol 2, August 1993, p 48.

⁵²Lloyd C. Campbell, "Chief of the Air Staff Perspectives" (Toronto: 27 February 2001). During a recent address to the Canadian Forces College, Canada's Chief of the Air Staff (CAS) discussed the emerging threat to North America and areas in which the air force could improve its contribution to NORAD.

⁵³Sharon Hobson, "Latest Directive Gives Air Force New Focus", *Jane's Defence Weekly*, p 8, September 1999. This quote by Hobson was taken from the Chief of the Air Staff *Defence Planning Guidance* 2000.

⁵⁴Ernest Cable, "Aurora: A National Asset to Preserve", Naval Officers Association of Canada, Maritime Affairs, 1999, <http://naval.ca/article/cable/aurora_byernestscable.html>, *Statement of Operational Requirement: Aurora Incremental Modernization* (National Defence Headquarters, Directorate of Air Requirements) Ottawa, December 2000, p 1.

⁵⁵"On Guard: Counter Drug Surveillance", Canada's Air Force web page, <http://www.airforce.dnd.ca/airforce/eng/athome_onguard/athome4e.htm>.

⁵⁶Robert Wall, "GAO Busts Pentagon's Counterdrug Support", *Aviation Week & Space Technology*, 17 January, 2000, pp 438-439.

⁵⁷Facts and figures about the IMP can be found in many sources including: *Master Implementation Plan for the CP140 Aurora Incremental Modernization Project* (National Defence Headquarters, Directorate of Air Requirements, Ottawa: February 2001). "BAE Systems Canada Wins CP-140 Aurora Avionics Modernization Project," *Canada's News Wire Business/Financial News*, 6 September 2000. Kristina Davis, "Upgrading the Aurora", *Maple Leaf*, Vol 3, No 33, <http://www.dnd.ca/menu/maple/vol_3/Vol3_33/airforce_e.htm>.

⁵⁸Ed Offley and Joel Conolley, "US & Canada Track Smugglers Ships: High Tech Spies Follow Migrants From China", *Seattle Post & Intelligencer*, September 1999, p 22, <<http://seattlepi.nwsource.com/local/chin2.html>>.

⁵⁹William Scott, "Bolder Budgets Restore Canada's Air Force", *Aviation Week & Space Technology*, 26 June 2000.

⁶⁰The 10-year initiative includes improvements ranging from a new XN10 mission computer, through the Raytheon APG-73 radar, Link 16 data communications, and Have Quick II secure radios, to IRIS-T air-to-air missiles. Colonel Brett Cairns, former Director of Aerospace Requirements (DAR) at National Defence Headquarters (NDHQ) acknowledged that the modernization primarily addresses interoperability issues [NATO/NORAD] and operational capability deficiencies. Found in Sharon Hobson. "Canada Restructures CF-18 Project", *Jane's Defence Upgrades*, 29 Jan 1999, p 7. "CF-18 Fighter Upgrade", *Ploughshares Monitor* (Project Ploughshares), Sept 00).

⁶¹As quoted in Canada, Senate, Special Committee on National Defence. "Canada's Territorial Air Defence" (Ottawa: Supply and Services Canada, 1985) 32 in D.W. Middlemiss and J.J. Sokolsky, p 169.

⁶²*Shaping the Future of Canadian Defence: A Strategy for 2020*. (Ottawa: Minister of National Defence and Chief of the Defence Staff, June 1999), p 6.

⁶³George Macdonald, *Canadian Military Journal*, p 6.